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Don’t let utility companies hold you hostage with power outages this summer. Build our portable solar powered system and Say NO To Blackouts! Check out the article and photos on page 8 for complete details. (Photo by Larry Mulvehill.)

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Melted Swiss On Your Fish 'N Chips?

Well, they've finally done it. The BBC Bush House bigs have pulled the plug on their World Service shortwave to the U.S. and Canada (as well as a great part of the Pacific). Why, you ask? Look no further than your computer and the Internet.

A BBC press officer provided the following statement regarding the BBC's shift in focus, "BBC World Service is committed to meeting the needs of all its audiences. It has record numbers of listeners because it has been agile in delivering its services in more ways, with better audibility, to suit their individual needs over recent years. Audiences in these particular regions have already voted with their dials by migrating to higher quality FM broadcasts in their areas while the growth of online listening to World Service, particularly in America, is outstripping comparable Internet growth rates. We will be doing all we can to help audiences find a better way to listen which suits them through trials, online information, help lines and information in our magazine 'On Air.' We recognize that shortwave will be the major way most of our audiences listen to our services for a considerable time to come and it would be wrong to portray this as a retreat from shortwave broadcasting. World Service has already announced major investment in shortwave, such as the new transmitter currently under construction in Oman which will enhance reception quality for millions of listeners from the Middle East across Central and South Asia. We are also modernizing our shortwave transmitters in Cyprus and Singapore."

Unfortunately, though, their shift to the Internet will undoubtedly be followed by other world broadcasters doing likewise. Bureaucracies have a tendency to look to other bureaucracies for the lead when doing dumb things, and this situation will be no exception.

Sure, the Internet is - for the broadcaster - less expensive to run and convenient for some potential listeners, but it's not universally convenient or inexpensive for most listeners, even here in Set-The-Trend U.S. A letter I just received from a PopComm reader Stephen Biro said it perfectly, "...I am by no means tradition-bound, but this move disturbs and saddens me deeply. ...the BBC has apparently decided that everyone in the U.S. and Canada is wired to the Internet...I certainly have Internet access, but know a lot of people who do not." Amen!

Fact is, most American homes have computers and a regular dial-up modem, not the high-speed (and inherently more expensive!) access with better streaming audio and video. A recent survey from the Consumer Electronics Association revealed that only 7 percent were "very interested" in such a connection and only 41 percent were even familiar with the high-speed connection terms. Let's face it, using the computer and the Internet is a wonderful thing, but all too much time can be spent figuring it out, setting it up and fiddling with computer settings. I suppose one could make the same argument for shortwave radio -plus it's dependence on the finicky ionosphere for good, reliable reception. But then again, a small portable shortwave receiver, ready to run except for a hook up to a phone or cable line, is completely portable, free of monthly access fees, signal buffering or line congestion. You don't need to be a rocket scientist to set it up and fiddling with computer settings.

It's dependence on the finicky ionosphere for good, reliable reception.

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Dear Editor:

Regarding Mr. Crane's letter to the editor, June 2001 in response to the cover article October 2000 "Big Trouble in Michigan." Perhaps it is not my place to respond that the article was sparked by an incident that happened to myself and my subsequent attempt(s) to inform the public traveling Michigan's roadways of the possible hazard of traversing the state with a scanner.

Additional attempts to have Michigan's state law modified to reflect the hobbyist interest and technological change regarding public communications have been met with less than desirable results. We are still as a hobby considered criminals under MCL750.508 without MSP permit or FCC amateur status.

The main problem with this law, and with laws similar to it in the states of NY, MN, IN, SD, FL, KY (none allow for statewide permits) is that the traveling public is NOT generally aware that laws like these exist. Many hail from states that have NO mobile scanning laws, and believe this is the case nationwide.

A quick double frisking of your person and vehicle search will convince you otherwise. You will no longer be unaware it's illegal as I was that January night. Though not arrested (catch and release), the incident awakened me to the unfairness and danger of this law. I endeavored to warn my fellow hobbyists of the potential threat and inform them of the procedure to obtain permits in Michigan. (Something NO retailer has ever told me regarding the purchase of a scanner in MI.).

To this date, hams believe they are immune from prosecution/harassment, yet only as recently as March 2001 a ham had to fight his way out of jail (Troy, MI) for having a scanner in his vehicle in Michigan. His PDA contacted me for assistance, which I offered openly. Last year a ham in Elkhart, Indiana, was arrested and charged under that state's law. Yes, both parties are supposedly exempt. Yes, both cases ended in dismissal. Yet both cases cost the government(s) and involved hams' time and money. Why? Because of a law that is/or may be enforced against the wrong party. We're hobbyists, not CRIMINALS!

While I appreciate Mr. Crane's assertion that the police generally don't bother the scanning public, some bad things can happen when the police do decide to enforce MCL750.508. Stories of harassment, and to a lesser extent, arrest and conviction have landed in my E-mail box from aviation enthusiasts to race fans to volunteer firefighters. Letters from county prose-

Dear Editor:

You mentioned that REACT was now monitoring Ch. 1 of the FRS frequencies. Wouldn't it have been easier to use Ch. 9
since everyone connected with CB is already familiar with that.

Juan N7RCM

REACTing To REACT And FRS

Dear Editor:

Had REACT "test driven" its proposal for FRS at a ski resort, it would have recommended using Channel 1, Code 9 for emergencies. That way, those monitoring could engage in other activities with minimum distraction. And that's where you rack up really high monitoring hours. Few people sit around, glued to the radio. But if you can turn it on, squelch it, and continue with phone calls, paperwork, ironing, kids, etc., you're more willing to participate in this service to the public. FRS continue with phone calls, paperwork, ironing, kids, etc., you're more willing to participate in this service to the public. FRS units without CTCSS are becoming a rarity. That way, those monitoring could engage in other activities with minimum distraction. And that's where you rack up really high monitoring hours. Few people sit around, glued to the radio. But if you can turn it on, squelch it, and continue with phone calls, paperwork, ironing, kids, etc., you're more willing to participate in this service to the public. FRS continue with phone calls, paperwork, ironing, kids, etc., you're more willing to participate in this service to the public. FRS units without CTCSS are becoming a rarity. Using a code would dramatically increase the hours spent in monitoring without a reduction in effectiveness.

Best regards,
Paul Polmsbee
qrm2000@aol.com

Bert's Two Cents

Dear Editor:

Your fine publication is getting better and better. Thanks from an 11-meter reader and keep up the good work!

73 de Bert
SSB411D

Staying Within The Lines

Dear Editor:

I have been a satisfied customer of Popular Communications for about a year or so now and I thoroughly enjoy each and every issue. I am not one who normally responds to articles, but I can't hold myself back. Firstly, I would like to respond to David's letter from Pennsylvania in your December 2000 issue. I had never even heard of CB Freebanders until I started reading your publication. I have been using the CB frequencies since the late '60s and early '70s. When I first started using a CB radio, I did it to serve the public with general and emergency assistance. The added plus was the enjoyment of talking to other interesting CBers from around the area. I was satisfied with the power limitations because we were all the same. We all used our properly issued FCC call signs and users were very courteous. What has driven most people from CB is the people who must, for some unknown reason, deviate from the rules, by adding power and also deviating from the standard frequencies allocated by the FCC. I also admonish the FCC for not keeping the CB band like it was by not enforcing their own rules. I am also a licensed ham operator. I studied and applied for my ham license by following the proper procedures just like I did when I applied for my CB license. I wish everyone would just abide by the laws and rules of the governing agency. Just like when you break the law on the highways, you get caught and you pay the consequences. Operating on the airwaves is no different. Don't whine when you don't like the laws. If you want to operate on a given frequency, then follow the proper procedures for operation on that frequency. Freebanders should be eliminated by proper enforcement. Those who operate

(Continued on page 38)
How To Say NO To Blackouts!

Lights, Radio, Action — Portable Solar Power Keeps You Running!

By Harold Ort, N2RLL, Editor

Interestingly, today's lead news item is California facing the likelihood of more rolling blackouts. Of course I wasn't surprised earlier this year when Uncle George and Cousin Dick announced the rest of the U.S. is in for some tough times on the energy front, similar to California's plight. Politics and energy crises, real or PR "wag the Bush" scenarios aside, you and I are smack in the middle — actually at the bottom of the energy ladder, so it pays to be prepared.

If you've got a spare $30,000 or more, your entire home can actually be off the electrical grid; no more electric bills for life! It's called solar or alternative energy. We talked about it at length in our September 1999 Popular Communications, and showed you how, with a couple large panels, batteries, and assorted basic accessories you could operate much of your radio equipment, some lights during an emergency, or whenever you wanted to, for that matter. I've been using that setup — the Deka and Sears batteries, Solarex, Solec, and Siemens panels, and ASC charge controllers nearly every day since then, rain or shine, night or day. Believe me, using solar power and doing alternative energy projects can be as addictive as putting up and taking down homebrew antennas every other weekend. But for $25,500 less you can have portable "free" power for your low-power gear and have fun in the process.

It's Portable And Even Less Expensive

In response to our Pop' Comm survey, many of you said you'd like more articles on alternative energy, so this is number one in a to-be-determined number of upcoming alternative energy projects. I decided to make this project relatively inexpensive and portable — after all, many of you enjoy radio monitoring not only to stay on top of what's going on with a scanner or shortwave receiver from the comfort of the shack, but are active CBers or hams who frequently get out of the house, and often help others when the chips are down. Whatever your motivation — even if it's just firing up the radio from a different outlet — guaranteed this is a project that'll keep you busy for a few hours and keep you on the air when others are running to the store for alkalines, NiCd's, and flashlights.

The heart of this small system is a 35 watt Kyocera KC35 solar panel — it's only 25-3/4" x 18-1/2". It's rated at 2.33 amps (nominal max output current). I personally like the Kyocera panels for our hobby applications — while they obviously come in a variety of sizes, depending on your needs, the module itself is in an anodized aluminum frame that's structurally strong and doesn't bow under pressure. Inside the small weatherproof junction box, the screw connections are clearly marked + and -, and even routing the wire is...
The battery in this project is a 12-volt AC Delco Voyager Marine RV Battery, Model M24MF with 400 cca (cold cranking amps). And to ensure the system doesn’t become overcharged (not very likely with this size panel, but better to be safe than sorry) and the panel isn’t damaged by current returning back through the system at night, an ASC Specialty Concepts, Inc. charge controller, model 12/8 rated at 12 Vdc, 8 amps was used. Your charge controller should be rated at least the number of amps supplied by your panel(s). The entire “system” is mounted on an inexpensive two-wheeled dolly for portability.

Putting It All Together

This time I only went back to Home Depot twice. (Normally, despite making a good list of needed parts, I end up making several trips to the hardware store. My advice: measure, take notes and measure again. Case in point: I used a 22” x 24” board (weatherproofed, just in case) that needed to be fastened to the dolly’s carriage. No problem — buy a package of four plastic or metal conduit clamps — probably half-inch will do. Wrong. Measure the pipe or bar first so you bring home the right size clamp or bracket. The dolly I used from Home Depot requires 3/4” clamps. You’ll need a helper to hold the board to the dolly while you fasten the first two (of four) clamps from the “bottom” of the dolly with either galvanized or stainless steel screws.

I also made a small housing for the battery from weatherproof one-inch wood. While it won’t keep the battery from tipping over if you put the dolly in the normal upright position, it holds it securely keeping it from sliding when you move the system. Look at the photos and you’ll see the nifty RAM-111 ball mount securely holding the Kyocera panel. I fastened the RAM to the panel by first mounting it to a metal conduit; you can use weatherproof wood or flat, yet firm, metal strips from Home Depot or your favorite hardware store. It’s important you get a strong enough piece that won’t flex, or you could damage the panel. Also, when drilling holes in the panel’s frame for the bracket, place a small block of wood between the frame and back of the panel; the last thing you want to do is accidentally drill into the panel itself!

The project is actually very simple, but because of the unusual use of the dolly, I found myself stopping a few times to assess where I was and my ultimate goal; when the dolly is lying on the ground, the Kyocera panel must be tilted at about 40 degrees (for sake of lengthy discussion from industry “experts”), and the ASC charge controller must be kept out of direct sunlight. Careful adjustment of the RAM ball assembly allows you to achieve the precise panel angle you desire, and the ASC controller mounts perfectly under the panel using two sheet metal screws. Again, please drill the holes carefully to avoid damaging the panel. That ounce of prevention is worth tons of big boy tears if you drill through the panel!

A small 3” x 6” weather-treated board, is mounted to the handlebar so the dolly doesn’t rest on the ground — a sure bet for corrosion and unnecessary scratches. I used an old RadioShack antenna mount for this purpose (see photo).

Using some good 12-gauge stranded cable and two electrical ring connectors, you simply crimp (and yes, solder!) the wires to the connectors, and then fasten to the AC Delco battery with the provided wing nuts. By the way, one of the handiest tools you’ll ever buy is a Dremel tool. They make all kinds — and have a multitude of must-have accessories for polishing, sanding, cut-
Close-up of the ASC Charge Controller Model 12/8.

The AC Delco battery and Casco 12 Vdc outlet.

ting, grinding, and drilling. I used the Dremel with wire cleaner to first clean the battery terminals then attached the wing nuts.

My father once told me to always have a tube of white grease in the garage. Not just for the garage door track, but it’s great for protecting battery terminals from corrosion and crud build-up. So, you’ll notice in the photos I’ve used an ample amount of the grease on the terminals. I’m not a big fan of spray coat-

ings; I’m sure they work fine for some applications, but the white grease is more easily worked into the underside of the wing nut and battery connection than a spray.

Now, let’s face it, you can’t run the family refrigerator, air conditioner, or mom’s hairdryer on this modest system. But, you’ll be able to run much of your basic radio gear efficiently and portably from this small, easily built solar system. Remember, the Kyocera panel is rated at 35 watts and a max of 2.33 amps. It easily charges the AC Delco Voyager battery up to about 13.65 volts (measured directly at the terminals after a full day’s charge).

I used my Alinco DJ-G5T dual-band HT an entire weekend — on-air time was approximately three hours — switching between high and low power. Voltage measured at the terminals on Sunday evening was 12.85 volts — still plenty left for more radio fun! A scanner or even handheld CB will work seemingly forever, which is what makes this portable solar system so versatile. The AC Delco Voyager battery is maintenance free and should be kept from direct sunlight. Problem: How do you do that and charge the system? A two-dollar Styrofoam ice container fits perfectly over the battery — in recent 90-degree weather the battery was hardly warm under the protective “cover.”

Not having much hands-on experience with other smaller solar panels, it’s hard to say how well the Kyocera panel stacks up to the competition, but a similar Uni-Solar panel, with similar ratings and size, appears to be less sturdy and a bit more difficult to fasten to your homemade metal strip. Of course you can purchase ready-made professional panel mounting racks,

**Equipment Sources**

AC Delco  
1-800-AC DELCO  
www.acdelco.com

Kyocera Solar, Inc.  
7812 East Acoma Drive  
Scottsdale, AZ 85260  
800-544-6466

NPI — featuring RAM Mounting Systems  
1017 S. Elmgrove Street  
Seattle, WA 98108  
206-763-8361  
www.ram-mount.com

Specialty Concepts, Inc. (ASC Charge Controllers)  
8954 Mason Avenue  
Chatsworth, CA 91311  
818-998-5238
but for this particular installation, it’s not necessary.

We’re quite pleased with this small system; the ASC charge controller does a super job and is housed in an aluminum chassis, and sealed in a durable epoxy resin to prevent moisture from fouling up the electronics. Hooking up the panel to the controller and AC Delco battery couldn’t be easier; just be sure you use our simple formula to determine your system’s capability. It works like this. Suppose your ham rig operates on 13 Vdc at one amp on receive and 8 amps on transmit; your small handheld scanner uses .8 amp. Assuming a 50 percent duty cycle, receive and transmit, multiply the amps by the hours you’ll be using the equipment. So you’ve got 1 amp x 1 hour for a total of 1 amp hour for the FM ham rig. Your one hour of transmit time equals 8 amps x 1 or 8 amp hours. That’s a total of 9 amp hours from the battery for the ham rig in one typical day.

Your scanner, in this case, uses 1.6 amp hours (.8 amp x 2 hours). So you’ve got a total of 10.6 amp hours of total daily consumption. The AC Delco Voyager Marine battery is an 80-amp hour battery; in theory it’ll supply 80 amps for one hour, 40 amps for two hours, 20 amps for one hour, etc. So using our 10.6 amp hours daily, you’ve got about seven day’s worth of potential energy available. I always say your mileage may vary simply because the state of charge of your battery can vary greatly, but if you’re good about charging it a few hours a day, these are the approximate specs. A factory sticker on this battery also notes the hours of battery usage as a function of current draw; 14.4 hours at 5 amps, 4 hours at 15 amps and 2.1 hours at 25 amps. That’s a pretty good amount of radio gear that can operate off one battery. But remember that 22” x 24” board? It’s certainly large enough for another AC Delco Voyager wired in parallel to give you added capacity! I used a 140-watt power inverter with a standard 40-watt AC lamp for a couple hours in the garage; simply plug the inverter into the Casco Heavy Duty 12 Vdc power outlet and you’re ready! The outlet is weather sealed with a spring-loaded flip cover to prevent moisture and dirt from entering the receptacle, and your inverter should be fused and have a low-battery alarm/shutdown function. It’s perfect for that small Dremel tool or emergency lighting using this portable solar system.

You can use a small power inverter to convert the DC to AC and run a small appliance; small fan, laptop computer, or small TV. Best of all, you’re ready when your power utility goes lights out this summer or when you need to use a low amp current ham or CB radio on your radio vacation!

So where do you get all the material for this simple project? It’s easy. In addition to the basic dolly from your favorite hardware store, the mounting board, screws and wire, we’ve provided equipment sources, along with phone numbers, and a simple formula to determine your system’s capability.

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Reusing That Wall Wart

How To Use Them Without Frying Your Batteries Or Radios

By Phil Karras, KE3FL <KE3FL@ARRL.net>

What is a “wall wart?” I’m sure you have a number of these things around — I sure do. These are the little — or not so little — black (but sometimes white) cubes with AC power connector blades on one face. You plug it into the wall and it converts the AC voltage to DC voltage at some specified current. Once you plug it into the AC outlet it sits there like a black (or white) wart on your wall, thus the term of endearment, “wall wart.”

If you’re like me, you simply can’t throw these things away if they still work, even when the item they powered is long gone. I have all sorts of wall warts (WWs), from 6 volts to 15 volts, and with different current ratings.

There are a few things you need to know if you want to reuse a WW to power a different device; they are:

1. You must have the right power plug to fit the new device.

2. The plug must be wired correctly; this is called the right “polarity.” Your new device won’t last very long if you apply positive voltage to the negative connection. Most devices are still center positive but more and more are center negative. (I hate center negative. It puts the positive voltage on that long outer barrel — vehicles are usually chassis negative — what a good way to short things out in the car!)

3. You need to supply the correct voltage with no more than +10% at the lowest current the device uses.

4. You need to make sure there is sufficient current.

While we all know that the first two are very important, some may not understand the importance of the last two taken together when using a WW. This is because we’ve been taught that if a supply has the correct voltage and a higher-than-needed current rating (like a battery) everything will be fine. After all, the device only takes as much current as it needs. The power supply does not “force feed” the device with more current than it should.

For a regulated constant voltage power supply, this attitude is just fine, but for the unregulated fluctuating voltage WW, it is not. The two numbers given on the WW must be taken together! Perhaps a graph will help here:

Below is the Voltage vs. Current graph for a 12 Volt, 300-ma wall wart. This is the kind I’ve used for my Trickle Charger Plus. We can see that the lower the current draw from the WW, the
higher the voltage. On this system if we take only 10% of the rated current, we get a voltage of about 15 volts, which is 25% higher than needed!

The form of the equation for this curve is:

\[ Y = a[0] + (a[1] + a[2] \times X) \times X \]

where:

- \( a[0] = 1.620780E+001 \)
- \( a[1] = -1.641596E-002 \)
- \( a[2] = 8.581617E-006 \)

Or the equation can be written as: \( Y = 16.21 - 01642 \times X + 8.582E-6 \times X^2 \)

NOTE: I’ve used four digits in the equation, but my measurements used three digits at times. Thus, the final answer must be limited to three digits.

As a design example, let’s assume you have a radio that needs 12 Volts at up to 400 ma. We have tested the radio and it works just fine all the way down to 9.5 volts. The lowest current the radio uses (radio on but volume all the way down) is 200 ma. We have a WW rated at 12 V 300 ma and we want to know if this WW will be able to power our new radio. At 200 ma, our WW will be up to a voltage of about 12.9. This is below the 13.2 +10% voltage so that looks OK. Now at 400 ma, the voltage will be around 11.0, which is well within the operating limits of the radio, so it looks like this WW will be OK for the new radio.

You see, we first measured the current requirement for the new radio and then found a WW that supplied the needed current at the needed voltage with no more than about +10% excess voltage and it still had an acceptable low voltage for full current use as well.

Another way is to get a WW that exceeds the needed voltage and current. The voltage in this case should be at least 2 volts above the voltage needed, with current rating above that needed as well. We now use a voltage regulator — either the 78xx series or the LM317 variety. Make sure you use a regulator that can supply 50% to 100% more current than the needed device and that you heat-sink it properly. I did something like this for my new/used HF receiver. I built into the receiver the 9-volt regulator and then supplied it with 12 volts from a battery being trickle charged through the external power port. This way, if the power fails the battery takes over.

Below are typical circuits. You can use either a small 7809 to power a small device that normally uses a 9V battery, or a LM317 to make a 13.8 V 2A supply for a typical HT. For the 9V version, you can use the lower capacitance values; for the LM317 or LM350 use the larger values:

NOTE: R2 for the LM317/350 can be a variable resistor, which makes it a variable Vout.

The LM 317 can supply up to three amps, the 350 up to five. The equation for the resistor divider for the LM 317, 350 is: \( V_{out} = 1.25(1+R2/R1) + (I_{adj})R2 \). Since \( I_{adj} \) is about 50 uA this term can be left off. There will be some slight increase in Vout with insufficient load.

I hope this helps you understand what you can and cannot (or should not) do with a WW. These are wonderful little devices, but we must know how to use them properly or we can destroy the battery or device we’re trying to use.

I’ve used them for my “trickle charger plus” to keep gel cells, NiCds, and lead acid batteries topped off and “emergency ready” for years. I’ve also used them as they come, to power CD players, radios, and tape players. Last, I’ve used the regulated versions to power GameBoys, CB radios, and 2-meter HTs.

73 de KE3FL
Phil Karras
AEC Carroll County MD
ORS, OES, & VE
ke3fl@arrl.net

---

**Circuits 1**

\[ +V_{in} \quad +V_{out} \]
\[ 78xx \quad \text{Ground} \]
\[ 0.47 \,-
-0.1 \,uf \]
\[ -V_{in} \quad -V_{out} \]

\[ +V_{in} \quad +V_{out} \]
\[ LM\ 317,\ \text{350} \quad \text{Adjust} \]
\[ 0.01 \,-
-0.1 \,uf \]
\[ R2 \]
\[ 10 \,uf \]

\[ +V_{in} \quad +V_{out} \]
\[ LM \ 317 \ -\ 3A \quad LM\ 350 \ -\ 5A \]
\[ Adj \]
\[ 0.01 \,-
-0.1 \,uf \]

---

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The Frequency Coverage
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• For direct frequency entry: a responsive, intuitive numeric keypad.

These are the Satellit 800 Millennium's major features. For a detailed specification sheet, contact Grundig.
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The Operational Controls
Knobs where you want them; Buttons where they make sense. The best combination of traditional and high-tech controls.

The Sound
Legendary Grundig Audio Fidelity with separate bass and treble controls, big sound from its powerful speaker and FM-stereo with the included high quality headphones.

The Technology
Today’s latest engineering:
- Dual conversion superheterodyne circuitry.
- PLL synthesized tuner.

The Many Features
- 70 user-programmable memories.
- Two, 24 hour format clocks.
- Two ON/OFF sleep timers.
- Massive, built-in telescopic antenna.
- Connectors for external antennas – SW, AM, FM and VHF Aircraft Band.
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The Power Supply
A 110V AC adapter is included for North America (a 220V AC adapter is available upon request). Also operates on 6 size D batteries. (not included)

Dimensions: 20.5" L X 9" H X 8" W
Weight: 14.50 lbs.

by GRUNDIG
Improving maritime distress and safety communications became a priority to the International Maritime Organization (IMO) over 15 years ago when vessels were sinking, and no one knew they were going down. Reminds you of Titanic, doesn’t it?

In 1979, a group of radio experts drafted the International Convention on Maritime Search and Rescue, which detailed the development of a worldwide emergency search and rescue plan that all boats would have to comply with. This group also passed a resolution calling for development by IMO of a Global Maritime Distress and Safety System (GMDSS) to provide the communications support needed to implement the search and rescue plan. GMDSS was officially adopted in November 1988.

It took almost 10 years to amend the 1974 Safety of Life at Sea Convention for the new Global Distress and Safety System. GMDSS is now fully implemented as of February 1, 1999, and provides an automated ship-to-shore distress alerting system that relies on satellites and advanced land-based communications. The new system allows the crew to send a distress signal by just pushing a single red button.

There’s a lot more than a warbling tone that goes over the airwaves when that red button gets pressed. The Global Marine Distress Safety System provides for new digital selective calling (DSC) for ship-to-ship, ship-to-shore, and shore-to-shore automatic alerting, with a data stream providing positive identification of the ship placing the distress call, nature of distress, latitude and longitude, and capabilities for that initial distress call to get relayed “down the line.” Major oceangoing shipping in SEA Area A3 and A4 might send that distress call via INMARSAT geostationary satellites, or in the polar regions on high frequency. Vessels cruising a couple hundred miles off shore would not necessarily be required to have the INMARSAT satellite terminals onboard, but would need a medium frequency SSB radiotelephone capable of sending out the DSC digital “Mayday” call.

SEA Area A1 is that area within line-of-sight VHF radiotelephone coverage, extending the SEA approximately 20 to 30 miles. Vessels carrying passengers for hire or more than a couple hundred tons would be required for VHF radiotelephone coverage with a digital selective calling system, along with an emergency position indicating radio beacon.

Along with the required equipment would also be required operator training and licensing, and this is detailed in the general radiotelephone operator license plus ship radar endorsement book by this author, available at 800-669-9594. Specific Federal Communications Commission test elements are required by those GMDSS operators and maintainers aboard commercial ships required to have this equipment onboard.

**Day Sailors**

Recreational boaters sailing or power boating within United States jurisdictional waters do not require any radio at all! They could jolly well sail from New York to Miami, or San Diego to Alaska, and do so with nothing more than a sextant, lead line, and a megaphone. But luckily, 25-watt VHF marine radiotelephones and their associated 9-foot, 3-dBd gain antennas are so inexpensive (under $150) that I can’t think of many boaters who would go more than a mile off shore without this important piece of radio apparatus. Even little dingy day sailors easily take along an inexpensive VHF handheld, many times sealed in a waterproof pouch, ready for that emergency call if they get dumped and need to call the local harbormaster.

The international distress and calling frequency on marine VHF is Channel 16, 156.800 MHz. A secondary calling channel is 156.450 MHz, marine Channel 9, and the Coast Guard liaison VHF frequency is 157.100 MHz, Channel 22 USA simplex, not Channel 22 duplex.
Recruational boaters and sailors do not need a ship station license nor operator permit to operate a marine VHF 25-watt radio onboard. The Federal Communications Commission relaxed the rules for both a station and operator permit due partly to the fact that few day sailors were ever seeking the license, and those that had it rarely used their official FCC call signs. This “no license for domestic cruises” also applies to the shipboard radar and EPIRB found on many small sailboats and power boats.

The Federal Communications Commission is also switching from paperwork to electronic applications, and mariners filing for a marine station license immediately ran aground with the complexity of how to get the right forms on the tube, looking up fee schedules that were constantly changing, and changing electronic filing systems in midstream.

Now enters new 25-watt marine VHF transceivers that have the big red emergency button on them, classified as SC-101 DSC compliant for recreational users. These new radios, by law, must have basic DSC capabilities, and this is indeed good for mariners to give them a better way of hailing that big commercial ship bearing down on them on a collision course. The compatibility of DSC would allow the pleasure boater a positive way to reach someone on the bridge of that other vessel on a common DSC channel, DSC Channel 70, 156.525 MHz.

For the few sailors who successfully obtained a recent Federal Communications Commission station callsign, they will be rewarded by seeing their nine-digit Maritime Mobile Service Identity Number (MMSI) listed in the MMSI box on the license. This is your DSC number! This number is assigned to the FCC licensee and that specific boat registered for the ship.

### Mobile DXer

**by Dave Mangels, AC6WO**

A practical guide to Mobile DXing - an exciting, challenging and rewarding facet of today's Amateur Radio!

Here's a sampling of what you'll find inside:

- Lightning Preparedness
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- Propagation & Mobile DXing
- Mobile HF Antennas & Tuners
- The Language of Mobile DXing
- The Versatility of Mobile DXing
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station permit. This MMSI number is kept in an international United States Coast Guard data bank, and if ever the big red DSC button is pushed, the U.S. Coast Guard receiving the DSC call can see via the computer who the registered owner is, and their listed address and Social Security number. But more important details like a phone number, length of boat, color, and a more accurate description of the vessel won’t be found in the FCC/U.S. Coast Guard database relying only on the information given on the marine station license application.

Great News!

Private industry gets more! Boat U.S., working closely with the National GMDSS Implementation Task Force, and a decision based on the advice of the Advisory Council, has implemented a MMSI number assignment program, free of charge, for the thousands of sailors and power boat operators who don’t have an official FCC marine station license. The application process is straightforward at www.boatus.com/mmsi, or FAX forms at 703-461-2845.

Instead of having to pay a $120 FCC license fee, Boat U.S. will offer this service free of charge for those mariners cruising domestically that don’t need an official FCC station license for their radio system, but do need the MMSI number for positive station identification.

The MMSI is a unique nine-digit number, like a telephone number, to selectively digitally call other DSC radios, either commercial stations or other private ships. If the VHF DSC transceiver is hooked up to an operating GPS, the latitude and longitude of the DSC call is also sent with a single push of the big red emergency button.

And the big red button does not necessarily mean emergency calls only — by pre-entering other DSC phone numbers, you may also selectively call other boats on VHF Channel 70, and their DSC radio will take a command from the original DSC call to switch to a specific ship-to-ship, non-commercial working channel. On a distress call, everyone’s DSC radio is electronically switched to VHF channel 16 for a voice follow-up on the emergency call.

The Boat U.S. MMSI program goes well beyond what the basic FCC marine radio station license application asks. For instance, registering with Boat U.S. for your MMSI number will show the owner’s work and home phone numbers, E-mail addresses, primary emergency contact ashore, their contact phone number, and alternate contact shore friends and family.

There is also a lot more detail in the registration process regarding your vessel name, any callsign, cell phone numbers, EPIRB ID code registration through NOAA, your vessel’s home port, an alternate on where you may be sailing to, number of persons possibly onboard, and boat length, tonnage, color, type, and any other details you may wish to list.

While Boat U.S. adds a lot more detail and simplification to obtaining an MMSI number, no boat owner should carry two numbers, one from the FCC and one from Boat U.S. In an emergency, the U.S. Coast Guard would have to look at both numbers. "They would get their MMSI number from Boat U.S. if they are not required to carry a station license. In other words, if they are required to carry a license, they should be getting the MMSI from us and no contact with Boat U.S. is needed," comments Darlene Reeder of the Gettysburg office of the Federal Communications Commission.

"Per the agreement between the FCC/U.S. Coast Guard/Boat U.S., Boat U.S. is to be providing MMSI numbers only to those vessels that do not require licensing. Boat U.S. will maintain its own database for these unlicensed vessels. The Commission will not be collecting any of this information," adds Reeder.

"This new public-private partnership demonstrates what can be done when we work with the federal government to create programs that will benefit the entire boating community," says Boat U.S. President Bill Oakerson. "Because DSC radios have the potential to save many lives with a few years, we also wanted to protect our members from what could have been a steep fee had the government simply turned the function over to a commercial provider," he added. We are told that over 2,000 Boat U.S. applications have been processed with immediate DSC number assignments.

Boat U.S. indicates that the MMSI number information will be utilized by the United States Coast Guard to effect a more rapid rescue should they receive a distress call using the unique MMSI number. They have assured me that the information about your particular style of boat will go no further, so you won’t be getting power boat or sailboat catalogs in the mail anytime soon.

But there is still one last major hitch in the system — a VHF DSC emergency call won’t get picked up anytime soon by any United States Coast Guard station on shore. The U.S. Coast Guard is still several years away from implementing its rather aged shore side VHF distress radio system with DSC, so they rely on Coast Guard auxiliary units, commercial tow boat companies, and soon a public correspondence network called MariTel to relay any DSC calls received in their area.

The United States Coast Guard patrol boats are slowly adding relatively inexpensive DSC radios onboard, so there are still plenty of "silent electronic watches" via DSC technology constantly listening in on 156.525 MHz, VHF Channel 70.

Well-known radio manufacturers like ICOM America and Standard Horizon/Yaesu, along with Ross and SEA, may all offer 25-watt, DSC radios priced below $300 new. This equipment is still too new to be found on the used auction block. New VHF DSC-type transceivers will easily accept the DSC number to be registered in their non-volatile memory by simple keystrokes on the front panel. However, DSC "number writers" need to make absolutely sure they have the number correctly entered before pushing the final "enter" button, because DSC rules require a DSC number-write lockout if someone begins punching in numbers over and over again. On most equipment, you only get two tries!

Is DSC saving lives? You bet! There are already several reported "saves" by recreational users when the vessel began flooding or abruptly caught on fire, and the operators only had enough time to lift the red plastic button cover, press the button once, and then bail out to the inflatable life raft. These radios, interconnected to GPS, faithfully transmitted the distress call, sending along the imbedded latitude and longitude, and help was on its way without either operator needing to grab the mike and spend the time yelling "Mayday" and trying to read the GPS display. Digital selective calling, whether it be short range on marine VHF, long range on high frequency, or worldwide from satellite will all spell a much more positive way of calling out in an emergency, anywhere on the high seas, in the channel, or just a few hundred yards off shore in the surf line. If you have a boat with bow registration numbers, or documentation numbers, whether you have the 25-watt VHF DSC equipment or not, get your maritime mobile service identity number now, free, from Boat U.S.
Welcome to the Top Shelf

AOR wide-range communications receivers are designed and built for the serious user. Among our customers are governments and government agencies, news gathering operations, military units, laboratories, public safety operations and more. If you are a demanding user who expects the best, you’re ready for AOR, The Serious Choice in Advanced Technology Receivers.™ Don’t look for AOR on the bottom shelf at your local discount store, you won’t find us there. For dealer locations, check our web site, www.aorusa.com

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Base performance in a hand-held receiver!
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- Large display includes A and B VFO frequencies and signal strength meter
- Battery Save function with Low Battery indicator
- Operates on 12 VDC external power
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- BNC antenna connector
- Wide choice of accessories

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- 12 VDC operation
- BNC antenna connection
- Download free control software from AOR web site

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Readers Speak Out On "Connection" Topics

I've learned that many common octal tubes are missing either pin 4 or 6 on their bases. This presents problems for readers attempting to duplicate the Night Hawk coils as described in the last issue. I was made aware of this only after procuring a number of defective tubes that I intended to salvage the bases from. Some of the bases were missing pin 4, others pin 6. Audio power tubes (6V6, etc.) are likely to be missing pin 6, while rectifier tubes (6W4, etc.) most likely are missing pin 4. I am sure there was a technical reason for doing so, but I am somewhat surprised that the sets designer didn't take this into account. As a solution, I suggest using pins other than 4 or 6 to permit salvaging from a wider assortment of whatever defective tubes you might be able to muster up for the project. Only 4 or the 8 pins are needed. Maybe other tubes were more plentiful back then; I bought octal duds on the Internet just for this project.

The Wireless Connection mailbag has been overflowing, and readers' submissions are a popular venue with you. So, here's a random sampling of what you've had to say to us over the past several weeks. Unfortunately, I can't fit everything I'd like to in one issue, so as space permits other letters will be run. I do want to give a special mention to Sergeant Evan Roberts, who is stationed in Korea. Sergeant Roberts has been keeping us abreast of his homebrew crystal set efforts - he has gone so far as to make his own earphones from scraps of materials found around the base! Wow, that's dedication! I don't have space in this issue to include his letters or all of his photos, but I promise to show them ASAP. Evan also passed along some photos of him and his men at action, and I am sharing a few with you in this issue.

More On Tube Getters

Reader Mr. Hiroyuki Kato of Kawasaki, Japan offered these comments in regards to our recent article on tube getters: "Dear Mr. Bertini - I am a Pop'Comm reader in Japan. The 'Radio Connection' is my favorite column. Regarding the tube getter issue in the April issue, I believe there are at least two kinds of getters one of which continue to capture gases after it is fired but the other does not. The above is evidenced by the following facts:

"(1) I saw many UX-280s, UX-281s and a mesh plate UX-250 that have very large getters that look perfect but show glow inside the plate as if they were type 83 [a mercury rectifier Peter] tubes. This fact has made me believe the (magnesium?) getters used for globe tubes do not continue to capture gases after firing.

"(2) Getters of newer tubes like 50 (ST shape) and WE300B got smaller and smaller as I used the tubes on audio amplifiers. This fact has made me believe the (barium?) getters used for ST tubes continue to capture gases after firing.

Sergeant Roberts and crew preparing for a day at work.

Sergeant Roberts and crew, leaving an otherwise airworthy craft! God-speed our American servicemen.
One of reader Hawkins’ homemade IF Transformers which uses a soda can for a shield is shown undergoing tests on his workbench.

"There may be another type of getter (oxide getter?) that look almost black or dark brown. They are in some miniature tubes and sweep tubes. This type of getter appears to continue to capture gases after firing. I hope somebody in the U.S. where most tube development was made will clarify this issue. Sincerely, Mr. Hiroyuki Kato."

Can any of our Pop’Comm readers offer some expert advice on these issues?

Homemade IF Transformers

Regarding homebrew IF transformers, a topic briefly touched upon in the May issue, George Hawkins kindly wrote a fairly long letter detailing his efforts along those lines. I was pleased to see that anyone would enterprising enough to undertake such an ambitious task! Here are George’s comments: “I read Delmar McKoy’s idea of making a superheterodyne radio using tube circuits and transistors in the May issue. I have also had this idea. You indicated the construction of the intermediate frequency transformers would be a challenge. I agree, but I am also intrigued by the idea. Originally I planned to duplicate the plans for such a radio that I found in the Popular Radio Handbook No. 1. This circuit used two of the Haynes variocouplers, like the one I made for my version of the regenerative Haynes DX receiver. [We will be featuring George’s solid-state Haynes regen as a construction project at a future date - Peter]

"I couldn’t figure out why the circuit required two of these devices, except as a way for Haynes to sell variocouplers! Other features of this circuit included an Intermediate Frequency (IF) of ~100 kHz and an intermediate frequency transformer (IFT) which could be homemade (a task the authors also did not recommend). The IFTs did not include tuning capacitors; only the initial coil of the three transformers was tuned.

"Previously, I had purchased a tuning capacitor that was made for a simple two-circuit (converter input and local oscillator) radio. This capacitor was designed for use with the standard 455 kHz IF. (The oscillator section has a capacitance range of ~105 to ~26 pF; and the converter section, ~221 to ~27 pF.) It seemed logical to try and duplicate the classic AA5 [All American 5-Peter], or some hybrid of using JFETs in lieu of vacuum tubes. I like JFETs since they operate at low, and safe voltages, and the JFET is similar to a tube, in that it is a voltage-vice-current-controlled device. About two weeks ago I saw a used HP 3400A RMS voltmeter for sale at a reasonable price. I realized with the voltmeter I could make my own IFT! I already had a signal generator (a Precision E200C) and a frequency meter (a Realistic DX300 general coverage receiver); the voltmeter would allow me to measure the performance of the coils I made. Knowing the coil’s characteristics would allow me to make a transformer.
George also made his own versions of the mica compression trimmer caps used to align early IF transformers. Details are given in the text.

"I was surprised how easy it was to make a working IFT. I must confess it is not a very good IFT, but it works! I spent a Sunday afternoon and evening making the trimming/tuning capacitors and coils. A few evenings later I had a working IF amplifier feeding my homemade IFT coupled to an infinite impedance detector. I estimated the IF for this first transformer to be 462 kHz with a 3 dB bandwidth of -37 kHz (Q = 12.2). The coils are tuned by their own distributed capacitance and the two homemade trimmers, which have a limited range (I had "pruned" the coil's turns to get it to self resonate near 455 kHz).

"I've since made another set of coils with small wire (#32 instead of #30) and with a different form (0.13 inch length vice .19 inch length). This pair of coils has a higher unloaded quality factor, QUL (about 35 vice 22). I am going to resonate these coils with a fixed capacitor in parallel with the trimmers. The basic size of the coil was decided by the size of the intended shield, which is a soda pop can! This lead to a coil form which is a piece of .1 inch nominal PVC pipe (schedule 20, thin wall). The trimmer caps were made from 3/16" plywood with 0.010" brass sheet as the plates and 0.010" polystyrene (PS) sheet as the plate spacer and dielectric. I measured the trimmer caps capacitance to be -30 to 15 pF. The coils are wound on a paper liner wrapped around the PVC pipe. From some long forgotten time and scrap heap I had saved a small coil winder.

"This machine has been quite handy. It indicates the number of turns and has a cam to make a "progressive" winding. There is only one cam (1/4" stroke) and one gear ratio, so I just used what it had. I have been thinking about making some more gears, but I first need to understand what ratios would be the best to have before going through the trouble of making gears. With this machine I am able to make coils with inductance values from ~900 mH to ~500 mH, with distributed capacitance values of ~20 pF. However the reproducibility of the inductance values is only on the order of ~20%, which means that each coil has to be individually "pruned" to get the correct resonant frequency. I have tried to make the next stage for the superhet, a local oscillator (LO), but to date I have not had much luck. The IFT was very easy to make compared to the LO! I have yet to make a LO that will tune the required range and stay stable enough to use.

"My first goal was to demonstrate a usable IFT could be made by the hobbyist using readily available materials. For me this means #30 (from RadioShack) or #32 wire (from a local electronics shop, EPO Electronics), and coil forms made of PVC pipe. I have concluded this is possible with the following minimum of equipment, a signal generator, a frequency counter, and a voltmeter. A coil winder is also very handy, but I think not necessary (Note: I have not demonstrated this point by making coils with "scramble" windings, but it's an idea to try in the future). The IFT will not be small! The idea was to use a large diameter to get as high of a coil Q as possible.

"The issue of matching the coils to the output [impedance] of the FET still remains. So far I have not been very successful in achieving a good match. The tuning characteristics are controlled by the second coil, leading me to believe that the first coil is heavily loaded by the output resistance of the JFET, thus making the response of the first coil very broad. In effect I have made a RF transformer with only one tuned circuit.

"I am including some pictures of the 'bread boarded' IFT and circuit. Delmar's comments have inspired me to try and make a simple superheterodyne radio with homemade IFTs. I enjoy your column and I look forward to seeing more information about the Night Hawk'.

Rich Shiver's homemade parts cleaner, using a Magic Fingers motel-bed massager mechanism and coffee can filled with sand.
which is a very 'clean' looking machine. George.

Thank you, George. George is one of our more prolific contributors, and his Lyonodyne crystal radio was the one featured in our June column.

**Magic Fingers Parts Cleaner**

In the April issue I also touched upon homemade parts cleaners, using aibrator and abrasive to clean metal parts. Here are Rich Shivers' comments and suggestions: "Dear Peter, I really enjoy The Radio Connection. It's the first place I turn to when I get the magazine. My interest in radio started with my parents' Crosley 56NT radio, that covered both AM and SW. I enjoyed the SW, and then I would fall asleep listening to WFIL or WIBG, two 'Top 40' AM stations. I still have the set, it works and has what might be the original tubes. I just bought a spare set (it's an All American Five) from Antique Electronic Supply, just in case. My current SW receiver is a Lafayette HA-226C communications receiver. My neighbor gave it to me (with the manual), I don't know where it was stored, but when I opened it up the inside looked factory fresh - not even any dust. It powered right up and works fine.

"Regarding the vibrator idea for cleaning small metal parts, time to cross hobies and turn to the shooting sports. For those who reload their own ammunition there is a device called a 'Case Cleaner'. It consists of a plastic bowl with cover attached to a vibrating motor in the base. The cleaning medium is a fine abrasive, carried by crushed walnut shells. These units can hold two to five pounds of empty cases for cleaning; and take about eight hours for a full cycle of cleaning.

The media is readily available and can be used many times before it needs to be replaced.

"In reality this whole setup is just too costly for a one time use - about $100 - you'd need to clean a lot of parts to justify a purchase. The best solution is to find a friend who reloads and ask if you could use it. A perfect reason for a visit and to learn about each others' hobby.

"Keep up the good work, I look forward to the next crystal radio project. I tried winding the Lyonodyne coil, but I miscalculated and found myself about 20% short after running out of magnet wire. I will try again, and have ordered a 3-gang cap and three spools of wire from Ocean State Supply. Looking forward to the next issue, Rich Shivers, KB3FGJ."

At last, a letter and photos from reader Ken, WN2SQC, who actually tried our suggestion for using a motel bed massager mechanism and coffee can to make his own parts cleaner! First came this teaser: "Hi Peter. Great article. I happen to have a Magic Fingers hotel bed vibrator. I attached a coffee can as you mentioned and am currently cleaning some cruddy pennies. I attached a picture showing the jury-rigged setup. I'll let you know how it comes out. 73's Ken, on Long Island."

And, after what seemed an eternity: "Hi Peter. Sorry about the delay. Magic Fingers, located in Winter Haven, of central Florida, distributed the Magic Fingers unit. It works best if not securely mounted to anything, this is appropriate when attached to bedsprings. I bought the unit it in the mid 1970s. I attached a 13-oz coffee can to the four plastic rings that normally attach to the bedsprings. It required a slight reconfiguration (hit it with hammer) of the can to fit and tightly. I used common sand for the abrasive and let it run for 24 hours. Here are two before-and-after photos of several pennies run through the cleaner. It did a good cleaning job, but probably destroyed most of the collectors' value of the coins. Hope this helps, Ken."

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This Quiet Antenna Is Quite An Antenna

One thing that we always look for when choosing an antenna is the optimum antenna for our particular application. Size is always a consideration, but something that is often overlooked is effectiveness. In receive applications, this implies an antenna that is sensitive and quiet. This antenna fills the bill on both counts and furthermore, it is easy and economical to build. This sounds intriguing, doesn't it? Read on.

Let us look at a bit of theory to compare the performance of two antennas. The standard antenna for comparison is the half-wave dipole. This, as you know, is one-half wavelength at the frequency of operation. The feedline is attached at the center of the antenna at the maximum current point. This is also the minimum impedance of the antenna. Look at the end of the antenna. The impedance at this location is extremely high because the current is approaching zero. If a charged particle hits the antenna, rain or snow, for example, at this high impedance, noise results. This is known as end effect and the way to eliminate this problem is to build an antenna with no ends. Enter the loop antenna.

The antenna that I am referring to was named the LOOP SKY-WIRE by its originator Dave Fischer, W0MHS. His description appeared in the November 1985 issue of QST. I admit that after seeing his article, I could not wait to get my version into the air and do my own evaluation.

Figure 1: The antenna is modeled as a square loop fed at the corner.

The antenna is a horizontally configured structure that has an overall circumference of one wavelength. The formula for calculating the wire length required is 1005/f, where f is expressed in megahertz at the lowest frequency of operation. The anten-
Let's spend a bit of time investigating a loop antenna for the international shortwave broadcast bands at 6 megahertz and higher. One of the greatest tools that I have encountered for initial evaluation of antenna performance is a computer program. The program that I am going to use is EZNEC developed by my friend Roy Lewallen, W7EL. Roy has done a beautiful job producing this program and it is a real joy to use. I will produce vertical and horizontal patterns for 6, 12, and 18 megahertz. This will give an overall picture of what you can expect in the way of antenna performance. I will specify a perimeter of 168 feet and will configure the structure as a square at a height of 40 feet over average ground.

Results Of The Computer Study

As you can see in Figure 1, the antenna is modeled as a square loop fed at the corner. Most of the vertical and horizontal patterns will use this configuration. Remember, although the physical height is 40 feet, the heights for the resulting patterns are in terms of wavelengths. For example, the physical height remains the same for the antenna at all frequencies of the study, but the antenna is twice as high at 12 MHz and three times as high at 18 MHz.

The height of the antenna for the 6 MHz study, and the resulting vertical pattern (Figure 2) shows the maximum signal for the receiver is incoming from overhead. This results in a horizontal pattern that is practically omnidirectional (see Figure 3). The vertical and horizontal patterns for the antenna at 12 MHz are shown in Figures 4 and 5 respectively. Remember that the antenna is now twice as high electrically as it was at 6 MHz. As a result, you can see a definite change in the vertical pattern. The overhead component of the pattern is missing. This is a result of the antenna being at approximately 1/2 wavelength above the ground. This predicts that the received signals will be at a greater distance from the receive location. The horizontal pattern shows that it is becoming less omnidirectional. This is a fact that you will have to live with.

The vertical and horizontal patterns at 18 MHz show some interesting characteristics. The vertical pattern shows the redevelopment of an overhead component. Remember that the antenna is now at 3/8 wavelength (see Figure 6). The horizontal pattern shows a definite contrast between corner and side feed. The corner feed results in an elongated pattern somewhat resembling the pattern of a nonterminated rhombic. This pattern is great if you can orient your antenna so that it favors your area of interest (see Figure 7). If you prefer a more omnidirectional pattern, you may want to try a side feed for your antenna (see Figure 8). The patterns at the two lower frequencies will not be greatly affected by this change. If these patterns are to your liking, it is time to think about getting the antenna into the air.

Time To Smell The Solder

I consider myself truly fortunate. My location is blessed with many tall southern pine trees that make excellent antenna masts. Before you begin to measure wire and place insulators, you would be well advised to make an evaluation of where you're going to erect the antenna. The configuration that I have used most often is the corner fed square. In my particular situation, I cut two equal lengths of wire and place two insulators on the wires for side supports. These insulators are allowed to slide freely along the wire. This will allow you to equalize tension on all sections of the wires if your supports are not perfectly
Figure 6: The antenna is now at 3/8 wavelength.

Figure 7: Try to orient the antenna to favor your area of interest.

Figure 8: For a more omnidirectional pattern, try a side feed.

 spaced. At the end of each wire, I solder an end insulator. At one end of the two wires, these insulators are brought together and secured with a halyard. Connect the feed line (300 ohm twinlead in my particular case) at this point. The wires can now be routed around a house, a tree, or other obstruction. After the wires are in the proper position to be hoisted into the air, secure their respective insulators through a halyard and solder a jumper wire across their ends. If you have decided that a side-feed configuration is best for your application, connect the feed line 21 feet from the double insulators and solder a jumper across the double insulators. The antenna is easier to build than it is to write about — believe me!

**Into The Air It Goes!**

A technique that I have used for many years for getting antennas into the air is a combination of a slingshot and a fishing reel. I will fire a lead weight across a suitable branch on a tree, tie a length of builder’s twine to the fishing line and pull the twine across the support. I then attach a heavier halyard to the builder’s twine and hoist the antenna into the air. This technique was described in detail in our June 2001 issue.

**Time To Evaluate**

Now it is time to have some fun. Connect the feedline to your receiver and tune your favorite shortwave band. I think you will be pleased with the results that you will get.

As I indicated earlier, the square is not the only configuration that works well with the one wavelength antenna. I have used the triangle format and found good results. Computer analysis predicts that a hexagonal format would be very desirable. The design philosophy indicates that you should have one wavelength of wire in the antenna, and you should be able to read continuity across the feedline with an ohmmeter.

**Acknowledgements**

After you try this antenna, I think that you will agree that all of us owe a big thanks to Dave Fischer for his design and publication in QST. Please let me know your results, and send in your questions, comments, and ideas to me at Popular Communications, 25 Newbridge Road, Hicksville, NY 11801.
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Taking A Scanning Vacation!

Well, it’s that season again — lots of folks pile into the family car and zoom off for the weekend, or for the annual family vacation. Hmmm, that reminds me, I’m going to have to speak with Harold about when we get to do that. Don’t leave your scanner behind, because there’s plenty of good listening out there even though you may not be intimately familiar with the territory or frequencies in use. Of course, piling the family into an airliner and jetting to far off places can make for fun listening too, but you won’t be listening “en-route.”

Getting Equipped

There are about as many variations on mobile equipment as there are mobile scanning enthusiasts. Simple installations like using a handheld in the car may turn out to be the perfect traveling arrangement for you. Let’s face it — it’s supposed to be a vacation, and hopefully you’ll have other things to focus on besides the radio most of the time. Still, having a scanner in the car can be helpful for those long drive times, and in places where you might encounter traffic. Having a handheld can also prove convenient for times when you’d like to scan in the hotel room, or around the campfire at night.

You can also install a small base unit or mobile scanner in your car on a temporary basis. Just a simple cigarette lighter plug is about all you need for power (make sure the adapter you get is compatible both with the voltage and current of your radio) and of course, watch the polarity. Most car cigarette lighters use a positive center (negative ground) and most scanners are wired that way too, but once in a while you’ll come across one that doesn’t work as expected. This is a good way to ruin a radio if you’re not careful. If you’re not sure, ask someone.

Installing a more permanent mobile unit is outside the realm of this column, although we will keep that in mind as a future topic. The big trick is really getting a more permanent power supply than the cigarette lighter. Running the antenna cable can sometimes be a bit tricky too, but with some innovative thinking, you can often get acceptable performance without drilling any holes. Of course, if you don’t care about drilling holes in that new car, then you can have a lot of fun!

As far as antennas go, the sky is pretty much the limit. The metal body of the car makes a great ground plane, so any 1/4 wave whip, or gain antenna on a magnetic mount should provide reception for several miles. You can also compromise by using rubber duck antennas for handhelds, and if necessary, suction cups mounted on the inside of the glass. They don’t work as well as an external antenna, but something is better than nothing. If you’re going to use an “internal” antenna, I have found that longer tends to be better. Those 1/4 wave telescoping antennas work quite well, or there are a number of other models that offer some gain on the higher frequencies. One that is long enough so it sticks up above the dashboard or window when the radio is sitting where you intend to use it can improve reception considerably.

You can also use the same method that car manufacturers use to keep from having to “spoil the lines” of the car with the likes of an antenna: the old wire on the windshield trick. Solder one end of the wire to an appropriate connector for your radio, and then run the other from where the radio will sit up and around the edges of the front or back window. You can build a dipole this way, by hooking a second wire to the other side of the connector. Usually, the single wire has proven effective for the times I’ve used this method. Try to make it an even multiple of 1/4 wave for maximum effectiveness on the frequencies you’re interested in. (2832/Frequency in MHz = 1/4 wavelength in inches.) As long as you don’t pick up too much engine or computer noise from your car’s electronics, this antenna will work fine.

Too much antenna can cause problems too, particularly if your vacation destination takes you into large cities. RF rich environments, as they’re called, can overload the front of your receiver, which cause you to listen to noise and interference more than signal. If you have trouble with this, switch to less of an antenna. You probably won’t hear as many signals, but the ones you do hear will be less interference prone. Of course, if your hotel happens to be underneath a pinging
That’s where things tend to get a bit complicated for vacation scanning. You’re likely to be driving through many areas that you’re unfamiliar with and don’t have detailed frequency information available. Or perhaps you’re flying into an area and want to concentrate on that city’s system. Programming your radio in advance is very helpful and will help you make the most of the time you have available. However, it’s not completely necessary.

Excellent resources like Monitor America and Police Call (available at RadioShack) can help considerably. The guides will probably give you more information than you can deal with effectively anyway. Concentrate on the big ones — state highway patrols or police, major metro area police dispatch, fire alarm frequencies, etc. Pick out the services that you’re most interested in, and punch those into your scanner. I try to keep each geographic area in its own bank. It can also be fun to plug in the itinerant frequencies if you have room. These are used by lots of businesses all over the country.

Also, keep your schedule in mind. If you’re likely to be traveling at times when the noise from the radio would disturb others, you’re not likely to listen at those times. If you’re in a resort or other area with lots of other things to do, again, you won’t be listening as much during those times. Think about when during the trip you might be able to listen without getting into trouble with family members, or flavoring the vacation. Remember, you’re supposed to be having fun.

Here’s one place where a computer programmable radio comes in extremely handy. All you have to do is hook up the computer, back up the current data (if your radio has that option) and then download the new stuff. If you make the same trips on any kind of regular basis, this is worth its weight in gold. I have used my ham handheld (Yaesu FT-50) for this purpose for some time, but many of the recent handheld and mobile radios have this capability. It’s very quick and easy to connect the computer and download a new frequency file. Four-hundred channels can be programmed in just a few minutes, and most of that time involves getting the thing connected and starting the download software.

Finally, I’d dedicate at least one bank, if not more, on the scanner to your destination. I’m assuming you’ll be spending a big part of your trip in one spot, and there you’ll have a chance to learn a little about local frequency usage, etc. You’ll also have some quiet time, so if you have to, reprogramming the radio a bit is not out of the question. You might want to do this as you learn more about what’s used in the area, or because you’ve just filled up the available banks with frequencies for use enroute. Don’t forget to reprogram it for the trip home before it’s too late!

It’s worth leaving all of your banks on for a little while when you get to the destination. If you’re in or near any size metropolitan area, lots of frequencies are likely in use. In fact, if you’re in a major metro area, there are probably very few unused frequencies. You might find something you hadn’t planned on one of those frequencies you were using for some place else along the way. I’ve found some very interesting listening quite by accident.

If any of the places you’ll be visiting is using a trunking system, you’ll have to make a decision. Trunking systems take up a whole bank in the scanner, and particularly if you don’t have a computer re-programmable radio, it’s a bit of a pain to set one up. You should get your hands on one of the trunked radio system guides, or the most recent Police Call, which contains information on many of the trunked systems around the country. You may decide that the trunked system in certain places is the only thing worth monitoring.

In other cases, however, the trunked system is only a part of the action. I’ve had some very enjoyable listening over the last few years by leaving the local trunked system out of my scanner. No doubt, I missed a lot of the really big events that were happening, but since I didn’t know where things were or what was important, I was able to find a lot of conventional stuff to listen to. Since the conventional stuff is easier to program and follow, I decided to ignore the trunked system and spend the
This might actually be the ultimate travel radio. Having a TV receiver handy can be very useful on long trips or if you encounter bad weather. This ICOM R3 can also do conventional scanning in all but the 800-900 range, making it a very convenient package. Don’t forget the charger!

If you’re a licensed ham, you’ll want to take along a transceiver. You may be able to get double duty since many of them have wideband receivers. There may also be legal advantages to having a licensed transceiver as opposed to a scanner in some states. Don’t forget to check before you go, or leave the radio in the trunk while driving.

limited time I had for monitoring listening, rather than programming. There is no wrong answer here.

You can also search for frequencies using the scanner’s search modes if you’re so inclined. It’s helpful to have ranges pre-programmed into the scanner if you have that option, or take along a reference page or two regarding the expected ranges to find things. If nothing else, you’ll get a feel for how much two-way radio traffic is around you waiting to be captured. Look back at our last two “Overheard” columns for ideas on searching methods and techniques. You did save the back issues, didn’t you?

**Computer-Controlled Mobile Scanning**

OK, so you have to be pretty dedicated, and probably traveling alone to get away with this trick, but I do know of a couple of people who actually run computer-control systems in their cars while on vacation. One person, we’ll call him John (because that’s his real name, and he’d probably appreciate that more than other things we could call him) hooks his PRO-2006 to vehicle power and then uses a laptop on an adapter sitting on the passenger seat. He says he really doesn’t use the computer to look at the display much (good idea while driving), but rather to switch banks in and out of service as he travels from county to county and state to state. He also logs all of the activity along the route so he can see what frequencies were active, and fine-tunes the system after he’s done with the trip. He makes the same trip several times a year, so hopefully it’s getting better and better as time goes on.

### Scanner Laws!

You’ll need to do a bit of research before your trip to make sure you’re not opening a can of worms by carrying your scanner in the car. Some states prohibit any kind of public safety receiver in the car, while others have virtually no restrictions. Some of the states that have restrictions also have exemptions for amateur operators and others, so you’ll want to look into the situation before you find yourself on the wrong end of an innocent traffic stop. If in doubt, pack the scanner away in the trunk and don’t use it until you get to your destination.

### Check Out Our Frequency Of The Month!

Lots of people have been enjoying our Frequency of the Month contest, and I really appreciate the comments and reception reports that have been coming in. I do read all of them, even if they don’t make it into the magazine, so please keep them coming!

Our frequency for this month is 155.565 MHz. Have a listen and then send in your results. We’ll enter you into our next quarterly drawing for a one-year subscription or extension to Popular Communications. If the frequency isn’t active in your area, see if you can hear something from further away. This time of year, anything’s possible. Either way, send in the results. You don’t have to have a confirmed reception to enter the contest!

### We Need YOUR Input!

We welcome your input or questions that you may have regarding scanning. If you take a trip and find some cool new frequencies, send them in! E-mail suggestions and questions to armadillo1@aol.com, or via official federal mail write to me at: Ken Reiss, 9051 Watson Rd. #309, St. Louis, MO 63126. Until next time, good listening!
Popular Communications invites you to submit, in about 150 words, how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo (no Polaroids, please) should be included.

Each month, we'll select one entry and publish it here. Submit your entry only once; we'll keep it on file. 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, letting us know if you're sending photos. If you're E-mailing photos, please send them in a separate E-mail with your name in the "subject" line.

August's VIP Winner:
Tom Heidorn — a.k.a. Teddy Bear

Popular Communications reader, Tom Heidorn of Illinois says, "When I was 10 or 11 years old I brought home an old color TV set and was told it was broken and that it would never work. So I took it apart to see what made it tick. When I got to the plug on the back of the picture tube it was stuck. So I put my feet on the chassis for a better grip. I didn't know at that time that a picture tube could hold a charge. It shot me across the room with the plug still in my hand!

I can't blame dad for not letting me play with TVs after that. Dad soon introduced me to Heathkit. I like the frequency counter IM-2410 the best! Now I'm 47 and have some different toys. I'm still picture shy, but my toys aren't. In the picture are: Cherokee AH-100, Cobra SR-11, RadioShack DX-392, RadioShack 10-channel scanner, a homemade speaker with a purple monkey on top and Galaxy DX-959 transceiver with an Astatic base microphone. Not pictured is my Dynascan Cobra 85, a 23-channel base.

If you're in the Chicagoland area and wish to contact me, monitor Channel 16. If you're west at about I-55 and I-294 from about 9:30 to 11 p.m. Most people call me Teddy Bear."
First In 20 Years: An Anti-U.S. Clandestine Operating In The U.S!

For the first time in at least two decades there's an anti-U.S. government clandestine operating from within the U.S. United Patriot Radio is being widely heard on 3260 and 12182 (USB). The station began operating in March, using the ID of Kentucky State Militia Radio but soon changed its name to reflect its support of patriot groups nationwide. The station is operated by a Steve Anderson (245 Elrod-Martin Rd., Somerset, KY 42503) and seeks donations in the form of postal money orders while, at the same time, declining to verify reports! The sign-on music "Take My Gun From My Cold, Dead Hands" and moves into "The Militia Hour." A frequent slogan is "your First Amendment station, protected by the Second Amendment." 3260 is generally in use from 0300 to 0400 nightly, although it's been known to come on the air considerably earlier. The 12182 frequency is active at 1600 and again at 1900. The FCC says it will take "enforcement action" against the station and we'll gauge they mean it.

Ethiopian clandestine Radio Xoriyo is active for half an hour on Fridays starting at 1630, via DTK transmitters in Julich, Germany. The broadcasts are in local Ethiopian languages.

Radio Bopeshawa, beamed to Iraq, comes on just before 1500 and runs until 1600 on 9450 with Arabic programming until 1530 when it goes into Kurdish.

The Voice of the People of Kurdistan continues to be heard in North America, (given the right conditions). Robert Montgomery (Pennsylvania) had them on 6995 from 0220 tune with talks in Arabic, mentioning an E-mail address at 0228. Brian Alexander, also in PA, had them from 0336 tune with Koran, talks in an unidentified language and Mid-East music. Brian often hears the parallel outlet on 4060 but not on this occasion.

A lot tougher (OK, impossible!) for us is Radio Freedom, the Voice of the People's Party's spokesman on human rights on 4060 but not on this occasion.

Voice of the Kurdistan Toilers is on the air in Arabic from 0300-0430 and Kurdish from 0430 to 0530 (another complete broadcast airs from 1500 to 1730). It uses variable 4250 and supports the Kurdistan Toilers Party.

The Voice of the Iraqi People operates from 1630 to 1730 on 3905 and variable 5910. No way we'll hear that. But we do have a chance during their 0300 to 0400 repeat, which airs on the same frequencies. This one appears to be the mouthpiece of the Iraqi Communist Party.

Voice of Iranian Kurdistan is on the air on nominal 3985 (but varies from 3940 to 4200) from 0200-0330 in Kurdish and 0330 to 0400 in Farsi. Also 1400-1530 in Kurdish and 1530-1600 in Farsi. It's operated by the Democratic Party of Iranian Kurdistan.

The Voice of the Mojahed has returned to the air. The schedule is apparently a bit on the flexible side but the most likely seems to be: 0225 to 0640 and 1425 to 1910 on 5350, 5650, 6450, 6850, 7050, 7450, 8350, 8850, 9930, 10250 and 13450. These frequencies, however, are quite variable, by as much as 30 kHz. This station opposes the Iranian government and is operated by the People's Mojahedin Organization of Iran.

The Democratic Voice of Burma now airs from 1430 to 1530 on 5945 (via Norway), 15405 (via Julich) and 17485 (Madagascar - only to 1455). Also 2330-0030 on 9495 (Julich) and 11590 (Madagascar). Richard D'Angelo recently heard this one on 9495 at 0010 to 0030 close, with an ID at 0025, address by man and female vocal until sign off.

IBC Tamil, which beams to Sri Lanka, now operates from 1458 to 1525 on 17485, airing from the Radio Netherlands relay site in Madagascar.

The Madagascar site also carries one of the several broadcasts using the "Voice of
Clandestine (from page 32)

Hope’s slogan. This one is the clandestine broadcast to Zimbabwe, airing Saturdays only from 1700 to 1755 on 7215—a combo not very useful for reception in North America. A similar broadcast is beamed at the Sudan on Saturdays from 0430 to 0525 on 12060 and 15320. It should be comparatively easy to pick up.

The Russian government’s Radio Free Chechnya (Radio Chechnya Svobodnaya) has been discontinued on shortwave and now airs only on medium wave and FM outlets, as well as one long wave channel.

The anti-Cambodian government station — The Voice of Justice — comes on the air with an open carrier a few minutes (sometimes considerably) before 1000 and signs off around 1045 on 15455, via what is thought to be the DTK transmitter at Julich, Germany. Broadcasts are in Khmer.

That covers things for this time. Remember, your contributions are as important as they are welcome. That includes loggings, schedules, address and QSL news, copies of QSLs received from clandestine stations and info on supporting groups and transmitter locations. Until next month, good hunting!

pop’comm survey
August 2001

1. During a typical week, I spend this amount of time on the Internet:

- About an hour
- Two or three hours
- Five to six hours
- More than six hours, but less than 10
- More than 10 hours

2. My favorite time to listen to my radios (or talk on CB or ham rigs) is:

- Early morning before work (or before 6 a.m.)
- Mornings on the way to work or at home
- Afternoons at home
- Evenings on the way home from work
- Evenings at home
- Only weekends, mostly during the day
- Only weekends, mostly at night

3. My neighbors know I’m a radio hobbyist because:

- They see my antennas
- I’ve talked about it with them
- They’ve listened to my radios
- They’re also a hobbyist

Getting Started videos

Getting Started in Ham Radio—How to select equipment, antennas, bands, use repeater stations, grounding, basic soldering.

Getting Started in VHF—Intro to VHF. Repeater usage, packet, satellites and more exotic VHF ops modes.

Getting Started in DXing—Top DXers share experiences with equipment, antennas, op skills and QSLing.


Getting Started In Amateur Satellites—How ops set up stations. Locate and track ham satellites.

Getting Started in Contesting—Advice and op tips from Ken Wolf, K1EA, K1AR and others!

Ham Radio Horizons—Step-by-step instructions for the prospective ham on how to get involved.

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New Name, Same Game

Imagine my shock and down right horror when I perused my recently arrived copy of the June edition of Popular Communications to check my column the “CB Scene” and did not find it in there. Why wasn’t it there? Had I been fired? Had I missed my deadline? Had the publisher pulled the column because I had written about something I shouldn’t have? I double-checked and triple-checked but it really wasn’t there! I was frantic to know where it went? Then I quadruple-checked and found my name but the column it claimed wasn’t the same. Its name had been changed from “CB Scene” to “On-the-go Radio.” Well, what do you know?

After shedding a tear or two for the loss of the old and familiar friend that the moniker “CB Scene” had become, I regained my composure and fired off a quick E-mail to my editor to ask why. His reply, “It is more in line with the overall vision for the mobile society we’re in today.” Further, he instructed, “keep the primary focus on CB — but include more FRS (Family Radio Service), Freebanding (world wide 11-meter), MURS (Multi-Use Radio Service), and GMRS (General Mobile Radio Service).”

As I thought about the name change it began to make a lot of sense. While many of us “citizens” have readily accepted the new services into our “band,” others are finding that the term “Citizen’s Band” has outlived its usefulness as a means of describing two-way radio that is readily accessible to the average “citizen.” They say that it worked well 30 or 40 years ago, when 11-meter CB was the only two-way game in town for the average Jane or Joe. For them it may have even worked fairly well as recently as the late ’80s when “CB” could still be easily thought of as the legal 40 channels plus an active neighboring Freeband. But that is not the case today when, in addition to our traditional 11-meter haunts, you increasingly find “citizens” yacking on those popular little FRS radios — which share frequency with GMRS. For them it will be even less fitting tomorrow when you can expect to find more of us operating on MURS — the wonders and possibilities of which are just begin-
Rick’s Observations

To illustrate the point, let me share a note I received from Rick Clifford of Irvine, California. Admittedly, Rick is an amateur radio operator and as such I initially thought his observations and comments could be just the usual amateur razzing of the lowly CB band. But the points he raises are good ones and his experiences and frustrations.

Rick thought that CB would be more active, relaxed, and conversational than what he was finding on the ham bands. He picked up a small mobile, mag mount antenna and stuck it in his car. Rick found that the audio quality of what he was hearing on his new radio was, “terrible due to noise, apparent overmodulation and special effects like echoes.”

Well, first of all Rick, welcome to 11-meter CB. Lesson #1, especially for someone coming in from the amateur bands, 11-meter CB isn’t easy. To be successful it takes considerable skill, ingenuity, and perseverance. You’re right, audio quality leaves a lot to be desired. You have to train your ears to “hear” through all of the skip, static, bleeds, overmodulation, sound effects, poor speakers, and the low general quality of an Amplitude Modulated (AM) signal. I imagine this is quite a shock for someone like you, who is accustomed to the clean, mellow sounds of a Frequency Modulated (FM) repeater. The poor audio, however, is not solely the fault of the band, mode, or operator. Much of it is due to the poor quality and design of the radio itself. While a good external speaker and filters for the static can help, many CBers find that illegally modified Amateur 10-meter gear or “import” radios are the best answer because in addition to better audio quality and filtering they offer other enhancements as well, such as the ability to automatically scan for active channels. You may have to do a lot of “band scanning” to find better places to listen and talk. Experiment with the RF gain. Pick your channels carefully. Most importantly, practice, practice, and practice.

Rick complains of hearing, “little or no meaningful traffic (amateur speak for talk) such as traffic conditions or coherent conversations.” He feels that one cause of this is, “the ‘over-stylization’ of the operators’ speech to the point where even if you can hear them, you can’t understand them (lingo and/or special meaning language; in other words, CB talk). Again Rick, you are right on the money. It is extremely difficult to find one or more people to converse with, strike up a conversation, and carry it out in less than five minutes. That is about all the time you have because, because on a good day, your average range is three to five miles and you’re traveling a mile-a-minute in opposite directions. The time of course can be extended if you are talking with one or more base stations or if the people you are chatting with are traveling on the same road, in the same direction and at the same speed you are.

Plain English is always preferred; indeed it is the mark of a real pro in any service and in any mode. It is not just a problem on CB either, sorry Old Man, no QRP QSO due to QRZ at the QTH fine business hi hi, not to mention the dit dahs! “Given this signal quality,” Rick continued, “I frankly don’t understand how anyone can use CB for non-trivial purposes. I thought REACT was primarily CB-based. Based on my experience to date, I would not want to be in a position where CB communications were needed to respond to an emergency. I would much rather rely on amateur service repeaters.”

You have opened a real can of worms here Rick, especially for me. I once spent over 20 years developing what I believe to have been the most active and effective travelers’ assistance network anywhere, here in the Albany, NY area. We used
Dear Editor:
I am very much in favor of allowing skip communications on 11-meter CB. The rule against it is unenforceable and needlessly restrictive. Talking worldwide legally would add a new dimension to operating. Another good idea would be to allow the use of FM. It is used in Europe and has the obvious advantage of being “the quiet mode.” One very important thing though — can those liners’ Hams operate QRP (low power) all the time and make a contact on the other side of the globe with 5 watts or less is an exciting challenge. When 10 meters is open, and it is on a daily basis now, we do it quite easily. A QRP rig in the hands of a good operator will make the grade while a kilowatt run by a “lid” gets ignored. CB always was essentially a hobby band, so why not drop that rule and examine the rules in general, thereby bringing the whole book up to date? Yeah, I’m famous for my anti-CB tirades, but please remember that I was there long before 11 meters sunk into the mire. Amateur radio is going through some heavy-duty changes that are long overdue. It’s about time the FCC did some restructuring of CB as well. Rewriting the rules so they make sense is a start, and getting rid of the linear jockeys and potty mouths just might bring the band back where it was when I enjoyed it.

73 de Warren, KB2VXA
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- MFJ-462B 12 VDC or use with MFJ-1312B AC adapter, $14.95. 5/8x2/3x5/8 inch.

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Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz-30 MHz. A great improvement over clear signals from all over the world. 20 dB attenuator, gain control, ON LED.

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  - Kit brings signals in like you've never heard before.

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- MFJ-8121 $39.95
  - Build this regenerative shortwave receiver kit and listen to signals from all over the world with just a 10 foot wire antenna. MFJ-8120W has RF stage, vernier regeneration, smooth regeneration, five bands.

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  - New 21 Band World Receiver
  - MFJ's MFJ-8121 lets you travel the world from your armchair! Listen to BBC news from London, live music from Paris, soccer matches from Germany and more! Cover 21 bands including FM, Medium Wave, Long Wave and Shortwave.

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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.

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Ranger Communications Inc. Announces New 6 Meter Amateur Mobile Transceiver

The Ranger RCI-5054DX is an all mode (CW/AM/FM/SSB), 6 meter transceiver covering 50-54 MHz. Identical in appearance and features to the popular 10/12 meter RCI-2950DX, the new RCI-5054DX offers many desirable features: 10 programmable memory frequencies, programmable repeater offset (capable of splits of up to 2 MHz, with TX high or low), ±2.5 kHz receiver clarifier, noise blanker/ANL circuitry, programmable receiver scanning for quick search of active frequencies, and capable of optional CTCSS tone. The RCI-5054DX has a RF power output rating of 10 Watts RMS for CW/AM/FM, and 25 Watts PEP SSB. The price of the RCI-5054DX is less than $325.

The new 6-meter mobile radio has retained the popular operating features of its predecessors, including programmable repeater offset (allowing splits of up to 2 MHz, with TX high or low) and capabilities for a CTCSS tone option. It is great for increasing repeater activity on 6 meters. Plus, receiver scanning for quick search of active frequencies. The units offer three methods of frequency selection, non-volatile memory to store and scan up to ten favorite frequencies, and front panel frequency selector lockout.

For those field day contests, DXpeditions, public safety activities, or group gatherings, the PA feature is just the answer to coordinating efforts with the group and getting everyone’s attention. The new RCI-5054DX is backed by a full two-year warranty, including parts and labor.

For more information, contact Ranger Communications at 877-536-0772 or visit Ranger’s web site at http://www.rangerusa.com.

New Kenwood “FreeTalk™ WX” Two-Way FRS Radio

It’s the latest in two-way FRS personal communications for outings and outdoor recreation from Kenwood Communications. They’ve just announced the first FRS radio offering 10 NOAA weather radio channels and a vibration call alert. The new FreeTalk WX (Model UBZ-GM14) is a compact, feature-packed FRS radio allowing parties to stay in touch over distances up to two miles and to talk as often and as long as they like, since airtime is free.

With 14 channels and 38 talk groups per channel, a large illuminated LCD display, visual status indicators, slip-resistant finish, and accessory jack for a headset or speaker-mic, the FreeTalk WX is suited for use on land or water, at meetings or events, and for any activity where people need to keep in contact. The suggested retail price of the radio is $84.95.

“The FreeTalk WX is the family radio for people who take their fun seriously” said Chris Ryg, Consumer Sales Manager. The addition of weather band channels makes this a great 2-way radio for boating and outdoor recreation. It’s two radios in one small package.

The FreeTalk WX is equipped with many convenient and practical features. Most prominently, the built-in 10-band weather radio receiver allows users to obtain the latest NOAA weather report for the region where they are located. When activated, the vibration call alert ensures that transmissions will be received even if the recipient is in a noisy environment, such as an outboard motorboat, sports arena or convention, and can’t hear a voice page or call tone. Users can lock the channel setting to prevent it from being changed unintentionally. A one second call tone can be used to alert users to a call.

To conserve power, the FreeTalk WX has a battery saver function that switches the receiver on and off at pre-determined intervals. When the battery is low, the radio beeps a warning.

The large LCD, illuminated for use at night or in dark locations, displays both the channel and talk group numbers, the volume level setting, whether the radio is transmitting or receiving a signal, and whether the channel lock setting is engaged. Speaker volume is set with a 32-step control.

For ease of use, the FreeTalk WX is small, less than 4-3/4” tall, 2-1/4” wide, and 1-1/4” deep, uses a fixed, low profile antenna, and is equipped with a removable belt clip. Controls are positioned so the radio may be held and operated with the same hand. An instruction manual is included, and the radio carries a 1-year warranty.

Three AA alkaline batteries power the FreeTalk WX for about 30 hours of operation. Heavy users will want to consider purchasing the optional NiCd battery pack and desktop charger. Like professional models, the radio can be recharged without removing batteries. Users can also equip radios with a Kenwood voice activated headset or speaker microphone, designed specifically for the FRS line. A nylon carrying case and a neck strap are also available.

The Kenwood FreeTalk WX utilizes the FRS channels allocated by the FCC, so it can be used with FRS radios made by other companies.

by Harold Ort and R.L. Slattery
Kenwood Communications is a leading manufacturer of two-way radios used in recreation, business, and government throughout the world. Further information can be obtained by contacting Kenwood Communications Corp., Technology Park at Johns Creek, 3975 Johns Creek Rd., Suwanee, GA 30024 (Toll free phone: 800-950-5005). The company's website is www.kenwood.net.

Optoelectronic's New DS1000 Locks Onto Digital And Analog Transmissions!

The new DS1000 from Optoelectronics, Inc. is the only frequency counter in the world capable of locking onto digital modulations. The DS1000 can capture signals such as TDMA, GSM, APCO 25, Tetrapol, On/Off Keying and other RF with a minimum pulse width of 500uS. The DS1000 also captures standard analog transmissions. Incorporated into the DS1000 is the patented Optoelectronics feature, Reaction Tune. Using the built-in C15 output the DS1000 can automatically tune a compatible receiver to the frequency it captures (analog only). The DS1000 also has a built-in RS232 output for direct connection to a PC for the purpose of downloading the 1000 internal memories.

Another unique feature of the DS1000 is its calibrated field strength meter. The signal strength of a nearfield transmitter is measured and displayed in dBm. The frequency range of the DS1000 is 10MHz to 2.6GHz with an accurate .5ppm TCXO timebase. The DS1000 can measure field strength from -45 to -5dBm with an accuracy of +/-5dBm.

The retail cost of the DS1000 is $529. The DS1000 comes with an AC90 power adapter, TA1005 telescoping antenna, and RS232 cable / software for memory download.

*Frequency Range 10MHz to 2.6GHz
*Captures Digital and Analog RF
*1000 memories with 65,000-hit counter
*Accurate .5ppm frequency timebase
*Patented Reaction Tune
*Built-in RS232 for memory download
*Calibrated field strength meter: -45 to -5dBm

For more information on the new Optoelectronics, Inc. DS1000, contact Optoelectronics at 5821 NE 14th Avenue, Ft. Lauderdale, FL 33334; phone 954-771-2050 or FAX 954-771-2052. You can also visit Optoelectronics on the web at www.optoelectronics.com. Be sure to tell them you read about the new DS1000 in PopComm!!

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August 2001 / POP’COMM / 43
**IBOC Digital Audio Broadcasting Is Still Alive**

In-band on-channel (IBOC) digital broadcasting returned to this year's National Association of Broadcasters (NAB) convention for another demonstration. IBOC has been in development for at least 10 years and can't seem to get beyond demo mode. IBOC technology allows for broadcast of digital and analog signals simultaneously on the same AM or FM frequency. It was back in 1992 when USA Digital introduced in-band digital audio broadcasting on 1660 AM during the NAB convention. The present version of IBOC developed by iBiquity Digital Corp. promises to deliver near FM quality stereo on AM and CD-like quality on FM. The digital transmission will include data services providing news, sports, traffic, and weather information on the receiver display.

The ability to provide data and high quality digital audio on the same frequency as the simultaneous host analog signal is achieved through iBiquity Digital's Perceptual Audio Coder (PACTM) with advanced signal processing and psychoacoustic modeling. The science of psychoacoustics is relatively new, based on theories of how the brain interprets sound. It essentially allows for compression without perceivable degradation of audio. Compression is required for the analog host signal to carry the digital signal within the existing bandwidth, what iBiquity refers to as the "hybrid" mode of operation. As more listeners make the switch from analog to digital receivers, the analog broadcasts will eventually come to an end. Then broadcasters can further improve audio or expand data services by dedicating the full bandwidth of their assigned frequency to digital broadcasting.

**IBOC's Advantage**

The advantage of IBOC over other emerging broadcast technologies is considered to be the ability to begin digital broadcasting on host analog signals. This means listeners won’t have to buy new receivers to continue to listen to their favorite stations, the FCC won’t have to allocate new space for digital radio broadcasting, and broadcasters won’t have to invest in separate transmitter facilities. Listeners and broadcasters can therefore make the transition from analog to digital at their own pace. Many broadcast studios are already digital-ready. Manufacturers are expected to have the first dual-mode analog/IBOC digital receivers available by early 2003. Alliances are in place with Alpine, Harman Kardon, and Kenwood among others. Accuweather, the Associated Press, and Smart Routes will provide initial data services content. In an effort to make iBiquity's IBOC digital a world standard, they have obtained ITU approval for AM radio. FCC approval is pending. Visit www.iBiquity.com to hear for yourself the difference in quality between analog AM and FM versus IBOC digital.

**Italy Leads And Sets Standards For Electromagnetic Pollution**

The Italian government asked Vatican Radio to significantly reduce transmitter power after citizens voiced health concerns over electromagnetic pollution. Long-term exposure to high power electromagnetic radio waves is believed to be a contributor to a higher than normal rate of cancer for residents close to transmitter sites. A complete shutdown of Vatican Radio was averted through negotiations with the government. As a result, the power of mediumwave transmitters has been reduced by 50 percent, and air time reduced by more than 50 percent to just over seven hours a day. Changes were also implemented on shortwave transmissions from Vatican antennas to satisfy the government. Italy has been a leader among European nations in seeking to reduce electromagnetic pollution while research on possible health effects continues.

**X-Band In Boston**

A number of unlicensed broadcasters are surfacing on the expanded AM band in metro Boston. Frequencies 1640 and 1670 are active in Boston, 1620 and 1640 in Brockton, and 1620 and 1670 in Lawrence, Massachusetts.

Paul McDonough of Boston Area DXers has been hearing WRNM Radio Nouveaute on 1640 in Boston with French/Creole programming. Paul recently found WRNM on the Internet too; "The URL is www.radionouveaute.com. It says the call letters WRNM are an acronym for Radio Nouveaute Massachusetts, broadcasting 24 hours on 1640 kHz from Mattapan."

Allston-Brighton Free Radio is a community broadcaster operating per FCC Part 15 rules with a power of 100 milliwatts in Allston, Massachusetts. They currently broadcast on 1670, with future plans for simulcasting on 1630. A-B Free Radio has received numerous accolades from Boston's daily newspapers and community leaders for their public service. Some of their programs are rebroadcast on WTMS AM 740 in Cambridge, Massachusetts. Another station has been heard causing interference with A-B Free Radio on 1670 in Boston. According to Paul, the interfering station broadcasts Caribbean music and foreign language programs. This station is reported to be operating with a power of at least one watt.

In Brockton, Massachusetts, French/Creole programs can be heard on Radio Soleil 1640 AM. Their signal has been heard...
into mid-coast Maine. In Lawrence, Massachusetts, two Spanish-language religious broadcasters are operating at 1620 and 1670. The 1620 signal has been widely heard, while 1670 sounds more like it’s operating in accordance with FCC Part 15 rules. Has there been an explosion of unlicensed broadcast activity in other communities as well? Let us know right here in Popular Communications.

QSL Information

Welcome to new QSL reporter Scott Hernandez in Harahan, Louisiana, who writes, “I enjoy reading your column every month in Popular Communications. I have read your features for a while now, but have just become active in AM DXing within the last two months.” Scott’s first three QSLs were the results of just four nights of DXing. Scott says he gets great results using the stock radio in a 1997 Ford Ranger, but after reading several great comments about the Radio C.C., he plans to possibly purchase one in the near future. “This way I can take this exciting hobby out of my driveway and into the house.”

594 JOAK Tokyo, Japan, after several tries, I finally received a full-detail card along with other NHK stuff in 45 days, signed T. Yaguchi. Address: NHK, 150-8001, Tokyo, Japan. I have both NHK Tokyo stations QSL’d with full-detailed cards now. (Martin, OR)

650 CINT Saskatoon, Saskatchewan, a friendly letter and stickers from CINT and their two FMs in three weeks after a phone call to CINT from Canadian DXer Joe Talbot, signed Darcy M. Senft-CE. Address: CINT Radio, 3333 8th Street East, Saskatoon SK S7H 0W3. (Martin, OR)

657 Southern Star, Auckland, New Zealand, a nice card in 23 days, not signed. Address: Private Bag 92-636, Auckland, New Zealand. (Martin, OR)

750 WSB Atlanta, Georgia, a nice letter of confirmation in 18 days signed by Ryan King, WSB Radio Engineering. Address: 1601 W Peachtree Street NE, Atlanta, GA 30309. (Hernandez, LA)

840 WHAS Louisville, Kentucky, a letter of confirmation and two refrigerator magnets in 10 days signed by Troy Holloway, WHAS Promotions. Address: 4000 #1 Radio Drive (40218), P.O. Box 37840, Louisville, KY 40233-7840. (Hernandez, LA)
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Call Letter Changes

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</table>

1486, Terre Haute. IN 47808. (Procop, OH)

Broadcast Loggings

Welcome to first-time reporter Phil Streemple of Folsom, California, who writes, "I am predominately a SWL but as a result of your column in Pop'Comm I've taken an interest in broadcast band reception using a Sangean 505 portable. Although I have a 70-ft longwire in my attic, I think the radio has an internal antenna. The band is so full of syndicated talk radio at night that my goal is to log the stations that play music in the midnight hours."

Don Hallenbeck checks in to say that he's been listening to WBZ Boston; "The only out of state broadcaster that can make the trip to Maine during the day." Don has been listening to sister station KDKA Pittsburgh early mornings; "I had read about KDKA in your magazine a lot and I was surprised at how entertaining the station was at 0400 Eastern Time."
Mark Connelly shares some outstanding logs from various Massachusetts coastal locations. Mark catches his DX signals with a Drake R8 receiver and phased antennas including a broadband loop versus whip combination and sloping wires. Mark maintains several Websites loaded with mediumwave DX information and links. Visit his home page at http://members.aol.com/MarkWA1ION/weblink.htm to get started.

Here are this month’s selected logs. All times are UTC.

783 ORTM Nouakchott, Mauritania at 2325 parallel 4845 kHz with man in Arabic, then a picked or plucked string instrument, the strongest transatlantic signal during heavily auroral conditions at the time. (Connelly, MA)

920 KSRM Soldotna, Alaska, briefly at 0857 with a promo and call letter ID, first time heard in a couple of years, soon lost to CKCQ. (Martin, OR)

1071 Euskadi Irratia, Bilbao, Spain, at 0411 parallel 1197 kHz with a female folk vocal (style similar to that of Loreena McKennitt or Natalie McMaster), then at 0429 a woman in Spanish, Moorish/North African style music, a huge signal despite strong adjacent CBA Moncton on 1070 kHz. (Connelly, MA)

180 KYET Williams, Arizona, at 0750 broadcasting easy listening country classics. I listened for about 30 minutes to a medium-strength signal with little or no fading, enjoying old Glen Campbell tunes from my youth. (Streemple, CA)

1197 Euskadi Irratia, Vitoria, Spain at 0411 parallel 1071 kHz with a Celtic-influenced female folk vocal, poor to fair signal. (Connelly, MA)

1310 KEIN Great Falls, Montana, heard at 0225 with Westwood One nostalgia format. When did they change from C&W? (Martin, OR)

1332 RAI R. Uno, Roma, Italy, at 0538 parallel 1575 kHz with odd ticking sound like a glass being tapped, then ID “RAI, Radiotelevisione Italiana” into march music, a very good signal. (Connelly, MA)

1390 KJME Denver, Colorado, very loud at times with distorted audio, in Spanish with the announcer saying, “Buenos Dias Denver” and mentions of slogan “La Jota Mexicana.” ID at 1101, “KJME, Denver.” (Martin, OR)

1530 R. Vaticana, Vatican City, at 0352 Slavic talk and classical music atop WSAL. (Connelly, MA) Power reportedly reduced from 600 to 300 kW maximum because of the electromagnetic pollution controversy.

The 21st edition of the National Radio Club’s AM Radio Log is out of print. The next edition is expected to be available by October.
Ten thousand apologies for not having a column in last month’s Pop’Comm. The last few weeks have been a time of great transition. If you recall the May issue, I did an article on Sun-n-Fun in Lakeland, FL (LAL). This was the first year that I worked there. I hope to have some photos for next April’s issue about this great event. But immediately prior to my temporary duty there in Lakeland I got word of a temporary Flight Service Station in an area I’ve never been before: Alaska. I didn’t expect to get the job, but applied for it anyway. Now, here I am in Northway, Alaska (ORT). (Harold gets a kick out of seeing this three-letter ID for the Northway airport).

I almost had to pack on the run as my time in Lakeland was completed on April 13 and I had to be in Fairbanks, Alaska (FAI) on the 15th. After two weeks of initial training in Fairbanks, we (the two controllers from Fairbanks, one from Honolulu (HLU) and I) made the journey to Fairbanks for our final training and facility checkout. I finished my facility rating yesterday. We opened on May 1 and will be open until the end of September. I haven’t been here quite a month, but the opportunities for aviation scanning abound. I’ll give a more complete report in next month’s issue.

My access to the Internet will initially be severely limited, so I may not be able to get to your E-mails, but please keep sending them. I will respond in a future column.

Aviation Best Bets

I’ve compiled this frequency list from my own personal monitoring over the years, and your letters and E-mails. Remember, you don’t have to live next door to an airport to hear exciting aircraft communications. High-flying aircraft can frequently be heard 200 miles distant (or more), so it pays to also use your scanner’s search mode (set to AM, of course for the 118-136 MHz band) in 25 kHz segments.

Here are my top 100 aircraft frequencies you can monitor almost anywhere:

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Note: Certainly there are hundreds of aircraft frequencies to monitor. This list isn't intended to be all-inclusive. If you've got additional frequencies, please send us a note or E-mail.
### New/Commissioned

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<td>San Juan - Fernando Luis Ribas Dominicci (SIG) ANG Ops 139.1</td>
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<td>Fort Worth - Fort Worth NAS/Carswell Field (TCB) ILS 108.7</td>
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Fort Worth - Spinks (FWS)
  GC  119.475
  LC  124.625
Junction - Kimble County (JCT)
  ASOS  119.275

WA
Hoquiam - Bowerman (HGM)
  ASOS  135.775

Deletion

AK
Adak Island (NUD)
  NDB  347 kHz

AZ
Glendale - Luke AFB (LUF)
  Apch  301.5
  CD  395.0
Glendale - Glendale Municipal (GEU)
  Apch  125.45/263.125
Goodyear - Phoenix Goodyear (GYR)
  Apch  120.5/134.1

CA
Oceanside - Camp Pendleton MCAS/Munn Field (NFG)
  UHF/VHF Backup  41.95 MHz

DC
Washington ARTCC (ZDC)
  Sampson NC Low Sector  133.85/288.05

FL
Jacksonville ARTCC (ZJX)
  Lowell FL Low Sector  128.05/335.55
Panama City - Tyndall AFB (PAM)
  Apch  340.7/373.0/395.9

MD
Baltimore - Baltimore/Washington International (BWI)
  Apch  228.4

NV
Las Vegas - Nellis AFB (LSV)
  Apch  279.7

NH
Manchester
  LC  125.825/269.4

NC
Greenville - Pitt Greenville (PGV)
  New Bern FSS RCO  255.4

PA
Johnstown - Cambria County (JST)
  ATIS  118.325

SC
Eastover - McEntire ANGS (MMT)
  GC  127.625

VA
Norfolk - Chesapeake Regional (CPK)
  CD  119.1

Changed

AL
Ozark - Blackwell Field (71J)
  Apch  was 125.4, now 121.1
  Apch  was 234.4, now 232.5

AZ
Glendale - Luke AFB (LUF)
Glendale Municipal (GEU)
Goodyear - Phoenix Goodyear (GYR)
  Luke Apch  was 391.2, now 263.125

CA
Avalon - Catalina (AVX)
  SOCAL Apch  was 397.95, now 387.025
Burbank-Glendale-Pasadena (BUR)
Van Nuys (VNY)
  SOCAL Apch  was 395.9, now 298.85
Chinon (CNO)
Corona Municipal (AJO)
Ontario (ONT)
Riverside - March ARB (RIV)
Riverside Municipal (RAL)
San Bernardino International (SBD)
  SOCAL Apch  was 295.7, now 263.125
El Monte (EMT)
La Verne - Bracket Field (POC)
Ontario (ONT)
Riverside - March ARB (RIV)
San Bernardino International (SBD)
Upland - Cable (CCB)
  SOCAL Apch  was 351.1, now 349.0
Fullerton Municipal (FUL)
Long Beach - Daugherty Field (LGB)
Los Alamitos AAF (SLI)
Santa Ana - El Toro MCAS (NZJ)
Santa Ana - John Wayne/Orange County (SNA)
  SOCAL Apch  was 343.9, now 316.125
Imperial Beach NOLF (NRS)
San Diego - Brown Field (SDM)
San Diego - North Island NAS/Halsey Field (NZY)
  SOCAL Apch  was 285.2, now 317.55
Los Alamitos AAF (SLI)
  GC  was 356.6, now 257.95
  LC  was 347.5, now 251.15
Ontario International (ONT)
Riverside - March ARB (RIV)
San Bernardino International (SBD)
  SOCAL Apch  was 327.5, now 379.25
Ramona (RMN)
  SOCAL Apch  was 300.4, now 257.875
Riverside Municipal (RAL)
  SOCAL Apch  was 295.7, now 377.125
Santa Ana - El Toro MCAS (NZJ)
  SOCAL Apch  was 362.35, now 350.325

CO
Aurora - Buckley AFB (BKF)
Denver International (DEN)
  Apch   was 385.45, now 251.075

DC
Washington Dulles International (IAD)
  Apch   was 384.9, now 338.25
  Apch   was 390.9, now 345.775
  LC/GC/CD was 388.0, now 317.8

FL
Homestead - Dade County/Homestead Regional (HST)
  ATIS   was 269.8, now 269.9

GA
Atlanta ARCC (ZTL)
  Columbus High Sector
    was 121.275, now 125.575

IL
Belleville - Scott AFB/Midamerica (BLV)
  ATIS   was 256.4, now 256.7

KS
Kansas City ARTCC (ZKC)
  Emporia KS Low Sector
    was 121.4, now 127.725

KY
Fort Knox - Godman AAF (FTK)
  LC     was 229.6, now 233.7
  Ops    was 125.125, now 234.4

MD
Baltimore - Baltimore/Washington International (BWI)
  Apch   was 231.6, now 282.275
    was 287.1, now 291.625
    was 325.8, now 317.425
Baltimore - Martin State (MTN)
  Apch   was 228.4, now 282.275
Churchville - Harford County (OW3)
  Apch   was 287.1, now 291.625
Easton - Newman Field (ESN)
  Apch   was 325.8, now 317.425
Edgewood Arsenal - Weide AHP (EDG)
Fort Meade (Odenton) - Tipton (FME)
Stevensville - Bay bridge (W29)
  Apch   was 228.4, now 282.275

NE
Fremont Municipal (FET)
Nebraska City Municipal (AFK)
Omaha - Eppley Airfield (OMA)
Omaha - Millard (MLE)
Omaha - Offutt AFB (OFF)
Plattsmouth Municipal (PMV)
Scribner - Scribner State (SCB)
Wahoo Municipal (AHQ)
  Omaha Apch was 363.8, now 354.05
  Omaha - Offutt AFB (OFF)
    Apch   was 349.1, now 298.875
  GCA    was 372.8, now 290.55

NV
Las Vegas - McCarran International (LAS)
  Apch   was 125.02, now 125.025
Las Vegas - North Las Vegas (VGT)
  Apch   was 279.7, now 273.55

NM
Albuquerque - Double Eagle II (AEG)
  Apch   was 124.4, now 127.4
  Apch   was 301.5, now 253.5

ND
Fargo - Hector International (FAR)
  Apch   was 271.6, now 379.2

OH
Cleveland ARTCC (ZOB)
  Bradford PA Sector was 124.325, now 126.725
    was 253.85, now 291.65
  Warren PA Sector was 126.725, now 134.475
  Wayland NY Sector was 277.05, now 257.65

OK
Enid - Vance AFB (END)
  Apch   was 340.9, now 316.15
  ATIS   was 271.8, now 263.15
  LC     was 348.4, now 257.2
Fairview - Municipal (6K4)
  Apch   was 340.9, now 316.15
Lawton - Fort Sill Regional (LAW)
  Apch   was 307.275, now 2990.375

PR
San Juan - Fernando Luis Ribas Dominicci (SIG)
  ANG Ops was 40.0, now 40.2

VA
Culpeper Regional (CJR)
Fredericksburg - Shannon (EZF)
Manassas Regional - Harry P. Davis Field (HEF)
Quantico MCAF - Turner Field (NYG)
  Warrenton - Faquier (W66)
  Winchester Regional (OKV)
    Dulles Apch was 390.9, now 343.775
Fredericksburg - Shannon (EZF)
Quantico MCAF - Turner Field (NYG)
  Quantico Apch was 126.2, now 120.95
Leesburg Executive (JYO)
  Dulles Apch was 384.9, now 338.25
Manassas Regional - Harry P. Davis Field (HEF)
  CD was 118.15, now 120.2

WA
Seattle ARTCC (ZSE)
  Wallula RCAG was 343.9, now 269.35

WV
Martinsburg - Eastern WV Regional/Shepherd (MRB)
  Dulles Apch was 384.9, now 338.25

WI
La Crosse Municipal (LSE)
  LC was 248.2, now 251.075
Milwaukee - General Mitchell International (MKE)
  Ops was 251.2, now 312.0 and 311.0
Where The Streets Have No Name: Neptune!

Here we go! WHYP, 6945 LSB at 0635 with James Brownyard, “Tell Me Something Good,” “Come My Lady,” and Brownyard mentioning Jimmy Buffet. Another time at 0202 with an old weather report, song “I Saw Her Standing There.” ID, old time music. (Tim Taylor, PA) 6955 at 0300. (Silvi, OH)

Z-100, 6955 USB at 0104 with “Oh, What a Lonely Boy” and “Green Eyed Lady” and the Z-100 ID. Also played “Afternoon Delight.” Also at 0108 with “Heart and Soul,” “Feels Like the First Time,” “Carry On My Wayward Son.” ID and the song “Cherish” plus many other tunes up to sign off at 0253. Also heard at 0001 with various rock songs, IDs to close at 0119. And yet again at 0157 with a number of rock tunes. They usually mention the ID just before playing a song. (Taylor, PA) 6955 at 0045. Also 0151 with lots of music, IDs. (Silvi, OH)

Radio Xanax, 6950 USB at 0230 with a segment from Apocalypse Now. Then what sounded like a segment from another movie; Throw Them to the Lions, and mention of Hail Cesar. The op gave an ID and read some reception reports. Mailing address is: P.O. Box 146, Stoneham, MA 02180. (Taylor, PA)

Indira Calling, 6955.1 LSB at 0301 with ID, mailing address as P.O. Box 1, Belfast, NY 14711. Off at 0211. (Taylor, PA)

Crunch Radio, 6950 AM, at 0300 with ID, old time music including instrumentals, mention of “Music that makes sense, Crunch Radio.” (Taylor, PA) 6950 at 0259 with music and IDs. (Silvi, OH)

The Shadow, 6950 LSB at 0342 with music. (Silvi, OH)

KIPM, 6940 USB heard at about 0345 with a “dark” story, mentions of Illuminati and some dark techno-dance music. Also at 0425 on 6955 USB with what sounded like a phone call parody with Alan Maxwell. (Scott Harrison, CA) (Welcome, Scott!)

WCFL (?) 6950 heard at 0201 with many oldies such as “Western Union Man,” “Sunshine of your Love,” “Cherry Hill Park,” and others. (Silvi, OH)

KHJ, 6950 LSB at 0342 with music and IDs. (Silvi, OH)

WBNY, 6955 at 0015 with story about bunnies nibbling feedlines to destroy human communication. At closing the announcer said not to trust Radio Bob. (Rick Desmarais, NH) (Welcome, Rick!) Presumed an old tape of Easter Bunny Radio, mentioning the closed Washington, DC mail drop. Would be nice if the relaying station could issue some type of QSL. (Silvi, OH)

Nascar/Numbers station, 6955 at 0115 sign-

(Continued on page 76)
Swiss Radio International To Abandon Shortwave

It seems the depressing rumors are true. Swiss Radio International (SRI) intends to give up shortwave broadcasting by 2004. Somewhere in the government buildings in Berne, almost undetectable in their office warrens, the Swiss equivalent of the old Chinese Mandarins did their research, wrote their white papers, met around oblong conference tables and came to the conclusion that shortwave is outdated, passé, ineffective. Not to mention ‘too expensive.’ Instead, they say, SRI should reach its audience via satellite and the Internet. Harrumph! This kind of thinking, as most any knowledgeable shortwave enthusiast can tell you, is just plain off the mark. As the withdrawal progresses it won’t be long before SRI and the Berne bureaucrats see the audience numbers heading south, like a sales chart on the office wall of a moribund company.

SRI has already set out on this downhill road. Broadcasts to Australia, Central America and Western North America have been discontinued. Broadcasts to Eastern North America, Europe and Asia will cease at the end of October. At that point only the broadcasts to Africa, South America and the Near East will remain in operation and apparently will continue to 2004, by which time, of course, most of the people in those areas will be online! Should you send them your opinion of their plans? Absolutely! Try a letter to: Nicholas Lombard, Deputy General Manager, Swiss Radio International, Giacomettistrasse 1, CH-3000, Berne 15, Switzerland.

In Morse code shorthand, ‘SRI’ means ‘sorry.’ And that’s the state towards which Swiss Radio International is headed. And SRI is what we are, too, if this really and fully comes to pass!

On a brighter note, Radio France International has increased its hours in English, adding 0400-0430 on 15155, 0500-0530 on 17800, 0600-0630 on 17800 and 21620, and 0700-0800 on 15605 (all Monday to Friday).

High Adventure Ministries (KVOH) has decided not to take a chance with the Voice of Hope outlet it had planned to build in Liberia. Instead, the new station will go up in Jos, Nigeria. They haven’t broken any ground yet, however.

It looks like Papua New Guinea will be host to a new religious broadcaster called KBBN (Krai Bilong Baibel Broadcasting Network ñ that’s three ‘Bs,’ not two). The station has a license but we’ve no idea yet on how soon it will be operational. First word indicates the frequency will be 3190 so you can count on it qualifying as a real DX catch.

The new Christian Voice outlet from Darwin, Australia has been heard testing on 21680 around 0200. We have to hope that they will take the trouble to include site IDs once in awhile. The initial schedule is: 0700-1000 on 17710; 1000-1200 on 13775 and 17730; 1200-1400 on 13775 and 15400; 1400-1700 on 13730 and 15400; 1700-1900 on 9715 and 11815 and 1900-2100 on 9715.

Incidentally, HCJB has received its go-ahead to broadcast from Australia. The famous Ecuadorian shortwave broadcaster will build its own installation, to be located near Kununurra, on the Cox Peninsula. No target date so far.

It seems that every month there are more stations are relaying and being relayed themselves. The latest list from Sentech, the people who operate the international broadcasting facility at Meyerton, South Africa, shows them airing (in addition to Channel Africa): Radio Sonder Grense, the BBC, African Beacon, Trans World Radio, United Nations Radio, Radio France International, Adventist World Radio, Radio Lusofonia and the South African Radio League!

Here’s an interesting target: the Australian Defence Forces Timor Program is aired from 1330 to 1430 on 9475 and 11660. Although this is aired over Radio Australia’s facilities, you can report to ADF direct at: Department of Defence, Electronic Media Unit, ANZAC Park West, APW 1-B-07, Reid, Canberra ACT 2601, Australia. Include a couple of IRCs and you should get a QSL in return.
ARGEN'TINA— Voice of Argen'tina, 9965 in SS at 0230 with ID: ‘Esta es Radio Republica Argen'tina,’ frequency, address and music. (Brossell, WI)

ASCENSION ISLAND— BBC, 15400/17830 at 2000. (Jeffery, NY)

AUSTRALIA— Radio Austral'ia, 6020 in Pidgin at 0920. (Barton, AZ) 1200 with news. (Northrup, MO) 1300 with feature on Irish political themes in music. (Newbury, NE) 17795/21740 at 0030. (MacKenzie, CA)

VLRA, Alice Springs, 4835 at 1010 with Joni Mitchell number, weak and barely audible talk, conversation between two fellows, canned ID and station jingle at 1028, IS to 1030 then news by man. (Montgomery, PA)

Christian Voice (tentative) via Darwin, 21680 with male voice noted several times between 0100 and 0330. Nothing on parallel 17775. Better the next evening with male announcer at 0134, then to religious music at 0139. Then jingle is that of Christian Voice and the broadcast and announcer the same as heard previously on Christian Voice from Zamb-binding. (Montgomery, PA)

BELGIUM— Radio Vlaanderen Int'l, (via Bonaire) 15566 at 2245. Into DD at 2300. (Miller, WA)

BOLIVIA— Radio Yura, 4716.7 at 0035; ID in SS at 0044. Soft, easy music with occasional deep fades. Break and ID again at 0058. (Montgomery, PA)

BRAZIL— Radio Gaucha, Porto Alegre, 11915 with news in PP at 0059. (Miller, WA)

BULGARIA— Radio Bulgaria, 9400 at 0343 with Bulgarian folk music, 77400. (Newbury, NE) 1700 at 0225. (Brossell, WI; Miller, WA)

CANADA— CBC Northern Service, 9625 at 0048, feature about teaching children the Internet. (Newbury, NE)

CHILE— Voz Cristiana, 15375 with SS rock at 0150. (Newbury, NE) 17680 at 2359 with contemporary Christian music. (Lonis, PA) 21550 in SS at 0006 and 1840. (Jeffery, NY)

CHINA— China Radio Int'l, Xin'an, 17720 in SS at 0013 with talk by a woman, music, talk by man. Barely audible. (Jeffery, NY)

Central People's Broadcasting Station (China National Radio), 11630 from LingXi at 2145 in CC. A regular lately. (Lonis, PA) CPBS/CNR Xin'an, 5163 in CC at 1412. (Foss, Philippines)

Voice of Pujang, 3280 in CC at 1455 with traditional songs and instruments. (Foss, Philippines)

Voice of the Strait, 7280 in CC with pop and rock at 1317. (Newbury, NE)

COLOMBIA— Radio Nacional, 9635 in SS at 0205 with news. (Miller, WA)

COSTA RICA— Radio Casino, 5953.9 at 1050 in SS with LA music, ID at 1100. Poor, with splitter from WYFR on 9590. (Alexander, PA)

Faro del Caribe, 5055 at 0930 in SS with phone conversation. (Miller, WA)

ARMENIA— Voice of Armenia, 9965 in SS at 0230 with ID: ‘Esta es Radio Republica Argen'tina.’ frequency, address and music. (Brossell, WI)

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Faro del Caribe, 5055 at 0930 in SS with phone conversation. (Miller, WA)
FINLAND— YLE/Radio Finland, 11845/11990 at 0114 with news in Finnish. (Miller, WA) 15400 with weather for Scandinavia at 1357. (Barton, AZ) 17670 with Finnish language lessons at 1250 interspersed with facts about Finland (Finland has 200,000 lakes). (Brossell, WI)

FRANCE— Radio France Int'l, 15210 at 1603, splash from WYFR. 17605 at 1612. (Newbury, NE) 17850 at 1610. (Weronka, NC) 17860 (via French Guiana, gld) in FF at 1330. (Northrup, MO)

GABON— Radio France Int'l via Gabon, 11955 in FF to West Africa at 1945. (Watts, KY) 12015 at 1612. (Barton, AZ)

GERMANY— Deutsche Welle, 7130 in GG at 0100 with sign on, news. (Newbury, NE) 15135 (via Rwanda? gld) at 1937 with ‘’ Spectrum ‘’ segment. (Burgess, MA) 17670 with Italian music, ID at 1700. (Newbury, NE)

IRELAND— Radio Telefis Eireann, 13640 at 1558. (Miller, WA) 15400 with weather for Scandinavia at 1945. (Watts, KY) 12015 at 1612. (Barton, AZ)

INDONESIA— Voice of Indonesia, 9525 at 1208 woman with long talks in SS by woman, ID and sign-off. (D’Angelo, PA)

IRELAND— Radio Telefis Eireann, 13640 via Antigua, gld at 1330. (Northrup, MO)

ISRAEL— Kol Israel, 9590 in HH at 0238 with local commercials. (Brossell, WI) 17550 at 1335 with religious program.

JORDAN— Radio Jordan, 11690 at 1538 with Mid-East type music, time pins and ID at 1600, news in EE, light instrumental music to 1630 sign-off. Poor, with much RTTY QRM at tune in but improved later. (Alexander, PA) 17680 with rock at 1620. (Barton, AZ)

KUWAIT— Radio Kuwait, 11675 at 2215 in AA with music and Holy Koran. (Linonis, PA) 11990 at 1900 with news items. (Burgess, MA) 2040. (Weronka, NC) 15495 at 0156 in AA with Mid-East music. (Miller, WA)

LIBYA— Radio Jamahiriya/Voice of Africa, 17925 (17725? gld) at 1725 in EE with music bridge, ID, news to 1728, music bridge and back into AA. (Burrow, WA)

LITHUANIA— Radio Vilnius, 9875 at 2353 with tone, ID ‘This is the prime audio circuit communicating Radio Vilnius’ prior to the start of Lithuanian transmission at 0000. Full ID ‘This is Radio Vilnius, Lithuania. Radio Vilnius is part of the Lithuanian Radio and TV Network.’ EE program followed at 0030. (D’Angelo, PA)

MALAYSIA— Radio Malaysia, Sarawak, 4895 at 1245 in unidentified language. (Miller, WA)

Voice of Malaysia, 6100 at 1327 with a romantic ballad. (Foss, Philippines)

MEXICO— Radio Mil, 6010 at 0710 with soft songs, SS ID, promo. (Newbury, NE)

Radio Educacion, 6185 in SS at 0140 with Mexican music. (Newbury, NE)
Radio Mexico Int'l, 9705/11770 at 0406 with EE letters, 'Have a good day.' (Newbury, NE)

MOROCCO—RTV Marocaine, 11920 at 0230 with ID, brief talk in AA and instrumental music. (Brossell, WI) 15345 in AA at 1615. (Newbury, NE)

NETHERLANDS ANTILLES—Radio Netherlands, 9590 at 0454. (Miller, WA) 9845 at 0052. (Newbury, NE)

NEW ZEALAND—Radio New Zealand Int'l, 11675 at 0908 with program on New Zealand in the 1920s. (Miller, WA) 17675, 0055 with pops, ID, news. (MacKenzie, CA) 0259 with time pips, 'This is Radio New Zealand news.' (Brossell, WI) 0425. (Newbury, NE)

NICARAGUA—Radio Miscut, 5770 at 2358, carrier plus USB. SS ballads and announcement at 0000, many commercials, jingles, variety of SS rap, ballads, some EE pops. Gone at 0200 recheck. The next day they went off abruptly at 0002. (Alexander, PA)

NIGERIA—Voice of Nigeria, 7255 at 0453 with IS, ID, anthem, program notes and EE news at 0500. (Burrow, WA) 0611 with African music. (Barton, AZ)

NORTHERN MARIANAS—Voice of America via Tinian, 9555 at 1355 in Asian language with times and frequencies. (Newbury, NE)

NORWAY—Radio Norway, 9590 at 0200 in NN. (Barton, AZ) 0228 in NN. (Miller, WA) 11635 with talks in NN. (Brossell, WI) 15735 in NN at 1220. (Northup, MO)

OMAN—Radio Sultante of Oman, 15140 at 1450 with interview in EE. (Newbury, NE) 15355 at 0311 with EE translations of the Koran, time pips at 0315, ID and news to 0327. U.S. and local pops. Off at 0357. (Alexander, PA) 0328 with music and woman announcer. (Jeffery, NY)

PAKISTAN—Radio Pakistan, 15455.9 at 0050. Difficult copy but able to hear news in EE, into local music. Then a female announcer with long talks in unid. language at 0124. Also //11649.6 but weaker. (Montgomery, PA)

PAPUA NEW GUINEA—NBC, 4890 at 0800 with EE and island church choir. (Miller, WA) 9675 at 0914 with news and features. (D’Angelo, PA)

PARAGUAY—Radio Nacional, 9735 at 0204 in SS with Latin music. (Miller, WA)

PERU—Radio Cultural Amuata, Huanta, 4955 at 1003 with rooster crowing, rustic vocals, SS ID and opening announcements. (D’Angelo, PA)

Radio del Pacifico, Lima, 9675 fading up at 0946 and over PNG (above, gld) with SS religious talks, instrumental music, ID at 0959. (D’Angelo, PA)

Radio San Antonio, Callalli, 3375.1 at 0940, man in SS with many jingles, typical OA music, ID is tentative. (Montgomery, PA)

Radio Illucan, Cutervo, in SS at 0105 but too weak to get a positive ID. Nice music, very fast SS talker. (Montgomery, PA)

La Voz de la Selva, Iquitos, 4824.4, 1015 with SS announcements, ID, folk music, commercials, jingles. (Alexander, PA)

PHILIPPINES—Far East Broadcasting Company, 9405 with religious broadcast in CC at 1338. (Miller, WA)

Radio Phippines, 11730 in Tagalog at 1912. (Miller, WA)

VOA relay, 15235 with all request pop/rock program at 1915. (Brossell, WI) 17765 at 0050 and 17820 at 0045. (MacKenzie, CA) 17765 at 0019 and 17820 at 0045. (Jeffery, NY)

PORTUGAL—Radio Nacional, 15295 in PP at 2300 with IS, ID, sign-on, anthem and news at 2305. (Linsonis, PA)

PUERTO RICO—AFRTS/AFN, 6458.5 US at 2325 with news, consumer reports, CNN news at 2330, AFN ID at 2332 as part of sports program. (Montgomery, PA)

ROMANIA—Radio Romania Int'l, 15180 at 0235 with music, ID, letters program. (Jeffery, NY) 17805 to Western Europe at 1700-1800. Better than some times/frequencies to North America. //15380 spoiled by the wide signal of WEWN. (Silvi, OH)

RUSSIA—Voice of Russia, 7180 (via Moldova) at 0215 with Joe Adamov’s mail-bag program. (Linsonis, PA) 0259 with IS, ID, news. (Jeffery, NY) 0355. (Weronka, NC) 9480 from St. Petersburg in RR at 0245. (Brossell, WI) 13665 with ‘New Market’ at 0320. (Barton, AZ)

Sakhalinsk Radio, 11840 in RR at 1917. (Miller, WA)

Magadan Radio, 9530 in RR with rap at 1350. (Newbury, NE)

Radio Asgabad, 4930 at 0110 in RR. Interview with long talks between two men, female announcer at 0119, and EE vocal at 0127. (Montgomery, PA)

RWANDA—Deutsche Welle relay, 15275 at 2315 in GG with ID and into commentary. (Linsonis, PA) 17860 in GG at 1930. (Brossell, WI)

SAO TOME—VOA relay, 12080 in FF to Africa at 2000. (Watts, KY)

SAUDI ARABIA—Broadcasting Service of the Kingdom, 9555 at 2249 in AA. 17760 in unid. language at 0513. (Jeffery, NY) 11820 in AA at 1915. (Miller, WA) 15170 in AA at 0315. (Brossell, WI) 175600 with Koran at 1619. (Newbury, NE)

SINGAPORE—BBC relay, 6195 at 1325. (Newbury, NE) 11955 at 0508 and 15360 at 0037. (Jeffery, NY) 15360 at 0244. (Foss, Philippines)

SOLOMON ISLANDS—Solomon Islands Broadcasting Commission, 5020 with evangelical broadcast heard at 0927. (Miller, WA)

SOUTH AFRICA—Channel Africa, 17870 at 1656 with IS, ID, news. (Burrow, WA) ID and news at 1803. (Barton, AZ) 1845 in FF. (Jeffery, NY) 21725 at 1415 with ID at 1425. First time I've heard Channel Africa in the local a.m. (Montgomery, PA)

South African Broadcasting Corp., 3320 at 0255 with hip-hop, ID in presumed Afrikaans at 0300. (Brossell, WI)

Adventist World Radio, 12105 to Africa at 2005. EE ID and into African language at 2030. (Watts, KY)

SOUTH KOREA—Radio Korea Int'l.
9515 to North America, with ‘SW Feedback’ program at 1615. (Linonis, PA)

SPAIN—Radio Exterior de Espana, 6055 in SS at 0139. (Newbury, NE) 0540 in EE. (Linonis, PA) 11910 (via China, gld) in SS at 1300. (Miller, WA) 15385 to North and Central America at 0026 with weather, headlines, music. (Jeffery, NY) 21700 in SS at 1220. (Northrup, MO) 1910. (Watts, KY)

SPAIN—Radio Exterior de Espana, 6055 in SS at 0139. (Newbury, NE) 0540 in EE. (Linonis, PA) 11910 (via China, gld) in SS at 1300. (Miller, WA) 15385 to North and Central America at 0026 with weather, headlines, music. (Jeffery, NY) 21700 in SS at 1220. (Northrup, MO) 1910. (Watts, KY)

SWITZERLAND—Swiss Radio Int’l, 9885 via French Guiana with news at 0835. (Barton, AZ) 11660 (via French Guiana, gld) in GG at 2228. (Newbury, NE) 21770 in GG at 1325. (Northrup, MO)

SYRIA—Radio Damascus, 12085 at 2243 with in unid. language with talk. (Jeffery, NY)

TAIWAN—Voice of Asia, 7445 in CC at 1239. (Foss, Philippines)

THAILAND—BBC relay, 11955 at 0311, 17760/21660 at 0404. (Jeffery, NY)

THAILAND—Radio Thailand, 13695 at 0045 with Western pops, phone conversations with US and Canadian listeners. (Linonis, PA)

TUNISIA—RTT Tunisienne, 7110 in AA at 0400 with lively AA music and outstanding signals. (Linonis, PA)

TURKEY—Turkish State Meteorological Radio, (presumed) 6900 at 0420 with continuous Turkish vocal music. (Alexander, PA)

TURKEY—Voice of Turkey. 9445/9460 at 0240 in TT with music and announcements. (Brossell, WI)

UNITED ARAB EMIRATES—UAE Radio, Dubai, 12005 at 0235 with conversations. (Brossell, WI) 13675 at 0330 with news and weather. (Weronka, NC) 21605 at 1620 with classical music, news in AA and off 1635. (Newbury, NE)

UNITED STATES—AFRTS/AFN, Key West. 12689.5 USB heard at 0150 with 0200 ID as ‘American Forces Network.’ (Montgomery, PA)

URUGUAY—Tentative Emisora Ciudad de Montevideo, 15320 in SS at 2300. Faded in and out but heard Montevideo mentioned several times. (Linonis, PA)

VANUATU—4960 at 0946 in believe in EE with contemporary music. (Miller, WA) 7260 at 1201 with ID by man, short announcements and short music tune. Ham QRM. (Montgomery, PA)

VENEZUELA—Ecos del Torbes, 4980 at 0115 in SS. Lively music and ‘futbol’ scores. (Linonis, PA)

VIETNAM—Voice of Vietnam, 7210 at 0854 with songs, ID, man in VV at 0900. (Foss, Philippines) 9525 via Canada at 0245 with program on their ‘highly successful’ social system. (Brossell, WI) 0254. Progress after the war. (Miller, WA) 12019.6 at 1000 with news, commentary, ID, folk songs. /9839.54 fair. (Alexander, PA) 2348 with ID, thanks for listening, invite to tune in again. Off at 2357. (Montgomery, PA)

YEMEN—Republic of Yemen Radio, 9780 in AA with Holy Koran at 0310. (Brossell, WI)

ZAMBIA—Christian Voice. 4965 at 0215 with mostly religious music, talks at 0226, possible ID at 0233. (Montgomery, PA)

Let’s have thunderous applause for those who did the good thing this time: Lee Silvi, Mentor, OH; Robert Montgomery, Levittown, PA; Rick Barton, Phoenix, AZ; Marty Foss, Guinayangan, Philippines; R.C. Watts, Louisville, KY; David W. Weronka, Benson, NC; Stewart MacKenzie, Huntington Beach, CA; Jack Linonis, West Middlesex, PA; Robert Brossell, Pewaukee, WI; Brian Alexander, Mechanicsburg, PA; Bruce R. Burrow, Snoqualmie, WA; Mike Northrup, Gladstone, MO; Mike Miller, Issaquah, WA; Dave Jeffery, Niagara Falls, NY; Dean Burgess, Manchester, MA; Richard D’Angelo, Wyomissing, PA and Ed Newbury, Kimball, NE. Thanks to each one of you! Until next month—good listening!

Three of the collector stamps issued by Adventist World Radio.
Radio & the Internet

Resource Of The Month: 2wayradioauction.com

2Way Radio Auction.com is a new Wireless and Two Way Radio Auction Web Site. In terms of look and feel, it functions much like the well-known ebay! auction site. So, if you’re familiar with ebay!, you’ll feel right at home at 2WayRadioAuction.com. The difference? This site is geared toward the radio enthusiast. Whether you’re commercial, amateur or hobbyist, I think you’ll find 2WayRadioAuction.com the perfect venue for selling and buying your equipment and accessories. When I visited back in May, everything was free. While that can’t last forever, chances are they’ll still be running their Grand Opening promotion by the time you read this. Personal note: I’d thought of a radio-themed auction site like 2WayRadioAuction.com. Look out ebay!, these folks have their act together! Check ‘em out at http://www.2wayradioauction.com/.

Other Outstanding Resources:

**BOOKS**
Find that Radio or Electronics Book you’ve been searching for at http://www.bookfinder.com/
New, Used, Rare or Out-of-Print, You’ll find them all here.

**HOMEBREW**
Need Air-Core Variable Capacitors or other Radio/Electronics components? http://www.oselectronics.com/ose_p59.htm
Try Ocean State Electronics. Huge online catalog — Prices seem reasonable as well!

**SWL**
Shortwave Listening for Beginners by Gary Sawyer
http://freespace.virgin.net/gary.sawyer/radio.html
Nice tutorials for the beginning Shortwave Listener

**SCANNING GENERAL**
Scanning Reference by Clay Irving
http://www.panix.com/~clay/scanning/
Frequencies, information about scanning and more. Nice Resource!

**RADIO MODS**
Radio Modifications by Erik Hansen
http://www.mods.dk/
Huge “Radio Mods” site covering Most popular brands & models

**ELECTRONIC THEORY**
From the Electrical Engineering Training Series
http://www.tpub.com/neets/
Free, online education, from integrated publishing — awesome!

**VINTAGE RADIO**
The Vintage Radio Emporium by David Southworth
http://www.radio.mcmail.com/
From England, The Antique Radio and Old Wireless Resource

**RADIO SCHEMATICS**
Large archive of various radio schematics from Russia.
http://krasnodar.online.ru/hamradio/sch_eng.html
Some PDF files but most require a free DjVu “Plug-in” to view.

**BOSTON AREA DXERS**
A nice resource for anyone interested In LW, MW, SW, or SWL.
http://www.anarc.org/naswa/badx/
Be sure to check out their Antenna Information section. Good tips!

Remember: ALL online resources and contacts appearing monthly in Pop’Comm are available at the Quick Links site: http://www.dobe.com/ql/
RadioShack's PRO-89 Race Scanner

RadioShack's 2000 catalog announced a new model of handheld scanner in their "race" series. These scanners feature a few extra tricks to help listen to auto races and keep track of the cars while at the races. Since auto racing is one of the fastest growing sports, and racing and scanning go hand in hand, this series is kind of a natural development.

It turns out, however, that the PRO-89, the newest and current model in this series is also an excellent receiver and makes a great conventional scanner, even if you never use the few features associated with auto racing. With a little bit of thought, you might well find a use for these features that have nothing to do with racing.

As a conventional scanner, the PRO-89 is very convenient. The size and shape of the radio makes carrying it easy and comfortable. It's certainly not as small as some of the recent pocket receivers, but it feels like a "real radio." Its 200 channels in 10 banks of 20 is a convenient arrangement for most things. If you've worked with any previous RadioShack scanner made by GRE you'll be right at home with this receiver. In fact, if it had CTCSS and DCS tone squelch, it would be nearly perfect!

Batteries have become a major consideration for many users, and you won't be disappointed with the PRO-89. You can have your cake and eat it too. Two battery packs are included, one for conventional AA batteries and one for AA rechargables. It is important not to mix them up, as the difference between the packs is whether or not power for recharging is supplied to the battery pack when the AC adapter is plugged in. If you're using alkaline batteries and the rechargeable pack, there is danger of damage to the radio or you! The yellow holder is for rechargeable nickel-cadmium or nickel-metal hydride batteries, and the black holder is for conventional batteries. The AC adapter is not supplied, but should be available at your local RadioShack store.

The radio is also supplied with two antennas. A typical handheld type rubber-duck antenna that we're all used to and a much shorter one. The shorter one is intended for use at close range (like a race) to help minimize both signal pickup and interference. The theory is that if you're at the event, you will only want the signals that are local — the strongest — and any weaker signals, which might appear on the same frequencies, can be ignored. I didn't get to experiment with this at a race or event where it would have worked ideally, but the smaller antenna does reduce the amount of signal coming into the receiver.

Cool 89 Programming Tricks!

The PRO-89 race scanner features a computer interface for programming the receiver with a traditional PC and interface cable. Unfortunately, we were not able to test this system, but if it's anything like other RadioShack computer interfaces, it will work very well for downloading a set of memories into the radio quickly.

The PRO-89 makes a great conventional scanner even if you're not interested in its special racing features.

Car Numbers

What makes the PRO-89 unique and gives it the label "race scanner" is its car numbering system. You can store a racecar number with each frequency. This would be extremely handy for a race where you could tell which car the frequency was associated with (if you were looking at the display and not the race!).

Entering the car numbers is relatively easy, although it does require a few extra steps. When scanning, these car numbers can be turned on so that the display will show the car number in addition to the frequency. I can see where this would be extremely useful for racing, and with some imagination, you could use it for other types of scanning as well.

What's missing from this is that you cannot scan just for the frequencies associated with a particular car, or even just for frequencies associated with cars and leave out those that were not associated with cars. This would allow the creation of "virtual banks" that could be extremely useful, it seems to me, for both racing fans and conventions scanner enthusiasts alike.

### pPRO-89 Frequency Coverage

<table>
<thead>
<tr>
<th>Band</th>
<th>Frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>10M</td>
<td>29.0-29.7</td>
</tr>
<tr>
<td>Low</td>
<td>29.7-50</td>
</tr>
<tr>
<td>6M</td>
<td>50-54</td>
</tr>
<tr>
<td>Air</td>
<td>108-137</td>
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<tr>
<td>Govt.</td>
<td>137-144</td>
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<tr>
<td>2M</td>
<td>144-148</td>
</tr>
<tr>
<td>High</td>
<td>148-174</td>
</tr>
<tr>
<td>Govt.</td>
<td>406-420</td>
</tr>
<tr>
<td>70cm</td>
<td>420-450</td>
</tr>
<tr>
<td>UHF</td>
<td>470-512</td>
</tr>
<tr>
<td>Wide FM for TV Audio Ch.</td>
<td>14-20</td>
</tr>
<tr>
<td>800 low</td>
<td>851.0125-868.9875</td>
</tr>
<tr>
<td>33cm</td>
<td>902-928</td>
</tr>
<tr>
<td>900</td>
<td>935-940.9875</td>
</tr>
</tbody>
</table>
This frequency is designated as CAR 3 even though it's channel 43 (not visible in this mode). You could use this to designate geographic areas (3rd precinct) or other information. It works out great at auto races where it's intended to be used.

The scanner also features something called “on-air” programming. The radio is put into this “on-air” mode and a frequency chosen. There is a default frequency of 154.600, which is one of the low-power frequencies, but any frequency that a transmitter is available on would work (a ham frequency comes to mind immediately). Then, with appropriate software and interface to the transmitter, the radio can be programmed.

This opens up all kinds of possibilities at an event such as a race. A business could be set up so that your scanner could be reprogrammed right on the spot, or a whole group of radios could be updated over the air at once. Unfortunately, as far as I can tell, the hardware and software to support this function is not being sold by RadioShack at this time, so it'll have to be a do-it-yourself project.

Check It Out!

The PRO-89 is available at a RadioShack near you. At $169 it represents a good value in a conventional hand-held scanner, and it has recently been on sale for even less. Even as a spare receiver, at this price it’s hard to go wrong!

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Cut Your Coax, Double Your Signal!

Before you run out and chop off your shiny new coax, let me explain myself. The mysteries of coaxial cable are plenty — as are the myths and the misuses. Because coaxial cable is so handy and so readily available, and usually handles the job of getting our radio signals from the antenna to the rig (and vice versa), coax is often used improperly. Many beginners have only fuzzy ideas of how to use the stuff and only fuzzy ideas about things like impedance, velocity factors, and wavelength.

Even after 25 years of hamming, I'm still not up to snuff on the physics and the mathematics of coaxial transmission lines, but I've accumulated enough hard-won "field data" to save you a lot of headaches and get started on the right foot.

A computer store owner who was showing off his wireless Internet installation prompted this month's topic. He was feeding a 1-5-dB gain vertical antenna that sat atop a 100-foot tower. The data transceiver was housed in a temperature-stabilized container at the tower base. With only 32 milliwatts of RF output, he needed every available milliwatt!

Unfortunately, at 2.5-GHz, the coax feeding the antenna had a whopping 7 dB of signal loss! Only a handful of milliwatts would ever reach the antenna. Intended to bring wireless Internet to a small community, the setup was hamstrung from the beginning and its effective range would probably suffer dramatically.

I pointed this out (he was a computer guy, not a radio guy) and helped him buy a used piece of 7/8-inch hardline from a nearby commercial vendor. At 2.5 GHz, the cable loss was now down to 1 dB. Disaster averted. So, how does the system work? I'll let you know in a future column. In the bandwidth-starved Midwest, we need all the help we can get!

"Coaxial moments" like these are shared by hams everywhere. You might even have a real mess in your own backyard — especially if you're using a single-wire antenna on multiple bands. In a nutshell: Coax works best for matched antennas at low frequencies with relatively short cable runs. For multiband wire antennas — especially those "tuned" by "antenna tuners" as the performance can be more than dismal. In fact, your antenna system's performance might be incredibly, unbelievably, and inhumanly bad! There is a fix, however. Follow along and you'll discover how and why.

The Dipole

The traditional multiband dipole — the beginning ham's standard antenna — is fed with a random length of 50-ohm coax that's tweaked into submission by an antenna tuner. Conventional wisdom says to put up as much wire as possible and let the tuner worry about matching the load on various bands. Even on bands where the antenna's SWR is quite high, and a lot of energy is reflected back and forth between the tuner and the antenna, "some" RF energy will be radiated.

Gooch's Paradox, explained to me by former ARRL staffer and "Ham Column" author Dave Newkirk, simply states, "RF has gotta go somewhere." And indeed, it does. But it doesn't have to go anywhere in an elegant and useful fashion! In the high SWR conditions often found in typical multiband, tuner-fed dipoles, Gooch's Paradox might as well read, "RF gotta heat the feed line!"

For example, a 66-foot non-resonant dipole fed with 50 feet of high-quality, low-loss coaxial cable will tune up on all bands, 40 through 10 meters. Tuning on some bands will be touchy, but you can work stations, DX included. But how much power is being wasted because of high SWR?

The manufacturer's data sheet says our cable has 1.5 dB of loss per 100 feet at 100 MHz (loss increases with cable length and frequency). We're using only 50 feet with an upper frequency limit of 30 MHz, so our losses due to SWR mismatches should be minimal, right? Wrong. Those loss figures are for "matched, resonant antennas." With high SWR values, a lot of power (sometimes most of your power) can be lost between your antenna and tuner — even with a low SWR between your rig and tuner. As we'll see, losses increase in proportion to SWR, too. A 3-dB loss represents a 50% reduction in transmitted signal strength!

On 40 meters, our 66-foot dipole is a great match, and the antenna system wastes only about 0.2 dB. Not bad! On 15 meters, an odd harmonic of 40 meters, the match is also pretty good, sporting an acceptable 0.8 dB loss. On 80 meters, however, feed line losses approach 14 dB. And on 160 meters, losses total a staggering 27 dB! If we start with a typical 100-W output, we'll radiate about 3 W on 80 meters and less than a half a watt on 160! No wonder your mileage may vary.

One way to reduce the feed line losses experienced while using multiband, non-resonant antennas is to ditch our "traditional" coaxial feed line and replace it with ladder line — which...
Stabilant 22, pictured above and highlighted in a recent “Ham Column,” is unmatched for ensuring the reliability of electronic connectors, but it did nothing to help me remember the correct telephone number for the manufacturer — DW Electrochemicals, based in Richmond Hill, Ontario. Here is the correct contact info, taken directly from www.stabilant.com: Tel 905-508-7500; E-mail, dwe@stabilant.com.

is even more traditional! The 450-ohm ladder line — parallel conductors separated by a plastic, ladder-like insulating material — replaces the coax we previously used to feed our dipole. Ladder line, also known as “450-ohm balanced line,” was the norm in the days before coaxial cable (an unbalanced line). It may not be as convenient as coaxial cable, but when used with an antenna tuner designed to handle ladder line (most are), feed line losses for our 66-foot dipole stay blissfully below 0.3 dB on all bands, 40 through 10 meters! On 80 and 160 meters — big trouble spots when fed with coax — losses total 1.5 and 8.5 dB, respectively. That’s a tremendous signal improvement!

Ladder Line Fundamentals

If ladder line were a magic cure-all, of course, we’d never use coax. For best performance, a few ladder line tips are in order.

- When attaching balanced feeders to houses, structures and towers, be sure to keep the ladder line several inches away from metal (or metal-containing) objects.

- Be sure your antenna tuner has a sufficient voltage rating. Tuning antennas with high-feed line SWRs can create very high RF voltages inside your tuner. Resulting arcs and sparks can damage expensive equipment (especially on bands with the highest SWRs).

- If arcing occurs, reduce your transmitter power output or get a tuner with beefy components. Using a 1-kW tuner (with balanced feeder outputs) with your 100-W transceiver isn’t excessive.

- Water, ice, and snow can affect (unbalance) ladder line. Keep things clear for best results.

- If left flapping in the breeze, the soldered connection between your ladder line feeders and your dipole wires will probably fatigue and break rather quickly. Be sure to reinforce the junction with electrical tape.

- Ladder line can be hard to find. If your local ham store doesn’t stock it, check the ham magazines for wire and cable suppliers. Some ops — especially QRPers — sometimes use 300-ohm TV twin-lead instead of 450-ohm line. It’s a true balanced line, but reduced feeder spacing and lower-capacity insulation doesn’t always produce acceptable results.

The Deluxe Beginner’s Antenna

If you’re suffering from antenna restrictions of any type, a balanced feed line can provide an excellent compromise between convenience and cost. Simply install the longest center-fed dipole that’s practical (make each side the same length) and feed it with enough ladder line to comfortably reach your station. And don’t worry about feed line length. Some hams use 300-foot runs of 450-ohm line and laugh at the losses (which, when installed correctly, are practically microscopic). With a decent tuner (the beffier the better), you’ll put out a decent signal on a variety of bands.

So, cut your coax and double your signal. Or cut your coax and quadruple your signal. The choice is yours. If you need a few more details, see the antenna section of my book, Stealth Amateur Radio, published by the ARRL and available at your favorite ham radio bookseller.

Send your questions, comments and QSLs to me at “Ham Discoveries,” Popular Communications, 25 Newbridge Road, Hicksville, NY 11801. See you next month!

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The ‘Panic Broadcast,’ as it came to be known, changed broadcast history, social psychology, civil defense, and set a standard for provocative entertainment. It is the progenitor of U.S. Civil Defense program. It was the source of the first academic study (by Princeton University) of mass hysteria and broadcasters have studied it for 60 years as a classic of effective communication. Approximately 12 million people in the U.S. heard the broadcast; perhaps a million people believed a serious Martian invasion was underway. The aftermath even played a part in global politics when Adolf Hitler used it as an example of U.S. political weakness.

Relive that “night of terror” at the official “War of the Worlds” website. There you can view the original broadcast script, download sound files of specific parts, or have the entire broadcast streamed to your browser. Grab your ray gun, photon torpedoes, and beam over to http://www.waroftheworlds.org/.

National Public Radio

Renowned for its journalistic excellence and standard-setting news, information, and cultural programming, National Public Radio (NPR) serves a growing audience of over 16 million Americans each week via more than 644 public radio stations. NPR Online brings hourly newscasts, news features, commentaries, and live events to Internet users through original online reports, audio streaming, and other multimedia elements. NPR also distributes programming to listeners in Europe, Asia, and Africa via NPR Worldwide, to military installations overseas via American Forces Network, and throughout Japan via cable. Don’t miss this excellent resource. Visit http://www.npr.org/.

Classical Music!

WCPE — “Great Classical Music 24 Hours A Day.” WCPE is one of those rare stations today still broadcasting Classical Music, and, one of the few stations in existence that’s 100% listener-supported. WCPE also airs news from the BBC 10 times a day. “WCPE serves the Raleigh-Durham, Chapel Hill, North Carolina, area and beyond, on 89.7 FM, the Internet, and via satellite. WCPE is a non-commercial, independent, listener-supported station dedicated to excellence in classical music broadcasting.” In terms of streaming audio, their outstanding programming is available in RealAudio!, Windows Media!, and
QuickTime!. They also have an MP3 stream in the works that may be available by the time you read this. Since finding out about them, WCPE is the online station I usually have playing in the background while working on my PC. In fact, I'm "online" and listening to a fantastic selection right now as I type this. On the technical side, WCPE streams an audio signal (RealAudio!) at 32 kbps, which equates to about 16 KHz in terms of upper frequency response — that's getting close to CD quality. If you like classical, give 'em a listen — I think you'll really enjoy their programming. If you find yourself listening often, please consider offering your financial support. By the way, if you think “classical isn't cool” give it a try anyway — you'll be surprised at how fast most classical music pieces can help unwind the day's tension and soothe those jangled nerves. Bookmark and visit http://www.wcpe.org/index.shtml.

The “Kids Center” page is just ONE section of the award-winning Wired For Books site.

streaming audio and video presentations of lectures, book and poetry readings, and children's stories, it received the prestigious RealNetwork's “Streamers Web Sage Award” for best educational use of streaming media in 1999. Based on my observations while visiting recently, I'd “bet the farm” that it's only gotten better since then! This is a site your entire family will enjoy and return to often. A couple of examples of what you'll find are: Edgar Allen Poe's The Telltale Heart read aloud and Shakespeare's The Tragedy of Julius Caesar and The Merchant of Venice available in streaming RealVideo format. You'll even find journalist Terry Anderson reading the poems he wrote while held hostage for seven years in Lebanon and much, much more! For the kids, there's the “Kids Corner” page where Peter Rabbit and many other all time favorites are presented in illustrated storybook form. Or, watch your children be mesmerized by the Wired for Books Players' 12-chapter (RealAudio) performance of Alice in Wonderland. Don't Miss it! Bookmark and visit them at http://www.wiredforbooks.org/.

**Major League Baseball**

MLB.com. There's not a whole lot to say about this incredibly HUGE site other than if it has to do with Major League Baseball, you'll find it superbly covered. While most of the site is non-audio/video, one section, MLB RADIO, is and linked to from the main page. Once there you'll find more streaming audio than you can swing a bat at. After you've reached the

**Wired For Books**

Literature comes to life at “Wired For Books,” a production of the Ohio University Telecommunications Center. Featuring
Dedicated to the preservation and presentation of music radio history — now with over 800 selections.

main page. (URL below) just scroll down a little and click the “MLB RADIO” button. There’s also an “audio” link at the top of all pages that will take you to a section where you can “Subscribe to the ENTIRE SEASON of MLB.com Game day Audio for $9.95.” If baseball is your thing, you’ll definitely want to bookmark this one. Take a peek at http://www.mlb.com/.

Classic Top-40 Radio

Mentioned in our April 2000 column, “The Reel Top-40 Radio Repository” website by Richard W. Irwin (a.k.a. “Uncle Ricky”) continues to be an outstanding and authentic air check museum of classic Top-40 Radio. The repository “is about Top-40 Radio, the last great mass-appeal music format, before variety became diversity and every popular music station took a small, specialized piece of what was once a very big American Pie.” Now with over 800 selections, you’ll experience countless hours of listening enjoyment. Contributions to the repository are still welcomed. Don’t miss it — it’s better than ever!

Well, that’s it for this month. If you have a favorite streaming media resource, or possibly looking for one, be sure to let me know about it. Chances are that other Pop Comm readers will be interested too.
Preserving Utility Radio History

This year is an important benchmark in the history of utility radio. It was on a cold day one hundred years ago this December that the Morse code letter “S” was transmitted without wires across the Atlantic Ocean and then received by an experimental radio monitoring station in North America. The success of that experiment laid the foundations for the global point-to-point utility radio services that we monitor today.

The event that I am describing is of course the test performed by Guglielmo Marconi to see if his scientific lab equipment could be applied to the real world of commercial communication. One of the myths of popular history has been that Marconi invented radio. Most radio historians today agree that the phenomena of radio wave creation and propagation was discovered by accident and design by several people many years before Marconi began his own experiments.

If Marconi can be given any credit for really discovering anything, it was how he made a business out of the phenomena of radio. He did this by copying the practices of the existing landline and cable-based telegraphy industry, and then undercutting his costs by not having to string wires from poles over long distances.

In Marconi’s vision of radio it was to be a commercial tool for sending messages point-to-point from one person or group to another for a fee. For years he treated the radio waves as his own private domain and attempted to dominate all commercial interests in the field.

It was only after the events of World War I showed the strategic importance of radio for political and military use that the radio spectrum came to be considered a publicly owned resource. Not soon after the radio spectrum came under public control that the concept of broadcasting came to be introduced, first through the efforts of amateur radio experimenters and then commercial stations.

I mention these facts due to the theme of this month’s column. I will be looking at a decommissioned commercial radio station with the historic call KPH. Located on the West Coast of the United States near San Francisco, it can trace its beginnings back to before the San Francisco earthquake of 1906. In 1913 the Marconi Company built a rotary spark gap transmitter at the current site, along with two huge vertical antennas.

Today the National Parks Service, and a group of ham radio operators, industrial historians, and volunteers called the Maritime Radio Historical Society, are working together to preserve the buildings, antennas, and equipment of this important point-to-point utility radio station.

I will be outlining a bit of the long history of this station, and showing you some interesting pictures of it, courtesy of the MRHS. I would like to point out that most of the information provided here came from their excellent website, and with their permission I have used some of their text in my writing. The URL address for that site will be provided to you in a sidebar, as well as their regular mail address.

I’ve also lots of letters and many excellent logs to share with you. Again this month I will be continuing to include as many of the letter based logs as I can, as promised.

So on to the fascinating story of KPH and the work being done to preserve it in original working order today.

The Story Of KPH

Located with in the boundary of Point Reyes Seashore Park just north of San Francisco, California, is the site of radio station KPH, which was once the most famous coastal utility radio station in the world — rivaling only RCA’s Radio Central on Long Island, New York. You may remember this station being mentioned in the pages of Pop’Comm as the last commercial station to use CW in North America. This event took place on July 12, 1999, but this was not to be the last time that the station was to be on the air.

Unlike most sites of this kind, the buildings, antenna, and equipment of that station are being preserved for future gener-
In cooperation with the National Park Service, the Maritime Radio Historical Society (MRHS) has taken on the job of maintaining and operating KPH. One day a permanent museum will be located at the site to help inform the public and interpret its history. To best appreciate the scope and importance of this task it is best to start at the beginning of the station’s story.

As the MRHS webpage outlines, KPH began its life at the dawn of radio. Its first home was the Palace Hotel in San Francisco, from which it derived its first call letters, PH. After the 1906 earthquake and fire, the station moved to several locations. These included Green Street in San Francisco (where the neighbors were kept awake by the crashing din of the rotary gap), Hillcrest in Daily City (where the operators were plagued by the local skunks) and Marshall, on the east shore of Tomales Bay at the long wave receiving station.

Eventually the KPH transmitters found a permanent home on the mesa, west of the small town of Bolinas, north of San Francisco. While the receiving station and control point was established on the mesa of Point Reyes, other sites in the area were used for transmission and antenna farms.

The station finally received its famous call when federal regulators added the K prefix to the original PH, creating KPH. Radio operators ashore and afloat came to regard KPH as “the wireless giant of the Pacific.” Only the best operators worked at KPH. They were there 24 hours a day, ready to help with everything from the mundane messages of maritime commerce to urgent requests for assistance from ships in distress.

As technology progressed the end of Morse code was predicted many times. But KPH soldiered on providing good, reliable service to the maritime community. The end came at Bolinas in 1997 when Globe Wireless purchased the license and the big transmitters were finally shut down. On July 12, 1999, Globe Wireless sent the last commercial messages in Morse code from KFS, their master station near Half Moon Bay. It was the last time the famous call KPH would be heard on the air—or so it was thought.

KPH On The Air — Again!

On July 12, 2000, KPH returned to the air from its original location, using its original equipment and its original frequencies—generously made available by Globe Wireless, the current owner of the KPH license and operator of the equally famous KFS from which the last commercial Morse message was sent.

Veteran operators, radio engineers, and those with an interest in radio history gathered at the Bolinas transmitter building to watch the station come on the air one year and one minute after the last Morse transmission from Half Moon Bay. The operators who once stood watch at the station sent commemorative messages by hand. Contact was also made with several of the last remaining ships still equipped for Morse transmission.

It was a moving occasion that the MRHS has come to call “the night of nights” and if you visit their website you will find a complete account of that event. This was to be one of several special events that have been undertaken at the site. Recently the station was put back on the air on April 21 in preparation to celebrate International Marconi Day. It was a shakedown for our next on-the-air event in December to mark the first trans-Atlantic wireless signal.

As Dick Dillman, W6AWO, related to me in an E-mail after the event; “Everything worked without a hitch and we now know what we can do to expand and improve our operation for the December event.

The K6KPH operation is, as far as we know, unique in the world. Other stations may be operating from historic sites associated with Marconi. But we are the only ones lucky enough to be operating from a real coast station, using the original station equipment and with many of the original staff of the station at the key.

Thus we went to great lengths to make the whole operation as authentic as possible. We used snappy commercial procedure. We ran a traffic list (listing stations for which we were holding messages—we had commemorative messages prepared for delivery and even delivered several of them) just as KPH did. We tried to make the operation as thoroughly professional as we could.

Judging by the appreciative comments we received on the air—especially from the ex-professional radio operators we contacted—we achieved that goal.

This project has real personal significance for all of us in the MRHS. For me there came a moment—it lasted for a minute, maybe two—when it no longer felt like we were recapturing the operation at KPH. It felt like a real day at a real coast station.

The top of the hour and the traffic list were coming up; guys were finishing contacts. Somebody’s switch was in the wrong position! Hollering and yelling!
And Bango! Out goes the list as the second hand sweeps past the top of the hour and we all take a bit of a breather or go for a pee. And soon as the list is done — wham! Back they are again calling and clamoring for us just as it was at KPH and we start stackin' 'em up again. It was a great day.

The KPH Site Today

Thanks to the exceptionally long operating history of the station, and the excellent efforts made by Globe Wireless, the former owners of the site, to keep the station in good operating repair up to its very last day of operation. When the station was closed it was left intact by the station staff because they knew it was to be taken over by the Park Service. As a result of this contains many unique items and artifacts that will be preserved as they were found on the last day of operation on July 12, 1999.

The site of KPH is actually a monitoring station located at Point Reyes. Here a 24-hour watch was made of hailing frequencies at 426 and 500 kHz, as well as at 4, 6, 8, 12, 16, and 22 MHz. The transmitter, which was remotely controlled, and antenna farm, was located at the nearby town of Bolinas. The park service and volunteers will maintain the buildings and antennas for both these sites as they were found.

While some of the light equipment has been removed, the heavy transmitters and switches of post 1945 to present period are still on site. These are being restored and many have been placed back into operational condition. They are hooked up to the large antenna farm at the Bolinas site by open wire feeders that come out of special openings in the transmitting building. The antenna area also contains special huts for the large coils and switches needed to tune the antennas. This tuning equipment is to be restored as well.

In addition to the standing antennas, there are also the several concrete bases on the site that were used to support several 300-ft. vertical antennas once used with a pair of Alexanderson transmitters.

Three Henry transmitters originally used for commercial activity are available for special events. They operate at 7050 kHz in the amateur band under the call K6KPH. In addition there are also several 1950 RCA commercial transmitters at the site that are being restored to full operational status.

If you are interested in finding out more about the history of the site, and the restoration project that is now underway, please check out the sidebar containing Maritime Radio Historical Society contact information. Thanks to the National Parks Service and the good people at the MRHS for their dedication to the project, as well as the pictures and the information used in the production of this column. Good luck to you all in the success of this worthy project!

Reader's Letters

OK everyone, get your thinking caps on. Here are some questions from readers that need to get answered. Let's start with Brian Limbach.

Joe Cooper,
I was listening today to a station on 12,579.55 kHz at 1750utc. It sounded to me to be the facsimile station that broadcast four short "chirping" tones followed by the CW ID "WLO." At 1801, a short transmission began with the chirping tones, and then ended with the CW ID above. What is radio station WLO? Where is it located?

I usually listen to shortwave broadcast stations, so I am not as knowledgeable about the other signals and stations that transmit on the high frequencies. Thank you for your help in identifying this station for me.

Very truly yours,
Brian Limbach

Any ideas out there? If so send me an answer and I will forward it to Brian and publish it here too.

Dear Joe,
I was listening to Radio Buenas Nuevas this a.m. on 4800 kHz in USB because of that "shoop-shoop-shoop" QRM, and that reminded me of some UTE related questions. What IS that shooop-shoop sig, anyway? Also while tuning around I've noticed the disappearance of those raspy sounding dot-dot-dot-daaaashh stations. When did they go off air? Does anyone know what they were or where they originated from? I have the same question about those KKN-50 stations that also have gone away. Thanks for any light you could shed.

73,
Rick Barton

How about it folks? I'm going to do some digging on this one too. And for our last mystery of the month:

Hi Joe,
I read your mag every month and there

This is the control room at the Bolinas transmitting station as it appears today. At the left end of the table is the Boehme keying head used to send the KPH marker or "wheel." Above the Boehme are the two receivers that are available for use — a Kenwood R-5000 and an RCA CR-88B. Receiving conditions were often poor when the station was in full operation with six multi-kilowatt transmitters in the next room and the transmitters of Coast Guard Station NMC just down the road. Courtesy MRHS.
is no finer publication around . . . I even won "The How I Got Started" a few years back. I monitor the Coast Guard freqs a lot...specifically the 5696 and 8983 aircraft freqs. I'm a ham operator and live on the East Coast and have an 82-foot dipole 60 feet up with a high tech ICOM transceiver, so I easily get both sides of the conversations. I often hear the Camslant CG guys telling the aircraft to shift to 3A11 HF and 23A FM and other alphanumeric frequencies....Do you have a decode for these alphanumeric frequency designations or would they be possibly classified?

Thanks, Bob P.

Any air service experts out there care to help out on this? I'd be really happy to put together a whole column on topics like this, if you can help out. In any case, please keep the questions coming. I will try to get an answer out to you.

And now, the logs.

Readers Logs

The flow of logs to the URR column has been fantastic! Thanks to everyone who has helped to make this possible. For those of you who have sent in logs and have not seen them published, be patient. I am working through the backlog as fast as I can.

I still welcome handwritten and typed material. If you are sending something to me typed you can help me considerably by following the format outlined below. A further help is to keep your logs in 8 by 11-inch format using portrait (up and down) mode of presentation. If you do that I can convert your words to text by scanning them and then putting the file through an optical character recognition program. If you can't send a typed or printed log, don't worry. I'll do the best I can to transcribe the material.

00000: STATION, Anytown, USA, summary of traffic heard in MODE at 0000 Z, personal comments here (JC)

2749: VAR, Canadian Coast Guard Fundy (St. John) 0157 USB w/MIB in EE (MADX) 4372: JULIETT, 0142 USB WKG VICTOR, "Do you have my PU entered as 10"? (MADX) 4372: GIANTKILLER, FACS/FAC Virginia Capes 2257 USB WKG VICTOR w/comms servicing (MADX)

4479: V02, Atencion Numbers Station 0439 AM YL/SS/SGs already in progress (MADX) 4650: ROCKVILLE, Washington Gas and Light Station Rockville, MD, 0214 MIL-STD 188-141A w/sounding call. (MADX) 4742: Architect: 0300 USB w/airfield color states. (RP) 5277: CG 33C (67-60 H-6033-deployed): 0358 USB w/Panther (DEA, Bahamas) w/encoded position report. (MADX) 5312: O/M (EE): 2341 USB w/O/M (EE) discussing recent success in cod and flatfish catches. Both speakers have New England accents. Probably fishermen on the Georges Bank. (RP) 5320: UNID, prob USCG 0519 USB/ANDVT. (MADX) 5344: UNID, 0514 BR6028 VFT 7x75bd w/pilot tone on 5344.560. (MADX) 5598: IBERIA 6250, 0219 USB WKG GANDER. From Gander, "I have an amended flight frequency designations or would they be possibly classified?

Thanks, Bob P.

Any air service experts out there care to help out on this? I'd be really happy to put together a whole column on topics like this, if you can help out. In any case, please keep the questions coming. I will try to get an answer out to you.

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Maritime Radio Historical Society

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The MRHS is not an amateur radio club in the traditional sense. We do operate transmitters in the amateur radio service but this is done primarily as a way to demonstrate historic equipment in actual operation. While we don't engage in the usual type of casual amateur operation, we do participate in selected on-air events that have a particular connection to radio history and are likely to attract amateur operators with an interest in or a connection to the history of maritime radio.

We have operated amateur station K6KPH from the KPH facilities using the original transmitters, receivers, and antennas of that historic station for Straight Key Night and events connected with the work of Guglielmo Marconi. The restored Victory ship radio console from the SS Rider Victory operating under the call K6RID is being demonstrated to the public at the San Francisco Maritime Museum. If you would like to be informed of the times when K6KPH or K6RID will be on the air please send us an E-mail message at the link below.

We look forward to hearing from you about any projects you may be working on or if you have any knowledge that would help us make these pages more accurate and interesting.

Contact the MRHS webpage at http://www.radiomarine.org or E-mail info@radiomarine.org. The address is Dick Dillman, Secretary, Maritime Radio Historical Society, 435 Utah St., No. 4, San Francisco, CA 94110.

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10960.7: Unid: French Mil. 12.00 ARQ-M2 200/400 Channel A and B. COMMENT ME RECEIvEZ VOUS plus RY's and count. No data ID. Logged a couple of years ago as Paris — Sarajevo link (PT).

11122.0: 9MR, Malav Nayad 1624 RTTY 50/850 Wx in Malag + SLG (RH2).

11175: Reach 457 CLG Andrews TAIL# 40504 ARR your station (time) need 30,000 lbs. Fuel USB 1946Z REACH 457 unloading pallets (KW).

11178: Hunter 02 (RAF Nimrod-deployed): 0125 USB w/PJK (Dzh Navy, Suffisant, Curacao-British accent) asking for current wx. PJK tells Hunter 02 that wx information will be relayed in a few minutes to which Hunter 02 replies that it's okay since they are Far Wind at the moment. At 0137 PJK passes current wx for Hato, Curacao; and Queen Beatrix Airport, Aruba. (RP)

11181: PACOM 01 (C-135C, CinCpac aircraft, Hickam): 0330 USB w/Haram in pp w/Andrews Metro c/w arrival wx. (RP)

11198: Greenwood REQ WX for Halifax and Greenwood USB 1824 (KW).

11201: 60 (sounds like) w/EE/GE chat. Sounded like Command): 2042 USB w/Antelope/Envelope UNID to give a long count and to switch to Andrews Metro w/arrival wx. (RP)

11203: Hickam): 0330 USB w/Hickam in pp for Hato, Curacao; and Queen Beatrix Airport, Aruba (ML2) asking UNID to give a long count and to switch to 15088 (LH).

11217: DMH-91 (Hqs Air Transport Command): 2042 USB w/Antelope/Envelope 300 sound like) w/EE/GE chat. Sounded like they wanted to switch to frequency Sierra. Checked 19791 but no one there. (RP)

11230: Canforce 86, Trenton, CLG for WX USB 16142 Canforce 86 left Gander for Greenwood REQ WX for Halifax and Greenwood (KW).

11232: Transport 2629, Trenton, Request WX for Ottawa USB 17392 QSY 12357 (KW).

11233: Canforce 1666, Trenton, Request WX for Halifax and Greenwood USB 18242 (KW).

11234: Tiger 207 GLGTrenton, REQ any traffic RCC Trenton USB 19902 (KW).

11238: Canforce 86, Canforce 86 CLG Trenton w/PP to wing ops USB 19527 Z REQ. Customs — also WX for Trenton and Toronto (KW).

11239: Canforce 2603 CLG Trenton MIL QSY 9007 13257 USB 14342 ADV Trenton (KW).

11242: Canforce 2603 GLG Trenton MIL Req. for EGPZ EG20 and EGGK USB 20422 (KW).

11245: Canforce 4267, en route REQ WX at St. John's NF USB 13072 (KW).

11246: Canforce 615, en route, REQ WX for Ottawa and Trenton USB 15452 (KW).

11249: USCG 1501 Eliz City NC Left Torbay USB 15452 USCG ADV Trenton on Ice Patrol (KW).

11250: Canforce 150, en route, REQ WX USB 17132 (KW).

11253: Canforce 2641, en route, contact with Trenton USB 1719Z en route to Thule. REQ SELCAL CHK (KW).

11256: USCG 1501 Eliz City NC CLG Trenton giving position USB 1811Z on Ice patrol (KW).

11247: Ascot 3200 (RAF Tristan-Falkland Islands shuttle): 0356 USB w/Haven (Ascension-Raf Flight Watch Center) w/wx reports. Also Ascot 3200 w/Ascot 3451 exchanging flight route information. (RP)

11247: Viper (RAF FLIGHT WATCH STATION - FALKLAND ISLANDS): 0003 USB calling Ascot 5001 (UNIDentified RAF aircraft—not heard) passing wx for UNIDenFied (SLMU) location. (RP)

11300: Tripoli. (MWARA API-3-EE/AR) calling Ascot 3451 asking for current wx. (RP)

11305: Zebra 217; Air France 3650; Speedbird 263 (id as B-747 from Gatwick to Mauritius); Air France 990; India 410; KLM 593; in position reports. (RP)

11342: ARINC-New York: 0011 USB w/Virgin 32 in pp w/Medlink discussing diagnosis for on-board patient and advisability of continuing on to Gatwick. (RP)

11415: Control (O/M SS): 0042 USB (in progress) w/O/M (SS) confirming receipt of message and terminating contact. (RP)

11265: Unid: Loc. unknown 19.05 Pactor 200/200 Calling T79N6R, but no response (RP)

12180: Y/L (SS): 0219 USB w/five-figure groups. (RP)

12207: XPH, Polytone Station 2020 w/slow tones then into fast tones at 2022 (MADX).


12489: UERG TH Akademik Raspletin 1039 ARQ w/UEURG log on and ship TFC to Vladivostok (ML2).

12489: UHUB TH Nikolai Dolinskyi 1016 ARQ TFC to Vladivostok (ML2).

12489: XUWM3 M/V Pamela Light 1008 ARQ msg to Vladivostok (ML2).

12491: UFNG BMRT Viktor Streltsov 1042 ARQ SELCAL KYXF and ship TFC to Kholmogory (RCC).

12505: UFPP NIS Professor Gagarinskii 1019 ARQ w/UFPP log on and ship TFC to Vladivostok (ML2).

12510: UEIR RTMS Noabest 0948 ARQ w/KYPS SELCAL, UEIR log on and ssv msg to Nakhdoka (ML2).

12510: UIIP TK Fortan 1031 ARQ w/UIIP log on, ssv msg and op chat to Nakhdoka (ML2).

12510: UXIM RTM Kremen 0848 ARQ svc and crew msgs to Nakhdoka (ML2).

12510: UIYA ARQ SELCAL KYPS and QSL msg to Nakhdoka, UIYA log on/off. (ML2).

12521: VTP.. Indian Navy Vishakhapattanam 1120 RTTY 50/750 id tape showing VTP, coastal wx fCAST, /8298, harmonic of 6507, shift also doubled (ML2).

13017: O/M (EE): 2347 USB w/O/M (EE), using first names as identifiers, discussing current boating conditions in Florida and Cuba. Also chatting about how Americans are being treated in Havana in particular and in Cuba in general. (RP)

13285: Royal Dispatch (EE): 2312 USB w/Roy 776 (unheard) in flight routing. (RP)

13290: O/M (Vietnamese): 2117 USB w/O/M (Vietnamese). (RP)

13339: Montreal Dispatch (FF): 2312 USB calling Air Transat 645 w/no response. (RP)

13339: Mexico (SS): 2313 USB w/Aero Mexico 441 passing wx for Monterrey and Hermosa. (RP)

13530: Unid, USAF AWS broadcast 0033 BAUDOT 75/810 w/various BBxx reports (MADX).

13530.0: AFS: Offset, USA? 09.16 ITA2 75/850 Wx info, shuts down between messages (RP).

13565: Unid, UK Mil Cyprus? 1610 MFSK 195.3/300 paired with 18789.0 (RH2).


14367: BAFF: Beijing, China 18.35 FAX 120/576 sheet with “VVV DE BAF BAF BAF” and Chinese characters below (PT)

14446.3: RFFKAGL: FS George Leygues 18.15 ARQ-E3 100/400 TFC in FF to RFFKA/ALFAN BREST relayed by Le Port on REI cct (PT).

14667.4: RFLI: French Forces Fort de France 0414 ARQ-E3 192/400 w/CdV on ckt [IRT] (Fort de France to Cayenne). Paired with ckt [RTI] on 14817.2. (MADX).

14667.8: RFLI: French Forces Fort de France 0100 ARQ-E3 192/400 CdV to RFLIG Cayenne cct [RTI] (ML2).

14876: UNID, MFA Cairo 1547 arq Clg kxku (Khareem) RH2.

14876.7: RFLI, French Forces Cayenne 0344 ARQ-E3 192/400 w/CdV on ckt [RTI] (Cayenne to Fort de France). Paired with ckt [RTI] on 14636.7. (MADX).

14876.8: RFLIGGC: Cayenne, French
Guiana 20.20 ARQ-E3 192/400 5-lg TFC to
RFLI, Fort de France, on RTI cct (PT)
15867: Hammer (Customs DAICC, March
ARB): 1800 USB/Omaha 3MC (probably
C-12 N783MC # 73-22251) who reports they
are en route to NAS New Orlean. Hammer tells
3MC they are in radar coverage and that NAS
New Orleans is sending Omaha 37G to meet
them. Omaha 3MC tells Hammer he will contact
37G on the company VHF net. (RP)
15898.0: RFGW: Paris, France 10.20 FEC-A
192/400 TFC in FF to Z4D, Nouakchott
embassy, on NKT cct (PT)
15901.5: GX: London, England 09.20
Piccolo 6 Op chat to unknown station (PT)
15973.0: Unid: Warsaw, Poland? POL-ARQ
100/240 Looks like MFA with CLARIS TFC
in PP. Then looks like switch of antenna direc-
tion, signal becomes very poor as TFC con-
tinues in EE (PT)
16014.0: RFQ/FF Jibouti 0835 ARQ-E3
100/240 CQ on RUN ct (RH2)
16027.2: BAF, Beijing METEO 0906 FAX
120/576 Wx chart — lines clear! (RH2)
16087.7: RFV1: Le Port, Reunion 15.55 ARQ-
E3 100/400 service message to PARIS on REI
cct (PT)
16091.7: Egyptian Embassy Washington, DC
1721 SITOR-A 100/170 w/5LGs. Then
short plain text to UNID. QRT yks yks at
1729 (MADX)
16127: DHI-58 (German Navy, Glucksburg):
2120 USB w/DRAR (FGS NIEDERSACH-
SEN FRIGATE 122 CLASS F-208) in voice and
RTTY. (RP)
16127: DRAU: 0032 USB/DHI-58 in voice
and RTTY. (RP)
16127: DHI-58 (German Navy, Glucksburg):
2251 USB calling DRKH (FGS MEERS-
BURG AUXILIARY SHIP A-1418) w/no
response. The Meersburg is currently sup-
porting two German Navy submarines partic-
ipating in SUBEX 2001 a joint US -German
operation, signal becomes very poor as TFC con-
tinues in EE (PT)
16153: ZAS: Tunisian emb??? 18.40 FEC 5-lg
TFC after "ZCCZ 232313/1579/06 //" then
"EEEEEEEEEE AAAAAAAA DE ZZZZZ
AAAAA SSSSSSS." Repeats 5-lg message and
shuts down (PT)
18571.5: GNJ, UNID Egyptian Embassy
SITR-A 100/70 (note the shift!) w/plain text
TFC. QRT w/yks yks at 1751. Narrow-shift
TFC noted here before in Jan 2000 (MADX)
19031.7: UNID, Foreign Islamabad 1540 arq
ID and Idling loudly! (RH2)
19036.5: 7RQ20, MAE Algiers 1520 Coq8
13.33 MssGfF and EE (RH2)
19101.7: RFLI: Fort de France, Martinique
09.10 ARQ-E3 192/400 Controle de Voie to
self on BFL cct to Paris. (PT)
19131: Flint 453 (DEA aircraft); 1225 USB
w/Atlas reporting flying with Flint 452 and
departed Panther 500 (Freeport, Bahamas)
enroute towards Air Flight, time 30 minutes.
19530.0: KAWN, Offset AFB (7) 1620 RTTY
75/850 Endless Foxes! (RH2)
19667.7: jmsf, UNID Egyptian Embassy
1744 100/70 (probably the shift) w/plain 
text TFC. QRT w/yks yks at 1751. Narrow-shift
TFC noted here before in Jan 2000 (MADX)
Shuts down (PT)
19667.7: Egyptian Embassy Kulm Kuala Lumpur (JG
W4JKD(DYLF) 1120 ARQ 5LG msg to
unknown. (ML2)
19692.5: ZSC: Cape Town, South Africa 18.05
FEC Navigation warnings from HYDROSAN. (PT)

20946: 8BY, French Intelligence (M16) 1858
CW w/calls for 629, 609, 775, 080, 505, 099.
QRT at 1900. (MADX)
21857.7: RFVPA PAF Paris 0804 ARQ-E3
200/400 msg w/ZIC FDZ001 (sic) ZID FDZ011 to
RFTFPA N’djamena cct FDX. (ML2)
22316.5: UTT TF Khudozhnik Kustodiev
188-141A w/KXMS SELCAL and ship TFC to
Vladivostok. (ML2)
23116.7: MFA Cairo 1000 ARQ clg Conakry
w/selection KVKD, 1004 FEC JG KDFESSPP-
SR KDS WLGWFQS for Q5X of 66091 =
19057.7 KHz, no TFC. (ML2)
23174.5: MTS: Port Stanley, Falkland Is.
18.50 Piccolo 6 Op chat to GXQ, (PT)
23380.5: MTS: Port Stanley, Falkland Is.
13.20 Piccolo 6 Op chat to GEC, location
unknown. (PT)
23546: 531, Swedish Embassy Algiers 1835
w/sounding call (MADX)
23716.7: RFLI FF Fort de France MRT 2335
ARQ-E3 96/400 return CdV to RFHJ Papeete,
cct LIH. (ML2)
23716.7: RFLI: Fort de France, Martinique
11.55 ARQ-E3 96/400 Service message to
RFHJ, Papeete, on LIH cct. (PT)
23822: HSP, UK Military 1805 MIL-STD
188-141A w/sounding call (MADX)
24871.7: RFHJ FF Mace Papeete OCE 0705 ARQ-
E3 96/400 no protege msg to RFHJ Fort de
France for Fort de France and Cayenne, cct
HJL. (ML2)
25136.0: UNID 0910 RTTY 75/850 online
crypto after VMGTCNBH. (ML2)
25186: HSP, UK Military 1837 MIL-STD
188-141A w/sounding call. (MADX)
25350: SAB, Benghazhi Radio 1825 CW w/call
tape. (MADX)

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Pirate & Alternative Radio (from page 55)

on. Female announcing numbers, mixed with radio traffic — presumably between racecars and pit crews. (Silvi, OH)

Lots of unidentifieds reported this time. I'll mention a few which may have more distinguishing content.

6955 USB at 2205 with parody of a numbers station. "Taco, Taco, Tacos are your friend." (Cowarts, ON)

6955 USB heard at 0042 with the jingle the BBC airs before each program (IS, you mean?), Adams Family theme, "This is London" and more BBC jingles. (Taylor, PA)

6950 at 0420 with old time music and a story involving a man, woman and a motorcycle. (Taylor, PA)

Current estimates are that the BBC has 151 million worldwide listeners catching their broadcasts in English and 42 other languages. They set the highest standard for news, commentary and analysis on the planet today, as they have for the past six decades. But abandoning shortwave - even to us in Technologically Superior, Internet-Savvy America - is a mistake of colossal proportions. There are those blowhards within the inner circles of the radio hobby that will, unfortunately, look at this decision and that of other broadcasters as an omen regarding shortwave; and of course we all know what happens when a negatively charged snowball gets rolling downhill. Don't listen to their baloney. Know that while the face of broadcasting to the world's population isn't the same as it was 10 years ago, there are still countless millions who listen to their baloney. Know that while the face of broadcasting to the world's population isn't the same as it was 10 years ago, there are still countless millions who only know that a hard drive is the five-mile trip to the outdoor market.

The BBC isn't the only broadcaster changing tunes. Swiss Radio International, as reported by Gerry Dexter in this month's Global Information Guide, will be ending shortwave broadcasting by 2004. Certainly to justify their decision they'll soon point to an increased audience because of the Internet. (Build large, gas-guzzling SUVs, tell the public how much they need and want 'em and they'll buy them - that's fine until it suddenly costs double what it did last year to fill the tank!) If the doofus who made that decision in Berne really, truly believes that when Swiss Radio International ceases shortwave broadcasting to Africa, South America and the Near East folks there will be online, he needs a vacation and some clean, crisp Alpine air. Let's face it, Switzerland isn't exactly a poor man's haven - perhaps they too are looking at the rest of the world through expensive designer shades.

As I've said before, Internet hookups, whether using today's fee-based wired technology, or tomorrow's my-whole-house-is-wireless-and-I-love-it technology, will always be more expensive than a one-time purchase of a small shortwave radio. I've mentioned my time in the foxhole in the Saudi desert, hunkered down with a portable Sangean shortwave. No Internet hookup there. No cable TV or cable modem. Just you and the radio. Imagine a long-term power outage, natural or manmade disaster where the only source of news and information is your small portable radio? I certainly can. Ask the people who experienced Hurricane Andrew, floods, earthquakes and power outages where their lifeline was an old transistor radio. The last thing on their minds was the Internet. I don't know about you, but when I want information, whether in a crisis or not, there's no time to wait for my local AM, FM or public radio or satellite station to air a "scheduled" BBC or VOA broadcast.

I'm concerned about the folks who desperately want and need news and information when they want it, but because of unreliable (or non-existent) phone lines and the high cost of computers where many people around the world are struggling just to put food on the table and cloth their children, are unable to be informed because some ill-informed, overpaid stuffy bureaucrat who wouldn't know how to put batteries in a receiver if his life depended on it, has made a decision to abandon shortwave because the majority of the world is supposedly on the Internet.

Keep Internet broadcasting coming, especially to those that can afford it, but don't consider it the only medium of the future for the masses. It isn't. Sometimes simpler is indeed better - and cheaper in the long run.

Tuning In (from page 4)

26241.7: RFVICS: Le Port, Reunion 17.03 ARQ-E3 100/400 Message to RFVICS, Paris, proposing a change in frequencies, "QSW LE9 QSY LE3" on REI cct. REI appears later on 14446.3. (PT)

28186: ZS6PW, Prop Beacon Pretoria 1931 CW with/continuous id. (MADX)

28199: LUF1HH, Prop Beacon Buenos Aires 1919 CW w/continuous id. Does anyone know the ERPw of this station? (MADX)

Log Contributors

I'd like to welcome new contributor Ken from Harbor Grace, Newfoundland. I ran out of space to put all of Ken's logs in this month, and the remainder will be showing up in the next issue. I've also recently received some new logs from other readers who will be appearing next month as well.

MidAtlantic (MADX)

Leroy Hogan (LH)
Robert Hall (RH)
Murray Lehman (ML2)
Ron Perron (RP)
Peter Thompson (PT)
Ken Webster (KW)

Again, thank you all very much for your log contributions. As always, each and everyone are appreciated. Keep them coming folks.

Last Words

Next month I am going to be continuing my exploration of computer controlled ute monitoring through the direct control of your radio.

Some new products have shown up in the form of hardware and software, and the impact that they are having on the way people use their radios for monitoring is simply amazing. We could truly be in for a new golden age of radio monitoring if what I am seeing being developed is to continue. I will also be looking at some stand-alone software that can help you decode digital signals very easily, as well as some DSP software that you can use to dig signals out of the QRM.

I also ask each of you to again think of topics for the Utility Radio Review column. As you have seen over the past few issues I have been able to help some of you bring your ideas to the readers. I enjoy doing that and would like to encourage more joint efforts in the future.

In the meantime, may all of your monitoring sessions be productive, and most importantly — fun!
Revised LPFM Order, And New Ham Antenna Bills

The FCC has modified its low-power FM service rules to provide third adjacent channel interference protection standards and prohibit applicants who have engaged in unlicensed operation from obtaining an LPFM license. The Second Report and Order is in response to the fiscal year 2001 Appropriations Act, which requires the FCC to change its LPFM rules to provide for “minimum distance separations for third adjacent channels as well as for co-channels and first and second adjacent channels.” The changes are consistent with current full-power FM station third adjacent channel protection levels. The Act also mandates that the Commission modify its rules to eliminate the possibility of an applicant who has “engaged in any manner in the unlicensed operation of any station in violation of FCC rules” in obtaining an LPFM license.

FCC Chairman Michael K. Powell stated “This action will enable us to move ahead and grant construction permits to eligible LPFM applicants who meet the standard for protecting third adjacencies.” The full text of the Second R&O is available at the www.fcc.gov (FCC 01-100).

More Ham Antenna Bills: A Look At Alaska And Nevada

Two more amateur radio antenna bills are moving forward. Alaska’s SB 78 passed the House by a sweeping 37-0 vote and landed in the hands of Governor Tony Knowles, who signed the bill into law on April 27. The bill, known by the title “An Act Relating to Municipal Regulation of Radio Antennas,” incorporates wording from the PRB-1 limited federal preemption, which requires reasonable accommodation for amateur antennas. It also includes a schedule of antenna structure heights, below which municipalities could not regulate, and contains a “grandfather” provision to protect existing towers should a municipality enact a restrictive antenna ordinance. For more information, check out www.legis.state.ak.us.

Nevada’s AB 61, on the other hand, has undergone some cutting. The Nevada Assembly’s Government Affairs Committee amended the bill to remove sections dealing with deed restrictions. You may remember from a prior column that those sections of the bill would have prohibited antenna restrictions from future deed covenants known as CC&Rs. With this portion removed, the bill was referred to the full Assembly and passed by a 40-0 vote. AB 61 now heads to the Nevada Senate for action. For more information visit www.legis.state.nv.us.

3G Research

The National Telecommunications and Information Association recently released a technical study on accommodation of third generation wireless systems in the U.S. You can read the NTIA’s report at www.ntia.doc.gov/ntiahome/threecg/33001/3g33001.pdf. A companion assessment conducted by the Department of Defense is also available at www.ntia.doc.gov/ntiahome/threecg/33001/dodassessment.pdf. The FCC’s Final Report can be found at www.fcc.gov/3g.

More From NTIA

While you’re visiting the NTIA Website, you may want to download their Manual of Spectrum Rules and Regulations (the Redbook) at www.ntia.doc.gov/osmhome/redbook/redbook.html and their Spectrum Allocation Chart at www.ntia.doc.gov/osmhome/allochrt.html. Other goodies of interest to radio hobbyists can be found on this site — just take a peek and see.

Pump It Up!

Some guys will do anything to turn up the volume. The FCC recently issued a forfeiture order in the amount of $13,500 to Jerry Smith for his “willful and repeated violations of Commission rules.” The violations of Sections 95.409(a), 95.410(a), and 95.411(a)(1) involve Smith’s operation of a CB radio with a non-type accepted transmitter, a transmitter power output greater than four watts, a non-type accepted RF power amplifier. As of press time, Smith hadn’t responded to the order. That’s what high volume can do to your brain.

Flippo Deliberate Interference Case Goes To Court

William Flippo, the Jupiter, Florida CBer who was arrested last summer for interfering with amateur radio operations and transmitting without a license, is going to court. Flippo faces four counts of operating without a license and four counts of deliberate and malicious interference to a licensed service. Each court carries a maximum of one year in prison and a $10,000 fine. Flippo, 58, ignored a prior fine for $20,000 for similar charges, including failure to allow the FCC to inspect his radio equipment.
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CARSON Comments on Ultra Wideband Plan

The ARRL has stepped forward to recommend a "reasonably conservative" approach to the FCC's plans to allow ultrawideband (UWB) devices on an unlicensed basis under its Part 15 rules.

The League believes that interference would extend to all VHF and UHF amateur bands and has teamed up with the University of Southern California to test their theory. "Considering the wide frequency range and roll-off characteristics assumed, it is probable that interference to L1 or L2 will also adversely affect amateur station receivers in the band 1240 to 1300 MHz," the ARRL said. They asked the FCC to propose "specific definitional and operating rules" for UWB and also to request additional comments from interested parties before going forward.

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Washington (from page 77)
equipment. Florida hams claim that even after the FCC Notice of Apparent Liability was sent, the interference continued. Flippo was finally taken into custody last July and during a search of his property the FCC seized three dozen items including radio equipment.
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hah. August in Cowfield County, where San Francisco prices combine with Guatemalan humidity, and just as you open the window for a hint of a breeze, there goes the old manure-spreader, timing.

Today I’m going to call our local power company and ask to speak to an engineer. Someone who’s very far from being an engineer about what do you want to speak to an engineer about? and I will remain patient, even though that person will not understand “RFI” or “EMI,” and will treat me like a serial killer who’s just wandered into an adult day-care center. I will be patient, but it won’t last.

Soon I’ll be raising my voice. “STATIC!” I’ll yell. “Can you understand that word?” I’ll ask to speak to a supervisor and get an office manager who wonders why I’m so angry.

Power companies have brilliant engineers — many have engineers specifically dedicated to finding and fixing Electromagnetic Interference, or Radio-Frequency Interference, or, for some, “Static.” I knew one once, in another state. He found the scared remains of a squirrel once, between two terminals of a transformer, where he’d buzz furiously when it rained. Poor fellow.

Power companies are eager to help eliminate EMI and RFI problems because when they occur, they are usually a sign of a problem — often a minor one, but nonetheless, a problem waiting for an inopportune time to become a full blown, expensive power-outage. Power companies are also eager to help with interference problems because doing so allows them to extend a friendly hand to the public (even though the other one is lifting your wallet at the time). They do all this. They help people who can’t afford electricity. All this, and they have a front line at the phone banks that the entire Fifth Army couldn’t penetrate.

For all the world to know, I really like AM radio. I specifically like WMAL AM, out of our nation’s Capital. And I particularly like Tim and Andy, the “morning guys.” Well, Tim is ok — a little too much sports for my taste, but I digress. Andy has saved countless lives on the highways surrounding Washington, DC with his incredible knack for “audio-slapstick.” Just as I’m ready to drag out the bazooka from behind the seat, hang it out the window and prepare to vaporize the car in front of me, Andy makes me laugh. And then he laughs, and Tim laughs, and I laugh some more.

So I put the bazooka away, forget about the *@%^$#&*($)@# who cut me off, and forget my anger. It’s almost unfair that the worst drivers are the ones whose lives are the ones that Andy saves, but without him, I’d be on death row. Even if I could make it to work without vaporizing an SUV on the way, without Andy and that other guy, I’d probably choke the first person who said hello when I got to the office.

So where’s the connection, you might ask (and rightly so)? Well, I’ll tell you. You’ve got trouble! Trouble right here in Cowfield County and that starts with T and that rhymes with...Ahh, heck, it doesn’t rhyme at all. Always wanted to use that line, though. The trouble is the interference. FOUR MILES of INTENSE BUZZING, beginning — or ending — at my driveway. And today’s the day I’m going to call OP&E (Occasional Power & Excuses) and try to explain it without choking someone through the phone line.

For seven years I have had my mornings ruined by what may turn out to be some mummified squirrel or roast turkey vulture. I start down the long driveway, Andy is saying something funny, and when I arrive at the road, the buzzing begins.

This is not your ordinary buzz. I can hear through that. Years of radio watch standing taught me to hear almost anything through any amount of static. On a long trip, after a hundred or more miles, I’m still listening to a local daytimer AM station and realize that my wife can only hear static, whistles, whines, and buzzing. I’m still picking out Dr. Laura or Dean Edell, hanging on every word, and when my wife reaches over to turn the volume down, or change stations, I am reminded that not everyone can (or wants to) listen to a talk show with a 20dB noise-to-signal ratio.

No, the buzz that ruins the beginning and the end of every day of my commute is intense. It is loud. It is raucous. It is so powerful that it completely obliterates whatever funny thing my drive-time friends are saying. It makes me mad before I even encounter the first jerk-du-jour.

So this afternoon, while I’m at work, I’ll enlist the lovely and talented Dave Bradley, (faithful companion, mentor, bon-vivant, and subject of several columns here) to secure me firmly to my chair with cable-ties (we’re talking about a couple thousand here), dial the number, and hold the phone for me so that I can begin my quest to speak to someone who understands EMI, or RFI. I just know I’ll take on Groucho Marx’s personality within the first 30 seconds of the call. I remember the last time I did this. It was in Pennsylvania. I actually broke the chrome-plated receiver-hook from the wall-phone. You people who listen to FM will probably never understand what this interference is like. Oh, please excuse me. The aide is here now. It’s time for my medication.

Editor’s note: Since writing this column, Bill has been “away.” His wife tells us that he may be coming home soon, but the shackles will have to stay on a while longer. Until then, you can write to Bill at the Cowfield County Home for the Silly, c/o Pop’Comm.
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