Radio–Internet Media–Computers & Radio–Family & Hobby Communications

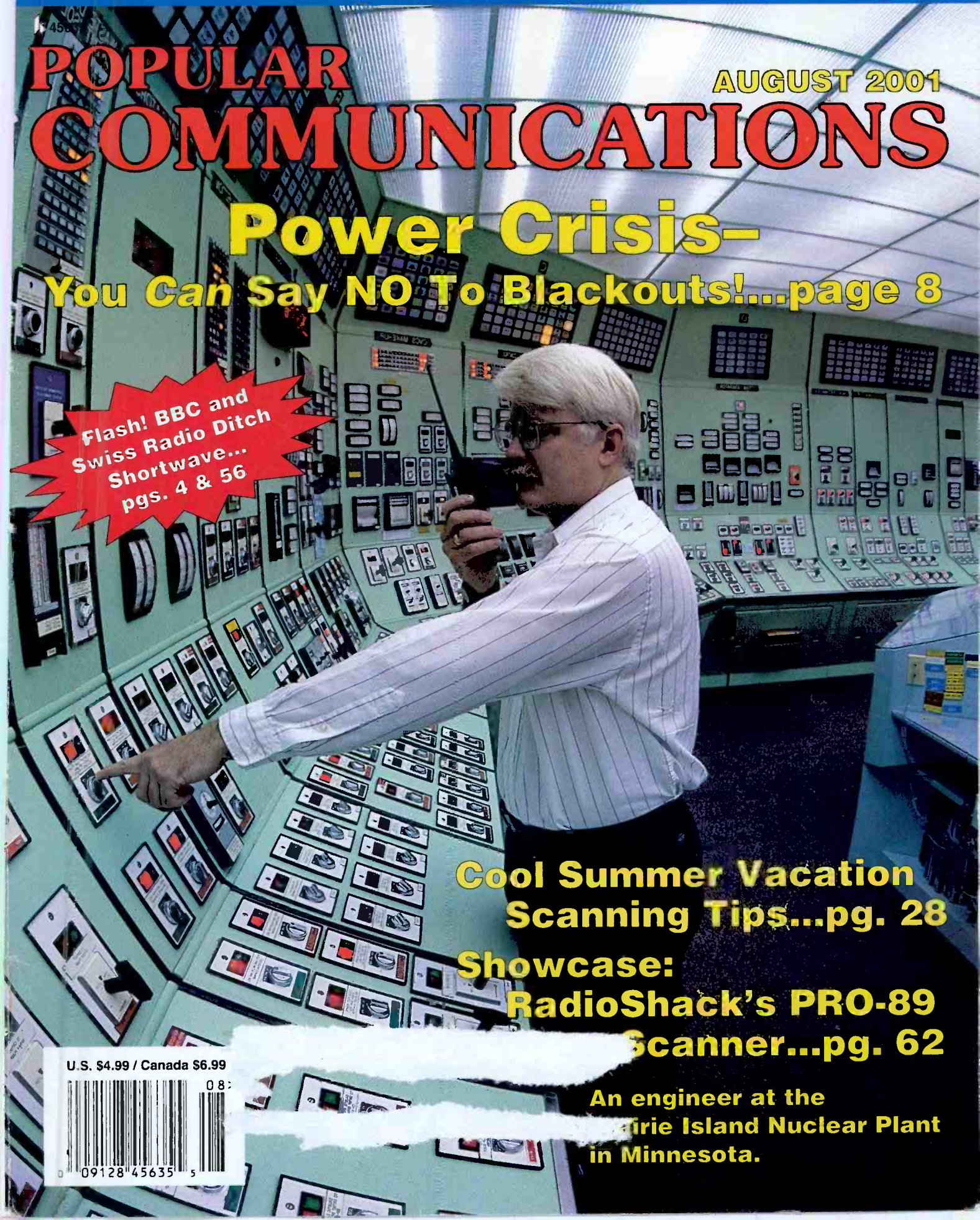
POPULAR COMMUNICATIONS

AUGUST 2001

Power Crisis–

You Can Say NO To Blackouts!...page 8

Flash! BBC and Swiss Radio Ditch Shortwave... pgs. 4 & 56



Cool Summer Vacation Scanning Tips...pg. 28

Showcase: RadioShack's PRO-89 Scanner...pg. 62

An engineer at the Prairie Island Nuclear Plant in Minnesota.

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Volume 19, Number 12 August 2001

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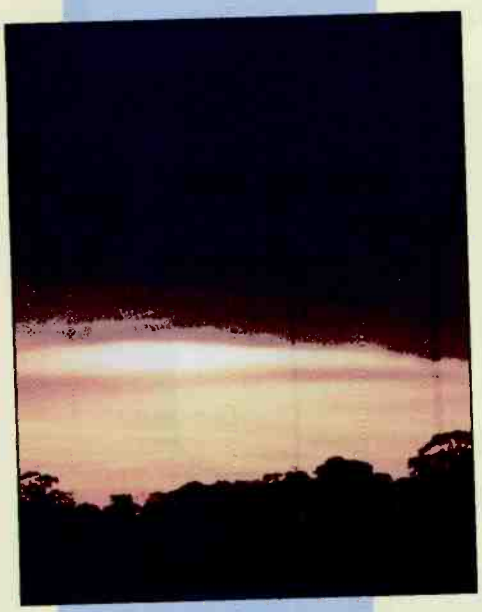

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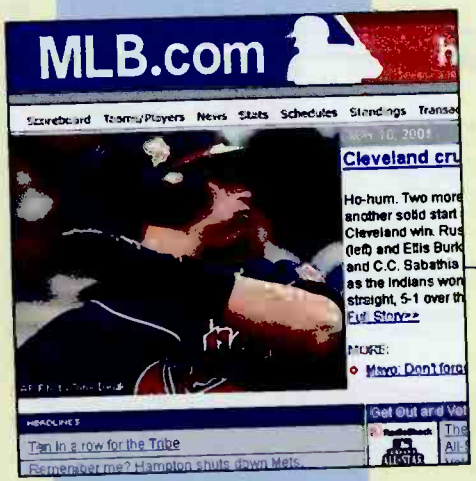

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Departments

On The Cover

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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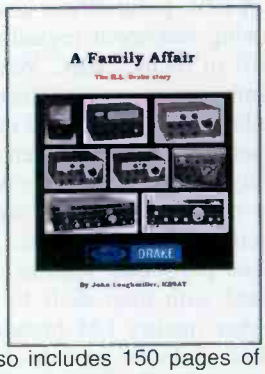

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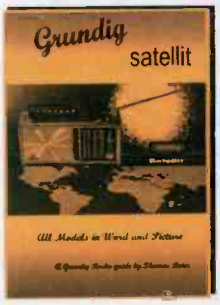

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tuning in

by Harold Ort, N2RLL, SSB-596

an editorial

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 Pop'Comm 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 fun and 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 couple of readily available alkaline batteries sells for under $100, requires no hookup 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 use one either. Compare that to $1,000 for a new computer, monthly Internet access fee (AOL just increased their monthly unlimited fee), electricity - let's not forget rolling blackouts, which according to Uncle George and Cousin Dick will become more frequent here in America, The Bastion Of Cutting Edge Technology, and the fact that these machines are still pretty much anchored to a desk in the living room.

Like Stephen commented, " . . . what happens if I don't want to listen in the bedroom where my computer is tethered to the Web connection . . . and what happens if I want to listen in the car?" No problem say advocates of alternative broadcasting - there's always XM Radio or Sirius direct satellite broadcasts. Or is there? Checked out the cost of a new digital satellite receiver lately? Don't - save yourself a trip to the heart doc (plus - you guessed it, there's a monthly access fee).

(Continued on page 76)

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— Passport to World Band Radio, 1998

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A BIG Deal!

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 prosecutors to me attest that over 70% percent of their offices will and do enforce this law.

What's the big deal you ask? Possible loss of freedom, and a misdemeanor conviction all in the name of a hobby! This law can carry a $500 fine and 1-year jail term. And fighting your way out of it can cost you time and money!

Undoubtedly, only law-abiding persons will apply for a permit in the first place. What is the reason for requiring the scanning public to be subjected to an invasion of their background while only seeking to enjoy a recreational pursuit? No criminal will bother to apply and NO scanner law will prevent a felony criminal from using a scanner to avoid capture.

Golfers traveling to Michigan are not subjected to invasive action by the state endeavoring to pursue their hobby, and are certainly not subject to frisking or arrest for carrying a 9 iron! They simply pay their $70 greens fee and tee off.

The mere fact of taking a scanner from your home in Michigan and placing it in the passenger compartment of your car makes you a criminal. (Most counties, with some exception won't allow it in the trunk of your car either).

If one is caught with a scanner while in commission of a felony, that is a different matter. However, Michigan law currently does NOT address this issue. If you are listening to airplanes while in your car, off to jail you may go. It's ludicrous!

For those who are interested, you may send comments regarding scanner permits/and scanner law modification in Michigan to a specific interested state representative. (They are hard to find)

Representative Mike Kowall is seeking public comment from any interested party (regardless of residence) on how to fairly and logically restructure MCL750.508. He may be reached via E-mail at mkowall@house.state.mi.us or call 517 373-2616. Express your thoughts if you wish.

New Jersey state law on scanning seems a middle ground approach (use in commission of a crime). No permits, no burden upon the state police to issue permits and no cost to the taxpayers to fund the permit scheme. No exempted class of individual(s) because all are treated equal under the law.

Currently the Michigan permit is free, and available to most who know whom to ask — or know of the law. However, the State of Michigan will (most likely) run some sort of criminal background check before issuing you a permit to use/possess/transport a scanner in a vehicle — something for which amateur radio operators are NOT submitted to. They are exempt under law as are police officers.

I believe you know which way to cast may vote!

Regards,
Mark Bajek
Westland, MI
MSP Scanner Permit 114-2000

Why Not Channel 9?

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 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 Folmsbee
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 callsigns 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, NiCds, 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 board mounted to the dolly.

Our completed project with the Kyocera KC35 panel and AC Delco Voyager battery.

Detailed photo of the Kyocera panel and foot keeping the dolly off damp ground.

The RAM-111 universal mount attached to the metal strip offers superb versatility.

easy; there was no macho digging or punching out knock-out holes necessary as the Kyocera J-box pre-cut holes are opened with only slight screwdriver pressure. Each solar panel comes with two rubberized cable clamps that screw tightly through the holes.

I mounted the Kyocera panel to our dolly using a RAM-111 Universal Mount. Incidentally, the RAM mounting products are probably one of the most versatile accessories you'll ever use in your radio hobby — and in other home or office projects. (We've got a biking with radio feature coming up using another of their products, so stay tuned!) They can be reached at 206-763-8361 in Seattle, Washington.

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.

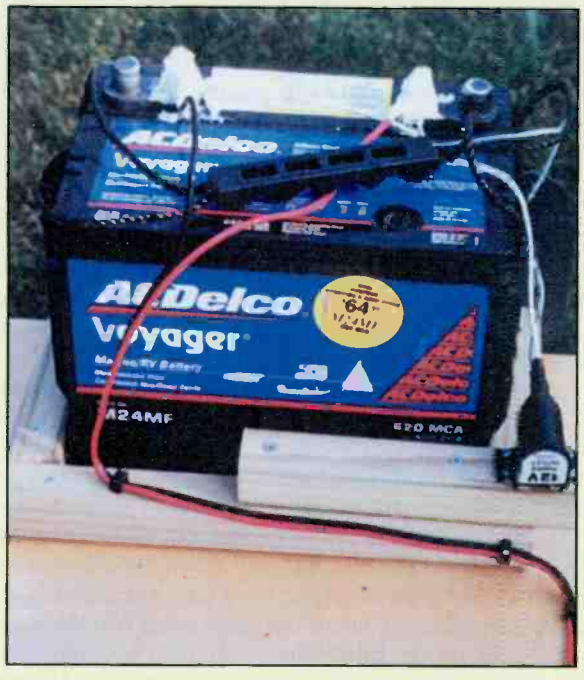
Look at the photos and you'll see the nifty RAM-111 ball mount securely holding the Kyocera panel. I fastened the RAM to the panel by first mounting it to a metal conduit; you can use weatherproof wood or flat, yet firm, metal strips from Home Depot or your favorite hardware store. It's important you 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 coatings; 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 noted 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, andyour inventer 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

tem" including the dolly from Home Depot is under $450 ($215 for the KC35 panel, $70 for the charge controller, $86 for the AC Delco Voyager battery, and $45 for the RAM universal mount). In a pinch, or just for the fun of it, what's being energy independent worth to you?

I'd like to hear from you about your alternative energy projects; send along some photos and an article. We'll publish it in an upcoming issue of *Popular Communications*. In the meantime, harness the sun's energy — it's free! ■

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.

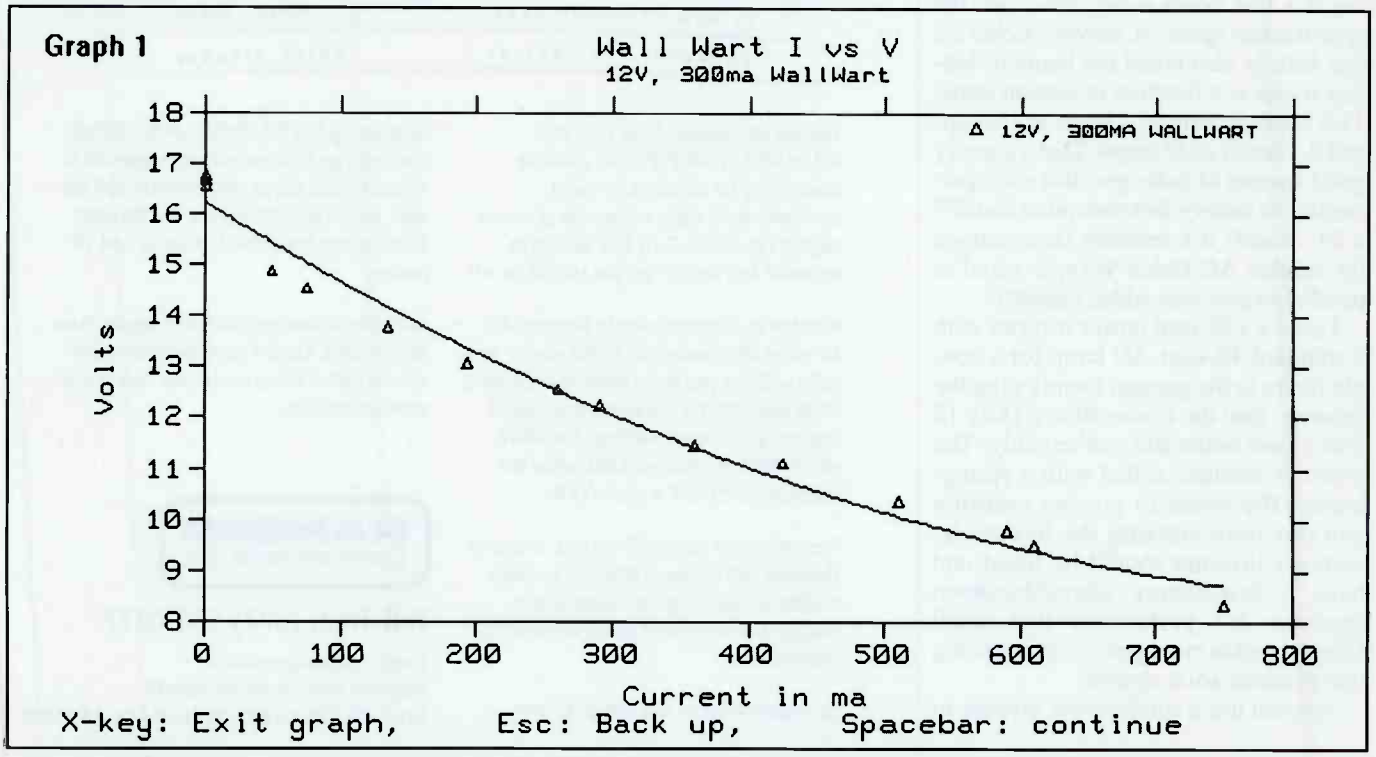
4. You need to make sure there is sufficient current.

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]*X)*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*X + 8.582E-6*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:

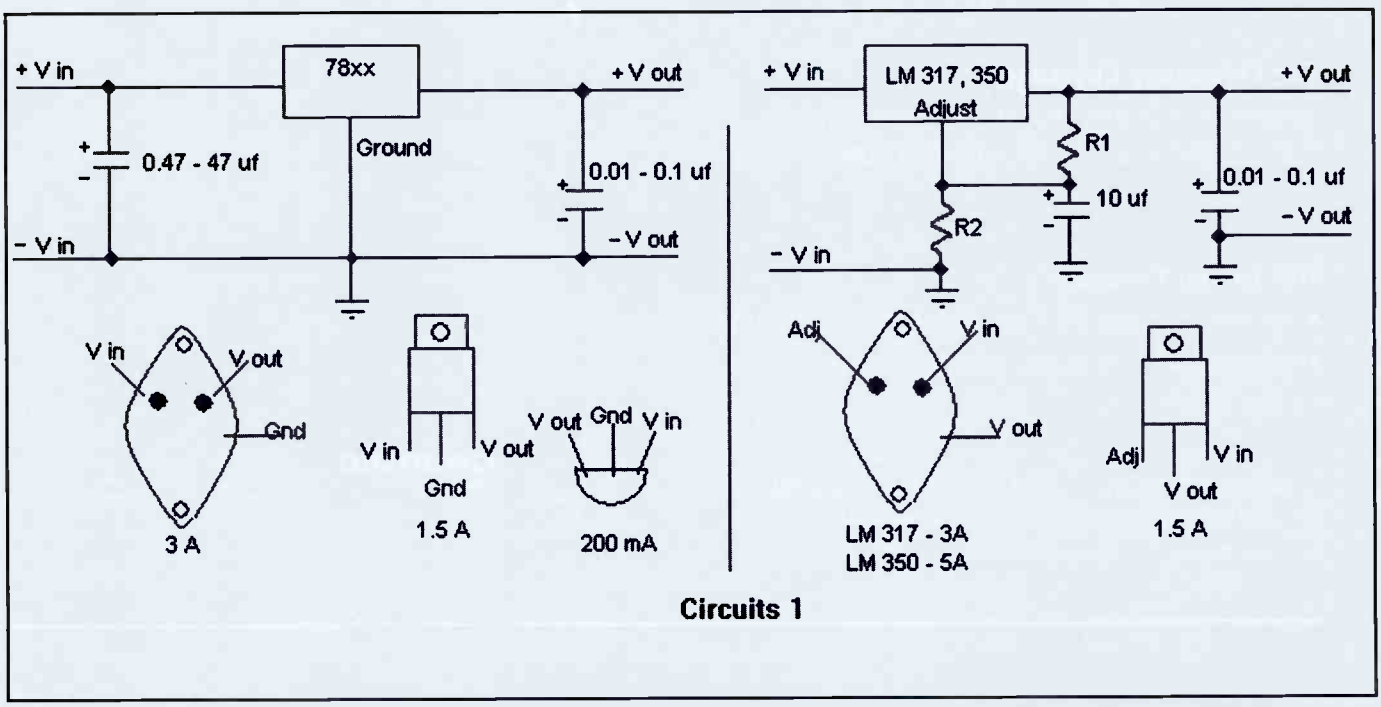
NOTE: R2 for the LM317/350 can be a variable resistor, which makes it a variable Vout.

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: Vout = 1.25(1+R2/R1) + (Iadj)(R2). Since Iadj 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.

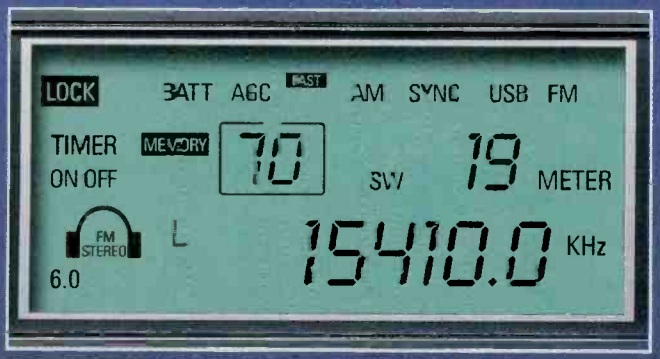
73 de KE3FL
Phil Karras
AEC Carroll County MD
ORS, OES, & VE
ke3fl@arrl.net



Circuits 1

GRUNDIG

The



The LCD
Big! Bold! Brightly Illuminated 6" by 3½". Liquid Crystal Display shows all important data: Frequency, Meter band, Memory position, Time, LSB/USB, Synchronous Detector and more.

Ultra fine-tuning of 50Hz on LSB/USB, 100Hz in SW, AM and Aircraft Band and 20 KHz in FM.
• For Fixed-step Tuning: Big, responsive Up/Down tuning buttons.
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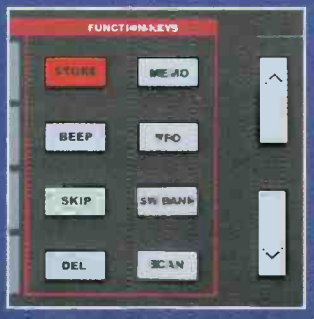
The Signal Strength Meter
Elegant in its traditional Analog design, like the gauges in the world's finest sports cars. Large. Well Lit. Easy to read.

The Frequency Coverage
Longwave, AM and shortwave: continuous 100-30,000 KHz. FM: 87-108 MHz VHF Aircraft Band: 118-137 MHz.

The Tuning Controls
• For the traditionalist: a smooth, precise tuning knob, produces no audio muting during use.

THESE ARE THE SATELLIT 800 MILLENNIUM'S MAJOR FEATURES. FOR A DETAILED SPECIFICATION SHEET, CONTACT GRUNDIG.

Ultimate in Digital Technology!



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.
- Line-out, headphone and external speaker jacks.

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

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radio resources

radio tips and solutions to maximize your hobby enjoyment

by Gordon West, WB6NOA

Digital Selective Calling Numbers — Got Yours?

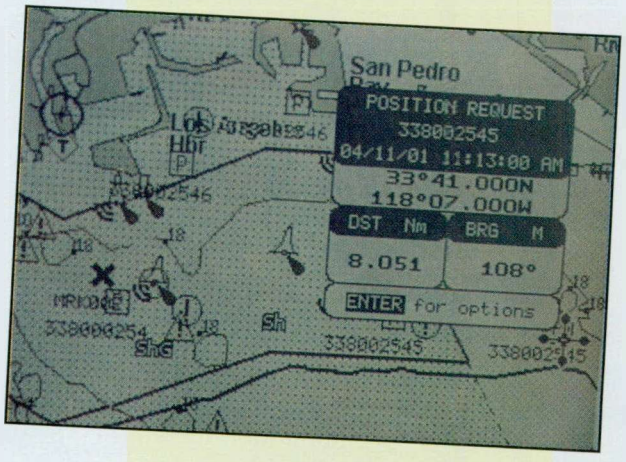
Improving maritime distress and safety communications became a priority to the International Maritime Organization (IMO) over 15 years ago when vessels were sinking, and no one knew they were going down. Reminds you of Titanic, doesn't it?

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.

A Coast Guard auxiliarist conducting a DSC test in Los Angeles harbor.



DSC Position Polling shows up on the screen on an inexpensive Standard Horizon Radio/charting system.

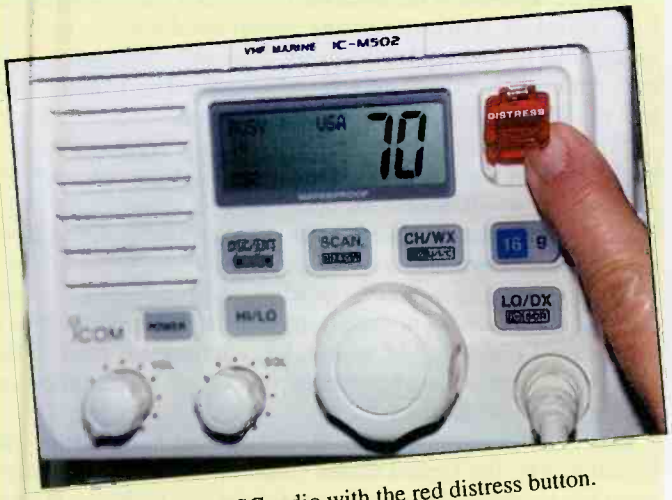
SEA Area A1 is that area within line-of-sight VHF radiotelephone coverage, extending the SEA approximately 20 to 30 miles. Vessels carrying passengers for hire or more than a couple hundred tons would be required for VHF radiotelephone coverage with a digital selective calling system, along with an emergency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

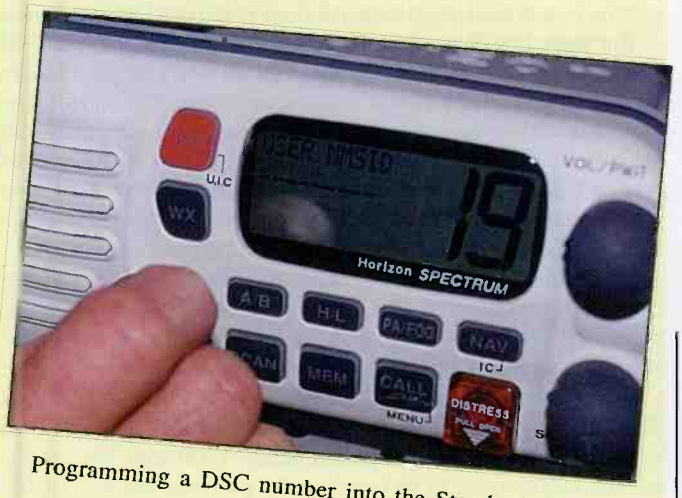
Recreational boaters sailing or power boating within United States jurisdictional waters do not *require* any radio at all! They could jolly well sail from New York to Miami, or San Diego to Alaska, and do so with nothing more than a sextant, lead line, and a megaphone. But luckily, 25-watt VHF marine 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.



$300 marine DSC radio with the red distress button.

A modern shipboard DSC station for both HF and VHF DSC calls.



Programming a DSC number into the Standard Horizon VHF rig is easy.

Recreational 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 (MMSIN) 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

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. ■

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- BNC antenna connection
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the wireless connection

a look behind the dials

by Peter J. Bertini, <radioconnection@juno.com>

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 had 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 setís designer didnít 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

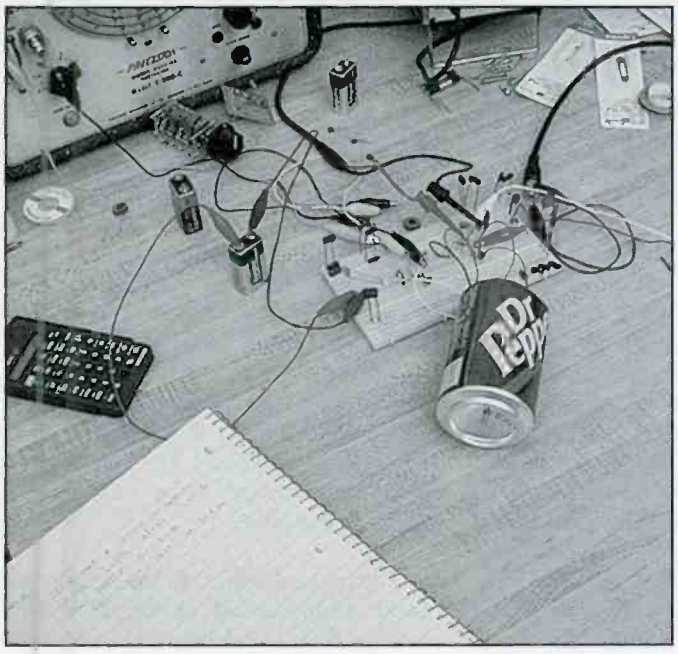
Reader Mr. Hiroyuki Kato of Kawasaki, Japan offered these comments in regards to our recent article on tube getters: "Dear Mr. Bertini - I am a *Pop'Comm* reader in Japan. The 'Radio Connection' is my favorite column. Regarding the tube getter issue in the April issue, I believe there are at least two 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.

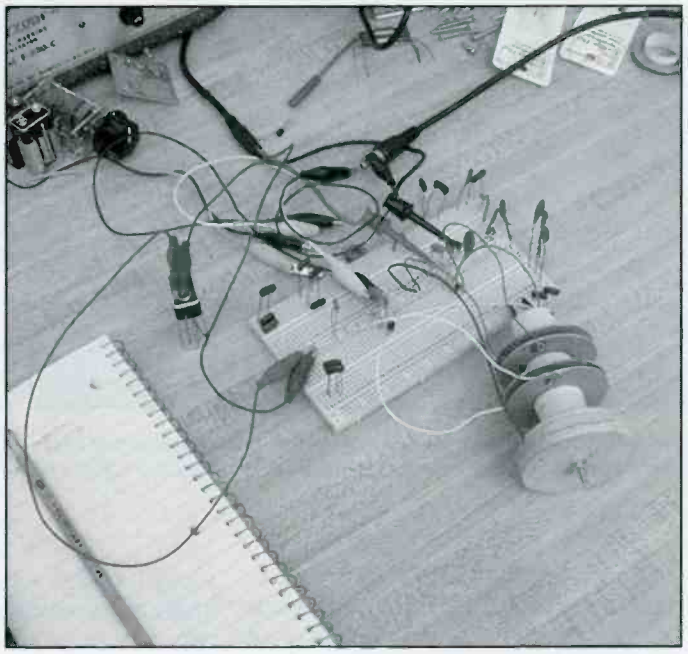
"(2) Getters of newer tubes like 50 (ST shape) and WE300B got smaller and smaller as I used the tubes on audio amplifiers. This fact has made me believe the (barium?) getters used for ST tubes continue to capture gases after firing.

Sergeant Roberts and crew preparing for a day at work.

Sergeant Roberts and crew, leaving an otherwise airworthy craft! Godspeed 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.



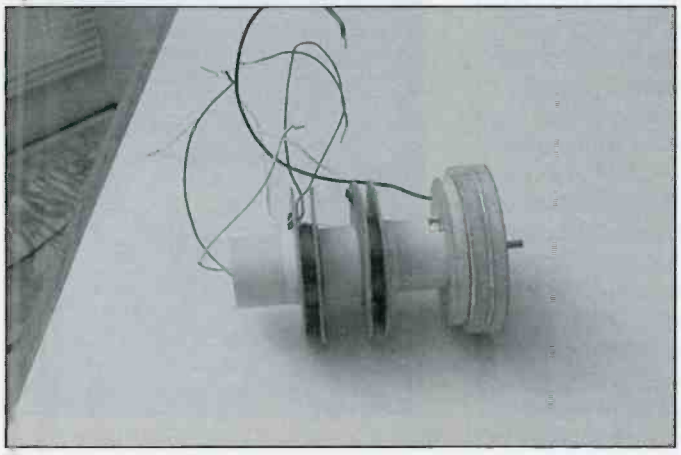
Another view of the IF Transformer with the shield removed to show the internal construction.

"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

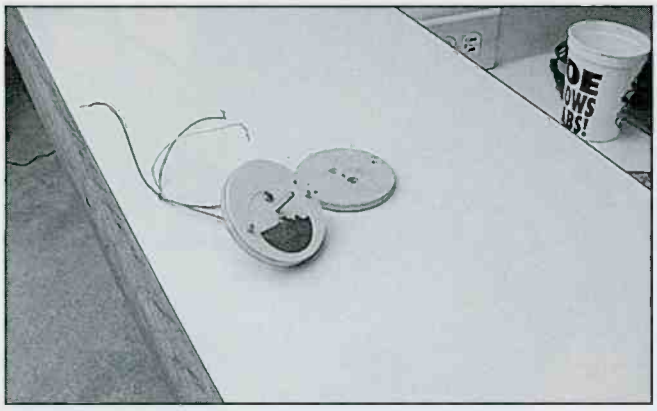
Regarding homebrew IF transformers, a topic briefly touched upon in the May issue, George Hawkins kindly wrote a fairly long letter detailing his efforts along those lines. I was pleased to see that anyone would enterprising enough to undertake such an ambitious task! Here are George's comments: "I read 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]



A close up view of George Hawkins neatly made transformer Nice craftsmanship!

"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 æ 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 s 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.

Dirty, corroded pennies await the Special Magic Fingers restoration treatment.

Dirty, corroded pennies emerge shiny as a new, ahhh, Penny? (No groans, please.)

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 a vibrator 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 hobbies 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." ■

by Paul Carr

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 SKYWIRE 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.

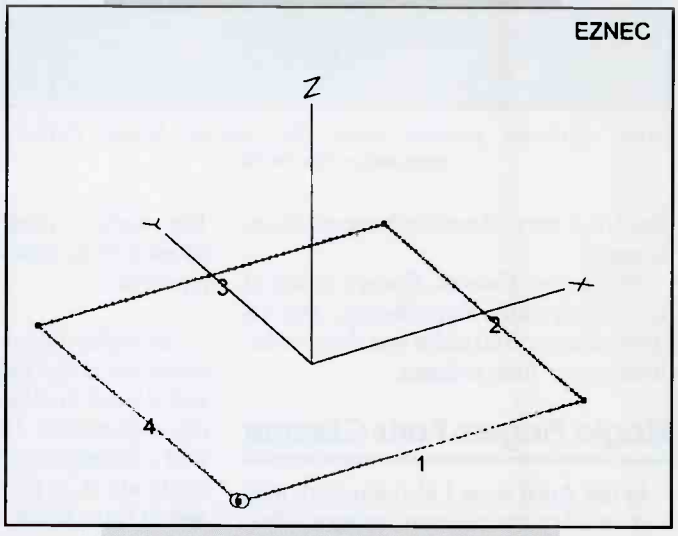


Figure 1: The antenna is modeled as a square loop fed at the corner.

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-

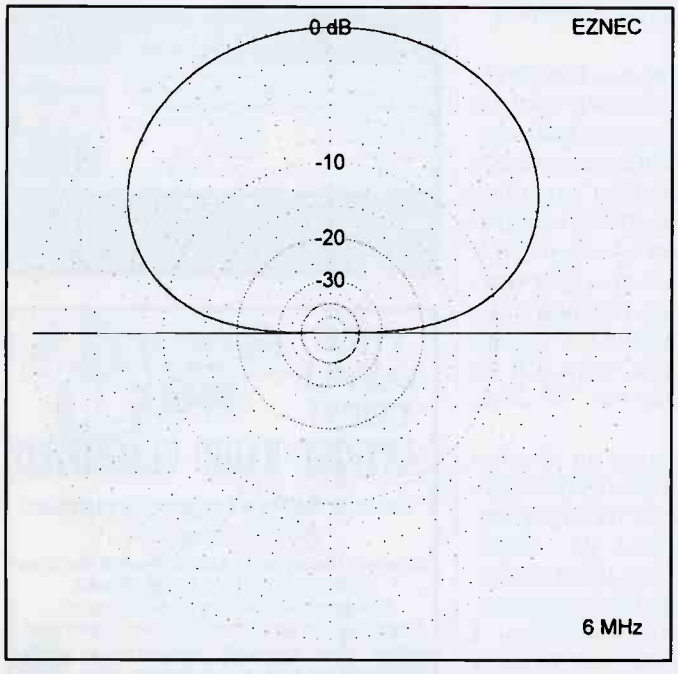


Figure 2: The height of the antenna and vertical pattern shows max signal coming from overhead.

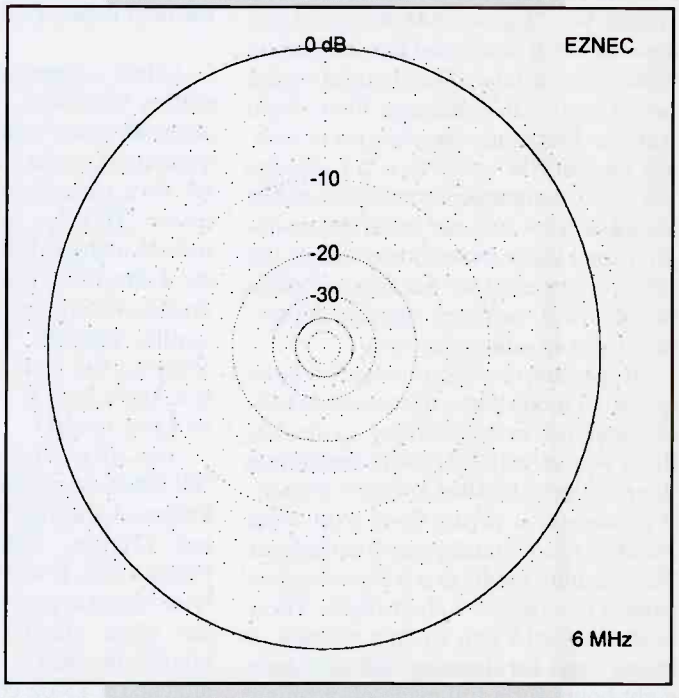
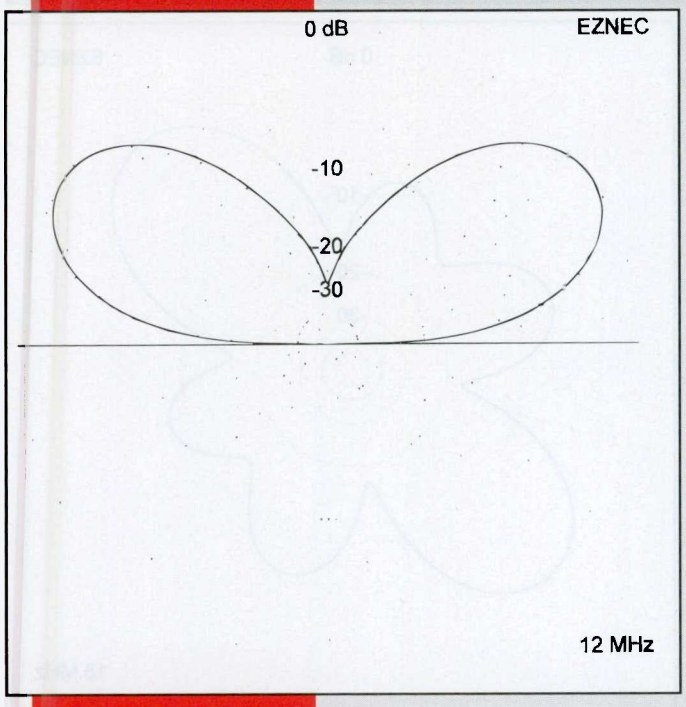


Figure 3: The horizontal pattern is practically omnidirectional.



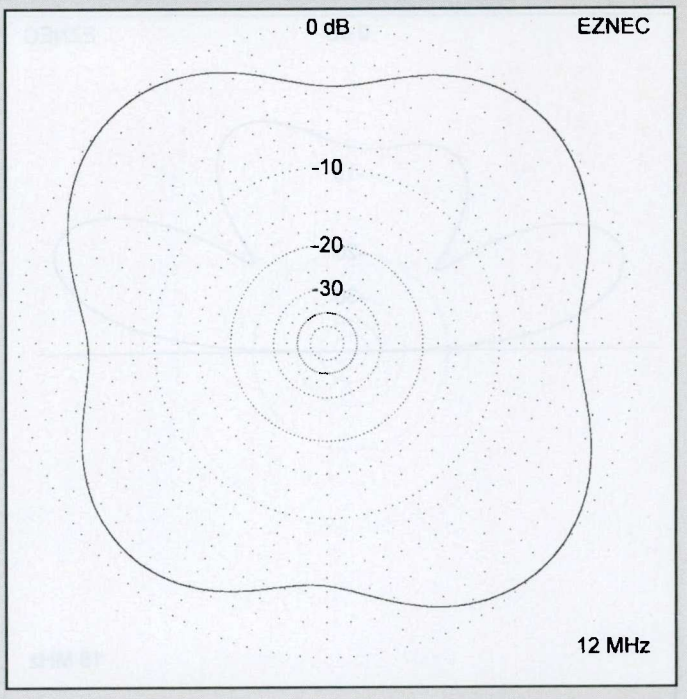


Figure 4 and 5, respectively: The vertical and horizontal patterns for the antenna at 12 MHz.

na is often configured as a diamond or square, but this can be modified to fit the individual requirements. More on this later.

This Month's Project

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

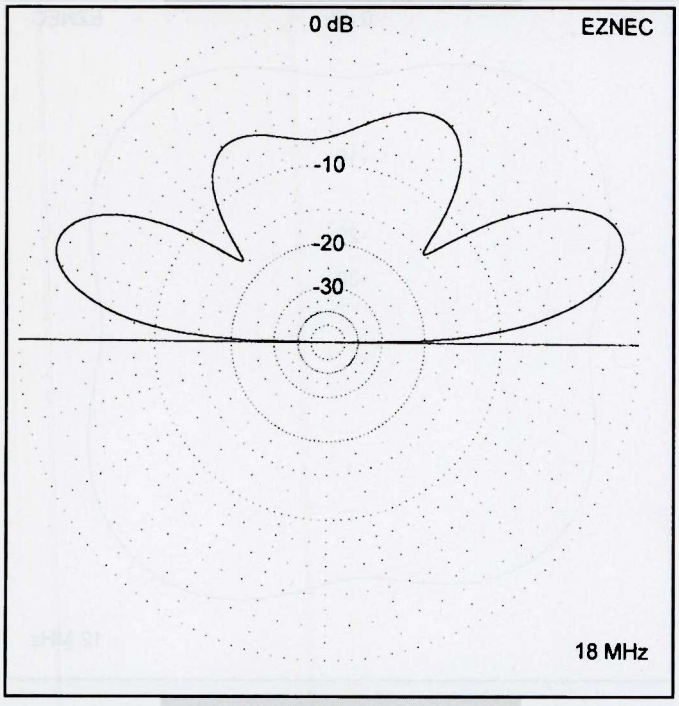


Figure 6: The antenna is now at 3/8 wavelength.

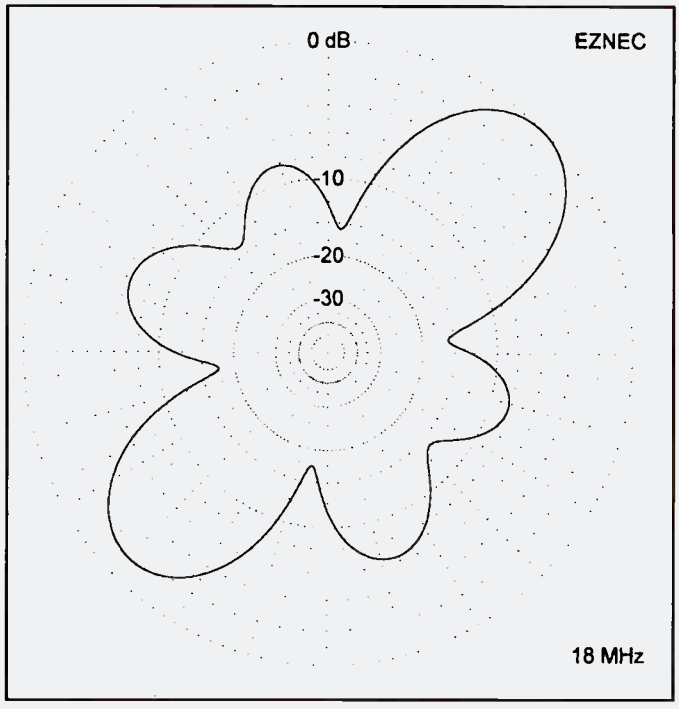


Figure 7: Try to orient the antenna to favor your area of interest.

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!

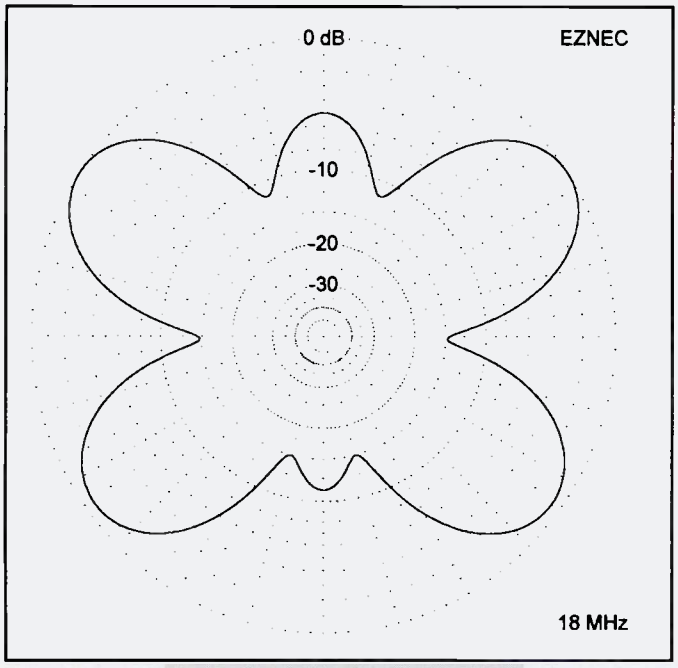


Figure 8: For a more omnidirectional pattern, try a side feed.

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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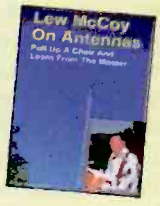

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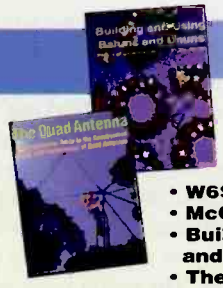

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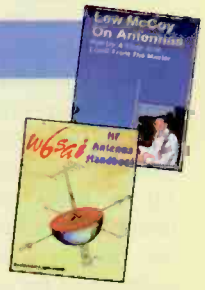

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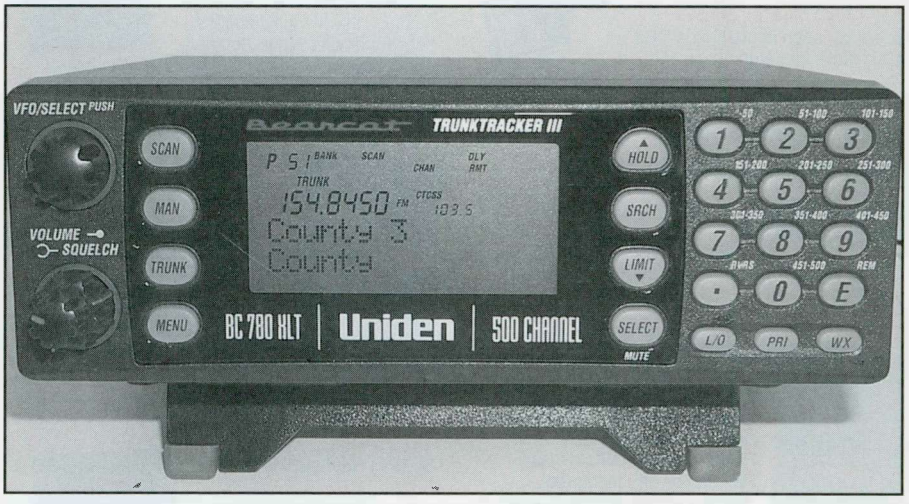
overheard

by Ken Reiss, <armadillo1@aol.com>

strategies and techniques to keep YOU informed

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."



Many of the new base receivers also make great mobiles. The BC-780 is a very versatile receiver with trunking capabilities. Just make sure you back up your home programming information before you download new stuff if you're using the software. You won't want to have to re-enter all that stuff when you get back home.

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.

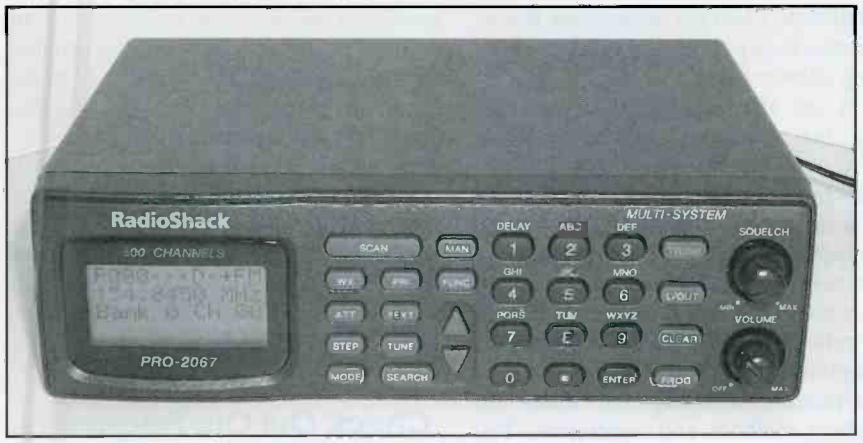
You can also install a small base unit or mobile scanner in your car on a temporary basis. Just a simple cigarette lighter plug is about all you need for power (make sure the adapter you get is compatible both with the voltage and current of your radio) and of course, watch the polarity. Most car cigarette 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 paging



This PRO-2067 from RadioShack also has trunking and makes a versatile mobile. At the minimum, a cigarette lighter plug adapter and a mag mount antenna will get you on the air quickly!

tower or next to a hospital, you might want to see what's on TV that night. If you're on the move in a mobile installation, the interference should pass as you move to another area. Be patient — you might want to turn the volume down to keep other members of the family happy while you go through the area.

What To Listen To

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 someplace 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

Of course you don't have to use a mobile rig to go mobile. Handhelds work just fine in the car, particularly with the help of an external antenna. A cigarette adapter is available for many handheld units so the batteries can charge while you're driving.

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 wide-band 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.

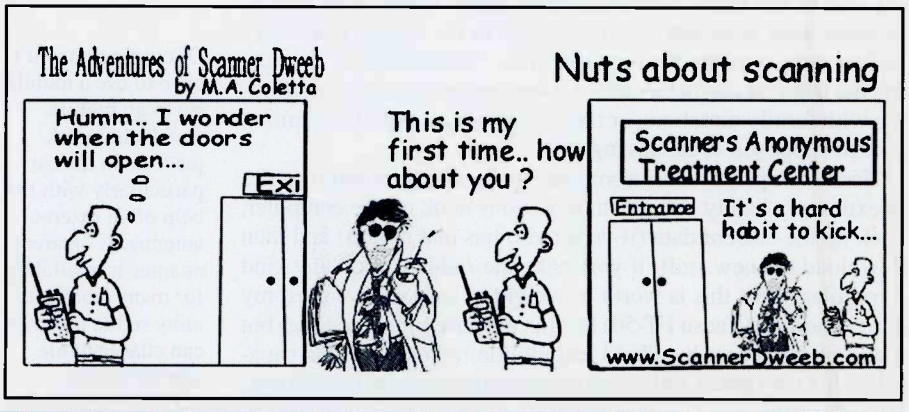
Check Out Our Frequency Of The Month!

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! ■



v.i.p.

spotlight

Congratulations To Tom Heidorn Of La Grange, Illinois!

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

Tom's well-equipped shack is also a neat looking setup!

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." ■

clandestine communiqué

tuning in to anti-government radio

by Gerry L. Dexter

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 wager 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 Communist Party of Iraqi Kurdistan, which is on the air from 1500–1600 on 3905, with broadcasts in Kurdish.

IRAN LIBERATION

No. 36 — News Bulletin of the People's Mojahedin of Iran — April 8, 1987

Norwegian Labour Party Supports Mr. Rajavi's Peace Efforts

International support continues for the Iranian Resistance Leader's peace policy, which led to a halt in the war on cities. More parties have written to endorse Mr. Rajavi's effective measures for peace, including officials of the ruling Labour Party of Norway, the Austrian Socialist and People's Parties, both the ruling parties, and the Federation of National Education of France.

Dr. Joseph Hochtl, the Austrian People's Party's spokesman on human

Continued on page 3

THE PEOPLE'S MOJAHEDIN REVEAL

Khomeini Regime's Terrorist Network

Terrorist background of the charge d'affaires expelled from Tunisia

The government of Tunisia has expelled the Khomeini regime's charge d'affaires, Ahmad Kan'ani, and the rest of its embassy staff for "violation of diplomatic law," specifically for attempts by Khomeini's terrorist-diplomats to carry out terrorist operations in that country. Following the expulsion, the People's Mojahedin Organization of Iran released documented evidence on Kan'ani's background and role in the Khomeini regime's apparatus for export of terrorism.

Mojahedin sources note that following his expulsion from Tunisia on March 29, Kan'ani went to Damascus where he is staying with Ali Mullah-Abbasi, head of public relations at the "House of the Guards Corps."

Ahmad Kan'ani is a protege of Rafsanjani, Speaker of Khomeini's

Continued on page 2

Resistance Forces Clash with Repressive Guards

The People's Mojahedin of Iran is using radio to oppose the Tehran government.

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 Kordestan 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

(Continued on page 35)

Clandestine *(from page 32)*

Hope" 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

Circle Reader Service #

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

About an hour	1
Two or three hours	2
Five to six hours	3
More than six hours, but less than 10	4
More than 10 hours	5

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.)	6
Mornings on the way to work or at home	7
Afternoons at home	8
Evenings on the way home from work	9
Evenings at home	10
Only weekends, mostly during the day	11
Only weekends, mostly at night	12

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

They see my antennas	13
I've talked about it with them	14
They've listened to my radios	15
They're also a hobbyist	16

on-the-go radio

around the block, around the world-personal radio keeps YOU in touch

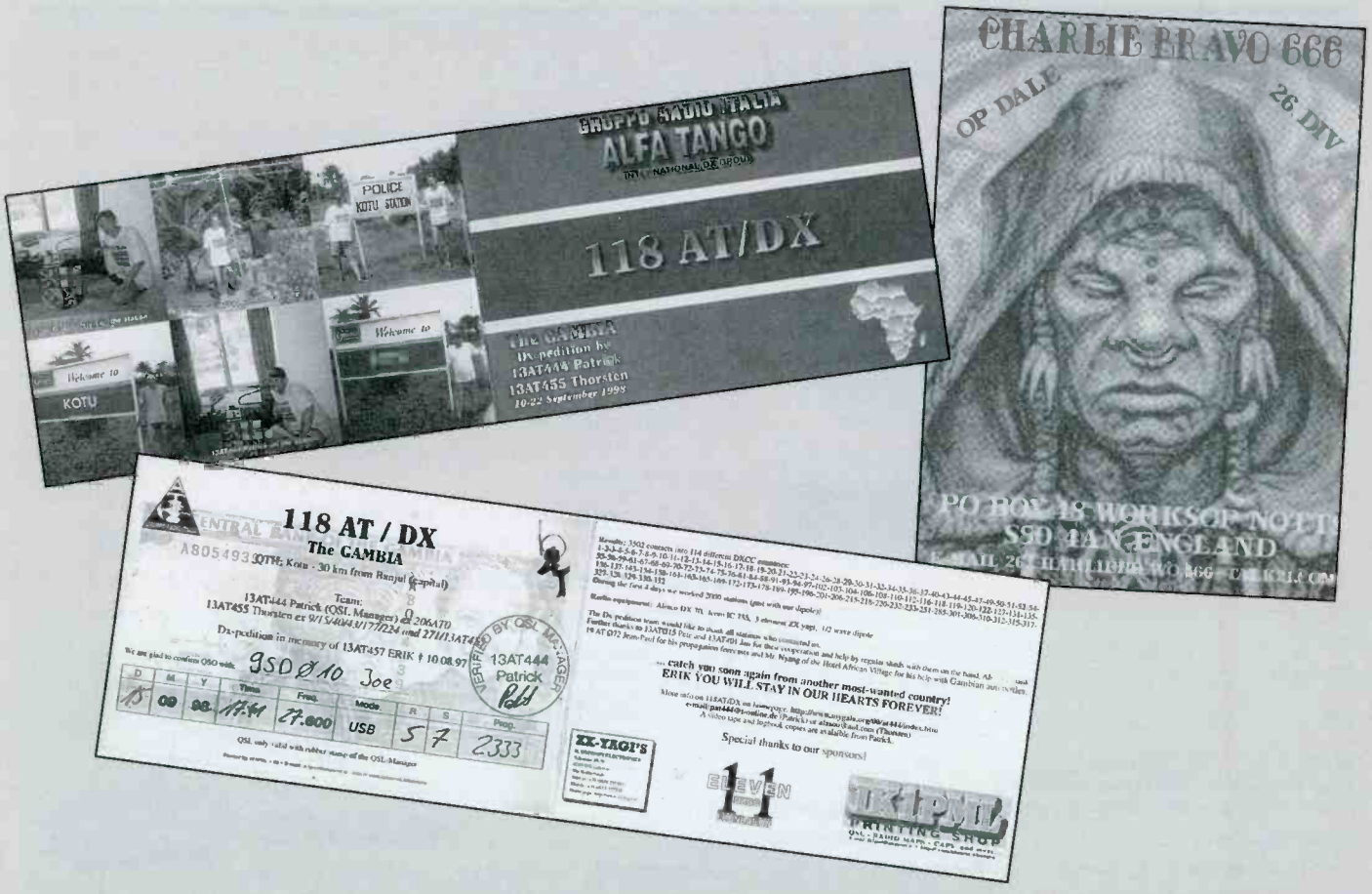
by Ed Barnat <ed@barnat.com>

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 our 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 we "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-



ning to be discovered. Unfortunately, it seems that unlike amateur radio operators, who can switch from band to band and remain amateurs, we "citizens" can't. At least for the time being, we have to change our name every place we go! So good-bye CB, hello "Personal" radio?

That may not be such a bad thing. Let's face it; despite our best efforts classical 11-meter "CB" has failed to meet many of our needs and expectations. Yes, by its very nature 11-meters does some things well but also, by its very nature, it has proven to be inappropriate for others. It is, by its very nature, a long distance medium with short distance capabilities. Used as such, it is superb! However, because of this dual personality it has proven unreliable for either. Yes, its varying nature has and will continue to make 11-meters an exciting realm for the radio hobbyist. Its dual personality, however, will also continue to prove that it is difficult to impossible, to establish and maintain dependable practical local communication. We citizens really need additional services.

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 questions are nevertheless valid. I am sure that many of us can identify with his experience 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 at 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, bleed, 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 fine 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 though 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

Channel 9, a local 2-meter network and direct ties to the areas major broadcast outlets. We literally handled hundreds of assistance calls a month for years and were the prime source for the area's road and traffic information The biggest obstacle we faced, next to the propagation complexities of 11-meters, was REACT.

Yes, 2-meter repeaters are more reliable, but not the final answer. There are several major problems. First, there is no common frequency — you have to know where they are, what frequency they are on and what if any tone they use. Second, not all amateurs will, or can respond. Third, and worst of all, you have to be licensed — they are not available to everyone, CB is. Let's hope MURS or some other service steps up to fill the gaps. Until then, however, small groups of motivated operators can, have, and will continue to produce somewhat reliable 11-meter services, albeit on a highly localized basis. In the meantime Rick, keep trying. The more we use it the better you and it is. Let people know you're listening by signing in on the channel you're monitoring. Say something like "Rick from Irvine, listening" or "Can anybody give me a radio check?" In many areas Channels 36 through 40 are used for SSB. You may find them more to your liking. Early morning is often best. You might also listen to the area between Channel 40 and the 10-meter band. It is where many serious CBers go to escape the occasional madness of the legal 40. In many ways it is a lot like amateur radio there, right down to the distances covered and the exchange of QSL cards. I warn you not to transmit there. As a licensed amateur you are especially susceptible to the long arm of the Commission.

August And September Mixers

For those of us who find the act of "randomly contacting" on the air very exciting and alluring, why not make plans to attend the next, regularly scheduled on-air CB Mixer? They are held, wherever you are, on the last Saturday of the month. The next two will be on the 25th of August and the 29th of September from 9 p.m. until 10 p.m. local time. SSB operators work channel 36 LSB. AM operators work channel 23.

Well, that's it for now. Thanks for writing me here at the magazine or via the Internet where my address is ed@barnat.com. And as always, if you can (especially August 25th and September 29th) — catch me on the radio! 73 ■

Our Readers (from page 7)

on regular CB frequencies with obscene levels of power should be prosecuted. Now I know that the reality is that the FCC has "thrown in the towel" on this issue. But we don't have anyone to blame but ourselves. If we had brought forth the same ethic towards CB operation as is used in the amateur bands, we would not be discussing this today.

With regard to RM-9807, I support the petitioner, as it is not the CB operator's fault that the signal propagates the way it does. I believe that in any band, as long as you are using equipment designed for the purpose and within the power requirements and your signal goes from your antenna to Bahrain, then so be it. Have a blast. However, I can understand why there is opposition to the petition. We have absolutely no control over the use of the 11-meter band now and it is full of megawatt abuse. I applaud the FCC for conducting undercover buys of illegal equipment as reported in your "CB Scene." There should be more of it. I don't use my CB as much as I used to, because I can't compete with the illegal stuff out there. I wish it would go back to the way it was when I got my license 30-plus years ago.

So with RM-9807, I support continuing the effort, but I think that we have to clean our own house first. We need to keep insisting that the FCC get back into the game with 11-meter enforcement and licensing. They say that it would be a logistical nightmare. Well I say, do your job and stop whining! It is partly their fault for not keeping close tabs on it. It is also the electronics industry for not supporting the licensing structure and undermining the system. The sale of CB equipment has dropped significantly since the boom of the '80s. It's time to start turning 11-meters back to what it used to be.

Rob Farley
New Hampshire

Uncle Sam: Skip The Baloney!

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 linears? Hams operate QRP (low power) all the time and making 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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Turn mysterious signals into exciting text messages with the MFJ MultiReader™!

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

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

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

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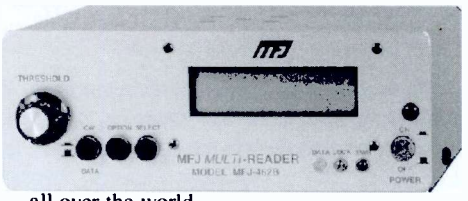
Eavesdrop on the world's press agencies transmitting *unedited* late breaking news in English -- China News in Taiwan, Tanjug Press in Serbia, Iraqui News in Iraq -- all on RTTY.

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

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

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



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

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

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

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

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

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Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a *"first-rate easy-to-operate active antenna ...quiet... excellent dynamic range... good gain... low noise... broad frequency coverage."*

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz-30 MHz.

Receives strong, clear signals from all over the world. 20 dB attenuator, gain control, ON LED. Switch two receivers and auxilary or active antenna. 6x3x5 inches. Remote has 54 inch whip, 50 feet coax. 3x2x4 inches. 12 VDC or 110 VAC with MFJ-1312, $14.95.

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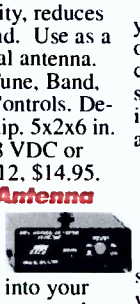
Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as a preselector with external antenna. Covers 0.3-30 MHz. Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $14.95.

Compact Active Antenna



Plug this *compact* MFJ all band active antenna into your receiver and you'll hear strong, clear signals from all over the world, 300 KHz-200 MHz including low, medium, shortwave and VHF bands.

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MFJ Antenna Matcher

MFJ-959B **$99.95**

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

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Select 2 antennas and 2 receivers. 1.6-30 MHz. 9x2x6 in. Use 9-18 VDC or 110 VAC with MFJ-1312, $14.95.

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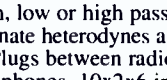
Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

High-Gain Preselector



MFJ-1045C **$99.95**

High-gain, high-Q receiver preseletor covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Push buttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18 VDC or 110 VAC with MFJ-1312, $14.95.

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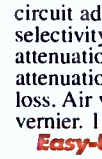
New! **Improves** any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q series tuned circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband attenuation and very low passband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

Easy-Up Antennas



MFJ-38 **$16.95**

How to build and put up inexpensive, fully tested wire antennas using readily available parts that'll bring signals in like you've never heard before. Antennas from 100 KHz to 1000 MHz.

MFJ Antenna Switches

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

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world band tuning tips

your monthly international radio map

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

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

UTC	Freq.	Station/Country	Notes
0000	3280	La Voz del Napo, Ecuador	SS
0000	12020	Voice of Vietnam	
0000	4965	Christian Voice, Zambia	
0000	9780	Republic of Yemen Radio	AA
0000	4980	Ecos del Torbes, Venezuela	SS
0000	9525	Voice of Vietnam, via Canada	
0030	7260	Radio Vanuatu, Vanuatu	
0030	21605	UAE Radio, Dubai	
0030	12689.5	Armed Forces Network, Florida	USB
0030	12005	UAE Radio, Dubai	
0030	7110	RTV Tunisienne, Tunisia	AA
0030	7445	Voice of Asia, Taiwan	CC
0030	21770	Swiss Radio int'l	FF
0030	7180	Voice of Russia, via Moldova	
0030	17805	Radio Romania Int'l	
0045	15180	Radio Romania Int'l	
0100	6458.5	Armed Forces Network, Puerto Rico	USB
0100	15295	RDP Portugal	PP
0100	15235	Voice of America relay, Philippines	
0100	11730	Radio Pilipinas, Philippines	Tagalog
0100	4824.4	La Voz de la Selva, Peru	SS
0100	5678	Radio Ilucan, Peru	SS
0100	17680	Radio Jordan	
0100	11635	Radio Norway	NN
0100	4890	NBC, Papua New Guinea	
0100	15355	Radio Sultanate of Oman	AA
0130	9555	VOA relay, Northern Marianas	
0130	15345	RTV Marocaine, Morocco	AA
0130	5770	Radio Miskut, Nicaragua	SS
0130	11675	Radio New Zealand Int'l	
0130	9845	Radio Netherlands, via Bonaire	
0200	9875	Radio Vilnius, Lithuania	
0200	6185	Radio Educacion, Mexico	SS
0200	15140	Radio Sultanate of Oman	AA
0200	3291.4	Guyana Broadcasting Corp.	
0200	17725	Radio Jamahariya	AA/EE
0200	7255	Voice of Nigeria	
0200	17510	KWHR, Hawaii	
0200	4952.5	Radio Verdad, Guatemala	SS
0230	7125	RTV Guineenne, Guinea	FF
0230	5010	R. Misiones Internacionales, Honduras	SS/EE
0230	9505	Radio Japan/NHK	
0230	11800	RAI Int'l, Italy	II/EE
0230	4895	Radio Malaysia	unid
0230	17545	Kol Israel	
0230	9590	Radio Netherlands, via Bonaire	
0230	15495	Radio Kuwait	AA
0230	11675	Radio Kuwait	AA
0230	11585	Kol Israel	HH
0230	11690	Radio Jordan	
0230	13640	Radio Telefis Eireann, Ireland, via Canada	
0230	9022	Voice of the Islamic Rep. of Iran	
0230	11735	All India Radio	HH
0230	10330	All India Radio	
0245	9525	Voice of Indonesia	II/EE
0250	4753	Radio Republik Indonesia, Makassar	II
0300	17675	Radio New Zealand Int'l	
0300	9590	Radio Norway	NN
0300	9675	NBC, Papua New Guinea	
0300	9405	Far East Broadcasting Co., Philippines	CC
0300	15170	Broadcasting Service of the Kingdom, Saudi Arabia	AA
0300	11840	Sakhalinsk Radio, Russia	RR
0300	9737	Radio Nacional, Paraguay	SS
0300	12105	Adventist World Radio via South Africa	FF
0300	15175	Radio Free Asia, USA, via Sri Lanka	unid
0300	15360	BBC, via Singapore	
0300	5020	Solomon Islands Broadcasting Corp.	
0300	17560	Broadcasting Service of the Kingdom, Saudi Arabia	AA
0330	15455.9	Radio Pakistan	
0330	6010	Radio Mil, Mexico	SS
0330	12080	Voice of America relay, Sao Tome	
0400	12060	Voice of Hope, via Madagascar	
0400	15275	Deutsche Welle, Germany, via Rwanda	GG
0400	11920	RTV Marocaine, Morocco	AA
0400	13665	Voice of Russia	
0400	9530	Magadan Radio, Russia	RR
0400	4775	Trans World Radio, Swaziland	
0400	21700	Radio Exterior de Espana, Spain	SS
0400	17870	Channel Africa, South Africa	FF
0400	9515	Radio Korea Int'l, South Korea	
0400	3320	South African Broadcasting Corp.	Afrikaans
0430	21725	Channel Africa, South Africa	
0430	11770	Radio Mexico Int'l	SS/EE
0445	15205	Voice of America, via Greece	

Scan Our Web Site

UTC	Freq.	Station/Country	Notes
0500	17765	Deutsche Welle, Germany, via Antigua	GG
0500	9480	Voice of Russia	
0500	4819	La Voz Evangelica, Honduras	SS
0500	4832	Radio Litoral, Honduras	SS
0500	11955	BBC, via Thailand	
0500	13695	Radio Thailand	
0500	12015	Radio France Int'l, via Gabon	FF
0500	12085	Radio Damascus, Syria	unid
0500	11660	Swiss Radio Int'l, via French Guiana	GG
0500	15475	Sri Lanka Broadcasting Corp.	
0530	15400	Radio Finland Int'l	
0600	11905	Sri Lanka Broadcasting Corp.	unid
0600	9495	Radio Sweden	
0600	17485	Radio Sweden	Swedish
0600	17550	Voice of Hope, via Germany	
0630	11955	Radio France Int'l, via Gabon	FF
0645	9400	Radio Bulgaria	
0700	9475	Radio Cairo, Egypt	
0745	11705	Radio Havana Cuba	USB
0800	13580	Radio Prague, Czech Republic	EE/Czech
0800	11845	BBC via Cyprus	RR
0800	21550	Voz Cristiana, Chile	SS
0800	5055	Faro del Caribe, Costa Rica	SS
0830	5953.9	Radio Casino, Costa Rica	SS
0830	7280	Voice of the Strait, China	CC
0900	9645	Radio Nacional, Colombia	SS
0900	11630	China National Radio (CPBS)	CC
0900	9625	CBC Northern Service, Canada	
0900	17720	China Radio Int'l	SS
0930	11700	Radio Bulgaria	
0930	15345	Radiodif. Argentina al Exterior	SS
1000	15565	Radio Vlaanderen Int'l, Belgium, via Bonaire	
1000	15375	Voz Cristiana, Chile	SS
1000	11915	Radio Gaucha, Brazil	PP
1000	4835	VL8A, Australia	
1030	6020	Radio Australia	
1030	21740	Radio Australia	
1030	17830	BBC, via Ascension Is.	
1030	9965	Voice of Armenia	SS
1100	11954	Radio Nacional Angola	PP
1100	6090	Caribbean Beacon, Anguilla	
1130	3260	United Patriot Radio, Kentucky (Cland/Pirate)	
1130	21455	HCJB, Ecuador	
1130	13800	Radio Denmark, via Norway	DD
1200	17670	Radio Finland	
1200	6249.4	Radio Nacional, Equatorial Guinea	SS
1200	11765	KNMLS, Alaska	
1200	15185	Radio Africa, Equatorial Guinea	
1200	7385	Radio Prague, Czech Republic	
1230	5025	Radio Rebelde, Cuba	SS
1230	9445	Voice of Turkey	TT
1230	4716.7	Radio Yura, Bolivia	SS
1230	7160	Radio Tirana, Albania	
1230	6995	V. of People of Kurdistan (clandestine)	Kurdish
1245	4760	ELWA, Liberia	
1300	4783	RTV Malienne, Mali	FF
1300	4800	Radio Lesotho	
1300	4840	Radio Interoceanica, Ecuador	SS
1300	4990.9	Radio Apinte, Surinam	vern.
1300	5019.7	Ecos del Atrato, Colombia	SS
1300	5020	La Voix du Sahel, Niger	FF
1330	5047	Radio Lome, Togo	FF
1330	5956.4	Carocol Villavicencio, Colombia	SS
1330	6040	Radio Canada Int'l	
1330	6180	Radio Nacional Amazonia, Brazil	PP
1330	6937	CNR, Yunnan, China	vern
1330	7215	Radio Tashkent, Uzbekistan	
1330	7230	Radio Slovakia Int'l	
1400	9385	Radio Ukraine Int'l	Ukranian
1400	9605	Vatican Radio	
1400	9615	Radio Cultural, Brazil	PP
1400	9910	All India Radio	
1430	11640	Far East Bc. Assn., Seychelles Is.	Farsi
1500	11800	Voice of the Mediterranean, via Italy	Sun.
1530	11820	Radio Polonia, Poland	
1600	11840	HCJB, Ecuador	
1600	12579	Armed Forces Network, Diego Garcia	USB
1600	13760	Voice of Korea, North Korea	
1600	15100.9	Radio Pakistan	Urdu
1600	15160	Radio Algiers Int'l, Algeria	
1600	17570	RTBF, Belgium, via Germany	
1600	17820	Adventist World Radio, Italy	
1630	4770	Radio Nigeria	
1700	4825	Radio Cancao Nova, Brazil	PP
1700	4885	Radio Clube do Para, Brazil	PP
1700	4915	Ghana Broadcasting Corp.	
1800	5100	Radio Liberia Int'l	
1830	5985	Radio Vlaanderen Int'l, Belgium	
1845	6155	Radio Austria Int'l, via Canada	
1900	7270	Radio Polonia, Poland	
1900	9490	Voice of Russia	
1900	9540	Radio Tirana, Albania	
1930	9610	Central Broadcasting System, Taiwan	
2000	9615	Radio Ukraine Int'l	Ukranian
2000	9645	Radio Bandeirantes, Brazil	PP
2000	9805	Radio Marti, USA	SS
2000	9930	Radio Makedonias, Greece	Greek
2000	10942	Armed Forces Network, USA, via Italy	USB
2030	11640	African Beacon, USA, via South Africa	
2100	11660	Adventist World Radio/KSDA, Guam	
2200	11735	Radio Tanzania, Zanzibar	Swahili
2200	11820	Qatar Broadcasting Service	AA
2200	13765	Vatican Radio	
2230	15785	Galei Zahel, Israel	HH
2230	17505	Radio Sweden	
2230	17625	Wales Radio International, UK, via England	
2230	17630	Africa Number One, Gabon	FF
2230	17690	Voice of Turkey	
2245	7185	Radio Bangladesh	
2300	7185	Radio Sonder Grense, South Africa	Afrikaans
2300	21490	United Nations Radio, USA, via South Africa	FF, M-F
2300	17775	Christian Voice, Australia	
2315	6025	R. Amanacer Int'l, Dominican Rep.	SS
2330	9570	Radio Budapest, Hungary	
2330	15405	Democratic Voice of Burma (cland) via Germany	Burmese

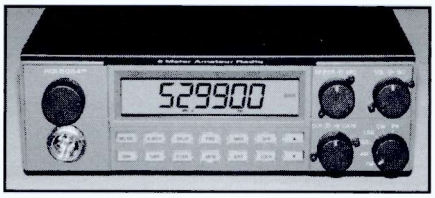
power up:
radios & high-tech gear

by Harold Ort and R.L. Slattery

review of new, interesting and useful products

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), a ±2.5kHz 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.



Ranger's new 6-meter RCI-5054DX amateur transceiver.

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 ó great for increasing repeater activity on 6 meters ó 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.

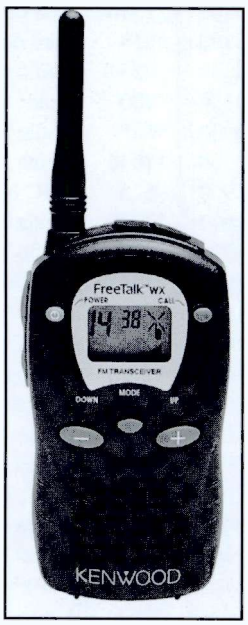
New Kenwood "FreeTalk ™ WX" Two-Way FRS Radio

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 canít 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.



Kenwood's new FreeTalk WX transceiver retails for $84.95.

To conserve power, the FreeTalk WX has a battery saver function that switches the receiver on and off at predetermined 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.

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 web site 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 CI5 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.

The new Optoelectronics DS-1000 is the only frequency counter in the world capable of locking onto digital modulations.

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, TA100S 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 *Pop'Comm*!

broadcast technology

terrestrial AM, FM–and satellite radio news

by Bruce Conti <baconti@aol.com>

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 (PAC™) 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 740 AM WJIB 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 Louisiville, 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, Louisiville, KY 40233-7840. (Hernandez, LA)

910 WSUI Iowa City, Iowa, QSL card, verification letter, and schedule in 12 days after follow up #3, signed by Dennis Reese, PD. Address: Broadcasting Services, 710 Clinton Street Bldg, Iowa City, IA 52242-1030. (Procop, OH)

940 KXTK Des Moines, Iowa, verification letter and coverage map in 31 days after follow up #2, signed by Cal Bierman, Production Director. Address: 1416 Locust St, Des Moines, IA 50309. (Procop, OH)

990 CBW Winnipeg, Manitoba, QSL card in eight days after E-mail report to <communications@winnipeg.cbc.ca>, signed by J. Campbell. (Procop, OH)

1062 TRT Diyarbakir, Turkey, received an E-mail reply to an air mail reception report, signed Reshide Morali, presenter and writer for Voice of Turkey English language programs including the DX Corner and Letterbox. She says 1062 is received in Finland, Germany, and Spain, but this was the first notification of 1062 being heard in New Hampshire. E-mail address: ankayra@yahoo.com. No QSL yet. (Conti, NH)

1070 CBA Moncton, New Brunswick, QSL card, letter, magnet, small sticker, frequency guide, and business card in 53 days, signed by Carole Saucier, Audience Relations. Address: P.O. Box 950, Moncton NB E1C 8N8. (Procop, OH)

1070 KNX Los Angeles, California, QSL card in 31 days, signed by Larry Wichman, Technical Operations. Address: 6121 Sunset Blvd., Hollywood, CA 90028. (Procop, OH)

1200 WOAI San Antonio, Texas, a letter of confirmation, program schedule, and daytime and nighttime coverage maps in five days, signed by Kimberly Schoellman, Executive Assistant. Address: 6222 NW Interstate Ten, San Antonio, TX 78201. (Hernandez, LA)

1210 KRSV Afton, Wyoming, prepared card back in 20 days after trying to QSL this for a long time, signed Jenny Hansen. Address: 444 N. Washington St, Box 1210, Afton, WY 83110. (Martin, OR)

1380 KTKZ Sacramento, California, a very nice folding QSL card in eight days, after trying to QSL this for about *four* years, signed Dave Fortenberry — CE. Address: 1425 River Park Drive, Sacramento, CA 95815. (Martin, OR)

91.1 WSVH Savannah, Georgia, verification letter, business card, and two pens in 10 days, signed by Deborah Weppelman, Station Manager (WSVH/WWIO-FM). Address: 12 Ocean Science Circle, Savannah, GA 31411. (Procop, OH)

94.5 WMXL Lexington, Kentucky, verification letter in 19 days, signed by Girard M. Westerberg, Engineering Manager, Clear Channel Communications of Lexington, (WMXL-FM/WBUL-FM/WLKT-FM/WKQQ-FM/WMKJ-FM/WLAP-AM/WTKT-AM). Address: 2601 Nicholasville Rd., Lexington, KY 40503. (Procop, OH)

99.9 WTHI Terre Haute, Indiana, verification letter and QSL certificate in 10 days after follow up #2, signed by Barry Kent, Operations Manager (WTHI-FM/WWVR). Address: P.O. Box

Call Letter Changes

New Call	Location	Freq.	Old Call
WWRC	Washington, DC	1260	WGAY
WTNT	Bethesda, MD	570	WWRC
WHMQ	Greenfield, MA	1240	WHAI
KTTF	Springfield, MO	1260	KTTS
WDBF	Jupiter, FL	1000	WDBE
KTRA	Dallas, TX	1190	KJOI
WDGM	Greensboro, AL	99.1	New
KNKK	Needles, CA	107.1	New
KTSE-FM	Patterson, CA	97.1	KZMS
KOGO-FM	Temecula, CA	94.5	KTMK
WZEB	Ocean View, DE	101.7	WRBG
WIHT	Washington, DC	99.5	WJMO-FM
WFCT	Apalachicola, FL	105.5	WXGJ
WTNT-FM	Tallahassee, FL	94.9	WTNT
WCEZ	Carthage, IL	93.9	New
WYBA	Crete, IL	102.3	WVJM
WVJM	Hammond, IN	92.3	WYBA
WLLK	Burnside, KY	93.9	WWZB
WZAQ	Louisa, KY	92.3	WSAC
WKII-FM	Somerset, KY	102.3	WLLK
KXRR	Columbia, LA	103.1	KYEA
WBQI	Bar Harbor, ME	107.7	WMDI
WBYA	Islesboro, ME	105.5	WAYD
KXMI	Kennett, MO	98.9	KTMO
KTMO	New Madrid, MO	106.5	KMIS-FM
KSPW	Sparta, MO	96.5	KMXH
KBZU	Albuquerque, NM	96.3	KHFM
KTRA-FM	Farmington, NM	102.1	KTRA
KELP-FM	Mesquite, NM	89.3	New
KHFM	Sante Fe, NM	95.5	KMMG
WXZO	Willsboro, NY	96.7	WXPS
WRBP	Hubbard, OH	101.9	WBTJ
WHZT	Seneca, SC	98.1	WPEK
KXCS	Cameron, TX	103.9	KHLR
KLIS	Frankston, TX	96.7	KOYE
KMFR	Hondo, TX	98.5	KRBH
KVWG-FM	Pearsall, TX	95.3	KMFR
WRSY	Marlboro, VT	101.5	WSSH
WSSH	White River Jct., VT	95.3	WRSY
WVBE	Lynchburg, VA	100.1	WLYK
KRYV	Powell, WY	104.1	New
KHWC	Thermopolis, WY	98.3	New

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

Broadcast Loggings

Welcome to first-time reporter Phil Stremple 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 loggings from various Massachusetts coastal locations. Mark catches his DX signals with a Drake R8A 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)

1180 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. (Stremple, 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 0358 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 WSAI. (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.

The BBC plans to drop all World Service shortwave broadcasts to Australia, Canada, and the United States beginning this summer. World Service programs will only be available on local AM and FM stations, via the Internet, or shortwave transmissions beamed to other regions. Some NPR stations carry BBC programs in the U.S., Check your local listings. Thanks to Mark Connelly, Don Hallenbeck, Scott Hernandez, Paul McDonough, Patrick Martin, Michael Procop, and Phil Stremple. 73 and good DX!

plane sense

your link to global aviation communications monitoring

By Bill Hoefer <flacap388@prodigy.net>

Hot Frequencies You Can Monitor Almost Anywhere!

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 wind 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.

100 Selected Aircraft Frequencies

Frequency	Remarks
118.425	Blue Angels Control
120.450	Thunderbirds
121.5	Aircraft emergency
121.90	Blue Angels Ground Control
121.950	NASA aircraft
122-122.9250	Pilot/weather info
122.725	Private airports
122.750	Air-to-air government
122.800	UNICOM
122.900	Training
122.950	Used at UNICOM airports
122.975	UNICOM
123.025	Helicopters
123.050	Helicopters
123.100	CAP SAR
123.40	Blue Angels & Golden Knights
123.425	Golden Knights
123.450	Pilot chit-chat
123.475	Golden Knights
123.600	Used at controlled airports
126.200	Military tower common frequency
128.825-132.0	Enroute frequencies
132.0	Goodyear Blimp
134.100	Military tower common frequency
140.4	Thunderbirds
141.850	Thunderbirds
142.0	Blue Angels
142.025	Blue Angels
142.350	Federal Emergency Management (FEMA)
142.375	FEMA
142.425	FEMA
142.975	FEMA
143.0	Blue Angels
143.60	Blue Angels
148.150	CAP
149.925	CAP
155.340	Common medical frequency with enroute patient info
156.300	SAR
162.687	Air Force One
171.850	Air Force One uplinks
228.70	Military common, East Coast U.S.
235.250	Thunderbirds
235.500	Blue Angels air-to-air
236.600	Thunderbirds & USAF common tower frequency
236.550	Thunderbirds
237.9	CG SAR
238.1	Military aircraft

Frequency	Remarks
239.80	USAF weather
241.0	National Guard
243.0	Military air emergency
245.90	Blue Angels
246.40	Blue Angels
249.8	Military air - high-altitude fighters
250.80	Blue Angels
250.85	Thunderbirds
251.0	Blue Angels
251.60	Blue Angels
251.80	Blue Angels
252.10	Mid-air refueling
254.550	Blue Angels
255.0	Military common, East Coast U.S.
257.70	High-altitude mil and civilian
257.80	Military tower common frequency
259.70	Shuttle
263.450	Blue Angels
264.550	Blue Angels
264.80	Shuttle chase aircraft
265.80	Presidential helos
273.50	Thunderbirds
275.350	Thunderbirds & Blue Angels
282.8	USCG Rescue
283.50	Thunderbirds air-to-air
285.80	Navy air training
294.70	Thunderbirds
295.70	Thunderbirds
299.50	USAF
300.60	Navy fighters
302.15	Thunderbirds & Blue Angels
305.55	Air Force One
305.90	Blue Angels
307.70	Blue Angels
311.0	Air-to-air refueling
319.10	High-altitude air enroute
322.30	Thunderbirds
322.60	Thunderbirds air-to-air
327.0	NASA above 60,000 feet
333.30	Military common
333.55	Military common
336.80	Air Force One
351.0	Military common
357.0	USAF
360.40	Blue Angels
364.20	Military common
381.70	USCG
384.10	NORAD
384.50	USAF
395.10	Blue Angels air-to-air
395.50	Blue Angels air-to-air
407.850	Air Force One uplink (not used recently)
418.500	DEA

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

AL
Huntsville International - Carl T. Jones Field (HSV)
CD 269.525

AK
Holy Cross (HCA)
AWOS-3 118.325
Kalskag (KLG)
AWOS-3 119.025
Russian Mission (RSH)
AWOS-3 118.375

AZ
Gila Bend - Gila Bend AF Auxiliary (GBN)
Luke Apch 125.45/263.125
Glendale - Luke AFB (LUF)
Apch 282.25
CD 273.475
Glendale - Glendale Municipal (GEU)
Luke Apch 120.5/282.25
Goodyear - Phoenix Goodyear (GYR)
Luke Apch 125.45

AR
Fort Smith Regional (I-GKV)
ILS 111.3
Jacksonville - Little Rock AFB (LRF)
CD 253.50

CA
Blythe (BLH)
ASOS 120.175
Daggett - Barstow-Dagett (DAG)
ASOS 132.175

FL
Cocoa Beach - Cape Canaveral AFS Skid Strip (XMR)
ASOS 119.325
Jacksonville - Cecil Field (VQQ)
ATIS 125.175
Mary Esther - Hurlburt Field (HRT)
GC 139.6
Panama City - Tyndall AFB (PAM)
Apch 119.l/125.2/338.35/379.3

GA
Thomson - McDuffie County Regional (AAQ)
ILS Localizer 110.75
NDB (AA) 341.0
Valdosta Regional (VLD)
ASOS 126.225

HI
Honolulu International (HNL)
Hickam Ramp Advisory 133.6

IL
Paris - Edgar County (PRG)
AWOS-3 124.175

KY
Fort Knox - Godman AAF (FTK)
CTAF 126.8

LA
New Orleans Downtown (7N0)
AWOS-3 133.1
Shreveport Downtown (DTN)
LC 284.6

MD
Baltimore - Baltimore/Washington International (BWI)
Apch 290.475
Baltimore - Martin State (MTN)
Edgewood Arsenal - Weide AHP (EDG)
Stevensville - Bay Bridge (W29)
Baltimore Apch 282.275

MI
Houton Lake - Roscommon County (HTL)
Lansing FSS RCO 122.35

MN
Park Rapids Municipal (PKD)
ASOS 110.6

NH
Manchester (MHT)
LC 125.825/269.4
Portsmouth - Pease International Tradeport (PSM)
Apch 125.825/269.4
Rochester - Skyhaven (DAW)
Apch 269.4

NM
Los Alamos (LAM)
AWOS-3 124.175

OH
Cleveland AARTCC (ZOB)
Moon Township PA Low 254.275
Warren PA Low 126.725
Dayton - Green County/Lewis A. Jackson Regional (119)
AWOS-3 118.525

PR
San Juan - Fernando Luis Ribas Dominicci (SIG)
ANG Ops 139.1

SC
Pickens - Pickens County (LQK)
AWOS-3 120.0

SD
Philip (PHP)
ASOS 118.375

TN
Clarksville - Outlaw Field (CKV)
ASOS 134.575

TX
Fort Worth - Fort Worth NAS/Carswell Field (TCB)
ILS 108.7

Fort Worth - Spinks (FWS)
GC 119.475
LC 124.625
Junction - Kimble County (JCT)
ASOS 119.275

WA
Hoquiam - Bowerman (HGM)
ASOS 135.775

Deleted

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
Chino (CNO)
Corona Municipal (AJO)
Ontario (ONT)
Riverside - March ARB (RIV)
Riverside Municipal (RAL)
San Bernardino International (SBD)
SOCAL Apch was 295.7, now 377.125
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 (RNM)
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 343.775
LC/GC/CD was 388.0, now 317.8

FL
Homestead - Dade County/Homestead Regional (HST)
ATIS was 269.8, now 269.9
Panama City - Tyndall AFB (PAM)
LC was 383.1, now 384.4

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 (0W3)
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 353.85, now 291.65
Warren PA Sector was 126.725, now 134.475
Wayland NY Sector was 377.05, 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 - Fauquier (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 351.2, now 321.0 and 311.0

pirate & alternative radio

free radio broadcasting

by Edward Teach

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 of P.O. Box 28413, Providence, RI 28413. Also aired some music from India. (Taylor, PA)

Voice of Captain Ron, 6951 USB heard at 0153 with mention of "Major Prick," E-mail address, ID and sign off at 0154. (Taylor, PA)

Psycho Radio, 6950 USB at 1545 with a special old time radio program including comedy and talk. (Taylor, PA)

Radio Three, 6950 USB at 0611 with ID and some talk. (Taylor, PA) 0230 with a parody song to the tune of "The Night Chicago Died"î and the announcer slamming WMFQ for saying that Radio Three does not QSL. (Jerry Coatsworth, Ontario)

WLIS, 6955 USB at 0634 with Jack Broggan giving an ID and mention of "North America's only interval station." Off at 0635. (Taylor, PA)

Radio Neptune, 6955.1 USB at 0304 with ID, "Where the Streets Have No Name," ID and address at P.O. Box 109, Blue Ridge Summit, PA 17214. The operator mentioned that the station is received well, followed by what might have been a fake phone call, asked for three stamps with reports. Op said this was a "Special CBC broadcast" and mentioned "Radio Neptune Universal Service," then a skit of some kind. (Taylor, PA)

Take It Easy Radio, 6950 USB at 0201 with thanks to listeners, "You Can't Hide Your Lyin' Eyes," ID, 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 at 0323. (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)

For a month during the summer of 1997 the motor vessel Yeoman Rose, anchored off the coast of England, commemorated the 30th anniversary of the closing of commercial pirate Wonderful Radio London. (Thanks to R.C. Watts, KY)

global information guide

listening to what your world says every day

by Gerry Dexter

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 ëround 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, Giacomeettistrasse 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!

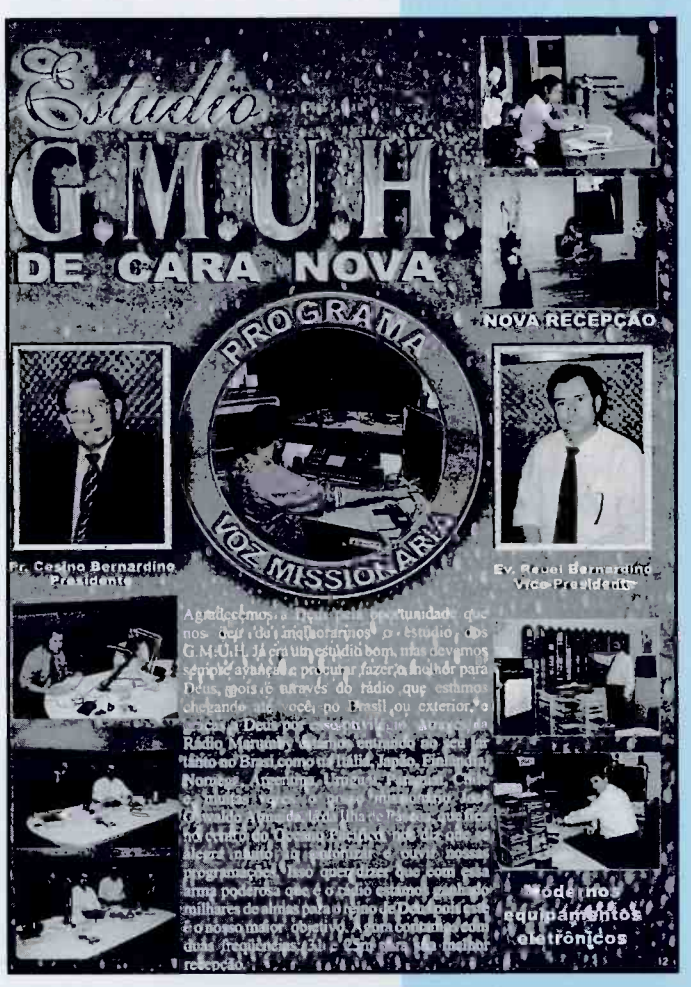
On a brighter note, **Radio France International** has increased its hours in English, adding 0400-0430 on **15155**, 0500-0530 on **17800**, 0600-0630 on 17800 and **21620**, and 0700-0800 on **15605** (all Monday to Friday).

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.



Missionary group Gideões Missionàrios da Últma Hora airs programming on Brazilian broadcaster Radio Marumby (9665).

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.

This month's book winner is Rick Barton of Phoenix, Arizona. Rick wins a copy of Passport to World Band Radio, courtesy of CRB Research Books ñ The Radio and Electronics Hobby Bookstore. They have a fascinating catalog of books on shortwave and other aspects of the radio hobby. For a copy call them at (516) 543-9169, email at: sales@crbbooks.com, sales@crbbooks.com or write them at P.O. Box 56, Commack, NY 11725.

Remember, we're always in need of interesting things we can use as illustrations. That includes photos of you and your equipment, station pictures, spare QSL cards you've received, schedules, and station brochures or whatever.

Needless to say your reception logs are of utmost importance. We make every effort to use most, if not all, of the logs sent in, so don't be shy or feel that yours aren't good enough. They are! Just be sure to list your logs by country and leave enough space between them so we can navigate scissors easily. Logs are cut into strips and then sorted by country, so be sure to use only one side of the paper, otherwise some of your logs won't survive the cut, so to speak! Also include your last name and state abbreviation after each logging. As always, thanks so much for your continued interest and participation in your column.

Here are this month's logs. All times are in UTC, which is five hours ahead of EST, i.e.0000 UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST and 4 p.m. PST. Double capital letters are language abbreviations (FF = French, AA = Arabic, SS = Spanish, etc.). If no language abbreviation is included the broadcast is assumed to have been in English.

ALASKA— KNLS, **11765** at 0832 with talk about the railroad and U.S. life, DX definition of a reception report feature, fanfare, IDs and off at 0859. (D'Angelo, PA)

ALBANIA— Radio Tirana, **6115** at 0350 with Albanian music. (Linonis, PA) **7160** at 0242 with 'You are listening to Radio Tirana.' (Brossell, WI)

ANGOLA— Radio Nacional, **4950** in PP at 0200 with continuous music, woman announcer at 0208 with program announcements, then back to music. (Montgomery, PA)

ANGUILLA— Caribbean Beacon, **6090** with Gene Scott at 0044. (Newbury, NE)

ARGENTINA— Radio Mitre, **20276 USB** at 0011 with SS talk about Argentine politics. Also a commercial for Volkswagen and ID by woman at 0124. This is a feeder. (Montgomery, PA)

Radio Nacional, **15345** in SS at 0154. (Miller, WA)

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

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

AUSTRALIA— Radio Australia, **6020** in Pidgin at 0920. (Barton, AZ) 1200 with news. (Northrup, MO) 1330 with feature on Irish political themes in music. (Newbury, NE) **17795//21740** at 0030. (MacKenzie, CA)

VL8A, 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. The jingle is that of Christian Voice and the broadcast and announcer the same as heard previously on Christian Voice from Zambia. (Montgomery, PA)

BELGIUM— Radio Vlaanderen Int'l, (via Bonaire) **15565** 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, **//7400**. (Newbury, NE) **11700** 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 2350 with contemporary Christian music. (Linonis, PA) **21550** in SS at 0006 and 1840. (Jeffrey, NY)

CHINA— China Radio Int'l, Xi'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 Lingxhi at 2145 in CC. A regular lately. (Linonis, PA) CPBS/CNR Xi'an, **5163** in CC at 1412. (Foss, Philippines)

Voice of Pujiang, **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 splatter from WYFR on **5950**. (Alexander, PA)

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

Abbreviations Used in Listening Post

AA	Arabic
BC	Broadcasting
CC	Chinese
EE	English
FF	French
GG	German
ID	Identification
IS	Interval Signal
JJ	Japanese
mx	Music
NA	North America
nx	News
OM	Male
pgm	Program
PP	Portuguese
RR	Russian
rx	Religion/ious
SA	South America/n
SS	Spanish
UTC	Coordinated Universal Time (ex-GMT)
v	Frequency varies
w/	With
WX	Weather
YL	Female
//	Parallel Frequencies

RFPI on **15050** at 0240. (Brossell, WI)

CUBA— Radio Rebelde, **5005** (rather than usual 5025) with music and talks in SS at 0452 until carrier cut at 0501. Then back to 5025. (D'Angelo, PA)

Radio Havana Cuba, **6000** in SS at 1155. (Northrup, MO) EE at 0138. **9820** with DX show at 0152. (Newbury, NE) **11705 USB** at 0218. (Brossell, WI)

CYPRUS— BBC relay, **11845** at 0230 with ID, news in RR. (Brossell, WI) **21470** at 1825. (Jeffery, NY)

CZECH REPUBLIC— Radio Prague, **7385//7345//9435** at 0402 with news and weather. (Newbury, NE) **13580** at 2330 with IDs in EE and Czech and then into Czech. (Linonis, PA)

DENMARK— Radio Denmark, via Norway, **13800** at 2345 in DD with news, comment, financial report. (Linonis, PA)

ECUADOR— La Voz del Napo, **3280** at 0901 sign on. Lively vocals, alternating with man giving ID and sign-on announcements, then a long talk. (D'Angelo, PA)

Radio Interoceanica, **4840** at 0835 with religious talk in SS, choir vocals, ID at 0859. (D'Angelo, PA)

HCJB, **9745** at 0411. (Newbury, NE) **17660** at 0027 with new broadcast to India. (Jeffery, NY) **21455** at 0035. (MacKenzie, CA)

EGYPT— Radio Cairo, **9475** at 0200 with time pips, ID, news. (Burrow, WA) **9900** at 0230 with AA talks, music. (Brossell, WI) 2315 with news in EE. (Weronka, NC)

ENGLAND— BBC, **15325** (via Delano, CA, gld) in SS at 1320. **17640** at 1325. (Northrup, MO)

EQUATORIAL GUINEA— Radio Nacional, Malabo, **6249.4** in SS at 2230 with opera, male announcer at 2251, national anthem at 2256. The record skipped for at least two minutes! (Montgomery, PA)

Radio Africa, Bata, **15185** with EE news at 0408. (Miller, WA) (Not listed for this time, gld)

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) 17765 (via Antigua, gld) at 1330 in GG. (Northrup, MO) **21780** at 1615. (Barton, AZ)

Voice of Hope via Julich, **17550** at 1335 with religious program. (Northrup, MO)

GREECE — Voice of America relay, **15205** heard at 0503. (Jeffery, NY)

GUATEMALA— Radio Verdad, **4052.5**, man in SS but the modulation was so poor there was no way to pull out an ID. Soft music at 0042, then back to talks. Short music selections, man said thanks for listening, tentative ID and national anthem (which must be on tape as they were having trouble with the speed). Off at 0104. (Montgomery, PA) 0245 with SS religious music and talk. Off with long choral anthem which lasted about four minutes. Not usually this strong. (Alexander, PA)

GUINEA— RTV Guineenne, **7125** at 2342 with high-life vocals to 2359 sign-off ID, announcements and orchestral anthem at 0001. (D'Angelo, PA)

GUYANA— Guyana Broadcasting Corp., **3291.4** at 0825 with Hindi vocals, local EE religious program, more Hindi vocals at 0931. Heard another time at 0320 to past 0800 with continuous BBC programming. (Alexander, PA)

HAWAII— KWHR, **17510** at 0021 with religious programming. (Jeffery, NY) 0318 with Christian music, ID 0330. (Brossell, WI)

HONDURAS— Radio Misiones Internacionales, **5010** from 0131 with EE sermon, 'Radio Mi' IDs, SS announcements and SS religious programming, US-produced religious program at 0414. (Alexander, PA) 0424. Man with EE and program from IMF World Missions to 0431 talk in SS by woman, ID and sign-off. (D'Angelo, PA)

Radio Litoral, **4832** in SS at 0015 with nice music, ID at 0024 and 0029, 0030. (Montgomery, PA)

La Voz Evangelica, **4819** (varying to **4822**) with SS religious program at 0530 to 0600. (Linonis, PA)

INDIA— All India Radio, **10330** at 1558. (Miller, WA) **11735** in presumed Hindi at 0230. (Brossell, WI) **13605** at 2300 with news in EE. (Linonis, PA) **13710** at 1355. (Foss, Philippines)

INDONESIA— Voice of Indonesia, **9525** at 1208 woman with announcements in II at 1228, music at 1231. Man at 1236 with 'This is the Voice of Indonesia' and email address, female with long talks and interludes of music. (Montgomery, PA)

Radio Republik Indonesia, Fak-Fak, **4789** at 1340 in II with domestic music. (Foss, Philippines)

RRI Palangkaraya, **3325** at 1232 with theme song and news in II. (Miller, WA)

RRI Ternate, **3345** at 1234 with news in II. (Miller, WA)

RRI Makassar, **4753** in II with music at 1244. (Miller, WA)

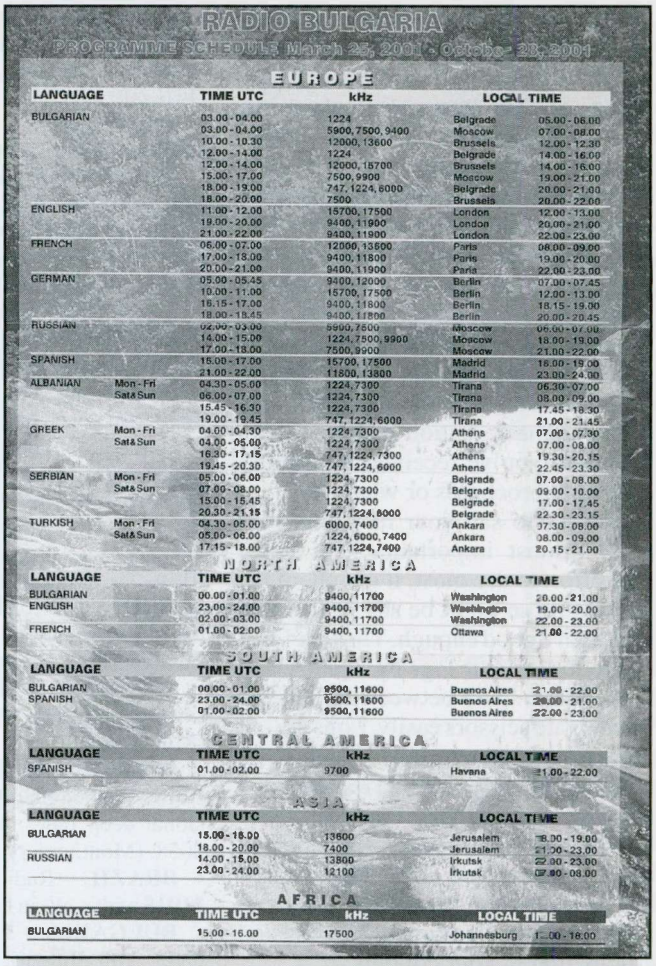
RRI Jambi, **4925** with II music at 1413. (Miller, WA)

IRAN— Voice of the Islamic Republic of Iran, **9022** at 0037 with EE news. (Newbury, NE)

IRELAND— Radio Telefis Eireann, 13640 via Canada at 1850 with news. (Weronka, NC)

ISRAEL— Kol Israel, **9590** in HH at 0238 with local commercials. (Miller, WA) **11585** at 2250 in HH with news and call-in show. (Linonis, PA) **17545** at 1652 in HH with IS, EE ID at 1700. (Newbury, NE)

ITALY— RAI Int'l, **11800** at 0215 with music, commentary in II. (Miller, WA) 0220 with talks in II, ID at 0230. (Brossell, WI) 2211 in II. (Newbury, NE)



RADIO BULGARIA

PROGRAMME SCHEDULE March 25, 2001 - October 28, 2001

EUROPE

LANGUAGE		TIME UTC	kHz	LOCAL TIME	
BULGARIAN		03.00 - 04.00	1224	Belgrade	05.00 - 06.00
		03.00 - 04.00	5900, 7500, 9400	Moscow	07.00 - 08.00
		10.00 - 10.30	12000, 13600	Brussels	12.00 - 12.30
		12.00 - 14.00	1224	Belgrade	14.00 - 16.00
		12.00 - 14.00	12000, 15700	Brussels	14.00 - 16.00
		15.00 - 17.00	7500, 9900	Moscow	19.00 - 21.00
		18.00 - 19.00	747, 1224, 6000	Belgrade	20.00 - 21.00
		18.00 - 20.00	7500	Brussels	20.00 - 22.00
ENGLISH		11.00 - 12.00	15700, 17500	London	12.00 - 13.00
		19.00 - 20.00	9400, 11900	London	20.00 - 21.00
		21.00 - 22.00	9400, 11900	London	22.00 - 23.00
FRENCH		06.00 - 07.00	12000, 13600	Paris	08.00 - 09.00
		17.00 - 18.00	9400, 11800	Paris	19.00 - 20.00
		20.00 - 21.00	9400, 11900	Paris	22.00 - 23.00
GERMAN		05.00 - 05.45	9400, 12000	Berlin	07.00 - 07.45
		10.00 - 11.00	15700, 17500	Berlin	12.00 - 13.00
		16.15 - 17.00	9400, 11800	Berlin	18.15 - 19.00
		18.00 - 18.45	9400, 11800	Berlin	20.00 - 20.45
RUSSIAN		02.00 - 03.00	5900, 7500	Moscow	06.00 - 07.00
		14.00 - 15.00	1224, 7500, 9900	Moscow	18.00 - 19.00
		17.00 - 18.00	7500, 9900	Moscow	21.00 - 22.00
SPANISH		15.00 - 17.00	15700, 17500	Madrid	18.00 - 19.00
		21.00 - 22.00	11800, 13800	Madrid	23.00 - 24.00
ALBANIAN	Mon - Fri	04.30 - 05.00	1224, 7300	Tirana	06.30 - 07.00
	Sat & Sun	06.00 - 07.00	1224, 7300	Tirana	08.00 - 09.00
		15.45 - 16.30	1224, 7300	Tirana	17.45 - 18.30
		19.00 - 19.45	747, 1224, 6000	Tirana	21.00 - 21.45
GREEK	Mon - Fri	04.00 - 04.30	1224, 7300	Athens	07.00 - 07.30
	Sat & Sun	04.00 - 05.00	1224, 7300	Athens	07.00 - 08.00
		16.30 - 17.15	747, 1224, 7300	Athens	19.30 - 20.15
		19.45 - 20.30	747, 1224, 6000	Athens	22.45 - 23.30
SERBIAN	Mon - Fri	05.00 - 06.00	1224, 7300	Belgrade	07.00 - 08.00
	Sat & Sun	07.00 - 08.00	1224, 7300	Belgrade	09.00 - 10.00
		15.00 - 15.45	1224, 7300	Belgrade	17.00 - 17.45
		20.30 - 21.15	747, 1224, 6000	Belgrade	22.30 - 23.15
TURKISH	Mon - Fri	04.30 - 05.00	6000, 7400	Ankara	07.30 - 08.00
	Sat & Sun	05.00 - 06.00	1224, 6000, 7400	Ankara	08.00 - 09.00
		17.15 - 18.00	747, 1224, 7400	Ankara	20.15 - 21.00

NORTH AMERICA

LANGUAGE	TIME UTC	kHz	LOCAL TIME	
BULGARIAN	00.00 - 01.00	9400, 11700	Washington	20.00 - 21.00
ENGLISH	23.00 - 24.00	9400, 11700	Washington	19.00 - 20.00
	02.00 - 03.00	9400, 11700	Washington	22.00 - 23.00
FRENCH	01.00 - 02.00	9400, 11700	Ottawa	21.00 - 22.00

SOUTH AMERICA

LANGUAGE	TIME UTC	kHz	LOCAL TIME	
BULGARIAN	00.00 - 01.00	9500, 11600	Buenos Aires	21.00 - 22.00
SPANISH	23.00 - 24.00	9500, 11600	Buenos Aires	20.00 - 21.00
	01.00 - 02.00	9500, 11600	Buenos Aires	22.00 - 23.00

CENTRAL AMERICA

LANGUAGE	TIME UTC	kHz	LOCAL TIME	
SPANISH	01.00 - 02.00	9700	Havana	21.00 - 22.00

ASIA

LANGUAGE	TIME UTC	kHz	LOCAL TIME	
BULGARIAN	15.00 - 18.00	13600	Jerusalem	18.00 - 19.00
	18.00 - 20.00	7400	Jerusalem	21.00 - 23.00
RUSSIAN	14.00 - 15.00	13800	Irkutsk	22.00 - 23.00
	23.00 - 24.00	12100	Irkutsk	07.00 - 08.00

AFRICA

LANGUAGE	TIME UTC	kHz	LOCAL TIME	
BULGARIAN	15.00 - 16.00	17500	Johannesburg	17.00 - 18.00

Looking for Radio Bulgaria? Here's where to look, according to their newly designed, multi-colored schedule brochure.

JAPAN— Radio Japan/NHK, **9505** at 1400 with news items. (Newbury, NE)

JORDAN— Radio Jordan, **11690** at 1538 with Mid-East type music, time pips 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)

These antenna towers are at Radio Australia's Shepparton site.

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. (Northrup, MO)

OMAN— Radio Sultanate 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 Pilipinas, **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. (Linonis, PA)

PUERTO RICO— AFRTS/AFN, **6458.5 USB** 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 mailbag program. (Linonis, 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. (Linonis, 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) **17560** 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)

SRI LANKA— Sri Lanka Broadcasting Corp., **11905** at 0041 in unid. language. (Miller, WA) **15475** (15425? gld) at 0336 with music, man announcer. Barely audible. (Jeffery, NY)

Deutsche Welle relay, **17860** in GG at 0040. (MacKenzie, CA) Here and **//17875** in GG at 0025. (Jeffery, NY)

SWAZILAND— Trans World Radio, **4775** with IS at 0358. (Barton, AZ)

SWEDEN— Radio Sweden, **9495** at 0145 with EE features. (Newbury, NE)

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)

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)

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 conversation. (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)

UAE Radio, Abu Dhabi, **21735** in AA at 1220. (Northrup, MO)

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)

On your computer!

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

by Eric Force, <eric@dobe.com>

our cyber sleuth checks out online resources and keeps you interactive!

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:

Remember: ALL online resources and contacts appearing monthly in Pop'Comm are available at the Quick Links site: http://www.dobe.com/ql/

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!

VINTAGE RADIO

The Vintage Radio Emporium by David Southworth

http://www.radio.mcmail.com/

From England, The Antique Radio and Old Wireless Resource

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 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.

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!

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!

technology showcase

new product performance analysis

by Ken Reiss, <armadillo@aol.com>

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.

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.

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.

pPRO-89 Frequency Coverage

10M	29.0–29.7
Low	29.7–50
6M	50–54
Air	108–137
Govt.	137–144
2M	144–148
High	148–174
Govt.	406–420
70cm	420–450
UHF	470–512
Wide FM for TV Audio Ch.	14–20
800 low	851.0125–868.9875
33cm	902–928
900	935–940.9875

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 handheld 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! ■

ham discoveries

connecting as a radio amateur

by Kirk Kleinschmidt, NTØZ

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 storeowner who was showing off his wireless Internet installation prompted this month's topic. He was feeding a 15-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.

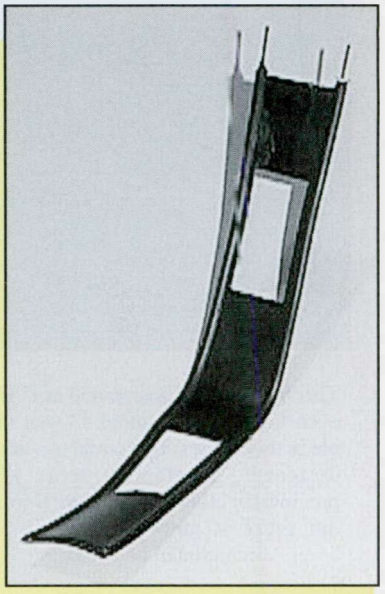
I pointed this out (he was a computer guy, not a radio guy) and helped him buy a used piece of 7/8-inch hardline from a nearby commercial vendor. At 2.5 GHz, the cable loss was now down to 1 dB. Disaster averted. So, how does the system work? I'll let you know in a future column. In the bandwidth-starved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



Need to work multiple amateur bands with a single wire antenna? Then your transmission line should look like this. Ladder line, available from most Amateur Radio stores, usually requires an antenna tuner, but it can improve your on-air performance dramatically.

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 manufacture — 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 beefier 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! ■

iWAVES

your guide to global internet media

BY Eric Force <eric@dobe.com>

The "Panic Broadcast"

"On October 30, 1938, a young Orson Welles and his newly formed Mercury Theater group, many of whom would go on to become Hollywood stars, broadcast their radio adaptation of H.G. Wells' 'War of the Worlds.' At 8 p.m. that Sunday evening, with programming interrupted with "news bulletins," (a first) an alarmed audience heard that Martians had begun an invasion of Earth in an out-of-the-way place called Grover's Mill, New Jersey. The world has never been the same.

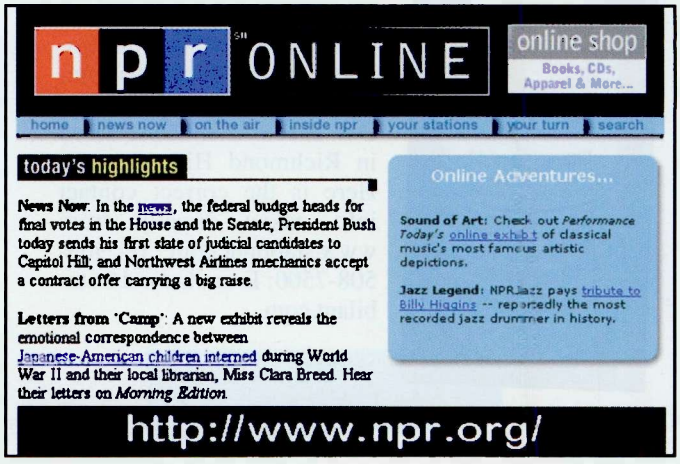
Relive the terror of October 30, 1938 here at the official War of the Worlds website.

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 the 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

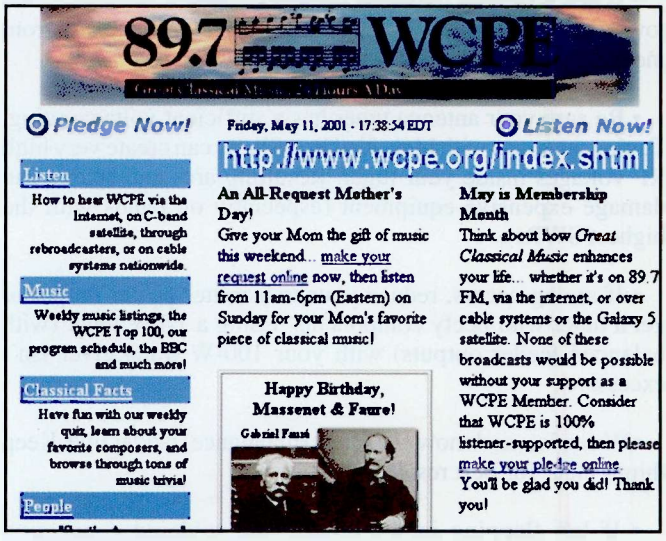
Renowned for its journalistic excellence and standard-setting news, information, and cultural programming, National Public Radio (NPR) serves a growing audience of over 16 million Americans each week via more than 644 public radio stations. NPR Online brings hourly newscasts, news features, commentaries, 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, Australia, 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/.



NPR: The "standard" for news, information, and cultural programming.

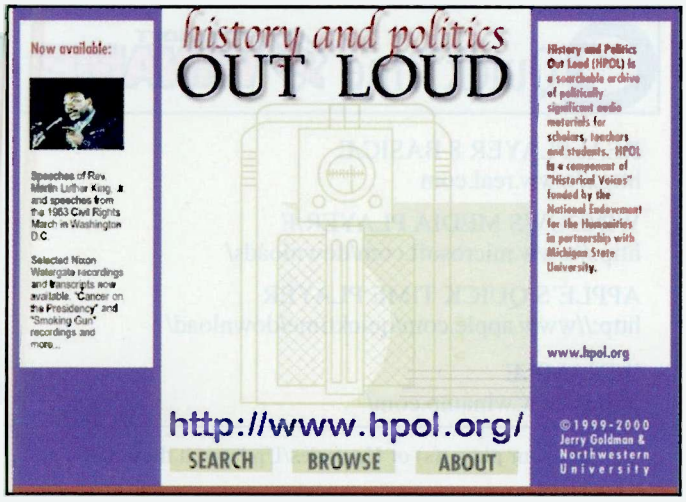
Classical Music!

WPCE — "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. WPCE also airs news from the BBC 10 times a day. "WPCE 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



SUPERB Classical music awaits you at WCPE FM 89.7.

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 sooth those jangled nerves. Bookmark and visit http://www.wcpe.org/index.shtml.



History and Politics Out Loud is an awesome repository of 20th Century American history and politics.

History And Politics Out Loud

History and Politics Out Loud (HPOL) is an awesome searchable multimedia database documenting and delivering authoritative audio relevant to American history and politics. It is a collection of invaluable audio materials, some available for the first time on the website, capturing significant political and historical events and personalities of the 20th century. The materials range from formal addresses delivered in public settings to private telephone conversations conducted from the innermost recesses of the White House. HPOL's aim is to provide an accessible source of audio information to enliven instruction and scholarship in history and politics and to enable easy access for all persons to the rich audio archives of American history and politics. The project is supported by a major grant from the National Endowment for the Humanities Teaching With Technology Program in collaboration with Michigan State University and the National Gallery of the Spoken Word. Other website support is from Northwestern University Library, School of Speech, Office of the Provost, Weinberg College of Arts and Sciences, and the Department of Political Science. HPOL is one site you'll definitely want to bookmark and visit often! It's at http://www.hpol.org/.

Wired For Books

Literature comes to life at "Wired For Books," a production of the Ohio University Telecommunications Center. Featuring

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 RealNetworks' "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

If it's Major League Baseball, it's here!

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. ■

NEED MEDIA PLAYERS?

REALPLAYER 8 BASICÆ
http://www.real.com

WINDOWS MEDIA PLAYERÆ
http://www.microsoft.com/downloads/

APPLE'S QUICK TIME PLAYER
http://www.apple.com/quicktime/download/

WINAMPÆ
http://www.winamp.com/

Get your player(s) or Upgrades/Updates at these URL's.

utility radio review

by Joe Cooper <ur-review@provcomm.net>

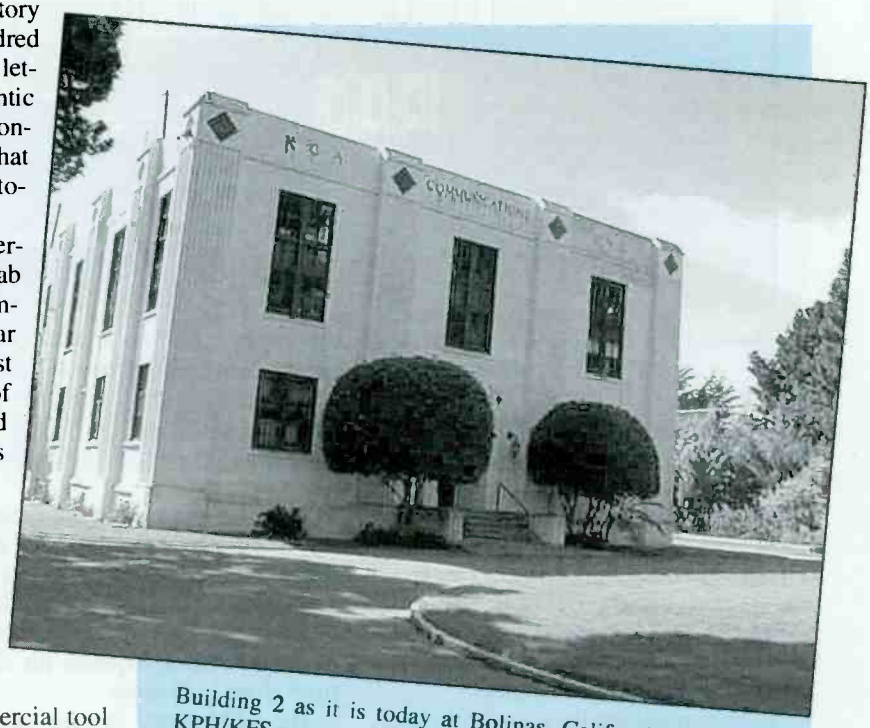
news, information, and events in the utility radio service between 30 kHz and 30 MHz

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.



Building 2 as it is today at Bolinas, California. Part of the KPH/KFS commercial radio complex where the transmitters and antenna farm are located. Photo courtesy MRHS.

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 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.

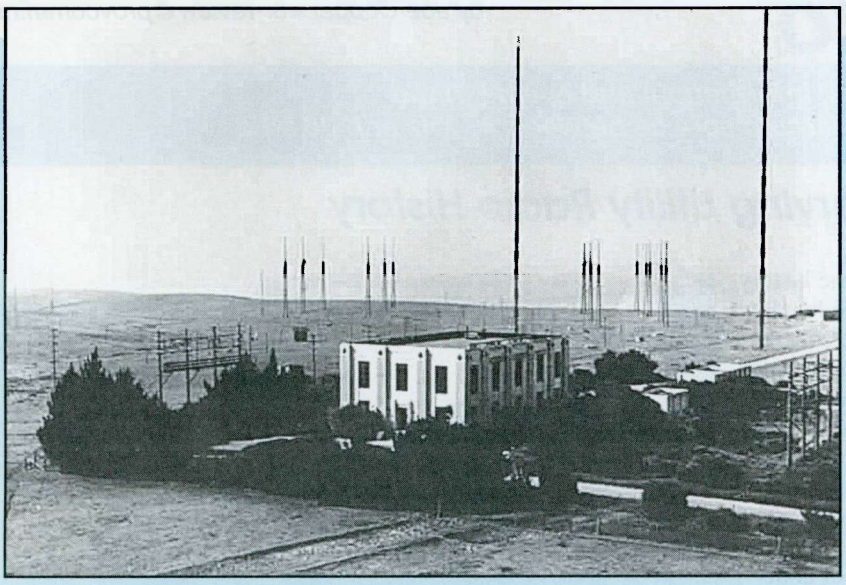
I've also lots of letters and many excellent logs to share with you. Again this month I will be continuing to include as many of the letter based logs as I can, as promised.

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 National 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-



Building 2 of the KPH/KFS commercial radio complex at the height of its operations showing the antenna farm pointing toward the Pacific Ocean.

ations. 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.

The KPH signal literally spanned the globe. Radio operators on ships in the far corners of the world were comforted by the steady signal of KPH in their earphones.

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-daaaashhh 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.

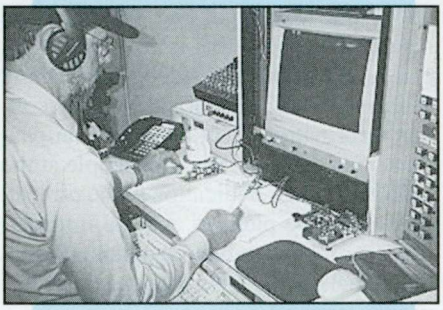
Readers Logs

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, donít 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, FACSFAC Virginia Capes 2257 USB WKG VICTOR w/comms servicing (MADX)
4479: V02, Atencion Numbers Station 0439 AM YL/SS/5FGs already in progress (MADX)
4650: ROCKVILLE, Washington Gas and



Dick Dillman, Secretary of the Maritime Radio Historical Society sending one of the last commercial CQ messages in North America on July 12, 1999. Soon after this picture was taken, Paul Zell, KPH station manager, sent "What hath God wrought — SK."

Light Station Rockville, MD, 0214 MIL-STD 188-141A w/sounding call. (MADX)
4742: Architect: 0030 USB w/airfield color states. (RP)
5277: CG 33C (H-60 # 6033-deployed): 0358 USB w/Panther (DEA, Bahamas) w/encoded position report. (RP)
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, 0541 BR6028 VFT 7x75bd w/pilot tone on 5344.560. (MADX)
5598: IBERIA 6250, 0219 USB WKG GANDER. From Gander, "I have an amended flight level assignment: Climb and maintain FL340."(MADX)
5687: Aircraft (callsign missed): 2335 USB calling Seminole Ops (16th SOG, Hurlburt Fld) w/no response. (RP)
5696: USCG 1713 HC130H7 CGAS Clearwater CAMSLANT Chesapeake REQ FLT OPS and POS USB 1600Z (KW)
5696: CAMSLANT, 0102 USB clg RESCUE 2124: USCG HU-25A (MADX)
5696: RESCUE, 1502 0318 USB WKG CAMSLANT. "Airborne at minute 17, 07pob, parent command Elizabeth City, destination is 170 miles east of Elizabeth City." (MADX)
5696: 1502, USCG HC-130H 2328 USB WKG CAMSLANT w/flight ops normal. Also, 2121 USCG HU-25A reporting flight ops normal (MADX)
5696: Camslant: 0203 USB w/CG 6031 (H-60, CGAS Elizabeth City) reporting on final for homeplate after some boat training at Oregon Inlet, NC. (RP)
5717: Outcast 302 Departing St. John's en route Gander USB 1946Z OUTCASE was doing SAR re. three teens drowning in Pouch Cove NF. (KW)
5717: Rescue 232, Greenwood NS, CLG Halifax MIL RE EPIRB USB 1725Z Looking for EPIRB RCC Halifax Adv. Possible plane on ground — set it off by accident (KW)
5717: Trenton Military Canada 311Z phone patch to RCC Halifax for Coast Guard 59 in regard to missing person north of Green Wood. (LH)
5717: Halifax Military: 0224 USB w/Tusker 41 (CC-130H CANFORCE 14TH WING CFB GREENWOOD) acting as relay w/rescue coordination center that Tusker 41 has completed search and is RTB Greenwood. (RP)
5850: OXT, Copenhagen METEO 0040 FAX 120/576 w/weak but recognizable chart (MADX)
6209: Marine, 0115Z stations in chit chat and passing frequencies that mariners use e.g. 7268 waterway net and 4003 marine WX (LH)
6507.0: VTP. Indian Navy Vishakhapatnam 2224 RTTY 50/650 ID tape showing VTP 14/15 and VTP 13/14 to 4FG msg, // 8298 (ML2)
6604: NY VOLMET 2209Z Aviation WX (LH)
6640: NY Arinc 2319Z with SELCAL UNID aircraft. (LH)
6640: ARINC New York: 0342 USB w/World 101 w/flight and load information and SELCAL check (JM-GH) (RP)
6694: Tusker 45 Tusker CLG RCC Halifax USB 0016Z Tusker en route Halifax w/15 POBs (KW)
6694: Rescue 74 helicopter CLG Halifax RCC re. another heli in the area. USB 2931Z RCC Halifax ADV rescue 74 that the heli was in the area (KW)
6754: CHR, Trenton Military VOLMET 0224 USB w/aviation WX (MADX)
6761: Pack 33 (KC-135R 133rd ARS, NH ANG Pease ANGB): 2347 USB w/Reach 8266 for refueling after reach 8266 departs Gander, Newfoundland. (RP)
6845: UNID, 0045Z asking a station to send him a message. (LH)
7508.0: ZRH, SAN Silvermine 1704 RTTY 75/170 Navarea V11 Wx incl METEO France, Reunion, for Kerguelen, Crozet, and Amsterdam. \\ 13538.0 and 4014.0 Welcome back ZRH/RTTY! Not heard recently! (RH2)
7763.5: D6Z Moroni Air COM 2320 ARQ-E3 48/400 w/flight plan for IYE639 (Yemen Airways Moroni/San'a) to Antananarivo, cct NTC (ML2)
7784: UNID,USAF AWS broadcast 0036 BAUDOT 75/810 w/various BBxx reports. Same TFC and signal strength as the station on 13530 (MADX)
7792.0: Un-ID: French Forces 18.30 ARQ-E 72.400 Idling (PT)
7831.5: 5ST Antananarivo Air MDG 2330 ARQ-E3 48/400 METAR to Moroni, cct TNC (ML2)
7981.4: KZN508, SailMail Inc. Rockhill, SC 0237 PACTOR 200/200 w/proprietary PACTOR mode and CW ID (MADX)
8054.5: 1731, UNID (U.S .National Guard?)

0436 MIL-STD 188-141A w/sounding call (MADX)
8105: UNID, 0454 ARQ-E 184.5/400 idle. QRT at 0458(MADX)
8125: Marine fishermen, UNID LOC 2247Z discussing fish prices. (LH)
8330.0: RFHI: Noumea, New Caledonia 19.20 ARQ-E3 100/400 Controle de Voie being relayed on VII, Le Port — Noumea cct (PT)
8402.5: UAUN, NIS Akademik Ioffe 0028 BAUDOT 50/170 w/routine TFC in 3SC. A "NIS" is a research vessel (MADX)
8402.5: UNID, RTMS APOLLO-1 2353 BAUDOT 50/170 WKG UIW: Kaliningrad Radio w/TFC in 3SC. Moderately garbled, but readable (MADX)
8422.5: UDB2 Kholmsk rdo 1200 FEC TFC list (01Apr01) (ML2)
8454.8: 9WH Kota Kinabula rdo MLA 0930 CW w/CQ DE 9MG/9WW/9WH mkr tape showing TX freq and QSX ch's (ML2)
8470.0: XVG Hai Phong rdo VTN 1218 CW 24 hr marine wx f/cast (ML2)
8478.5: FUF, French Navy Fort de France 0355 BAUDOT 75/810 w/test tape (MADX)
8496: CLA, Havana Radio 0342 CW w/call tape (MADX)
8522.0: 9MG Pinang rdo MLA 2230 CW w/CQ DE 9MG/9WW/9WH mkr tape showing TX freqs and QSX ch's (ML2)
8522.0: 9WW KZhing rdo MLA 1205 CW w/CQ DE 9MG/9WW/9WH mkr tape showing TX freqs and QSX ch's (ML2)
8573: CLA, Havana Radio 0321 CW w/call tape (MADX)
8590.0: XVS Ho Chi Minh rdo VTN 1148 CW 24 hr marine wx f/cast (ML2)
8680.0: HSA2 Bangkok rdo 1125 CW w/CQ DE HSA2 TFC LIST QTC = DE HSA2/8686 TFC LIST QSX 8MKZ = mkr (ML2)
8680.0: PKF Ujung Pandang rdo INS 1225 CW w/CQ DE PKF QRU ? K mkr (ML2)
8682: NMC, USCG CAMSPAC 0307 FAX 120/576 w/satellite pic showing UNID area. Into new chart at 0310 (MADX)
8740: Camslant: 0142 USB w/USCGC Woodrush in duplex. Woodrush in on 8240. Camslant and Woodrush trying to communicate via Harris modem but having problems. (RP)
8825: NYATC 0130Z (LH)
8855: Manaus and Belem (Portuguese) (MWARA SAM-2): 0220 USB w/various Portuguese-speaking aircraft in flight routing; position reports; and SELCAL checks. (RP)
8861: Dakar Senegal 2315Z Heard daily (LH)
8957: EIP, Shannon VOLMET 0130 USB w/aviation wx (MADX)
8983: Rescue 74 GLG RCC Halifax re other HELO Universal callsign CKYM USB 2048Z Rescue 74 ADV RCC that Helo CKYM in contact with RCMP WKG on 122.75 MHz. (KW)
8983: CAMSLANT, 1935 USB WKG 2122: USCG HU-25B. "District is faxing New Orleans a copy of the fax pattern. Request that when you land in New Orleans you give ATC a call." (MADX)
8983: CAMSLANT, 1758 USB WKG 2139: USCG HU-25C, and 1500 USCG HC-130H (MADX)
8983: USCGC Woodrush (WLB-407, unlocated): 0008 USB w/Camslant Chesapeake checking readability of voice and HFDL signals. (RP)
8983: Camslant: 1900 USB w/CG 6040 (H-60, CGAS Clearwater); CG 2131 (HU-25, CGAS Miami); CG 2140 (HU-25, CGAS Miami); CG 1502 (HC-130, CGAS Elizabeth City); CG 1717 (HC-130, CGAS Clearwater); and CG 1718 (HC-130, CGAS Clearwater) in hourly checks and position reports. (RP)
8983: USCGC Decisive (WMEC-629, Pascagoula MS): 0332 USB w/Camslant Chesapeake requesting pp for crewmember w/family emergency. Camslant switches them to 8980. (RP)
8983: USCGC Woodrush (WLB-407, unlocated): 0142 USB w/Camslant requesting an HFDL link. Camslant switches them to 8 MHz duplex SCN link. (RP)
9007: Canforce 2658, en route, REQ WX for Ottawa and Trenton USB 1717Z (KW)
9007: Canforce 87 (CC-130 # 130315, 436th Sqdn Trenton): 1626 USB w/Trenton Military w/wx for Goose Bay, Labrador and SELCAL check (FM-EK). (RP)

Maritime Radio Historical Society

The Maritime Radio Historical Society (MRHS) was formed in December 1998 with the objective of preserving, documenting, and restoring our maritime radio heritage and presenting that heritage to the public.

The society is a membership association consisting of a small number of like-minded individuals with the interest, expertise, and knowledge required to achieve our goals. Membership is by invitation of the existing members.

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-the-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.

9025: OFFUTT, Offutt AFB 0227 USB w/15-character EAM (LWGTWK...)(MADX)
9122: UNID, prob U.S. National Guard 0050 USB WKG 05: UNID prob U.S. National Guard. Also MIL-STD 188-141A on channel (no synch), ANDVT, and UNID vocoder (similar to PARKHILL). At 0100, "did you receive DCT, over" (MADX)
9122.5: MVHNF424, UNID USACE 1227 USB w/sounding call (MADX)
10075: Houston Radio 2321Z in contact with Kp315 and SELCAL, 315 had no copy 6637 Houston Radio 2323 with SELCAL for Kp315 still negative copy. (LH)
10096: Recife (MWARA SAM-2): 0224 USB w/Springbok 455 in position report. Handed off to Dakar on 11291. (RP)
10206: DRAU (FGS KOELN FRIGATE 122 CLASS F-211): 2215 USB w/DHJ-58 (German Navy, Glucksburg) in voice and RTTY. The Koeln is currently participating in exercise DESEX 2001. (RP)
10365.7: RFTJD FF Libreville GAB 2258 ARQ-E3 192/400 return CdV to RFTJ Dakar, cct JDJ (ML2)
10722: DRDS (FGS U-25 SUBMARINE S-174): 0050 USB w/DHJ-59 (German Navy, Wilhelmshaven) in EE/GE voice and RTTY. (RP)
10722: DRHM (FGS WERRA TENDER A-514): 0115 USB w/DHJ-59 (German Navy, Wilhelmshaven) in voice and RTTY. The Werra is currently delpoyed in the Med/Arabian Gulf as part of exercise IDEX 2001. (RP)
10722: DHJ-59 (German Navy, Wilhelmshaven): 0109 USB w/DRAF (FGS MOLDERS, TYPE 103B DESTROYER (D-186) in voice and RTTY traffic. (RP)

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 cct ID. Logged a couple of years ago as Paris — Sarajevo link (PT)
11122.0: 9MR,Malay Navrad 1624 RTTY 50/850 Wx in Malay + 5LG (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 ready in a few minutes to which Hunter 02 replies that it's OK 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/Hickam in pp w/Andrews Metro w/arrival wx. (RP)
11202: Camslant, UNID LOC, 2212Z asking UNID to give a long count and to switch to 15088 (LH)
11217: DHM-91 (Hqs Air Transport Command): 2042 USB w/Antelope/Envelope 60 (sounds like) w/EE/GE chat. Sounded like they wanted to switch to frequency Sierra. Checked 17991 but no one there. (RP)
11232: Canforce 81, Trenton, CLG for WX USB 1614Z Canforce 81 left Gander for Greenwood REQ WX for Halifax and Greenwood (KW)
11232:Transport 2629, Trenton, Request WX for Ottawa USB 1739Z QSY 12357 (KW)
11232: Canforce 1666, Trenton, Request WX for Halifax and Greenwood USB 1824Z (KW)
11232: Tiger 207 GLG Trenton, REQ any traffic RCC Trenton USB 1909Z (KW)
11232: Canforce 86 Canforce 86 CLG Trenton w/PP to wing ops USB 19527Z Req. Customs — also WX for Toronto and Trenton (KW)
11232: Cnaforce 2603 CLG Trenton MIL QSY 9007 13257 USB 1434Z ADV Trenton (KW)
11232: Canforce 2603 GLG Trenton Mil Req. for EGPZ EG20 and EGQK USB 2042Z (KW)
11232: Canforce 4267, en route REQ WX at St. John's NF USB 1307Z (KW)
11232: Canforce 615, en route, REQ WX for Ottawa and Trenton USB 1545Z (KW)
11232: USCG 1501 Eliz City NC Left Torbay USB 1545Z USCG ADV Trenton on Ice Patrol (KW)
11232: Canforce 150, en route, REQ WX USB 1713Z (KW)
11232: Canforce 2641, en route, contact with Trenton USB 1719Z en route to Thule. REQ SELCAL CHK (KW)
11232: USCG 1501 Eliz City NC CLG Trenton giving position USB 1811Z on ice patrol (KW)
11247: Ascot 3200 (RAF Tristar-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 UNIDentified (SLMU) location. (RP)
11300: Tripoli (MWARA AFI-3-EE/AR): 2358 USB w/Cairo, Sana'a, Jeddah, and Khartoum w/Lufthansa 573; Air France 3839 (id as DC-10 enroute to Paris); Springbok 257; 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)
12165.3: Unid: Loc. unknown 19.05 Pactor 200/200 Calling T79N6R, but no response (PT)
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)
12302: EXPRESS, UNID mv 1935 USB clg WLO: Mobile Radio (MADX)
12489.0: UERG TH Akademik Raspletin 1039 ARQ w/UERG log on and ship TFC to Vladivostok (ML2)
12489.0: UHUB TH Nikolaj Dolinskiy 1016 ARQ TFC to Vladivostok (ML2)
12489.0: XUWM3 M/V Pamela Light 1008 ARQ msg to Vladivostok (ML2)
12491.0: UFNG BMRT Viktor Streltsov 1042 ARQ SELCAL KYXF and ship TFC to Kholmsk (ML2)
12505.0: UFPP NIS *Professor Gagarinskij* 1019 ARQ w/UFPP log on and ship TFC to Vladivostok (ML2)
12510.0: UEIR RTMS Noabest 0948 ARQ w/KYPS SELCAL, UEIR log on and svc msg to Nakhodha (ML2)
12510.0: UIIP TK Fortan 1031 ARQ w/UIIP log on, svc msg and op chat to Nakhodka (ML2)
12510.0: UIXM RTM Kremen 0848 ARQ svc and crew msgs to Nakhodka (ML2)
12510.0: UIYA RTMS Novosokolniki 0928 ARQ SELCAL KYPS and QSL msg to Nakhodka, UIYA log on/off (ML2)
12521.0: VTP.. Indian Navy Vishakhapatnam 1120 RTTY 50/750 id tape showing VTP 14/15 to 3LG msg (? TFC list) to coastal wx f/cast (ML2)
12561.0: UBKN RTMS Darwin 0919 RTTY 50/170 crew msgs to unkwn (ML2)
12570.0: UCOE STR Kalinovka 0935 ARQ op chat w/unkwn, UCOE log on/off (ML2)
12570.0: UCQG TK Kamenisk-Uralskij 1016 ARQ w/KYPS SELCAL, UCQG log on and msg to Nakhodka (ML2)
12570.0: UGMF TR Vitim 0946 ARQ w/UGMF log on and TFC to unkwn (ML2)
12570.0: UHHE SRTS Soyuz-10 0936 ARQ ship TFC and UHHE log off (ML2)
12570.0: UIXV SRTM Lona 1038 ARQ ship TFC to unkwn (ML2)
12592.5: NMN, USCG Portsmouth 0823 ARQ Marker (RH2)
12593.5: UDB2 Kholmsk rdo 1210 ARQ msg to UCCW Kapitan Kirij, QSX was 12491 (ML2)
12730: NMC, USCG CAMSPAC 0256 FAX 120/576 w/satellite pic showing Eastern Pacific ocean (MADX)
12745.7: JJC,Tokio R 0900 FAX 60/576 JJ Newspaper Fair file://17069.7 (RH2)
12857: RFTJE, French Navy Dakar 0249 BAUDOT 75/810 w/test tape (MADX)
13014.0: VTP.. Indian Navy Vishakhapatnam 2320 RTTY 50/1300 id tape showing VTP, coastal wx f/cast, // 8298, harmonic of 6507, shift also doubled (ML2)
13197: 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): 2332 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: Offutt, USA? 09.16 ITA2 75/850 Wx info, shuts down between messages (PT)
13565.0: UNID, UK Mil Cyprus? 1610 MFSK 195.3/300 paired with 18789.0(RH2)
14350.5: S88, Swedish Embassy, Buenos Aires 2321 MIL-STD 188-141A/2400bd QPSK WKG S85: Swedish Embassy Brasilia (MADX)
14367.0: BAF: 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)
14636.7: RFLI,French Forces Fort de France 0414 ARQ-E3 192/400 w/CdV on ckt [IRT] (Fort de France to Cayenne). Paired with ckg [RTI] on 14876.7. (MADX)
14636.7: RFLI FF Fort de France MRT 0010 ARQ-E3 192/400 CdV to RFLIG Cayenne cct IRT (ML2)
14867.7: UNID,MFA Cairo 1547 arq Clg kkxu (Harare)(RH2)
14876.7: RFLIG,French Forces Cayenne 0344 ARQ-E3 192/400 w/CdV on ckt [RTI] (Cayenne to Fort de France). Paired with ckt [IRT] 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 w/Omaha 3MC (probably C-12 N783MC # 73-22251) who reports they are enroute 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: GXQ: 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 direction, signal becomes very poor as TFC continues in EE (PT)
16014.0: RFQP,FF Jibouti 0835 Arq-E3 100/400 CdeV on RUN cid (RH2)
16027.2: BAF, Beijing METEO 0906 FAX 120/576 Wx chart — lines clear! (RH2)
16087.7: RFVI: 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 w/yks yks at 1729 (MADX)
16127: DHJ-58 (German Navy, Glucksburg): 2120 USB w/DRAR (FGS *NIEDERSACHSEN* FRIGATE 122 CLASS F-208) in voice and RTTY. (RP)
16127: DRAU: 0032 USB w/DHJ-58 in voice and RTTY. (RP)
16127: DHJ-58 (German Navy, Glucksburg): 2251 USB calling DRKH (FGS *MEERSBURG* AUXILIARY SHIP A-1418) w/no response. The *Meersburg* is currently supporting two German Navy submarines participating in SUBEX 2001 a joint US-German exercise.
16141.7: Egy Emb Accra 1624 arq Msg\AA to Cairo (RH2)
16272.0: MTS: Port Stanley, Falkland Is. 20.20 Piccolo 6 Op chat to GEC, location unknown. Later, op chat to GXQ (PT)
16278.8: Amman, Jordan 14.18 Coquelet 8 AMBALG AMMAN with TFC to MAE, Algiers (PT)
16340.1: ZKLF, Auckland METEO 0430 FAX 120/576 w/broadcast schedule (MADX)
16544: TURBO, Colombian Coast Guard Base Turbo 0106 MIL-STD 188-141A WKG RADGENA: UNID Colombian Navy (MADX)
16544: BRIM1, Colombian Navy 1st Marine Brigade Cartagena 2346 MIL-STD 188-141A clg RADGENA: UNID Colombian Navy (MADX)
16631.7: Egy Emb Luanda 1515 ARQ Msg\AA to Cairo/kdkTXke (RH2)
16816.0: ZSC, Capetown R 0935 FEC Navarea V11 Wx Same as ZRH TX! \\12601.0 & 8428.0 and 4214.0(RH2)
17372.4: KPH: San Francisco, USA 15.07 FEC Traffic list (PT)
17441.6: 5YE: Nairobi, Kenya 18.10 ITA2 100/850 METEO reports for North Africa // trans on 17445.2 (PT)
17445.2: 5YE: Nairobi, Kenya 18.12 ITA2 100/850 METEO reports for North Africa. Looks to be using his FAX frequency for RTTY, // trans on 17441.6 (PT)
18018: Architect (RAF Flight Watch Center): 2301 USB w/airfield status report. (RP)
18183.4: UNID, Ambalg Kinshasa 1515 Coq8 26.67 Msg\FF to Algiers (RH2)
18220.0 :JMH5, Tokio METEO 0913 FAX 120/576 Fair Wx chart (RH2)
18223.7: UNID, MFA Cairo 1619 arq Clg kkvu (Accra)(RH2)
18380.2: RFVI: Le Port, Reunion 15.52 ARQ-E3 100/400 Controle de Voie to self via REI cct to Paris (PT)
18571.3: ZAS: Tunisian emb?? 18.40 FEC 5-lg TFC after "ZCZC 23213/1579/06 /////" then "EEEEE AAAAA AAAAA DE ZZZZZ AAAAA SSSSS." Repeats 5-lg message and shuts down (PT)
18571.5: GNP,UNID 1526 RTTY 75/850 RY's INT QSA INT QRK (RH2)
18667.7: jmfs, UNID Egyptian Embassy 1744 SITOR-A 100/70 (note the shift!) w/plaintext 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 1539 Coq8 13.33 Msgs\FF 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 w/Flint 452 and departed Panther 500 (Freeport, Bahamas) enroute to Tropic Air, flight time 30 minutes.
19530.0: KAWN, Offutt AFB (?)1620 RTTY 75/850 Endless Foxes! (RH2)
19655: HEC, Globe Wireless Berne 1848 CW w/id and free idle. (MADX)
19667.7: Egyptian Emb Kuala Lumpur (JG WLKDKDJYLF) 1120 ARQ 5LG msg to unkwn. (ML2)
19692.5: ZSC: Cape Town, S. Africa 18.05 FEC Navigation warnings from HYDROSAN. (PT)
20381.0: Unid: USA? 15.25 ITA2 75/850 Wx info originating with KAWN. Info for airfields such as KCAD, KPWC, KSBY, KUNV, and Canary Islands. (PT)
20556.5: P6Z: Paris, France 18.34 FEC-A 192/400 Calling S5F, Brasilia embassy, with RY's on GSA cct. Using letter sub. (PT)
20661.7: Egyptian Emb Kuala Lumpur (JG WLKD) 0940 ARQ 5LG msg to unkwn. (ML2)
20698: S32, Swedish Embassy Kuwait City 1817 MIL-STD 188-141A clg S00: Swedish MFA. No follow-on TFC noted. (MADX)
20946: 8BY, French Intelligence (M16) 1858 CW w/'calls' for 629, 609,775, 080, 505, 099. QRT at 1900. (MADX)
21857.7: RFFVA FAF Paris 0804 ARQ-E3 200/400 w/ZIC FDZ001 (sic) ZID FDZ011 to RFTPA N'djamena cct FDX. (ML2)
22316.5: UITF TH Khudozhnik Kustodiev 0822 ARQ w/KYXM SELCAL and ship TFC to Vladivostok. (ML2)
23116.7: MFA Cairo 1000 ARQ clg Conakry w/selcal KKVD, 1004 FEC JG KDFESPPP-SR KDS WLGKWFS for QSX of 66091 = 19067.7 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: S31, 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 RFHJC, Papeete, on LIH cct. (PT)
23822: HSP,UK Military 1805 MIL-STD 188-141A w/sounding call. (MADX)
24871.7: RFHJ FF Papeete OCE 0705 ARQ-E3 96/400 non protege msg to RFLI Fort de France for Fort de France and Cayenne, cct HJL. (ML2)
25136.0: UNID 0910 RTTY 75/850 online crypto after VMGTCNJBH. (ML2)
25186: HSP, UK Military 1837 MIL-STD 188-141A w/sounding call. (MADX)
25350: 5AB,Benghazi Radio 1825 CW w/call tape. (MADX)

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." (Coatsworth, 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)

6951 USB heard at 0054 with "Crazy Train," re-make of the song "Faith," "The Manís Song," someone doing an audio test at 0120 interfered with the signal. (Taylor, PA)

6950 USB, "W____Solid Gold, at 0256 with "Get Right Back" and "Sunshine of Your Love." (Taylor, PA)

Nice job, troops. Please keep the logs coming. Let me pass along this reminder that I really need copies of current/recent pirate QSLs to include as illustrations. Thanks a million for your help. I'll catch you again next month. ■

Tuning In *(from page 4)*

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 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 clothe 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. ■

26241.7: RFVICS: Le Port, Reunion 17.03 ARQ-E3 100/400 Message to RFFICS, 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 w/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! ■

washington beat

Capitol Hill and FCC actions affecting communications

by Laura Quarantiello
<lauraq@cts.com

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).

Coast Guard Ports And Waterways Gets VHF Channels

The U.S. Coast Guard and Maritel, Inc., the licensee for VHF Public Coast Station Areas (VPCSAs) 1–9 (covering the Atlantic, Pacific, and Gulf Coasts, Mississippi River, Alaska, and Hawaii) reached an agreement last March in the selection of channel pairs for use in Automatic Identification Systems (AIS) and related safety systems supporting the Coast Guard's Ports and Waterways Safety System (PAWSS), more commonly known to listeners as Vessel Traffic Systems. The FCC requires the Coast Guard and each VPCSA licensee to negotiate for two narrowband 12.5 kHz offset channels pairs for PAWSS. The Coast Guard and Maritel, after a waiver of the mandatory offset selection rule by the FCC, selected two non-offset channels rather than offsets: Channel 87A/B 157.375 MHz/161.975 MHz.

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.leg.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/threeg/33001/3g33001.pdf. A companion assessment conducted by the Department of Defense is also available at www.ntia.doc.gov/ntiahome/threeg/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 in the AM mode, and an external 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

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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 dozens items including radio equipment.

ARRL Comments On Ultra Wideband Plan

The ARRL has stepped forward to recommend a "reasonably conservative" approach to the FCC's plans to allow ultra-wideband (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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loose connection

radio communications humor

by Bill Price, N3AVY

Don't Give Bill Any Static — Please!

Ahhhh, 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 will ask my "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 seared 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....Ahhh, 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. ■

Thank You, Marconi!

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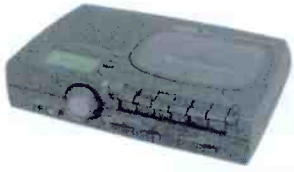

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