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- The Mystery Station On "Island X"
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- Report On Kulpsville's 11th-Annual WinterFest

Civil Aviation Primer: Frequencies, Monitoring Tips, and More on page 69.

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FEATURES

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Microbroadcasting could be around the corner. Will you own an LPFM station?

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ON THE COVER: Here’s on-air personality, Robin Shannon of public radio station WBJB-FM 90.5 at Brookdale Community College in Lincroft, New Jersey. The FCC is considering petitions which would permit low power FM broadcasting that could put you on the air legally. Read about the fascinating possibilities in “Here Comes Low Power FM Broadcasting” on page 8. (Photo by Larry Mulvehill)
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Microstation Broadcasting: The Long-Overdue Service

What would you say if we told you that the FCC is finally giving serious consideration to a proposal that could revolutionize radio broadcasting and put the dream of operating a legitimate radio station within the average person's reach? It isn't a dream: the FCC has indeed placed petitions on Public Notice. Of those petitions being considered by the FCC for such a service, the one submitted by J. Rodger Skinner, of Pompano Beach, Florida, is officially designated RM-9242. Let's check out his petition.

What It's All About

At first look, and reported in Fred Maia's W5YI Report, you'd get the impression that microbroadcasting "... could legalize pirate radio." Actually, the truth is, while PopComm fully supports each petitioner's visionary, open-minded, and well-thought-out proposals, it isn't all about legalizing pirate radio per se — it's about giving local communities the long-overdue ability to reach out to their prospective audiences with information, entertainment, news, and programming that only a grassroots broadcaster with ties to the local community can provide. If approved by the FCC, and down the road it reduces pirate activity, all the better.

Skinner, a communications consultant and broadcaster himself, has written a special feature titled "Microbroadcasting: The Long-Overdue Service" on page 8 that gives you an exclusive in-depth look at the FCC's OK. Rodger told us as this issue goes to press that "... we're serious about microstation broadcasting. Be sure to emphasize the need for high enough power, as requested by Skinner, to make LPFM work. Fm power and a mere half-mile coverage doesn't cut it."

Skinner has proposed three classes of stations. Specifically, they are:

- **LPFM-1** — Stations with power from 50 watts to a maximum of 3000 watts.
- **LPFM-2** — Stations with power from 1 watt to 50 watts.
- **LPFM-3** — Stations with power from 1 watt to 20 watts, and only serving as "Special Event" stations with a 10-day operating permit.

Without getting too technical, if the FCC, or currently licensed full-power FM broadcasters react negatively to the requested "3000-watt maximum" in RM-9242, they should be reminded that the 3000 watts would give a maximum range of up to 15 miles. So if broadcasters are concerned about competition from these proposed microstations, that doesn't wash with us, and it shouldn't influence the FCC. Remember, FM translators, under current regulations, are operating a community radio station . . . .

(The continued on page 77)
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**LETTERS TO THE EDITOR**

Each month we select representative reader letters for our "Pop'Comm P.O." column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid e-mail address. Upon request, we will withhold a sender's name if the letter is used in "Pop'Comm P.O." Address letters to: Harold Ort, N2RLL, SSB-596, Editor, Popular Communications, 25 Newbridge Road, Hicksville, NY 11801-2909, or send e-mail via the Internet to <popularcom@aol.com>.

**Being That, Done That!**

**Dear Editor:**

This letter is being sent for only one reason: To warn all radio owners about theft. I recently became a victim of our lower side of society. Two of my most prized possessions, a Kenwood 2-meter mobile radio, and a Motorola 440-MHz mobile radio, were stolen from my car as I slept just a few feet away in my house.

Of course I thought that either my car insurance or my homeowner’s insurance would cover me, right? WRONG. Because I did not have comprehensive coverage on my vehicle, my car insurance did not cover me. Also, because the radios were mounted on the transmission hump (as the insurance company said, PERMANENTLY), my homeowner’s insurance did not cover me. Now I am out approx. $700 of radio equipment.

My only hope is that by writing this, someone will avoid the experience that I had to go through. Whether CB, ham, or commercial radio, PLEASE insure those radios. The few dollars spent to purchase this insurance will save many hours of frustration and depression. Trust me, I know what I’m talking about. As my 16-year-old daughter would say, “Been there, done that.”

Brad T. Gass, N3JPL, PA

**Changing With The Times**

**Dear Editor:**

After reading "Harold’s One Accurate Statement" and Mr. Smith’s response, I feel compelled to enter my two cents worth. I agree with both sides of this issue — both present excellent arguments. For me personally, it all started with a need for effective emergency communications while exploring old ghost towns. Cell phones are very limited in the boondocks and mountainous terrain regions, unless you’re at very high elevation.

Back in 1994, my wife and I both studied for, and received, our ham licenses. I am presently a tech, and she a tech plus. My wife passed the 5 WPM with no problems whatsoever, as she is also very musically inclined. As for myself, I have studied countless hours, and for some reason still get lost midway through the five minute copy. Here’s my main point to the code argument, using my own wife — "the teacher" with an outstanding GPA, as an example — and myself as compared to her, a C+ student in college. She could continue to master the upper levels of written, as well as the code test if she were to apply herself to this task. And she may, but as for her being able to, or having the practical hands-on skills to access various repeater sites with phone patch capability, changing frequencies and or PLs in her handled, or even just using my Yaesu 5200 in my truck, my wife can’t. Even though I have shown her numerous times, she still gets lost. If we are going to utilize ham radio, I set the agreed frequency and that’s it.

Back when our new-found communication hobby began, I tried unsuccessfully several times to teach her how paging and tone code squelch worked, all to no avail. She now carries a tiny C-phone in her purse and only uses our base station when I am out in the boondocks, or camping, etc. So you see fellas, here’s the big kicker: The ham tests in general are a farce for beginners all the way up the ladder. They really don’t teach anybody how to operate these more-often-than-not, complicated pieces of communications equipment with any real-world practicality! The manufacturers of these little complicated monstrosities should have their heads examined. Group paging, to my knowledge, has never been utilized by anyone I’ve communicated with on the air. And the push of one wrong button while traveling down the road can put the unit into some mode you can’t remember.

Mr. Wayne Green said it very factually back a while ago over nationwide talkradio. If the big boys don’t change with the times, we hams will continue to lose our privileges and bandwidth. I don’t buy that hogwash about having too many operators out there clogging up the airwaves. In my area of the San Joaquin Valley, the UHF/VHF is wide open with numerous repeaters, with no one monitoring the frequencies. If what the head

(Continued on page 38)

**A Touching Article**

**Dear Editor:**

In the March issue, Alice Brannigan’s article “Small Voices For Freedom Were Heard” was one of the best I’ve read in a long time. It was about fighting against censorship. Alice’s well-written article and his excellent research have made “spy monitoring” an organized movement. Chris’ well-written article and his excellent research have accomplished for, and received, our ham licenses. I am presently a tech, and she a tech plus. My wife passed the 5 WPM with no problems whatsoever, as she is also very musically inclined. As for myself, I have studied countless hours, and for some reason still get lost midway through the five minute copy. Here’s my main point to the code argument, using my own wife — “the teacher” with an outstanding GPA, as an example — and myself as compared to her, a C+ student in college. She could continue to master the upper levels of written, as well as the code test if she were to apply herself to this task. And she may, but as for her being able to, or having the practical hands-on skills to access various repeater sites with phone patch capability, changing frequencies and or PLs in her handled, or even just using my Yaesu 5200 in my truck, my wife can’t. Even though I have shown her numerous times, she still gets lost. If we are going to utilize ham radio, I set the agreed frequency and that’s it.

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(Continued on page 38)
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Here Comes Low Power FM Broadcasting

Will YOU Own An LPFM Radio Station?

By J. Rodger Skinner, Jr., W4FM

If you’re like me, or any of the other 13,000 people who call the Federal Communications Commission (FCC) each year wanting to know how to start their own low power radio station, this could be your lucky day! Like many others, I started in broadcasting at age 16 by building a mini-radio station in my basement. I built the console, and my friend Jack Hurray, who was more skilled in electronics, built the small homebrew transmitter. The three summers we spent “on the air” were some of the most exciting times of my life, and they led to my 35-year career in broadcasting. In fact, several friends were still talking about that radio station at my 35th high school class reunion last summer.

Timing Is Right For LPFM

Several events have transpired over the last several years that work together to make this the perfect time for the creation of a Low Power FM (LPFM) broadcast service nationwide. A crucial part of this plan is the ability to broadcast on 2nd and 3rd adjacent channels to existing stations without causing interference. Current FCC rules, written decades ago, prohibit use of these channels; however, vast improvements in receiver design over the years now make these 2nd and 3rd adjacent channel restrictions unnecessary, thus making available several channels in each market for use by LPFM stations. Comments filed by many engineering firms in the grandfathered short-spaced FM proceeding at the FCC in 1996 proved this point. Another factor was the Telecommunications Act of 1996, which removed the previous ownership limit of 12 stations by any one company, and resulted in the most massive consolidation ever witnessed in broadcasting history, with some companies now owning hundreds of stations. The result of this merg-
er-mania is that in most markets today there are three or four companies that own nearly all the radio stations, forcing the price of stations beyond the reach of all but the wealthy, and the large corporations. Localism that was once the cornerstone of broadcasting has been lost. Local entry-level announcing positions are almost a thing of the past, replaced by syndicated “sound alike” homogenized programming delivered via satellite. Concerned only with maximizing profits, these Wall Street-type station owners cut jobs and eliminated programming like local news and announcements of school closings during winter storms.

Another element that calls out for change is the spread of unlicensed so-called “pirate radio stations” across the country, which are found in virtually every city. With the removal of local broadcast service by the mega-corporation owners, the void is being filled by the pirates. In acts of civil disobedience, which remind me somewhat of those of the civil rights movement of the 1960s, pirates are taking to the airwaves, risking fines, confiscation of equipment, and possibly even imprisonment. Many of these local broadcasters have a desire to serve their local community, but there is nothing in current regulations permit these stations.

The last element needed for this change was the recent appointment of the new FCC Chairman, William Kennard, who is very sensitive to the problems created by consolidation. His remarks in various trade publications show his sincerity in lowering the barrier to entry into broadcast station ownership for individuals, small business, minorities, women, and others of limited financial means. The pendulum of change has swung too far to one side in radio and the time is right for it to swing back with the creation of a...
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**LPFM Station Classes**

<table>
<thead>
<tr>
<th>Class of Station</th>
<th>Power (ERP) Min. – Max.</th>
<th>Max. Antenna Hght/Ft (HAAT)</th>
<th>1 mV/m Contour Max. Range (Miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPFM-1 Primary Service</td>
<td>50 W–3000 W</td>
<td>328</td>
<td>15</td>
</tr>
<tr>
<td>LPFM-2 Secondary Service</td>
<td>1 W–50 W</td>
<td>150</td>
<td>3.6</td>
</tr>
<tr>
<td>LPFM-3 Secondary Service</td>
<td>1 W–20 W</td>
<td>100</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Note: Three classes of stations are proposed in RM-9242, allowing something for each type of low power broadcaster.

Local LPFM radio service. Sensing all of these changes, I began two years ago preparing a “petition for rulemaking” which I filed at the FCC on February 20, 1998, seeking creation of a Low Power FM broadcast service nationwide. My petition has been assigned rulemaking number RM-9242 by the FCC, and serves as a plan for implementation of the LPFM service, allowing for the ownership of your own LPFM station for less than the price of a new car.

**Petition To Create The LPFM Service — RM-9242**

The petition calls for the creation of three classes of LPFM stations, filling the needs of a broad range of stations.

Starting at the bottom would be a class LPFM-3 station authorization, a 10-day-only temporary permit for “Special Event” stations to broadcast at events such as automobile races, boating regattas, tennis matches, etc.

Next is a class LPFM-2 station, which I believe can satisfy the majority of the “pirate broadcasters,” giving them an opportunity to broadcast legally and provide useful service to their local communities. The LPFM-2 would have a minimum of regulations, and could be upgraded at any time to a LPFM-1 license, if desired. Many LPFM-2-type stations will desire to broadcast with volunteers in a less restrictive environment serving a community or part of an urban area.

Lastly, the highest class LPFM-1 license will allow many people who have worked in the broadcast industry for years a chance to finally own their own radio station. These stations will abide by the majority of Part-73 FCC rules that apply to full-power FM stations, and will serve a larger area of up to 15 miles range. LPFM-1 stations will be a “primary service” and have contours protected by all stations, LPFM and full-power FM alike.

The following chart shows the limits for power, antenna height, and coverage to the 1 mV/m (60 dBu) contour of each class of LPFM station.

**Plans To Keep It A Local Service**

Bearing in mind the problems created by the massive consolidation of radio stations by large corporations, and wanting to restore localism lost in this shuffle, I wanted to keep the LPFM service for “locals only.” Out-of-towners and large corporate broadcast interests need not apply. For this reason, I came up with what I call the “50-mile rule.” Simply, any applicant for an LPFM license must prove primary local residence, for at least one-year prior within 50 miles of the proposed station’s antenna site. If the applicant is a corporation, partnership, or other entity, all stockholders, partners, or parties of interest must meet the 50-mile limitation. In addition to this application restriction, I proposed that new entrants, those owning no other media interests (radio/TV/newspaper, etc.), be given a 4-to-1 preference over those owning other media, excluding Low Power TV stations, which are “secondary service.” Hundreds of small, local “mom and pop owned” LPTVs, including mine, are being bumped off the air by the digital television roll-out.

**Where To Find The RM-9242 Petition**

Anyone interested in reading the entire 25-page RM-9242 petition can find it on the Internet at my Web site at <http://www.concentric.net/~radiotv>, and also at the FCC Internet Web site, <http://www.fcc.gov/ramb/asd>. Anyone lacking access to the Internet can get a copy of RM-9242 by sending $2 to cover postage/copying costs to me at the address at the end of this article.

There are also two other petitions dealing with LPFM on the FCC Web site: RM-9246 deals with only “Special Event” type stations; RM-9208 calls for a very...
low power radio service of only 1-watt (one-half-mile-range) with only one channel per city. Also on my Web site, you will find a FAQ (frequently asked question) that describes in detail the reasoning behind RM-9242.

Technical Considerations Of An LPFM Application

As President of TRA Communications Consultants, Inc., I have prepared and filed applications for new Low Power Television stations and new full-power FM stations for clients nationwide since 1980. Many have asked me why they need an engineering study to be attached to an LPFM application, as proposed in RM-9242. "Can't I just find a clear spot on the dial myself?" they ask.

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The CO Amateur Radio Equipment Buyer's Guide also includes the most comprehensive directory anywhere of Ham product manufacturers and dealers in the USA, complete with phone numbers, FAX numbers, Web sites, and e-mail addresses. Dealer and Manufacturer listings include major products manufactured or sold, and service and repair policies, where applicable, with 475 dealers and manufacturers listed. These listings alone are worth their weight in gold.

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For Fastest Service call
1-800-853-9797 or
FAX 516-681-2926

CQ Communications, Inc.
25 Newbridge Road
Hicksville, NY 11801

Chart Showing Coverage To 1 mV/m (60 dBu) Contour In Miles

<table>
<thead>
<tr>
<th>Antenna Height in Feet (HAAT)</th>
<th>50</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
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<td>20 W</td>
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<td>50 W</td>
<td>2.1</td>
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<td>250 W</td>
<td>3.0</td>
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<td>2000 W</td>
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<td>10.3</td>
<td>11.9</td>
<td>13.2</td>
<td>15.0</td>
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Notes: Distances calculated from FCC F(50/50) Distance to Contours Chart / Figure 1 of Section 73.333 of FCC rules
ERP= Effective Radiated Power (in watts)

DC 20554. You may wish to emphasize that the half-mile coverage proposed in RM-9208 is insufficient, and that you want to see the power levels described in RM-9242 enacted into the rules for LPFM. Having worked for several radio stations and having sold radio advertising for years, I know that inadequate coverage can doom an LPFM station, preventing it from being able to support itself with commercial advertisers. Any store owner will want your station’s coverage area to at least match his business trading area of 10 to 15 miles. Anything less, and you will find yourself unable to pay the bills at your new LPFM station. That’s why the old full-power Class-A station owners wanted, and got, an increase from 3000 to 6000 watts. If you want to operate with less power and cover a substantially smaller area, as in some very small markets, that is fine, and RM-9242 allows for that; however, in some larger markets, the higher power will be necessary to cover even half of the market.

In addition to writing the FCC, you should also write and call your Congressional representatives to enlist their support for RM-9242 and the creation of an LPFM service. The National Association of Broadcasters (NAB) is opposing the creation of LPFM because they don’t want any additional competition for their stations, and they are pushing this point to all those in Congress who will listen. It is important that we remind our Congressional representatives that under Section 257 of the Telecommunications Act of 1996, the FCC has a statutory obligation to promote competition and help small businesses enter the broadcasting field. Make your views known to your elected officials today. Remind them that, come election day, we will remember those who helped us create LPFM and those who did not.

So start scouring around for an existing tower on which you might lease space, and be prepared to give an engineer the tower registration number and the coordinates in degrees-minutes-seconds of the antenna site to begin a frequency search and the preparation of your own LPFM application.

Get ready, LPFM is coming!

Editor’s Note: Rodger can be contacted at the following address or phone number if you would like more information on LPFM. As Rodger and I have discussed over the past few weeks, the time has come for a worthwhile LPFM service.

J. Rodger Skinner, Jr., W4FM
TRA Communications Consultants, Inc.
6431 NW 65th Terrace
Pompano Beach, FL 33067
Phone: 954-340-3110
E-mail: radiotv@cris.com
The year was 1962 and the Cold War was in full swing. The Soviets were shipping missiles to Castro's Cuba. President John Kennedy's legendary confrontation with the Soviets about this, and his naval blockade of Cuba, appeared to bring the world one step closer to the brink of armed conflict.

The Cold War was more a war of ideologies, espionage, dirty tricks, subversion, nerves, words, and propaganda than anything else. So-called "black" (deep undercover) fronts and operations abounded, especially in the area of broadcasting. One that became quite famous was Radio Swan (also known as Radio Americas), a powerful anti-Castro CIA AM and shortwave station located on Swan Island, southwest of Cuba. It began operating just about the time of the Bay of Pigs invasion in 1961. Much has been written about Radio Swan. Another anti-Castro mystery station of the era was Radio Liberdad.

Very little has been published about yet a third undercover anti-Castro broadcaster, one hurriedly established by the U.S. Navy in response to the 1962 Cuban missile crisis. According to James F. Pinkham, one of the engineers who worked on the project during its initial deployment, Navy Communications (Navcom) Systems Headquarters had engaged two broadcast engineers to quickly and secretly ready a very old 50-kW transmitter and towers for portable operation at a secret island site in the Gulf of Mexico. The engineers were Jim Pinkham's former employer, the late John H. Mullaney, PE, and Phil Nesbit.

The transmitter Navcom Systems wanted operational was a Westinghouse 50G, a gigantic 20-year-old relic that had long been mothballed. They worked round the clock to restore this huge piece of equipment to operating condition at a Rockville, Maryland, site. It required extensive restoration and repair. Restoration was made difficult because Westinghouse was unable to furnish an adequate set of manuals or blueprints for the transmitter. A week was lost trying, and then replacing, wires.

The power supply portion of the station was worked on in Alexandria, Virginia. This consisted of two 200-kW, 208-volt three-phase diesel generators. Then, they had to figure out how to install the transmitter and all other equipment required for the station's operation in large semitrailers.

This included a 20-ton air conditioning system, a studio and workshop, spare parts and diesel fuel, diesel generators, and a roof and side shutters to protect the electrical equipment from the elements. In all, the radio station was to occupy five semitrailers.

Convoy Time

Wiring was still in progress when the Navy started the truck convoy on its way to Key West, Florida. The idea was to complete everything on site. Not long after the trip started, they learned that the tires on one van weren't strong enough. All of the tires blew out on the van carrying the heavy transformers. When they arrived in Miami, the project was carrying six engineers with secret clearance. Twenty-one broadcast trainees from a Miami school were sent over to help get the station finished.

At dusk, under cover of darkness, the semitrailers left the naval base at Key West aboard two Army Transportation Corps LCMs (mechanized landing craft) for a classified destination referred to only as "Island X." At 4:30 a.m., before sunrise, they arrived at a sandy beach in the Dry Tortugas where they were met by a contingent of Navy SEALs.

Located 70 miles west of Key West, the Dry Tortugas are a group of seven small, uninhabited coral islands at the entrance to the Gulf of Mexico (approximately 24-38-36N, 82-52-00W). Declared a National Park in 1992, the Dry Tortugas lie within the territorial limits of Florida. They were named Las Tortugas (The Turtles) because of the abundance of turtles found there when discovered in 1513 by Spanish explorer Ponce de Leon, and mariners later added the word Dry because of the lack of fresh water. Lighthouses were constructed on two of the keys in the 1800s. They are the site of the ruins of Ft. Jefferson, an unfinished Civil War era fortification used as a prison until 1873. Legends of pirates and sunken gold abound in these islands.

One problem after another arose as they started to deploy the broadcast equipment, often relating to rush-modifications made to the transmitter. The transformer oil that had been stored for trans-
QSLs from the mysterious Radio Liberdad were not forthcoming from any of their many announced mail addresses. But QSLs from the Free Russia NTS underground relays over Radio Liberdad came through readily. This NTS veri was received in 1963 by the late Ontario DXer, C.M. Stanbury, II.

Operating

The station was set up on 1040 kHz. The antenna was configured as a two-tower directional with a dumbbell-shaped pattern having a large back lobe towards the central U.S. mainland that created some interference. It was beamed towards Havana.

Program feed was a problem because they couldn’t get the microwave link from Key West to work, even with the dishes as high as possible at each end. Worse yet, an error at Navcom System HQ in calculating nautical miles versus statute miles had placed the stations 13 miles beyond the radio horizon.

Rack-mounted communications receivers were brought in by helicopter. These were used to pick up and relay the VOA’s Cuban programming from the new VOA station on 1180 kHz that had also just gone on the air from Marathon, Florida. The VOA Marathon station was then still operating on low power (about 900 watts) while completing its antenna tune-up. Broadcasts of some Radio Americas programming was also relayed by the Navy station. The Navy station’s 1040-kHz signals were heavily jammed by Cuba. So were signals from Marathon (making the Navy’s off-air pick-ups difficult). The White House sent a dispatch to the Officer in Charge, VOA, Marathon, stating: “Continue operating at present experimental power level to act as relay to the Navy installation on Island X for the Duration of the emergency. JFK.”

Moved From Island X

Three months after first being set up on Island X, the station was moved to a new location near the Key West Naval Air Station (NAS), announced as Sugar Loaf Key. Jim Pinkham did not participate in this relocation. At the new site, it used three towers for better pattern control. It continued in operation there for about four years until damaged by a hurricane which took down the towers. The transmitter was then placed in mothballs. When Pinkham and Mullaney visited the NAS a decade later to survey the stored transmitter for the Navy, it was still serviceable. An FCC inspector from Miami later advised Pinkham that it had been reactivated for use on 1040 kHz by the anti-Castro Radio Marti.

Pinkham told us that because the operations on Island X were deemed secret at the time, no photos were permitted. So secret was this station’s status and location that a VOA official didn’t specifically acknowledge it until 1969. In reponse to a direct inquiry, he answered “I understand that a transmitter located temporarily on Dry Tortugas in connection with the military build-up at that time did relay VOA programs for several weeks.” It took nearly 30 more years for someone who had actually worked at the temporary island station to step forward and provide any details!

We’d like to thank James Pinkham for his help and cooperation in presenting the material about this station. We’d also like to thank IMAS Publications, Alexandria, Virginia, for permitting us the use of some of their (Copyright 1997) material here. James Pinkham is presently a control systems designer and consultant associated with Multronics, Inc., Mullaney, Inc., and other manufacturers. His e-mail address is <JimPink@iol.com>.

Radio Liberdad, Another Mystery

Perhaps second in fame only to Radio Swan/Americas as a 1960s anti-Castro station, Radio Liberdad, La Voz Anti-Communista de America, stayed deeply hidden. DXers went batty trying to find out who financed and operated it, its exact purpose, or even its specific location.

It first appeared on the shortwave scene in October of 1961, shortly after the Bay of Pigs fiasco, and nearly simultaneously with Radio Swan’s metamorphosis into Radio Americas. At first, two frequencies were used, 7318 and 6999 kHz, the latter having been used by Radio Escambr Libre, a one-shot transmission aired by the CIA at the end of the failed Cuban invasion. A third outlet on 15050 kHz was added in December. Then a year later, when the worst of the Cuban missile crisis was over, they were running a full sked on 4005, 5067, 7318, and 15050 kHz, with mediumwave on 1556 kHz (later changed to 1404 kHz).

During that period, Radio Liberdad’s anti-Communist propaganda operations were in full swing. After that, the station appeared to have hit the skids. By March of 1967, the outlets had been cut to two shortwave transmitters, and, as of late 1969, they were only on 15050 kHz. At best, the signals had never been particularly strong and appeared to be coming from transmitters running between 5 and 10 kW. By 1969 the 15-MHz signals had become so bad if they were barely readable.

Intentionally Mysterious

That Radio Liberdad was a mystery is an understatement. Intensive digging by the news media and members of the DX hobby were unable to turn up the slightest wisps of information. A number of attempts (via printed leaflets and through
private contacts) were made throughout the Miami area, where there is a high concentration of Cubans, to find out about Radio Libertad. Not one person with information came forward.

In June of 1962, the station claimed it was broadcasting from the studios of Eugenio Fernandez Ortega, but no location was given. In November of 1962, the station announced its first mailing address, which was a P.O. box in Miami. Soon after, this was changed to 2113 Ocean View Drive, Miami Beach. A check determined that there is no such street. Other addresses were also provided, including two more P.O. boxes in Miami, a P.O. box in Caracas, Venezuela, and a Caracas street address. DXers reported receiving no QSL cards or letters from those addresses, except one listener who claimed to have gotten a Radio Libertad QSL from Caracas.

Interestingly, QSL cards were received for NTS transmissions relayed over Radio Libertad. NTS was an underground station of the Free Russia movement. It was anti-Communist and operated using mobile facilities from somewhere in Europe. The relationship between the two stations was never clear, although NTS programs may have been broadcast over Radio Libertad for the benefit of Soviet missile technicians stationed in Cuba.

In fact, Radio Libertad carried its own Russian language programming, along with additional broadcasts in Spanish, English, and German. These broadcasts were very hard-line anti-Communist, far more militant than the CIA-inspired programs of Radio Americas.

Who/Where?

There were many theories held by hobbysts as to who ran and financed Radio Libertad, some, of course, connecting it to the CIA. Yet a confidential CIA monitoring report guessed that the station was located in Venezuela and being operated by a group calling itself "The Eleven." It's doubtful that such information would have been distributed to government agencies if the CIA were running the station, although some other U.S. intelligence operation, such as the Defense Intelligence Agency, still might have been behind it. In any event, it was certainly located somewhere in the Caribbean area, or Venezuela, the Netherlands Antilles, another island, or possibly a ship.

It could well have been that Radio Libertad was essentially anti-Communist in general, and not specifically anti-Castro. If so, it could well have been a totally independent operation financed from outside of the Americas and staffed by non-Cubans. That could explain its ties to NTS in Europe.

For whatever it might prove, it's interesting to remember that, while Fidel Castro made a number of violent tirades against Radio Swan/Americas (including one in the United Nations), he never took on Radio Libertad. Nor did he attempt to jam its signals. Possibly Castro wasn't quite as impressed by the mysterious Radio Libertad as were the many DXers that the station managed to tantalize throughout the 1960s.

This is your section of the magazine. We are always pleased to hear from readers with comments, suggestions, personal anecdotes, news clippings, and other items relating to radio and wireless of bygone days. Write in care of the magazine, or you can send a direct e-mail to us here at: <Radioville@juno.com>. See you on the road to Radioville.
The 11th Annual Shortwave Listener’s WinterFest!


By Ken Reiss

“T

here was a lunar eclipse last night, and a full moon tonight. Today is Friday the 13th, what better time to kick off a WinterFest?” With this announcement, “Dr. DX” — Harold Cones, Ph.D., in real life — kicked off the 11th annual Shortwave Listener’s WinterFest in the Holiday Inn at Kulpsville, Pennsylvania. It’s truly impossible to appreciate the depth of this conference without attending, but I’ll try to give you an overview. It’s helpful, however, to have a little history.

Every year, approximately 200 radio nuts gather for a long weekend to “just talk radio.” At least, that was the original idea as hatched by Dr. Cones and Bob Brown. Soon, they were joined by Chris Fields, and the first WinterFest was well on its way. These folks would soon become known as “The Gang of Three,” and are responsible for putting all 11 of the WinterFests together, although in recent years they have had a few “helping hands.”

The first WinterFest, which I did not have the privilege of attending, is somewhat legendary. It was held in the pink and purple “Pancho Villa” room at the Willow Grove motel just a few miles from its present home. The premise was to just get together and talk about radio, so no formal presentations were organized.

One evening on the local news channel, a feature discussed a murder that had occurred in a local hotel. WinterFest participants were a bit shocked to arrive in the hotel dining room the next morning for breakfast, and find the police outline of the body on the carpet. But the fest continued, since it wasn’t a member that had been killed, and generally a good time was had by all. The following year, after

Good food and great conversations about all facets of radio were available at the banquet.

Several displays lined the outside of the main convention room. Here’s Mark Fine of FineWare, demonstrating his excellent shareware control program for the Drake R8 family of receivers. Mark can be found on the Web at <http://www.crosslink.net/~mfine>. Numerous clubs were also represented, including CIDX, ACE, and NASWA.
this “event,” it was decided to move the fest to its present location, the Holiday Inn in Kulpsville.

The fest has come a long way in 11 years. From take-out pizza the first year, to a formal banquet catered by the motel. There are now forums on all sorts of topics throughout the day on Friday and Saturday. And there is a hospitality suite where refreshments are provided, as well as an open forum to just chat about radio.

And there are raffle prizes, funded by the raffle itself, and lots of prizes donated by all sorts of radio stations, organizations and commercial vendors. But every year, the “Voice of Pancho Villa” returns for a visit.

At the stroke of midnight, on Saturday night, Pancho makes a mysterious broadcast from his hideout in Russia and life in general in the young country after the transition.

scanning with the “scanner scum” — all of which were presented by well-known experts in their field.

Saturday evening’s festivities brought the event to a close with a catered banquet, remarks by Voice of Russia’s Estelle Winters, and drawings for the raffle prizes. Finally, at midnight, Pancho did not disappoint the waiting crowds in the hospitality suite.

Dates for next year’s WinterFest have been selected. Further info can be obtained courtesy of Tom Sundstrum’s Web site at <http://www.trsc.com/winterfest>. This site will be updated as plans for next year’s event come together. Of course, there’s no guarantee that Pancho will return next year, but I’ll be listening to 6955 at midnight next year... if one were to know such things.
A LOOK BEHIND THE DIALS

Using The Voltmeter

To understand troubleshooting techniques, you need to know what your test equipment can and cannot do. This month, we are going to take a look at voltmeters.

At this point, I'll assume you know how to make basic voltage or ohmmeter readings with your meter. Voltage and resistance measurements are the two most common measurements used in vintage radio restoration. Chances are your voltmeter is actually a multipurpose test instrument, and has several ranges to measure AC and voltages, resistances, and current. My shop instruments include several service and lab-grade Fluke digital meters, a Heath IM-13 VTVM (vacuum tube voltmeter), a Simpson 260 analog meter, and two Tektronics oscilloscopes. (Gosh, I built that IM-13 back when I was in high school — how time flies!) Which test instruments do I use the most, and which remain unused? If, for some reason, I were allowed to keep only one piece of test gear, it would be my Tektronics 465 scope — hands down. A good scope is the most valuable tool a technician or service person can own. How to use a scope for service work is good fodder for several future columns.

A Look At Voltages

Several months ago, I mentioned that the tube voltages shown in tube manuals are always referenced to the tube cathode. A sharp-eyed reader questioned my statement, asking: "What about the voltage readings given in the Rider manuals for some sets? Are these voltages taken from ground or the tube cathodes?"

They're good questions! Those voltage readings shown in the Rider manuals are always measured from the chassis to the point being metered, unless it's stated otherwise. The voltages given are for general troubleshooting, and are not for determining the actual operating parameters of the tubes in the set.

Ohms-Per-Volt

So, can you use a fairly recent vintage VOM (volt-ohm-meter), such as the venerable Simpson 260, to take voltage measurements based on those shown in the Rider's voltage tables? It depends! Look at the schematic that shows a simple voltmeter. The values of the resistors determine the full-scale voltage reading. The resistors are called "multiplier" resistors: the more sensitive the meter movement, the larger the resistor value needed for a given voltage range. The "sensitivity" specification for voltmeters is given in "ohms-per-volt." A sensitivity of 1000 ohms-per-volt means that the resistance of the voltmeter is 1,000 times the full-scale voltage reading. Thus, for the 0- to 10-volt range, our meter will present a 10,000-ohm load to whatever circuit it is connected across. Ohm's law shows that a 1000 ohm-per-volt voltmeter is using a 1-mA meter movement.

Any voltmeter, analog or digital, will draw current from the circuit it is measuring! The exception to this rule is the null-meter circuit that uses a special 0-center reading meter — when the reference voltage is set to equal the measured voltage, the 0-center meter is at center and is drawing no current.

Most schematics giving voltage readings will also show the "ohms-per-volt" rating of the voltmeter used to make the voltage measurements. Early service meters used relatively high-current meter movements, and the early Rider voltage readings will often note that the meter used had a 1000- or 5000-ohms-per-volt rating. Suppose you used a 1000-ohm-per-volt meter on its 0- to 100-volt scale to measure a screen voltage on an i.f. stage. Let's say the designer was using a 90-K resistor to drop the plate voltage from 240 volts to 85 volts for the screen. The meter on the hundred volt range is going to load the circuit with 10,000 ohms resistance — substantially lowering the screen voltage. How much effect would be hard to say. There's a bit of "seesaw dynamics" involved here: As the screen voltage is lowered, the screen current would also change, causing the voltage drop across the dropping resistor to lessen (screen voltage increases). The meter load changes constantly with varying voltage, but don't be surprised to see a voltage reading that is 20 or 30 percent lower than it actually is!
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Using a more modern meter with a 20,000-ohm-per-volt rating, such as the Simpson 260, greatly reduces the error. These newer meters use extremely sensitive 50-microamp full-scale movements. On a 250-volt scale, a 20,000-ohm-per-volt meter will present a mere 5-megohm load to the screen circuit, and your voltage reading will be entirely accurate for this sort of service work. So, as you can see, this is sort of a "Catch 22" situation. Using a vintage meter to service old sets will produce readings that match those shown on the schematics, while heavily loading the circuit. A more modern meter will likely give truer voltage readings, but they may not agree with those shown on the schematics.

**VTVMs And Digital Meters**

A VTVM is a vacuum-tube-voltmeter. The VTVM uses a vacuum tube to present a very high-impedance load to the circuit being measured. On the DC voltage scales, this is normally an 11-megohm load. Digital meters, such as my Fluke 77, also present a very high 11-megohm resistance load. While the basic VOMs suffice for most general voltage measurements, the digital and VTVM meters are best for measuring AGC voltages. The AGC voltage is usually produced by a diode detector after the last i.f. stage, and is fed to the i.f. (and, if present, the r.f. stage) grid. A 1-megohm, or higher, resistor is often used to help "filter" the audio components from the AGC voltage.

If the set is delivering 2 volts of AGC to the i.f. stage, and you attempt to measure it using a 20,000-ohms-per-volt meter on the 10 volt range, you will be shunting the AGC voltage with 200,000-ohms. Since it is being fed from a 1-megohm resistor, the circuit will be severely loaded. The meter and AGC impedance will combine to form a 5:1 voltage divider! Again, there is some "seesaw dynamics" at play: the AGC will attempt to compensate by increasing the detector output, but it will probably "saturate" long before the desired AGC voltage is reached at the grid. As you can see, an 11-megohm VTVM or digital meter would have minimal effect on AGC voltage readings. VTVMs have two drawbacks: The cabinet is not isolated from the ground terminal of the meter probe, and the meter requires AC power.

**Reading Ohms**

My favorite meter is the autoranging Fluke 77. I can't imagine life without it. But, when it comes to measuring inductances, such as transformer windings or chokes; or resistances, such as the leakage of an old wax capacitor, it has its share of problems. What happens is this: When measuring a large inductance, such as a power transformer winding, the meter supplies a small voltage to the winding. Depending on the current the meter "sees," the ohmmeter will autorange to the appropriate scale. But, as the voltage builds in an inductor, it generates a counter EMF voltage. This counter EMF upsets the apple cart! The meter senses the current change, and it autoranges; the current changes again, and the meter again autoranges. This will go on forever! You're left with a flashing display, and no ohm reading.

Note that when reading a similarly large inductance with a VOM, the meter needle moves to the final resistance reading ever so slowly, as compared to when measuring a carbon resistor with an equal value. This is due to counter EMF produced by the changing magnetic field in the transformer core caused by the minuscule ohmmeter currents.

**Peter Poser**

OK, here's a quick test. You wish to measure a 410-volt test point in a receiver, and your choice is a digital meter, or your 20k-per-volt analog meter with a 1000-volt scale. Which instrument would yield the most accurate measurement? Check the end of this month's column for the answer.

**Aligning Radios**

Most service folks prefer an analog to a digital meter for alignment. The analog meter rapidly responds to small tuning changes, while the digital meter may display some lag or ambiguity on very small voltage changes. Some digital meters now include a bargraph display to offset this problem, but it is still hard to beat a good analog meter when aligning a radio.

**The Same For Capacitors**

The autoranging digital meter will have the same problem trying to measure the "leakage" resistance of a large value capacitor. The cap slowly charges, the current changes, the meter again autoranges, etc. The maximum resistance that can be measured by most digital meters is 20 or 30 megohms. Resistances higher than this will show as being open.

**The Debate Continues**

The debate over whether changing all wax capacitors in a vintage set is good...
practice or wasteful seems to continually crop up on the vintage radio newsgroup. Two or three megohms leakage will probably "fly" in a bypass capacitor.

One with 20 megohms of leakage would be marginal in an AGC circuit, and may not show on a digital ohmmeter check. A cap used between the plate and grid in audio stages darn well better have more than 200 megohms of leakage. From the AC to the chassis, I want a capacitor with a modern UL AC service bypass rating — my life depends on it. I rarely find vintage wax capacitors that don't have some degree of leakage. I would be hard pressed to identify one that has 200 meg of leakage. Don't waste your time trying to prove that old wax caps are good. Do the job right the first time and replace them with modern mylars. Changing old wax capacitors is not a substitute for good troubleshooting techniques, but it is nonetheless, good restoration practice. We will be using the ohmmeter to find some difficult service problems in an upcoming column.

A Grain Of Salt

Those voltage readings shown in Riders are typical readings. Tube age, normal component tolerance variations, line voltage, and other factors may yield voltages that differ from those shown. Will an i.f. stage still work properly with 75 or 95 volts on the screen when the schematic shows a nominal 80-volt reading? Of course it will.

Oh! The answer to the poser. I'm afraid there is no easy answer to this one. True, the analog meter load on the circuit is 20 megohms, which is better than the 11-megohm load presented by the digital meter. But, is 9 meg really going to make a difference? More importantly, how ac-curate is the calibration of the digital and analog meters, and to what resolution can the readings be made on the analog scale?

Until next month, 73s and, remember, if you've got any questions or comments, send them to "The Radio Connection" c/o pop Comm. 25 Newbridge Road, Hicksville, NY 11801 or to me via e-mail at <radioconnection@juno.com>
Where Do Natural Radio Signals Come From?

If you've been reading this column for awhile, you know I have a penchant for receiving natural radio signals. I even coined a term for it — RadioScience Observing — when I wrote a series for a British magazine. This term does not mean "radio astronomy," but includes radio astronomy. The reason I felt a new word was needed is that the field takes in a lot of territory. For example, "whistlers" and "spherics" are VLF signals, probably originating in lightning strikes. The maelstrom on the planet Jupiter produces a lot of signals in the 18- to 30-MHz band. The 18- to 24-MHz band is particularly good listening. There are also other signals from outside the Earth's atmosphere, with originations ranging from the sun, to the rest of the galaxy, and beyond.

"Early radio astronomers, such as Grote Reber (an amateur) and Karl Jansky, discovered during the 1930s that there were radio sources outside the Earth's atmosphere."

Early radio astronomers, such as Grote Reber (an amateur) and Karl Jansky, discovered during the 1930s that there were radio sources outside the Earth's atmosphere. Early British radar operators noticed these signals in an indirect way. They noticed that the detection range and apparent sensitivity of their receiving equipment tended to drop whenever the Milky Way was above the horizon. Similarly, antennas pointed in the direction of the sun also picked up a strong noise signal. You can see this effect in the VHF bands by pointing a beam antenna at the eastern horizon. Just before dawn there will be plenty of noise, but as the sun slips above the horizon, the noise level climbs to a much higher level.

Figure 1 shows the approximate distribution of energy across the "DC-to-daylight" spectrum. Two basic forms of radiation are noted: thermal and non-thermal sources. The thermal sources generate radio signals when electrons are deflected by heavier particles in very hot (1,000 to 40,000 Kelvin) clouds of ionized gas. The incident electron will have a certain amount of energy (Ei) when it encounters a heavy nucleus (Figure 2). The nucleus deflects the electron to a different path, causing a reduction in energy (Ed). The emitted radiation has an energy level of Ei - Ed. The frequency and wavelength of the emitted energy is a function of the energy level.

This mechanism is the way that medical X-rays are generated in X-ray machines. In that case, the phenomenon is called Bremsstrahlung (German for "braking radiation"). In the case of the X-ray machine, the electrons are emitted by a thermionic cathode, accelerated through a high-voltage electrical field, and then smashed into a metallic target. The metal nuclei cause the kinetic electrons from the cathode and electric field to deflect, releasing radiation.

The emitted braking electromagnetic radiation frequency is a function of both the initial and final speeds of the kinetic electron, as well as how close it comes to the heavy nucleus.

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The frequency of the emitted synchrotron signal is a function of the strength of the magnetic field and the initial speed of the moving electron. When these electrons enter the magnetic field they are deflected into a spiraling path (Figure 3) causing a change of velocity, which (by a mechanism like thermal radiation) causes emission of electromagnetic waves. This mechanism is called synchrotron radiation.

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Non-thermal radiation occurs when electrons in motion close to the speed of light encounter a strong magnetic field. When these electrons enter the magnetic field they are deflected into a spiraling path (Figure 3) causing a change of velocity, which (by a mechanism like thermal radiation) causes emission of electromagnetic waves. This mechanism is called synchrotron radiation.
The electron. The higher the speed and stronger the magnetic field, the higher the emitted frequency. X-rays, light waves, infrared waves, and radio waves are generated in this manner. Sources of non-thermal radiation include the active sun, the Milky Way, and exploding stars.

"The equipment needed for RadioScience Observing (RSO) is similar to the equipment required for your normal radio hobby."

What You Need For RadioScience Observing

The equipment needed for RadioScience Observing (RSO) is similar to the equipment required for your normal radio hobby. Directional antennas are highly recommended for HF, VHF, and UHF pursuits. Also, if you need a preamplifier, then a low-noise, high-dynamic range model will make the receiver perform better. Also, you might want to buy a book on astronomy to learn the coordinate system by which telescopes are pointed. It's the same for radio antennas.

My New Book

If you want to follow up and learn more about RSO, then you might be interested in my new book RadioScience Observing, published by Howard W. Sams/PROMPT. It deals with a wide range of RSO topics, and includes a CD-ROM for use on Windows machines (it contains antenna calculation software, plus wave files of natural radio signals). You can order it over the Internet from Amazon Books at <http://www.amazon.com>, or from radio dealers, such as Universal Radio. Alternately, you can order it directly from the publisher at PROMPT Publishing, 2647 Waterfront Pkwy East Drive, Suite 300, Indianapolis, IN, 46214-2041; Phone 800-428-7267.

Connections

You can contact me if you’d like a list of further reading. I can be reached via snail mail at P.O. Box 1099, Falls Church, VA 22041, or via e-mail at <CARRJJ@AOL.COM>. Please type my e-mail address correctly, as at least one variant misspelling is someone who really doesn’t want to get my e-mails.
got batteries? Tired of tossing those AA alkalines after just one full day of pocket scanner use? Do you need longer playing time than what you get on rechargeable nickel cadmium batteries (NiCds)?

Nickel cadmium batteries are your first source for dependable, rechargeable energy, and are not real fuss about how you recharge them. NiCds thrive on working a handheld radio from full charge to depletion, and then receiving a slow or quick-charge back to their original starting voltage. The more you exercise your nickel cadmium battery pack from full to empty, the closer it will approach three years of service for your scanning and communications equipment.

"I have three different Optoelectronics frequency counters and test receivers, and all of them continue to perform well on their internal nickel cadmium batteries, even though the equipment is over five years old," comments Bill Alber, WA6CAK, an emergency radio technician who uses his Optoelectronics equipment at least twice a month up at remote repeater sites.

"If more manufacturers like Opto would chose premium nickel cadmium battery packs, and supply the right kind of wall charger that won't cook the batteries, we could all get a lot more playing time for the NiCd cells," adds Alber. He also raises some good issues about NiCd and communications equipment:

- Use and recharge periodically, but never leave a pack completely discharged or on a constant recharge.
- Never fast-charge a nickel cadmium battery pack to the point where the cells get hot to the touch and continue to stay in the high-charge mode.
- Don't trickle-charge your nickel cadmium batteries for more than three days. If you can't remember to take them off charge, buy a cheap timer and give them only a two-hour charge in the morning, and a two-hour charge in the evening.
- Regularly exercise your nickel cadmium batteries by turning on your radio or test receiver, and allowing the equipment to pull the batteries down to a point where your equipment begins to stop operating. Then charge them up, and repeat this cycle at least once a month.

Long Life Alkalines!

Most handheld scanner receivers, portable GPS receivers, and portable two-way transceivers have an included or optional battery holder that takes the common AA cells. If you need the absolute longest operating time and don't have the capability of a quick fast-charge, select long-life, name-brand alkaline batteries, and run your equipment until you begin to see it slowly brown out. I recently tested long-life alkaline cells from "the bunny" as well as the ones with a "copper top," and performance was almost identical. The test involved running a scanner at medium volume, squelch wide open, and measuring the battery voltage after a full day of uninterrupted service. Nothing beats the name brand batteries, but coming in close to the performance of the big battery companies was a set of AA cells purchased from a local RadioShack store. These were the premium cells, and they had about the same weight as the name-brand AA cells.

"Give me a postage scale and a selection of eight AA batteries from different manufacturers. I can easily tell you which set of cells will run my scanner the longest by simply looking at their weight. Those that weigh the most will last the longest," claims Julian Frost, N3JF.

A big advantage of alkaline batteries is their extended shelf life. You can store a pack of AA alkaline batteries for up to five years with almost no loss of operating life, which is good news for emergency communicators.

Conversely, a set of freshly charged nickel cadmium batteries will self-discharge by about 10 percent per week. And even your best set of nickel cadmium batteries, fully charged just hours before use, will only provide approximately 70 percent playing time compared to AA alkaline batteries. But, a 70 percent play time on nickel cadmium batteries compared to alkaline batteries is a big improvement over the usual 50 percent play time we've seen in the past. Some of the best nickel cadmium batteries come from these well-known radio-friendly battery companies:

- E.H. Yost & Company, 2311-D Parkview Road, Middleton, WI 53562; Phone: 608-831-3443
- W & W Associates, 800 S. Broadway, Hicksville, NY 11801; Phone: 800-221-0732
- Advanced Battery Systems, Inc., 300 Centre Street, Holbrook, MA 02343; Phone: 781-767-5516 or 800-634-8132
- DC Ace Electronics, P.O. Box 364, Lincolnshire, IL 60069

"If you can't regularly exercise your nickel cadmium batteries, get a professional charger/conditioner that can pull the batteries down, and then bring them back up automatically for improved performance," comments Bob Davis, K71Y, a Reno, Nevada-based land mobile radio technician. "Many of my customers are
The NiMH battery on the left has almost twice the capacity as the NiCd on the right.

operating two-way radios on their original set of nickel cadmium batteries that are over four years old, thanks to new base-charger technology that may incorporate battery conditioning,” adds Davis.

New Batteries Need Precise Charging

The latest in new battery technology is called nickel metal hydride (NiMH). The nickel metal hydride AA cells are ideal for portable scanner radios, portable test receivers, and handheld transceivers because of their longer playing time, faster charging time, and improved performance in cold weather without “memory effects” that plague NiCd batteries.

The cost per cell of the new nickel metal hydride batteries isn’t that much more than comparable high-quality nickel cadmium batteries, and where a NiCd might only play 50 to 70 percent as long as an alkaline battery pack, the new nickel metal hydride packs can last almost as long as an alkaline pack.

The nickel metal hydride batteries have been around for over eight years, but it wasn’t until the cellular portable phone revolution that we saw them in the communications industry. And it wasn’t until about a year ago that we saw any of the traditional NiCd battery sellers beginning to cautiously sell the new nickel metal hydride cells. Why do I say “cautiously”?

“Here at Yaesu, we warn our customers not to run nickel metal hydride batteries in our equipment because of the problems that could be associated with rapid charging them,” commented a Yaesu service technician at a recent ham radio show. “If you were to recharge a nickel metal hydride battery pack in some of our rapid-chargers, you have the potential for fire or cell meltdown,” added the tech. This is an extremely important point: Nickel metal hydride batteries must not be rapid-charged with conventional nickel cadmi-

The new MFJ Quick Charger is compatible with both NiCd and NiMH battery packs. This model is for Kenwood radios. (Photo courtesy MFJ Enterprises, Inc.)

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The new breed of smart chargers for any type of battery — except alkalines.

The actual integrated circuit may guard against nickel metal hydride over-charging by detecting the millivolt drop in terminal voltage under constant current when the battery pack enters the over-charging region. The cell voltage actually decreases in the over-charge region. This drop in voltage indicates that a serious or potentially damaging over-charge is beginning to occur. The integrated circuit has a pre-set shut off as it calculates the voltage slope value to determine the dynamic inflexion point. The point where the voltage slope stops increasing in value and starts decreasing in value is referred to as the voltage inflexion point. Soon after the inflexion point, with charging current unrestricted, cell pressure and temperature begin to rise sharply as over-charging occurs. The dynamic inflexion point method terminates rapid-charge just before entering the over-charging region using this proprietary “smart charger” chip. You can imagine what might happen if a simple fast-charger mistakenly identifies the drop in terminal voltage as a need for more continuous charging: Meltdown!

Unlike nickel cadmium rechargeable batteries, nickel metal hydride cells won’t tolerate over-charging and instantly get red hot. This is why you see all the warnings to never run nickel metal hydride cells in a conventional nickel cadmium fast-charger.

Doing It The Right Way

To properly fast-charge nickel cadmium and nickel metal hydride cells, as well as the brand new technology of lithium ion cells, requires temperature and voltage monitoring throughout the fast-charging process. New integrated circuit chips from battery charging specialty companies like Semtech Corporation (Newbury Park, CA; 805-498-2111) may incorporate an integrated circuit that can sense the slight variations of top-off voltage when the battery pack needs to be shut down from the fast-charging current. This is sometimes called -dV (minus delta V detection). The chip is built into a battery fast-charger using a peak voltage timer, maximum temperature cutoff, maximum voltage cutoff, and a safety timer cutoff. The actual integrated circuit is in an 8- or 14-pin surface-mount package, and sells for less than $5 through battery charger manufacturers. This integrated circuit may guard against nickel metal hydride over-charging by detecting the millivolt drop in terminal voltage under constant current when the battery pack enters the over-charging region. The cell voltage actually decreases in the over-charge region. This drop in voltage indicates that a serious or potentially damaging over-charge is beginning to occur. The integrated circuit has a pre-set shut off as it calculates the voltage slope value to determine the dynamic inflexion point. The point where the voltage slope stops increasing in value and starts decreasing in value is referred to as the voltage inflexion point. Soon after the inflexion point, with charging current unrestricted, cell pressure and temperature begin to rise sharply as over-charging occurs. The dynamic inflexion point method terminates rapid-charge just before entering the over-charging region using this proprietary “smart charger” chip. You can imagine what might happen if a simple fast-charger mistakenly identifies the drop in terminal voltage as a need for more continuous charging: Meltdown!

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What It All Means

So, does this mean that the switch from older to newer technology batteries may require an extraordinarily expensive minus delta V super-smart battery charging system? And then, if you do make an investment, is there a chance that this charging system may only fit one particular type of radio receiver that you may own and operate.

Well there is good news. W & W Associates offers the Master Charger®, which has the “brains” to safely charge your NiCd batteries and NiMH cells and also has charging cups that can take almost any type of two-way handheld radio, as well as some scanners that have the appropriate charging pick-up tabs on the bottom of the battery pack. But we still don’t see any of the scanner or radio manufacturers coming up with their own
name brand type of nickel metal hydride battery chargers. We DO see Yaesu with their VX battery pack configuration. They pump in a lot of power for trickle when the charger automatically cycles off from fast-charge. The little smart charger has a temperature sensor in case something should go wrong. So far, I haven’t cooked a battery; but remember, the nickel metal hydride does get warm when the charger automatically cycles off of fast-charge, as it’s supposed to do.

But for under $50, these smart chargers are a great way to rapid-charge that new battery pack, whether it’s a traditional NiCd or the new breed of nickel metal hydride. Maha suggests that you keep this in mind if you have a 12-volt battery from your portable scanner or handheld radio in order to make contact with the gold spring-loaded pins. This is slightly inconvenient because now you must constantly slide the battery off, and then slide it back on each time you want to go to fast-charge.

You need to fiddle around with the movable gold pick-up points until they make positive contact on the battery pack. If you get the contacts reversed, the smart charger will just beep at you, and you throw a switch to get the polarity correct. Or you can turn the battery pack around.

To confirm that you have made proper contact, the smart charger will then illuminate a light-emitting diode, and flash a right light-emitting diode from one to five times indicating what voltage it will achieve on charge. You’ll see two flashes for a 6-volt pack, three flashes for the common 7.5-volt sealed pack, and five flashes for a 12-volt pack of sealed or individual AA batteries. Then the unit begins to charge at the maximum rate. Little light-emitting diodes will display the relative progress of the charge. The charger will conclude the rapid-charging process with an audible tone, and the red light will be the only light illuminated. It now goes to automatic trickle-charge.

If you haven’t used the battery for several months, push the discharge button, and the unit will pull it all the way down to a safe low-voltage without chance of cell reversal, and then automatically rapid-charge it up to full. The little smart charger has a temperature sensor in case something should go wrong. So far, I haven’t cooked a battery; but remember, the nickel metal hydride does get warm when the charger automatically cycles off of fast-charge, as it’s supposed to do.

But for under $50, these smart chargers are a great way to rapid-charge that new battery pack, whether it’s a traditional NiCd or the new breed of nickel metal hydride. Maha suggests that you keep this in mind if you have a 12-volt battery from your portable scanner or handheld radio in order to make contact with the gold spring-loaded pins. This is slightly inconvenient because now you must constantly slide the battery off, and then slide it back on each time you want to go to fast-charge.

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Watch What You Say

For example, here is another quote, one probably much more familiar to us than Kaylan’s: “I’m gonna kick your sorry ass all over the place ... YOU DON’T KNOW WHO YOU’RE DEALIN’ WITH.” Here again, you might not immediately know the WHO, but I’ll bet you have pretty well figured out the WHAT.

While this could be a quote from just about any CB channel, it is actually from the Internet. Surprised? You shouldn’t be. It is the same game, same players, just a different field. Growing numbers of CB enthusiasts are using the Internet and the World Wide Web as an extension of their hobby — sometimes, with tragic results.

The Players

Case in point: Christopher Marquis of Fairhaven, Vermont, and Christopher William Dean of Pierceton, Indiana. You may not know either by name. You should recognize each by style. There are operators like Marquis and Dean in almost every CB and on-line community.

It’s easy to imagine either of them transmitting that “kick ass” message. It’s hard to imagine anyone arguing that a good dose of reality, a long time ago, wouldn’t have been good for both of them, not to mention their on-air neighbors. Separated by hundreds of miles, they were brought together by their mutual love of CB and computers. Their association culminated in mid-March, with one dead and the other arrested, facing numerous charges, possibly murder.

Christopher Marquis

Chris Marquis, a 17-year-old who hadn’t been to school in months, spent much of his time on the CB. Some say that CB was his life. Around home, in rural Vermont, he was known on the radio as “CB Psycho.” He also loved surfing the World Wide Web. There he went by “Tuz.” Chris particularly enjoyed the chat rooms (IRC) and newsgroups where he swapped used radio equipment.

Chris lived at home with his unemployed mom, and spent a lot of time with her. Sometimes the two of them worked as DJs at local dances.

In person, Chris was well-mannered and polite. On the radio, however, the best that can be said is that he did a lot of goofing around. He was “a little mouthy” says one of his radio pals. Another admitted that occasionally Chris made other radio operators mad. Most of Chris’ on-air neighbors, however, found him rude and annoying. When the increasingly frequent and severe barrages of vulgarity and harassment started, they either sat there and took it, or turned off their radios.

What else could they do? Here, in what one writer describes as “The folksy world of Citizens Band Radio,” the CB community in Fairhaven and surrounding areas Vermont and New York were at the mercy of this on-air thug.

Christopher William Dean

Hundreds of miles to the west of Fairhaven, in Pierceton, Indiana, lives 35-year-old Christopher William Dean. Reportedly on his second marriage and behind in his child support, even his first wife describes him as likable. Dean is a contentious, hard-working truck driver who enjoys golf, guns, computers, and CB radio.

He runs a large linear and big antennas. His most recent project was erecting a larger tower. Chris Dean really enjoys talking on the radio. He has made many contacts both near and far.

Dean has, on at least one occasion, allegedly made his presence known at a local church, by bleeding the PA system during Sunday services. When approached by the pastor, he was sheepish and apologetic.
"We can't help but wonder whether, if help had been available for this beleaguered radio community, a tragedy could have been averted."

On the Internet, Dean enjoyed the chat rooms and newsgroups. There, while trading CB equipment, he met Chris Marquis. Several posts to the newsgroup, allegedly made by Dean, detail a deal gone sour. "He ripped me off too...I am posting ads about that crook all over the Internet...but the address I have is Washington St., Fairhaven Vermont...DON'T MAIL THIS LIAR ANY MONEY OR YOU WILL BE POORER, BUT WISER!!!!!! If I can find someone to pay the two-way airfare," the message continued, "I will go there and collect everyone's money back, and give him some severe dental problems to deal with...Are you listening, Chris?? When you see a six-foot, five-inch dark-haired man at your door, you better duck, 'cause I will be about to drop the maul...on your noggin dude." The post was signed <NCTomCat@aol.com>, a signature reportedly owned by Chris Dean.

Watch What You Say, Or...KABOOM!

At about 3 p.m., on Thursday, March 19, 1998, just minutes after a UPS truck dropped off a package, a large explosion rocked the Marquis's home. When the smoke cleared, Chris Marquis was dead and his mother severely injured.

Before long, there was yet another post on the <rec.radio.cb> newsgroup from NCTomCat: "To all you pesky reporters who keep e-mailing me with questions, I do not know anything about that incident with Chris Marquis. I only found out about it today, and immediately called the FBI, introduced myself, and told them about his bad business dealings, and that I did in fact say ugly things on the newsgroups about him. But that is where it stopped. Just my telling the readers about his shady business practices. As I said, I called the FBI and said I will GLADLY answer any or all questions about this tragedy. But I will not advertise any more if I learn of someone who steals money sent to order equipment. My good intentions to warn others has now turned and made me look bad, so from now on I will just keep anything I learn on here to myself. Nice guys finish last..."

Dean Not Alone

It appears that Christopher Dean was not Marquis's only dissatisfied customer. UPS had begun investigating Marquis before the bombing because of complaints received that Christopher Marquis had engaged in a pattern of fraudulent activity where he obtained various CB radio parts and other items, and then frustrated the sellers by allegedly refusing to pay the money owed.

Despite his protests of innocence, on Friday, March 20, 1998, Dean was arrested. Dean's name had been found on a piece of notebook paper next to Marquis's computer, and also on a UPS receipt, found in Marquis's wallet, for a CB radio shipped to Dean.

According to one newspaper report, authorities said that a friend of Dean's who cooperated had helped their investigation. They said this person, whom they would not identify, said that Dean had allegedly said that he "was going to send the guy a package in the mail, and boy is he going to be surprised." This person also said Dean learned off the Internet how to build a pipe bomb. "Dean indicated the directions included the use of a pipe, black powder, a clothes pin, and thumb tacks for electrical contacts."

Lessons Learned

While Fairhaven, Vermont, is probably a much nicer place for radio today than it was earlier this year, we can't help wondering whether, if help had been available for this beleaguered radio community, a tragedy could have been averted.

Guilty or innocent, no doubt Chris Dean now wishes he had been a little more careful in his choice of words. Let us hope that the lessons he has learned are not wasted on the rest of us.

Well, that's it from here. Thanks for writing me here at the magazine or via the Internet, where my address is <edbarnat@global2000.net>. And, as always, if you can—catch me on the radio! 73

—Ed
Wiring Old CB Microphones

First, Those Gremlins!

Gremlins slipped into the May column in three places. One of the sources of tubes we listed was from Paul Tucker of Ft. Smith, Arkansas — not Arizona — and again, in my address where your questions are sent should be AR for Arkansas! The third error was next to the last line on page 45 where I said the Messenger 223 is simply a Messenger II turned sideways. It was mistakenly listed as a Messenger I.

Microphone Questions

The most-often-asked question I receive from readers concerns microphones, and the wiring of a replacement mic to your new or old CB. While there is no magic formula, there are some basic standards which will solve your problems. For any CB radio ever made, there is a replacement microphone available without a great cost and not much effort, in most cases.

First, let’s cover the type of microphone you need. When CB first started, all radios were tube-type units; a tube being a high impedance input device. A transistor is a low- to medium-impedance device. What this means is that the input to the first audio amplifier stage in the mic circuit is either above 100,000 ohms or below 10,000 ohms. If the output of the mic doesn’t match this, you’ll have low, or no audio, poor audio and/or distortion.

Because there were only a few radios that used carbon mics, we’re going to ignore them. The most common one was the first Polycom models, and there is an easy conversion to get away from its carbon mic — and with a substantial improvement in audio quality. You can tell if you’ve got that old model Polycom by checking to see if it uses a 6AL5 or a 6AV6 in the right front corner of the set. If it’s a 6AL5, it’s wired for a carbon mic. Contact me for the conversion if you want to change to a ceramic mic.

The design engineers of the early ‘60s had the choice of a carbon, crystal, or a dynamic mic. The carbon mic had poor high-frequency response and required a source of power to operate. However, it was rugged and inexpensive. The best choice was the crystal microphone since it was inexpensive, high impedance, had good audio quality, and high output. Its main drawback was heat. A hot summer day with the windows rolled up in your car could ruin the mic. It was also somewhat fragile.

The dynamic or “moving coil” mic had good audio, was fairly rugged, and wasn’t bothered by the heat. Its limitations were the fact that it was a low-impedance device; the required extra circuitry was a bit costly. Also, the output was somewhat low and required an extra stage of audio amplification. It was because of these drawbacks that it wasn’t a good choice for tube-type units.

Like Superman to the rescue, about this same time, the ceramic microphone element was developed and perfected. The ceramic element is almost a duplicate of a crystal element, but isn’t affected by the normal temperatures developed in an automobile in the summer. Its output level was slightly less than a crystal mic, but it was high impedance, had about the same frequency range, was more rugged than a crystal mic, and it didn’t cost much more. This became the mic of choice for almost all tube-type CB radios. If you have a tube-type unit other than the few that used a carbon mic, you’ll be using one with this type of element.

Once transistors took over the market, the design engineer shifted to the dynamic mic. They had become more rugged, their output impedance “matched” the transistor’s input impedance, and the cost had come down when millions were finally made. There was an exception. One of the brands of CB radios that never used a dynamic mic was the E.F. Johnson Messenger series. They used a special ceramic, high impedance, low capacity element, but you can get away with a regular ceramic mic.

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Figure 1. A relay-switching circuit.

Figure 2. Interrupting the mic audio.
The point I'm trying to make here is that you cannot take a microphone off your Cobra or RadioShack radio and use it on your old Polycom, Eico, or Heathkit CB. It will not work! The only solution is a mic with the correct type of element.

**Wiring The Mic**

Now that you've got the correct type of mic, the next problem is wiring it to your radio. For this, there is no magic answer, but generally it isn't difficult to figure out.

Regrettably, there has never been a standard wiring "color code," such as white for this, red for that, and black for something else. Add to that problem that a dynamic mic can have from two to six pins, and that many keying/switching circuits were used. I have provided the drawings for some of the more common ones, but there were many more systems used that I don't have.

All is not lost, however. Most CB radios made in large quantity have schematics available. If you can't find the schematics, it isn't difficult to figure out the requirements, then wire the mic to match. All your replacement mic needs is a switch with enough sections (I recall that four is the most) and a coiled cord with enough wires inside to connect from the switch to the radio. Six wires is the most I remember a cord having. We stock a dynamic mic that we can use on 85 percent of the transistor CBs that come into the shop for service. All we have to do is wire it correctly and maybe move a wire or two on the switch.

**Figure 3.** Providing a ground for the speaker during receive, and removing it after transmit.

**Figure 4.** A voltage divider.
The old tube-type CB radios are generally the easiest to wire because most of them use a relay-switching circuit (see Figure 1). The mic just keys the relay off and on, and the relay does all the switching of the radio between transmit and receive. Many of the CB units share similar methods, so we're not going to differentiate between them. About half of the CB units have the mic and received audio coming together, driving the same audio amplifier. If this is the case, the mic audio line has to be interrupted inside the mic or you'll get feedback while in the receive mode. (see Figure 2). The other 50 percent of the radios have the receive audio coupling in at the latter point down the audio system. In this case, the first stage is used on transmit only, and has to be shut down during receive to prevent feedback.

While the radios use many different switching systems, (switching from receive to transmit), it isn’t as difficult to figure out as you might think. The reason for this is that the mic switch and wiring can only do two things. First, it can provide or remove a ground; second, it can supply or take away a voltage. Probably one of the most common systems is shown in Figure 3. Here, the switch provides ground for the speaker during receive and removes it during transmit. At the same time, another switch section provides voltage (usually 12 volts) to some circuits during receive, and switches that voltage off to these points and over to some of the transmitter stages during transmit. The transmitter final amplifier power is not switched by the microphone due to the high current load. It is hot all the time the radio is on, and it doesn’t put out any power without drive from the lower stages.

You can generally get an idea about which type of circuit the radio uses in many cases by the number of pins on the plug. There has to be a ground and a mic audio. That’s two pins. If you switch the speaker audio, that’s a third pin. If the set switches 12 volts from receive to transmit, that’s three more pins for a total of six pins (12 volts up one wire and back down one or another wire). Remember that some units use the metal shell of the mic plug for one of the pins. In that case, it would only have five pins, but then the plug has a screw-on or firm locking ring for good connection.

Be sure to connect the radio to a dummy load/watt meter before you start. If you switch a transistorized unit into the transmit mode by accident, you may knock out the final.

First, check for voltage on any of the pins of the mic connector. Second, note if the receiver is functional without the mic. Third, look at the speaker to see if one side of it goes to the mic plug. The answers to these questions tell you what needs to be done with that CB. The same meter you used to check for voltage will also check to see if one of the mic pins is grounded.

Once you find one pin is grounded and perhaps goes to the speaker, that only leaves a few pins. If one pin has voltage on it, a very brief touch with a short piece of wire to one pin or the other will show if the unit switches into the transmit mode by either your watt meter or the transmit light on the front panel. If the speaker is switched, then a jumper with alligator clips on both ends will ground it, and you can hear the receiver come on and off as you try the jumper.

**Power Microphones**

Most units don’t need the extra stage of audio you gain with a power mic, plus, in many cases, they over-drive the first audio amplifier in the radio. This causes distortion and poor-sounding audio. In many cases, it will pick up lots of the sounds around you — the TV in the next room or wind noise in the car. If you insist on using a power mic and it causes squealing or over-drive, the first step would be to add a couple of resistors to the audio input which is usually just off the plug inside the radio. Generally a 50 to 100 K in series with the mic audio, and a 1 K to ground from the mic side of the 50-K resistor will do the trick. (see Figure 4). If it knocks the audio down too much, increase the value of the 1 K upward to suit the unit you’re using. In the old tube-type units, if you try using a power mic (which is normally a low-impedance mic) into a high impedance input, you’re almost sure to get squawks. The above circuit should correct this for you. Astatic microphones are available in both regular ceramic and ceramic power versions, if you need to purchase one.

The simplest method to wire a mic is to use a schematic, but finding and wiring a mic with the proper type element is not a difficult or expensive task. If you can’t find the information on your unit, drop me a note, since I have data on many. I can tell you about it by e-mail sent to me at <oldestimer@aol.com>, or can show you if you send me the information and an SASE. Write with any CB questions to Don Patrick, 3701 Old Jenny Lind, Fort Smith, AR 72901.

We’re considering re-building an Eico 772 and providing you with a modification that we developed and published in the late ‘60s that corrected low modulation. That’s coming in the September issue of Pop’Comm. We’ll also cover the Eico 770, 771 and 772. See you then!
Awards-chasing is a big attraction among hams of almost every persuasion. From Worked All States (WAS), to the DX Century Club (DXCC), and everything in between, hams tend to "wallpaper" their shack with as many operating achievements as possible. Checking out the shack pictures in any ham magazine (or a visit to your friend's shack) will almost always turn up something framed and on the wall, be it QSL cards, a contest award, DXCC, or whatever. This is amateur radio's version of the "ego walls" that we usually associate with the offices of certain professionals. It's meant to impress — and to let your fellow hams know what a great operator you are. It also serves as a way to reflect on the mileposts of your ham radio career.

This month's column is full of tips on how to acquire Special Event wallpaper of your own. By using just a few of these tips, you'll be knee-deep in certificates before you know it!

"Special-Event stations show up year-round, although the busiest months seem to be April and May, as many groups use them as a warm up for Field Day."

Special Stations

Have you ever wished you could have a couple of "nifty" pieces of paper on the wall to show to your friends and family? If you don't have the time for dedicated awards chasing — and who does these days? — there's an easier way to obtain attractive and interesting items for your shack... you can work some of the hundreds of Special Event stations that show up on the bands each year.

Special Events are on-air activities designed to generate interest in specific happenings. Clubs or groups try to contact as many people as they can in a given time period, usually the course of a weekend, and they produce special QSL cards and suitable-for-framing certificates to issue to the stations they work. Even if you're just getting started, Special Event stations are usually easy to work, and many set up in the Novice/Technician 10-meter phone subband for easy access.

Special-Event stations show up year-round, although the busiest months seem to be April and May, as many groups use them as a warm-up for Field Day. The "events" can range from a town festival, the commemoration of special historical events, the opening of museums, club anniversaries, or even holidays, such as operating from Christmas, Florida, in December. Clubs use these opportunities to get on the air in a big way, not only to publicize these events to the ham community, but also to demonstrate ham radio to the public. Just ask anyone who has been bitten by the Special Event bug: Any excuse will do when it comes to getting on the air!

Regardless of their diversity, all Special Event operations have something in common: awards, special certificates or collectible QSL cards! They range from commemorative color QSL cards to full-blown, giant-size color certificates. Some are truly impressive, and they're available just for making one contact with the station(s) involved.

Finding Them

How do you find Special Event stations? Most ham radio magazines devote some space in each issue to publicizing the
masters of ARRL say is true, then where are all these No-Codes? The other most interesting point Green brought up is about computers. Who needs a license to communicate? For only $21.95 or less a month, you get worldwide coverage and unlimited amounts of fun, entertainment, video phone, and chat. Even now I'm writing this letter as e-mail.

So what I'm saying Mr. Smith, is go ahead and hang on to the past, because instead of ham radio being demonstrated in our nation's classrooms as it once was, it has been overtaken by computer technology. That is also why the tests themselves are out-of-date, and will continue to dissuade others like me not just from upgrading our licenses, but more importantly I think, from spending the money on such high-dollar equipment that actually has very little going for it when compared to computers. And yes, I know about the emergency communications during disasters. But I made my choice of either having a $5,000 radio, or a hot-rod computer system, complete with all the accessories. I would venture to say that a bunch more of us No-Coders are also going with computers. And that, my friends, cannot be ignored.

Gary Bowen, CA

Bugged In Arkansas

Dear Editor:

I recall you said that you spent the better part of 20 years in the Army defending our right to free speech and all. So did I, but something really bugs me. Doesn't it irk you that the legislators seem to have forgotten what America is all about, and the "... of the people, by the people and for the people" foundation of our great country has eroded in the past few years?

Wilbur W., AR

Dear Wilbur:

It bugs me too, but when it gets right down to it, it's our own fault for letting the doofuses get away with it in the first place. The last time I checked, they worked for you and me, not corporate America.

You also know from experience, that doing the right thing requires common sense, a large dose of leadership, and caring about others; these required qualities, you'll recall, varied tremendously with Army leadership and your assignment. They vary even to a greater degree within D.C.'s Beltway.

Special Event operations occurring that month. These generally appear as brief announcements listing the sponsoring club, the reason for the event, a frequency or two, and details on how to claim your certificate. If you have access to the World Wide Web, point your browser to http://www.arrl.org/contests/spec.html for online listings. All you need to do is get on the air and begin the hunt.

Most operations will use only one or two transmitters, and antennas can range from verticals to multi-antenna beam arrays. Almost everyone operates on the 40-, 20-, and 10-meter bands, and will usually accommodate a Morse code contact, if you ask for one.

When beginning your search, remember that interference and band crowding can force the stations to move up or down in frequency, depending on the bands. If the operation doesn't list any frequencies, careful tuning of the General class subbands or the Novice/Technician 10-meter phone subband (28.300 to 28.500 MHz) should turn up what you're looking for.

Some stations are even including VHF or packet operations to enable Techs to get in on the fun.

Log 'Em!

So how hard is it to work a Special Event station once you've found one? Most Special Event stations are relatively easy to work, however, the most popular events generate a lot of interest, resulting in pileups. This merely makes the chase a bit more interesting! When you work a station, be sure you carefully mark down all the QSO information.

Some stations will give you a contact number to help the operators track you down when it comes time for them to confirm your QSO. Many groups work upwards of 3,000 hams in the course of a weekend; if your information is more than a little off, they may not find your contact, and you'll wind up in the dreaded "not in the log" position.

Getting Your QSLs Or Certificates

"Well, I worked one, so what do I do now?" If you first discovered the event in a magazine, it probably listed what the award was (a special QSL card, a certificate, or both), and how to obtain it. Usually, you send in your QSL card with all of the information about the contact (the day, time, the callsign you worked, the band, and the signal report you gave. If the op mentioned a contact number, make sure you display it prominently on the card, and include a self-addressed, stamped envelope (SASE).

If a group says it's offering certificates, it's best to send a 9 x 12-inch SASE. Most certificates are printed on 8 1/2 x 11-inch stock, which ensures that yours will not come back folded beyond recognition. Remember that larger envelopes often require extra postage!

That's all there is to it! In a few weeks you should get your certificate in the mail, ready to be framed and displayed. Before too long, you'll have your own "wall of fame" for all to behold!

Keep your photos, questions, and letters coming to me at "The Ham Column" c/o Popular Communications, 25 Newbridge Road, Hicksville, NY 11801.
Tap into secret Shortwave Signals

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

Listen to amateur stations, citizens and monitors and receive error free messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code from hams, military, commercial, diplomatic, maritime from all over the world – Australia, Russia, Hong Kong, Japan, Egypt, Norway, Israel, Africa.

Printer Monitors 24 Hours a Day

MFJ’s exclusive TelePrinterPort™ lets you monitor any station 24 hours a day by printing their transmissions on your Epson compatible printer.

Plug this self-contained MFJ MultiReader™ into your shortwave receiver’s headphone jack.

Then watch mysterious chirps, buzzes and buzzing sounds on ASCII, CW, SW and AMTOR(FEC) turn into exciting text messages as they scroll across your easy-to-read LCD display.

You’ll read interesting commercial, military, diplomatic, weather, aeronautical, maritime and amateur traffic... your friends can’t read it unless they have a decoder.

Eavesdrop on the World

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

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is "a fine ready-to-operate active antenna... quiet... excellent dynamic range... low... narrow... broad frequency coverage."

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz to 30 MHz. Receives strong clear signals from all over the world. 20dB attenuator, gain control, ON/LED. Switch two receivers aux. or active antennas.

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

Tuned circuitry minimizes intermod... improves selectivity... reduces electrical noise tuned outside band. Use as preselector with external antenna.

Covers 0.3-30 MHz. Has tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip; 5x26 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Compact Active Antenna

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

Also improves scanner radio reception on VHF high and low bands.

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, $12.95. 3/4x1/4x4 in.

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

Tuned circuitry minimizes intermod... improves selectivity... reduces electrical noise tuned outside band. Use as preselector with external antenna.

Covers 0.3-30 MHz. Has tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip; 5x26 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

Compact Active Antenna

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### Pop’Comm’s World Band Tuning Tips

**July 1998**

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 | UTC | Freq. | Station/Country | Notes
--- | --- | --- | --- | --- | --- | --- | ---
0000 | 5055 | RFO Guyane, French Guiana | FF | 0230 | 4819 | La Voz Evangelica, Honduras | SS/EE
0000 | 5960 | Radio Canada Int’l | | 0230 | 11735 | All India Radio | AA; s/on
0000 | 6035 | Radio Exterior de Espana, Spain via C. Rica | SS | 0245 | 9520 | Qatar Broadcasting Service | variable freq.
0000 | 7935 | China National Radio | CC | 0300 | 4835 | Radio Tezulultan, Guatemala | SS
0000 | 9705 | Radio Mexico Int’l | SS | 0300 | 4980 | Ecos del Torres, Venezuela | SS
0000 | 9810 | Radio Budapest, Hungary | AA | 0300 | 6000 | Radio Havana, Cuba | GG
0000 | 9900 | Radio Cairo, Egypt | AA | 0300 | 6085 | Bayerischer Rundfunk, Germany | Greek/EE
0000 | 15415 | Radio Jamahirya, Libya | AA | 0300 | 6245 | Voice of Greece | AA
0000 | 17820 | Voice of America, via Philippines | SSW | 0300 | 7200 | Republic of Sudan Radio | FF
0030 | 5880 | Radio Vuinis, Lithuania, via Germany | SS | 0300 | 9650 | Radio Guineenne, Guinea | SS
0030 | 5950 | Radio Vuinis, Lithuania, via Germany | SS | 0300 | 9690 | China Radio Int’l, via Spain | SS
0030 | 6725 | Radio Satellite, Peru | SS | 0300 | 9745 | HCJB, Ecuador | SS
0030 | 7365 | Radio Marti, USA | | 0330 | 3210 | Radio Exterior de Espana, Spain via C. Rica | SS
0030 | 9485 | Radio Bulgaria | PP | 0330 | 7500 | Radio Moldova Int’l, via Romania | SS
0030 | 13630 | Radio Japan/NHK | | 0330 | 9980 | Trans World Radio, Swaziland | unlang.
0030 | 13695 | Radio Thailand | PP | 0400 | 4775 | Radio Cora, Peru | SS
0045 | 9730 | Sri Lanka Broadcasting Corp. | | 0400 | 4915 | Radio Quito, Ecuador | SS
0050 | 6010 | RAI, Italy | | 0400 | 4919 | Radio Quito, Ecuador | SS
0050 | 9675 | RAI, Italy | | 0400 | 6030 | Radio Ukrain Int’l | SS
0100 | 4830 | Radio Tachira, Venezuela | SS | 0400 | 6135 | Swiss Radio Int’l | SS
0100 | 5012 | Radio Cristal, Dominican Republic | SS; variable | 0400 | 6265 | Zambia Nationala Broadcasting Corp | SS
0100 | 5770 | Radio Miskut, Nicaragua | SS | 0400 | 7110 | Voice of Ethiopia | SS
0100 | 5930 | Radio Slovakia Int’l | | 0400 | 9730 | China Radio Int’l, via French Guiana | AA
0100 | 6200 | Radio Prague, Czech Republic | | 0400 | 9780 | Republic of Yemen Radio | SS
0100 | 7115 | Radio Yugoslavia | SS | 0400 | 9905 | Swiss Radio Int’l | SS
0100 | 9737 | Radio Nacional, Paraguay | SS | 0400 | 11785 | Radio Iraq Int’l | SS
0100 | 11710 | RAE, Argentina | PP | 0430 | 5012 | Zambia National Broadcast Corp. | EE/AA
0100 | 11785 | Radio Guiaba, Brazil | PP | 0430 | 6165 | RDF Chadienne, Chad | FF
0100 | 17675 | Radio New Zealand | PP | 0430 | 7415 | Voice of America, via Botswana | vernacular
0130 | 7145 | Radio Ukraine Int’l | PP | 0430 | 9590 | Radio Netherlands via Bonaire, Neth. Antilles | SS
0200 | 4885 | Radio Clube do Para, Brazil | PP | 0445 | 3290 | Namibian Broadcasting Corp. | FF
0200 | 4930 | Radio Internacional, Honduras | SS | 0500 | 4850 | RTV Cameroon | SS
0200 | 5890 | HRMI, Honduras | SS | 0500 | 5030 | Adventist World Radio, Costa Rica | SS
0200 | 7450 | Voice of Greece | Greek/EE | 0500 | 5077 | Caracol Colombia | SS
0200 | 9585 | Radio Globo, Brazil | PP | 0500 | 5470 | Radio Veritas, Liberia | SS
0200 | 11720 | Radio Bulgaria | PP | 0500 | 6065 | Christian Voice, Zambia | SS
0200 | 11815 | Radio Brazil Central, Brazil | PP | 0500 | 7160 | BBC Ascension Island | SS
0200 | 11920 | RTV Morocaine, Morocco | AA | 0500 | 7160 | BBC Ascension Island | SS
0200 | 15170 | Radio Tahiti | FF/TT | 0500 | 7160 | BBC Ascension Island | SS

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AccuWeather Purchases WeatherPage™

AccuWeather, Inc., recently announced the purchase of the WeatherPage business from Widespread Weather Services, Inc. With this business, AccuWeather now provides instant notification of severe weather warnings, watches and updates to pages. The service is available for any alphanumeric pager from any paging company, and also provides daily forecasts and a variety of other types of information directly to the pager. Available are warnings and forecasts from the National Weather Service and those made by AccuWeather meteorologists.

AccuWeather founder and president, Dr. Joel Myers said, "This is a vital service for protection of life and property... clients include local and state emergency management agencies, schools, churches, hospitals, the media and others with a need for instant notification of severe weather."

The WeatherPage service is customized and pinpointed to provide each subscriber with the exact information for the specific area of interest to them. As part of the arrangement, Widespread Weather Services founder and president, Gregg Potter will be working with AccuWeather as Product Manager to provide additional enhancements to this service.

AccuWeather, Inc. is headquartered in State College, PA and was founded in 1962. It now serves more than 10,000 clients worldwide. The WeatherPager by AccuWeather costs $295 per year and includes notification to two pagers (additional pages, $99 each). For more information, contact AccuWeather at 800-566-6606 or write to them at 619 W. College Avenue, State College, PA 16801. Tell them you read about it in Pop’Comm!

Maxon Introduces New CB/Weather Radio

Maxon America, Inc., has introduced a new compact, lightweight portable CB to its product family. The new HCB-30C/weather radio receives up-to-the-minute weather broadcasts from the National Weather Service on one of three separate weather frequencies. A side-mounted CB/weather switch and green "WX" LED indicator make selecting modes and weather channel identification easy and convenient.

The Maxon HCBs can be battery-powered to function as a handheld, or by using the included 12-Vdc power cord, can be

"The Standard Against Which All Future Decoders Will Be Compared" Many radio amateurs and SWLs are puzzled! Just what are all those strange signals you can hear but not identify on the Short Wave Bands? A few of them such as CW, RTTY, Packet and Amor you’ll know - but what about the many other signals?

There are some well known CW/RTTY Decoders but then there is CODE-3. It’s up to you to make the choice, but it will be easy once you see CODE-3. CODE-3 has an exclusive auto-classification module that tells YOU what you’re listening to AND automatically sets you up to start decoding. No other decoder can do this on ALL the modes listed below - and most noise reducers have no means of identifying ANY received signals! Why spend more money for other decoders with FEWER features? CODE-3 works on any IBM-compatible computer with MS-DOS with at least 64K of RAM, and a CGA monitor. CODE-3 includes software, a complete audio to digital FSK converter with built-in 115v ac power supply, and a RS-232 cable, ready to use. CODE-3 is the most sophisticated decoder available for ANY amount of money.

“THE ONLY Commercially Available Computer Control Program for the Universal M-7000 & M-8000. Also, ALA’s PK-212 and the M&F-1278""

Maxon Founder and President, Harold Ort."
converted into a mobile CB. The models each provide 40 channel CB operation. Both the HCB-30C and HCB-10C operate with the maximum legal CB RF output power, have a high/low power selector switch, a front-panel transmit, and battery low LED indicator. The Maxon units also feature last channel memory which recalls the last channel displayed.

Each HCB comes equipped with external accessory jacks which allow "hands-free" operation when used with Maxon's optional mini-VOX headset (WTA-13G). The jacks can also be used with Maxon's optional QPA-1425 lapel speaker/microphone.

Powered by nine "AA" alkaline or NiCd rechargeable batteries or with the provided 12-Vdc power cord, the hand-helds measure 7 1/4 x 2 1/4 x 3 1/4 inches. Without batteries, the HCB-30C weighs 9.4 ounces. Each includes a rubber duck antenna, power cord, belt clip, carrying strap, owner's manual, and FCC rules. The HCB-30C also comes with an NOAA Weather Radio Network frequency card. Both models carry a one-year limited warranty.

The suggested retail price of the HCB-30C and 10C CB/weather radio is $119.95, and $79.95, respectively.

Maxon America, Inc., also manufactures a complete line of personal electronics products, including handheld and mobile CB radios, GMRS/DOT two-way radios, 40-MHz personal communications, FRS radios, and weather monitors. For more information, contact Maxon America, Inc., at 10828 NW Air World Drive, Kansas City, MO 64153 or call them at 816-891-6320, Ext. 399 or fax 816-891-8815.

**DX-World Guide Now Available**

The completely new edition of Fran Langner, DJ92B's *DX-World Guide* is 354 pages long and is full of information with maps, QSLs, QSL bureaus, grid squares, UTC, prefixes, radio clubs for each DXCC country and much more. It's available for $25 (includes airmail postage) directly from the publisher, DL8HCC, Joe Kraft, Gruetzmuhlenweg 23, D-22339 Hamburg, Germany.

For additional information, contact them online at FUNK-TELEGRAMM@t-online.de.

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SCANCAT GOLD "SE" SCAN CAT GOLD "SE" SCAN VHF & HF !tom s Simultaneously. Supports PerCon & Mr. Scanner CD Horns.

By Signal Strength plotted in individual dots. By Signal Strength per frequency in a 'histograph'.

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**THE MONITORING MAGAZINE**

July 1998 / POPULAR COMMUNICATIONS / 43
Handheld Skyhooks!

When I was first getting hooked on this radio stuff, shortwave was the lure. In fact, a friend of mine had found an old receiver in his garage and wanted to know what it was. I wasn’t sure, but I volunteered to take it home and see if I could get it working. I did. And here I am all these years later. Time flies whether you’re having fun or not.

One of the first things I learned about the radio was that you had to have an aerial — an antenna — a skyhook. That always seemed like such a good name to me because, with shortwave reception, it seemed to catch the signals as they were passing by. It turned out that you could afford lots of antennas based on the money you saved on the heating bill. Not much need for heat in the room if you had one of those old tube receivers.

Well, times have changed a bit. The frequencies I was interested in got higher (actually, they just expanded at one end) and the radios don’t make good space heaters any more. But the need for a good ‘ol skyhook hasn’t changed much — they just got shorter. And the radios got more portable.

I thought that we’d take a look at some of the myriad of antennas available for handheld radios, since that’s one of the topics I get asked about very often. We’ll do base antennas another time.

"Just don’t expect your handheld to receive transmissions from 75 miles away on a portable antenna."

Handheld radios have all sorts of handicaps conveniently built right in. They have to operate off batteries, which only supply a limited amount of power. The net effect of this is that they are not as immune to interference as their base counterparts, if all other design factors are equal (they usually aren’t).

Handhelds also are not expected to have a super whiz bang antenna attached to them as are base units. So the manufacturers try to compensate by adding extra amplification, etc. so that the handheld will receive about the same as a base unit. The fly in the ointment with this is that when you start hooking your handheld to base type antennas, you are likely to experience overload much more quickly than you would otherwise. It’s just the nature of the beast.

This is not to say that your handheld won’t benefit from an external base antenna when you’re using it at home. But if you’re in a metropolitan area, you may find that it works better with just the rubber antenna that came with it, or possibly another "handheld" antenna. This is mostly due to strong signal overload in metro areas and a phenomenon called "desensitization."

Experimentation is the best advice here, but start small and easy, and work up. It doesn’t make any sense to put up a base antenna with lead-in cables, guy wires, and lighting protection if you’re going to overload your radio with just a whip antenna. Try a few handheld variations first, and then if you’re still not receiving what you think you should, think about larger antennas. Of course, it helps if you can find someone in your area to compare notes with and make sure your expectations are reasonable.

Let's Try Some Experiments

One of the things that people tend to forget is that the VHF/UHF spectrum involves line-of-sight radio transmissions. The higher in frequency you go, the more likely it is that the signal is bouncing off buildings and other things, and so it may fade in and out a bit all by itself. Add to this natural "flutter" characteristic of radio the fact that you’re moving the radio around, and you have an equation that is just not meant for rock solid copy of anything but the strongest signals. Of course, you may only want to listen to the strongest, and therefore closest, signals. Just don’t expect your handheld to receive transmissions from 75 miles away on a portable antenna — at least not on a regular basis. Strange things can happen in the atmosphere, or at the top of hills.

Having said all that, let’s take a look at what the antenna is; a hunk of wire. In fact, in the good old days (which I mentioned earlier), RadioShack, on some of their handheld models, used to provide a piece of wire that would plug into the antenna jack in addition to the rubberized antenna. This wire antenna worked great on the VHF high band, and could easily be concealed in a pocket or down the sleeve of a jacket. Of course, hiding the radio was a bigger problem because it was about the same size as some of the larger synthesized radios today with 1,000 channels. We got to listen to a whopping four (yes, four!) channels — and you had to carry extra crystals in another pocket to change channels!

That old wire trick will still work great, but you’ll have to supply your own. Ideally, a single piece of wire connected to the center pin of a BNC connector would work great. It is helpful if you cut the wire to the length equal to 1/4 wavelength of the frequency range you are interested in monitoring. Bear in mind that this is not a particularly wide band antenna, but will perform OK if you use the lowest frequency that you are interested in for the calculation. I’ll spare you the complications of the math, but 2832 divided by the frequency in MHz will give you the length in inches. It may not be exact for transmitting purposes, but it will be very close, and should work fine for receiving. This antenna is the classic 1/4-wave whip antenna.

Having read all that, perhaps you’re not quite willing to have this wire dangling around when you carry the radio. Welcome to the club. Because of that, all sorts of variations of antennas...
Why didn't someone think of this before?

ALPHA DELTA Models DH-1 and DH-2
Hydraulic Dampened Fold-Over Mast Fixtures for
HF Verticals and Small VHF/UHF Ground Planes

Now one person can raise and lower an HF vertical in a simple 30 second operation!

- Easy antenna adjustments and maintenance.
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- The Model DH-1 fold-over fixture includes a powder coated steel pedestal--$249.95 ea.
- The Model DH-2 excludes the pedestal and mounts on a 4x4 wood post or sturdy wood fence post--$229.95 ea.
- Stainless steel hardware, aircraft grade aluminum and "post-hole" type mounting with premix concrete. Designed for verticals up to 29 ft. and 25 lbs. weight. DH series fold-over fixtures are pre-assembled and include a hydraulic dampener for safe operation. User supplied mast tubes shown in photos.

*Model DH-1 in action!*

Toll free order line (888) 302-8777 (Add shipping & handling, exports quoted)
Telescoping antennas come in all shapes and sizes. Shown are the RadioShack telescoping antenna (a great antenna to have around for experimentation), MFJ-1712, ARS RH775, and a generic VHF 1/4-wave. These provide reasonable performance when collapsed, and better performance on VHF high frequencies when extended. They are also easy to break if you hit them the wrong way.

have come along. The simplest is the 1/4-wave whip that I just described, which is made from harder wire so it will stand up on its own. In fact, many of them will telescope so that you don’t need to have the full length extended all the time. Of course, it will work best at full length on VHF high-band frequencies. On higher frequencies, the “wire” or length of the telescoping sections should be shorter, so you can drop it down a bit. This saves you from being poked in the shoulder if you’re wearing the radio on your belt.

The Proverbial Rubber Duck

Here’s where the rubberized antenna comes into play. Wouldn’t it be nice if we could get the length of wire we need, but in a shorter format. The rubberized antenna, or rubber duck as it is sometimes called, is exactly that. In law enforcement and other commercial applications, they don’t want to spend time putting a telescoping antenna up and down every time they want to transmit. They also don’t want to have telescoping antennas broken off every week, so something was done to fix the situation. The something was to wind the wire around in a circle and put the whole thing in a rubber sleeve. It’s a compromise antenna, to say the least, but most commercial equipment operates with strong signals, and they can happily live with the compromise. So can we, most of the time.

Another compromise that most of us will gladly make is to get a multi-band antenna. The 1/4-wave antenna we just discussed really only works well on the exact frequency that it’s cut for. The further away you go from that “center” frequency, the more the performance falls off. So if you have a 19-inch wire for the VHF bands, by the time you get to 800 MHz, it’s not very effective at all. By adding coils and other antenna design tricks, it’s possible to get the antenna to have good performance on more than one band. An excellent source of multi-band antennas is your nearest ham radio store. Since hams have transmitters in the VHF and UHF bands, they need antennas designed to handle both. These work great as scanner antennas for those bands.

Getting good 800-MHz performance is a bit trickier. To say the least, 800 is a bit more difficult to predict, and can use all the gain in signal that it can get. One of the properties of 800-MHz signals that makes them effective for city communications is that they bounce off of lots of solid objects. But if you’re very far away from the transmitter, having a tuned antenna with even a little bit of gain is a good idea. I’ve had the best luck with a cellular antenna. I just happened to find one with a BNC connector on it at a local electronics store, but these are not very common.

You may have to settle for an adapter or two if you listen to the

When reduced performance is acceptable, or shorter range is desirable, these short antennas are easy to hide and carry. Shown are the Maldol Active Hunter AH-209S, a UHF-only antenna (sorry, I can’t identify the manufacturer) which provides great performance on UHF (and reduced sensitivity on VHF and 800), and the Comet DB-32, the ultimate small antenna. Check your favorite radio dealer for these, or similar antennas for your handheld.
“One of the things that people tend to forget is that the VHF/UHF spectrum involves line-of-sight radio transmissions.”

800 bands a lot. Of course, a trunktracker scanner will benefit greatly from a good 800-MHz antenna. That same antenna however, makes the trunktracker a poor scanner on VHF. You’ll almost have to carry two antennas if you want any kind of performance in other frequency ranges.

**Specialty Antennas**

Sometimes, maximum signal-grabbing performance doesn’t make for the ideal antenna. We’ve already discussed problems with overload and intermod, but there may be other reasons you don’t want to grab every signal you can. A good example might be at an event or other confined area where the only communications you’re interested in hearing are local ones. In that case, particularly if the frequency you’re using is shared with other users, having a good antenna will force you to listen to all sorts of things you’re not concerned with hearing.

Here is where reduced performance antennas can actually be desirable. There are several antennas on the market, for each of the main bands, that emphasize size and convenience over performance. An excellent example of this philosophy is the DB-32 2M/440 ham antenna. It’s not much more than two-inches long including the BNC connector. It really looks cool on top of the radio. But it’s designed specifically for size, not performance. Hams can use it in local areas (like at a convention, for instance) quite effectively, but its performance falls off pretty quickly with distance. There are several other examples of this kind of antenna available. I use one on my portable scanner because I only care about listening to things in the immediate area, and would prefer not to listen to the static and squawking of the radio trying to pull out more distant signals.

**Have fun!**

One of the cool things about antennas is that they tend to be relatively inexpensive. Even rubber duck antennas aren’t all that expensive. And what works best in my situation may not be at all good for you. So I encourage you to experiment. Talk to friends, and try various antennas on your radio when you get together and see what works best. You won’t hurt the radio, and you may discover something that allows you to enjoy the hobby a lot more!

**Picture Perfect**

We’re looking for pictures of your listening setup for an upcoming article on designing a listening post. If you’ve got a good picture of your listening post that you can spare (sorry, pictures won’t be returned without an SASE), send it in! Got an opinion on how to design a good listening post? Send that in, too. Of course, your comments and questions, as well as any scanning related, pictures are always welcome at <armadillo1@aol.com> or via snail mail at 9051 Watson Rd. #309, St. Louis, MO 63126. Until next month, good listening.
Summer Is Here! Time For Chuck's Tips For Cool Scanning Action...

The summer is upon us, and I'm sure many of you are traveling with your scanners. The nice thing about traveling is that you have the opportunity to hear new systems you may not have monitored before. For instance, if you live in the city and head out to a rural lake for rest and relaxation, you certainly won't hear all the big-city hubbub on the airwaves while you sit back and contemplate putting your feet up on the lodge's porch railing. In fact, you'll be lucky if you actually hear anything at all! In the region I like to cool my heels, the most chatter I'll hear on the police channel is the police chief himself reporting that he's out checking the folks parked along the side of the road watching moose in the woods.

If you live in a rural area and visit a big city this summer, you'll have the chance to hear exciting communications that might even make you cringe. Imagine hearing reports of gunshots, fights, stab-bings, robberies, and more — almost every hour. On a hot summer night in the big cities, you'll hear plenty of this kind of stuff. It can be downright scary, so be thankful you have your scanner to let you know what's going on out there.

Trunked Systems

I'm sure many of you will be traveling around this summer with your newer scanners capable of monitoring trunked 800-MHz systems. That will prove to be a lot of fun. But don't forget that while you can follow the public safety trunks in the 851 to 861 and 866 to 869-MHz ranges, there's plenty of commercial activity in the 861 to 866-MHz band. And, in some areas, public safety agencies may be using commercial trunked systems in the 861 to 866-MHz band because the system already is in place for commercial customers, and the public safety agencies only have to invest in mobile communications equipment, not towers and 800-MHz trunked repeaters.

There's a good chance dear 'ol dad is off getting some cool ones or getting ready to launch the boat. Either way, staying in touch the right way — with new Family Service Radio (FRS) radios — will easily provide the family with a mile or so communications range at a campsite like this one at Paseco Lake, New York.

If you're headed off to the usual summer resorts, like amusement and theme parks, national parks, state parks, shopping malls, entertainment meccas, ball-parks — wherever two-way radios are used — be sure to take a lot of notes on the frequencies you find, and then send them in via mail or e-mail, and we'll do our part to let fellow readers know of your finds. Plus, we'll tell everyone who sent in the generous helping of frequencies and notes, making you famous (well, among radio hobbyists).

Keep in mind that your scanner may not always be welcome everywhere. In some states, it may be illegal to operate a scanner in a motor vehicle. Some amusement and theme parks have rules that forbid the use of scanners inside their parks, too. And if you walk around a shopping mall with a scanner, you may be interrogated by a security guard. Just exercise caution, try to be discrete, and no one should bother you.

For those looking to disguise their scanning activity, I recommend this tip from a reader who liked to keep low-key while scanning the action around him. Put your handheld scanner on your belt or waist and use one of the personal stereo-type headphones to do your monitoring. Most people will think you're just tuned into some rockin' tunes (little will they know you're really plugged in!) One additional tip for those who try this: Use the shortest scanner antenna you can to remain even more inconspicuous. If the activity you're monitoring is all nearby, you may find that you can even remove the antenna and still hear the two-way radios around you with no difficulty. Obviously, if you have a long rubber duck antenna on your scanner, it will tip people off that you have some type of communications radio. Using a UHF stubby duck works great for close-in communications monitoring. Experiment and see what works best for you on your "stereo."
The small rubber duck antenna on scanners like this RadioShack unit will provide good reception; in some areas, if you're close to the action, you might even want to remove the antenna to be more inconspicuous.

One last note: Some of my favorite listening targets in the summer include amusement parks (especially those business frequencies used by security) and shopping malls (which become refuges from the heat on hot summer days). You'll find plenty of action on the business frequencies between 151.625 and 151.955, 154.515 and 154.625, and 461 and 465 MHz. Be sure to tune around. You're bound to hear something on these bands just about anywhere in the nation. Have fun with summer scanning and let us know what you hear!

Getting Low

Summer is the time when VHF low-band signals from 29 to 54 MHz really come bouncing in some days. I always keep a few frequencies like 33.70 or 33.90 in my scanners here in the Midwest because, when the signals start skipping on low band, I'll hear fire dispatches for the area of the East Coast where I used to live. It's always exciting to hear dispatches for my home county a good 1,000 miles away.

There's plenty of other good stuff to hear on low band, too, if you're patient. I've heard military communications from all over the United States on low band, not to mention the national park in Caracas, Venezuela on 39.18 and Radio Cadena Nacional on 40 MHz (a remote link).

Jim Wico of Benton Harbor, Michigan, wrote in recently asking how he can increase his VHF low-band receive capability. He uses a RadioShack magnetic-mount mobile antenna for his older Realistic PRO-2005 scanner. He asks how he can rectify the situation quickly and easily without much expense.

There are two approaches to finding a remedy here; which to use depends on your listening habits. What segment of the VHF low band are you primarily interested in monitoring? If you're interested in the lower end, say 30 to 40 MHz, a 10-meter ham antenna or VHF low-band antenna, such as a professional two-way antenna, would help your reception. If your interest is in the higher part of the band, say 40 to 50 MHz, a 6-meter ham antenna or a two-way antenna designed for that segment would help. Keep in mind that amateur antennas usually cost less than two-way professional versions, and often are of the same quality. The amateur versions may need minor cutting or adjusting for the frequency band you are interested in receiving.

However, if you want to be able to monitor other bands, having the VHF low-band antenna won't help on VHF high band or UHF, including 800 and 900 MHz. What you need is a good antenna, regardless of what you buy. Check the gain on the antenna. See how the gain compares to other models. Go with the antenna that offers the better gain factor. And don't forget to send in your loggings of long-haul DX on the VHF low bands.

Family Communications

I like to travel, and one thing I have noticed more and more over the past few years is an increasing number of "family communications." For lack of a better phrase, on business frequencies such as 151.625 and 154.600. I've heard parents keeping track of their kids and similar communications. Have you ever heard these communications and wondered if...
you buy these radios in department stores, auto parts sales outlets, and even drug stores! They are designed to be used in small businesses that have a need for just a few handheld radios, however, there's nothing to stop a sales clerk from selling a family these radios. In fact, there is a family in one town where I lived that uses 151.625 with voice inversion scrambling on their radios. It's amazing that they can get away with it!

Families interested in using two-way radios should purchase UHF radios capable of operating in the General Mobile Radio Service (GMRS) at 462 and 467 MHz. Families can be licensed on these eight full-power channels and seven low-power frequencies. In addition, there is the newer Family Radio Service at 462 and 467 MHz that's good for short-range communications for families.

If they just need radios to find each other at the shopping mall, the Family Radio Service (FRS) is the way to go — and it's the cheapest, too. I've seen FRS radios selling for as little as $80 each. That's certainly less expensive than many of the VHF high-band radios that some families are buying. The UHF radios used for the General Mobile Radio Service may cost a little more than the VHF business radios, but at least the operators would be legitimate. The FCC tolerates minimal use of business radios to facilitate the personal needs of a radio user, but not on a daily basis.

Metro Trick

A Pop'Comm reader recently asked me online about any tricks to monitoring a busy big-city police department that has many busy channels — and to do so without missing much of the action. I recalled another reader who had come up with a method of doing such in the past and I'll pass it along for those hot summer nights of city scanning.

If you want to hear the hottest dispatches on your scanner, but don't want to monitor routine communications, such as vehicle stops, here's how to go about it: If your scanner contains at least 20 channels, program the first channels (such as channels 1 through 13) with the corresponding radio zone numbers (such as if there are 13 radio zones). Channel 1 would be programmed with the frequency of Zone 1, Channel 2 with Zone 2, etc. Channels 14 through 20 would be programmed with the citywide frequencies. Typically, citywide channels are used for bulletins in most cities, for reports of major crimes, and all-points bulletins.

Then, lock out channels 1 through 13, or whatever channels have the zone channels programmed in them. By doing this, you are only checking and stopping on active citywide frequencies while scanning. On the citywide channels, you may hear something like, "Units on citywide, report of shots fired, man down, at (address or intersection), this the 5th District, Zone 9 radio." If you wish to hear the radio traffic of the responding units, you would only have to manually go directly to channel 9 and just listen there until you've heard what you wanted to know.

You could, of course, modify this to suit your particular preferences. If you want to keep track of all activity, all the time, within a particular district or districts, you might want to "unlock" the channel containing the zone number for the district of interest. If your scanner has a priority function, you could still leave the channel "locked out" and just make the channel number of importance a "priority" channel and then engage the priority function.

Write In

This is your magazine! What are your favorite frequencies? Do you have any scanner-related questions? Do you have any listening tips worth passing along to your fellow readers? How about sending in a photo of your listening post or antenna farm? Write to: Chuck Gysi, N2DUP, "Scanning the Globe," Popular Communications, Box 11, Iowa City, Iowa 52244-0011, fax to 516-681-2926, or e-mail to <SCAN9111@aol.com>. Make sure you indicate in your e-mail that you are writing regarding this column.
How I Got Started

Congratulations To Luis Vega Of Florida!

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 and grammar, and to improve 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: "How I Got Started," 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.

"My dad bought me a tube-type shortwave receiver at a yard sale."

Our July Winner

Luis Vega, Jr.'s radio hobby began when he was 12 years old living in St. Croix, U.S. Virgin Islands. "My dad bought me a tube-type shortwave receiver at a yard sale. I strung a wire from my bedroom to an avocado tree. I received interesting broadcasts and military communications. A couple of months later, I received a CB radio from my uncle. Living on a mountainside, I communicated with CBers from all over the island. My family and I later moved to Florida in 1990, which is when I received my first scanner. Since then I've obtained a shortwave radio (DX-390), four CBs—two base and two mobile—a marine radio and two scanners. I'm also currently studying for my amateur radio license. I work for a two-way radio shop, so I'm around radios all day and I love it!"
Get ready, here we go again on another wild trip through a ton of great reports!

**Betty Boop Radio, 6955 at 1800** with “Good Ship Lollipop” and songs by everyone from Popeye to Carmen Maranda. Relay by WREC (Dean Burgess, MA) 2340. (William Hassig, IL) 2151 with repeat of first program. (Lee Silvi, OH) 1715 to 1730 sign off with Providence, Rhode Island address. (Michael VonDerLieth, NY) To 2212. (Jerry Coatsworth, ON)

**Reefer Madness Radio** came on after Betty Boop. Also a WREC relay, (Burgess, MA) 2220 with talk against marijuana. (Tom Delfrate, PA) 1730 with a DJ named Harry. Belfast address: off at 1746. (Burgess, MA) to 2310. (Coatsworth, ON)

**WRYT, 6955 at 1850** with Jukebox. Belfast address. (Delfrate, PA)

**WRNR, 6955 USB at 2317.** They said they’d been on 6250 10 years ago and now were “here to stay.” (Silvi, OH) 2318 saying they hadn’t been on since 1989. (Coatsworth, ON)

**Voice of Anarchy, 6955** at 0002 with Leonard and Linda Longwire with local musicians from Chicago. (Brandon Artman, PA)

**Lounge Lizard Radio, 6955.66 at 0017** with their program #3. James Bond movie music and other. Off with “Volare.” (Hassig, IL) 1521. (Coatsworth, ON)

**WKND, 6950.25 at 2240** with Radio Animal and Moody Blues. Also 2150 with Spike Jones. (Hassig, IL) 2312 sign on with laughter. (Coatsworth, ON)

**Voice of South Dublin, 6955 USB** with talk about Ireland. (Silvi, OH) Via WREC at 2345 with e-mail address <vosc@usa.net>. (Coatsworth, ON)

**Radio Azteca, 6955 at 1858** with listener mail and commercial spoofs. (Burgess, MA) 6955.68 at 2345 with fake news bits. WREC relay. (Hassig, IL)

**Anteater Radio, 6955 USB at 2255** doing a radio check, couple of tunes, “matching the antenna” and off at 2300. (Burgess, MA)

Take It Easy Radio, 6955 USB at 0431 with comments on a new location and antenna tests, various music, and jokes. (Andy MacAllister, TX) 0541 with tests, sympathetic towards farmers, Belfast address. (Vincent P. Everett, NY)

**Radio Azteca, 6955 at 1858** with listener mail and commercial spoofs. (Burgess, MA) 6955.68 at 2345 with fake news bits. WREC relay. (Hassig, IL)

**Anteater Radio, 6955 USB at 2255** doing a radio check, couple of tunes, “matching the antenna” and off at 2300. (Burgess, MA)

Voice of South Dublin, 6955 USB with talk about Ireland. (Silvi, OH) Via WREC at 2345 with e-mail address <vosc@usa.net>. (Coatsworth, ON)

Radio Eclipse sent this confirmation to William Flagel.
Rocket Radio, 6955 USB at 1130 with offbeat '50s music. Gave a Web site, too.
WLIQ, 6955 USB at 2000 with offbeat music and talks. (von der lith)
Voice of Communism USSR, 6955 at 1730 with political humor. (Everett, NY)
One Voice Radio, 6955 heard at 1815 with talk on health. (Everett, NY) 1818 with "Joe." (Burgess, MA) 1600. (Coatsworth, ON)
Radio Metallica, 6955 at 1605 with "Dr. T." Also 1415 in USB. At sign off, said would be back with high power AM
"Secret IDs sounding like WMLM and WMOM."
(Coatsworth, ON) 6950 closing with
"Argosy Magazine, 6956 at 2309 with programming related to the
Titanic."
Radio Trans Atlantic, 6955 at 2313 opening
with MIR space station. (Coatsworth, ON)
Voice of Green Acres, 6955 USB at
2314 with Green Acres theme played
over and over and talk. (Coatsworth, ON)
Radio Nonsense, 6955 USB at 0133
with "Lost in Space." (Silvi, OH) 2315
with children's music and comedy bits. (Hassig, IL) 0200 "broadcasting from
MIR space station." (Coatsworth, ON)
Mystery Radio, 6955 USB heard at 0517 with "So Fine.," "Black Is Black." (Silvi, OH) 0215. (Hassig, IL) 0505 with woman talking in the background. (Coatsworth, ON)
Radio Erotica, 6955 USB with slow
speed IDs between man and woman. Also
1918. (Silvi, OH)
Montana Audio Relay Service
(MARS), 6955 USB at 1848. Merlin
address. (Silvi, OH) 6954.9 USB at
2100. Off with "I like corn." (Hassig, IL)
2117 with comedy songs, anti-clinton. (Jeffery, NY) 1553 to 1600 sign off. (Coatsworth, ON)
WPUP, 69850 USB at 21943 via
WREC with dogs Ralph and Herbie. (Artman, PA)
Radio Raven, via WREC, 6850 USB
at 2020. Address c/o SRS. Ostra Porten
29, 44254 Ytterby, Sweden. (Artman,
PA) 2022 saying broadcast was from
Sweden. (Jeffery, NY)
Radio Three, 6955 at 2207 telling people
to report via Joe Philikowske at the
ACE. DJ called himself "Salomonick,"
'30s tunes. (Burgess, MA)
Munchkin Radio, 6950 at 1918 hosted
by "The Wizard" playing various comedy songs along with the "Dr. Who" theme. (Burgess, MA)
Argosy Magazine, 6956 at 1758 with
replay of a 1938 Ray Bradbury radio
story. Merlin address. (Burgess, MA) 2032, Ray Bradbury story from 1938
Argosy Magazine. (Coatsworth, ON)
Laser Hot Hits, 6955 USB with many
songs, Merlin drop. Also heard at 1355. (Silvi, OH)
Radio Indiana, 6955 at 2313 opening
with "Andy Griffith" theme. (Silvi, OH)
WMPR, 6955 at 2142 with abrupt start with techno pop, computerized male voice gave call letters. (Sue Wilden, IN)
Radio Titanic International, 6955 at
2309 with programming related to the
Titanic. (Silvi, OH)
WLIS, 6955 USB to 0528 close with
backwards talk. (Coatsworth, ON)
Wheeew! A great turnout! Keep listenin' and keep reporting!
RadioShack has once again provided us with a mid-year surprise scanner. It didn't appear in the 1998 catalog, but is in the stores now. This newest offering is a base version of the TrunkTracker™ similar to the PRO-90 handheld radio.

The 2050 is built in the small base cabinet, very similar to the 2040 and the rest of the family, and could easily be mounted mobile with the addition of a bracket (which is not supplied). It is 2 3/4 x 8 1/16 x 7 11/16 inches, so it will fit in the most crowded shack. The unit operates on 12 Vdc, and comes with the typical wall transformer for base operation.

The 2050 is a 300-channel scanner, like all of the TrunkTracker units to date. Its 10 banks of 30 channels each make for a convenient fit with trunking systems, and nice sized banks in the conventional scanning mode, too. The PRO-2050 features a triple conversion design so that it is more resistant to intermod and image reception problems, although it isn't completely immune.

As a conventional scanner, it is pretty much what you'd expect in a small base unit, and has all the features we've come to know and love from RadioShack scanners. Per channel scan delay, individual lockouts, switching banks in and out quickly are all present. One noticeable omission from the 2050 keypad, however, is the program button, which most RadioShack units have featured until recently. You simply move to the channel you'd like to program, enter the numbers, and press enter.

One channel in each bank is a priority channel, for a total of 10 priority channels that are checked at regular intervals in the conventional mode only. The scanner automatically selects the first channel in each bank as the priority channel, but you're free to move it with a relatively painless procedure. Priority operation does not function in the trunked mode.

One feature that will be appreciated by many is the ability to turn the keypad beep on and off. When the unit ships from the factory, there is a tone present each time a key is pressed. By pushing and holding the LO/SKIP button and turning the scanner power on, the keypad beep will be disabled, or enabled if it was off.

### Searching

The scanner also contains five preprogrammed search banks for various services. These are Police, Fire/Emergency Services, Public Service, Air, and Weather. It is a simple matter of pressing the SVC button, and the name of the preprogrammed service will appear on the display. By pressing SVC again, you can scroll through the available search services until you find the one you want. After a two-second delay, the service search will begin. You can turn on the Data Skip feature during a Service Search if you like.

The 2050 also features "Limit Search." In this mode, you program a starting and stopping frequency for the search, allowing the scanner to run between them. This is the search mode that most scanners have had for years. The 2050 does allow you to lockout frequencies from the search, so that annoying signals can be skipped on subsequent passes through the range. You can lock out up to 50 frequencies in a Limit Search and 20 in a service search. It's a very convenient feature for anyone who does a lot of searching for new frequencies.

### Handy Gizmos

The 2050 has a nice easy-to-read backlight display. It also will tell you when you're about to program a frequency that has already been programmed. For those of you with no memory of your own, this is a convenient feature (trust me). Memories will be maintained for an extended period of time even without power, so the unit can be moved safely from the house to the car if desired, without fear of having to reprogram the radio. And, finally, any memory location with a "0" in it will be skipped during the scan process so you don't waste time scanning empty channels.

### The 2050's Audio

Probably the only complaint I've had on the unit is the audio. For a base station, the 1.1-watt audio amplifier is adequate, but not powerful. I hesitate to comment on the sound quality because it is such a subjective topic. One person's "bright" is another person's "hissy." On the 2050, the audio is, in my opinion, a bit "bassy" through the built-in speaker. Both of these problems can be overcome considerably by
using an external speaker, but it might be a concern for a unit in mobile service. An amplified external speaker might be necessary in a noisy environment.

**Trunking**

While the PRO-2050 makes an excellent conventional scanner, you'll most likely be using it in the trunked mode. Like all TrunkTrackers so far, the 2050 will only follow Motorola Type I, Type II and Type III systems. This is good news for most of you with a public safety trunking system in your area, but there are a few areas where other systems are used, and the TrunkTrackers are simply not able to follow them any better than a conventional scanner.

Just like with handheld TrunkTrackers, it is important to remember that you have to be in the trunking mode before you can begin to program the memories for a trunked system. You enter the trunk programming mode by pressing and holding the TRUNK button until it beeps twice. Then you can select any of the scanner's 10 banks to use for a trunked bank. Also remember that while you can scan a trunked bank in conventional mode, any conventional frequencies that you might have put in the bank earlier will be ignored by the trunking system. You must operate in the trunk mode or the conventional mode, but you can not mix them. In addition, you can only trunk one bank at a time, so your scanner will be tied up pretty much full time if you are using it for trunking (which is probably why you bought this radio). You may need another scanner to listen to all those non-trunked frequencies, even though you have memories available in the 2050.

The trunking mode will only accept frequencies in the 800-MHz trunked range, specifically from 851.0000 to 868.9875 in 12.5-kHz steps. If you try to enter a frequency outside this range while in the trunked programming mode, an ERROR message will appear on the display. As of this writing, there are no TrunkTracker scanners that will follow 900 MHz or the federal 400-MHz systems, although third party adapters and software for other radios may be available.

In addition to the users manual, the PRO-2050 comes with the National Public Safety Trunked System Frequency Guide. This small format 60-page booklet contains frequency information by state for many of the trunked systems in use around the country. This is very convenient if you are unfamiliar with your local area's frequencies. For the St. Louis area, the guide seems fairly complete, listing the Convention Center system and local universities, in addition to the public safety system for the city of St. Louis. I hope that it is as thorough for your area.

Once you've entered the frequencies, you're ready to find talkgroups that are of interest. Pressing the search mode will start the scanner looking for IDs. As it finds an active talkgroup, the display will indicate the number of that group. You can write them down for later reference, or you can choose to store them into a scan list. Like all TrunkTrackers, the 2050 allows 50 IDs (five groups of 10 each) to be stored for each trunked group. You can also enter IDs manually if you have a list. IDs act like channels in the conventional mode. You can lock them out, hold on one, etc. This is the basic conversation-channel that the folks using the trunked radios are also monitoring. As you listen, you'll quickly figure out which ID numbers are of interest and which are not.

One final note on ID numbers. The 2050 also uses "Fleetmaps" to determine how to process the ID numbers. The default fleetmap is that all of the ID numbers will be in the Type II category; for most public safety trunking systems around the country, this probably works quite well. However, if you hold on a talkgroup ID and then don't hear the reply to the conversation, you just may have a fleetmap problem. The December '97 issue of Popular Communications featured a lengthy discussion on programming and discovering fleet maps. You may also be able to find information from your local RadioShack store, or from other scanner users in your area who are more experienced with TrunkTrackers. There is also some basic information and steps for programming a fleet map in the user's manual that comes with the scanner. Ask around, or do the homework yourself. It is worth the extra effort in the end due to the increased performance of the trunk-following capabilities.

The PRO-2050 features 30 channel-busy indicators on the display, so that each square corresponds to one frequency. After you've programmed in the frequencies and are scanning, these indicators will light up to display other activity on the system. When a talkgroup that you are interested in becomes active, the indicators will show the data channel and the channel representing the frequency that the transmission is actually taking place on. These indicators simply show where in the 2050's memories the frequencies are located, so that you can figure out (if you care) what channels are in use.

**Summary**

The PRO-2050 is a good scanner and is capable of trunking in both the home and mobile environments. At the list price of $299, it represents the least expensive of the base units available, and no doubt will be on sale from time to time. If you mention that you read about it in Popular Communications, it will still be $299, but somebody will know you're reading this stuff. On sale, this unit could represent not only a good value in a TrunkTracker, but also a nice triple conversion conventional scanner for mobile or base use. Check it out at a RadioShack near you.
The FCC, concerned about the impact of the radio mega-mergers that have been taking place since the 1996 relaxation of ownership limitations, is revisiting deregulation policies. The Clinton administration and the FCC are concerned about potential monopolies. In response to Department of Justice anti-trust inquiries, the FCC has started looking into the economic consequences of these mergers, as there are now broadcast organizations reported to be controlling up to 70 percent of the revenue in some markets. This may be what prompted CBS to decide to sell-off WRKO-680, WEEI-850, and WEGQ-93.7 in the Boston market, acquired through the recent merger with American Radio Systems. CBS will hold onto WBZ-1030 and TV4, WNFT-1150, WBMX-98.5, WZLX-100.7, WODS-103.3, and WBCN-104.1 in Boston.

Digital Radio Update

The battle continues in the United States over implementation of digital radio. USA Digital Radio and Lucent Technologies have paired up to engineer an in-band, on-channel (IBOC) solution to problems that occurred with earlier versions. But the Consumer Electronics Manufacturers Association (CEMA) has already filed a report with the FCC endorsing the European Eureka-147 system which operates in the L-band. The IBOC system uses existing AM and FM facilities, in an attempt to make the transition to digital radio easier for consumers. IBOC was first demonstrated by USA Digital on 1660 AM in Las Vegas during the 1995 National Association of Broadcasters (NAB) convention. However, since then, Europe and Canada have been proceeding with the implementation of the Eureka-147 system, leaving the United States behind in the development of digital radio. The BBC has been operating a digital audio broadcast (DAB) network with about 60 percent coverage in the UK carrying Radio 1, 2, 3, and 4 in stereo and Radio 5 live in mono. And independent stations, like Virgin Radio, Talk Radio, and Classic FM, are to be licensed to a single multiplex this year by the Radio Authority (the UK equivalent of the FCC). Melody, Kiss, Sunrise, WRN, and Capital Radio are currently operating an experimental digital radio multiplex in London. In addition, a number of manufacturers, including Alpine, Becker, Clarion, Delco, Grundig, JVC, Kenwood, Sharp, and Sony, are queued for release in Europe of digital radio receivers for home and auto.

In Canada, a consortium of 15 Toronto broadcasters and the CBC has announced plans to construct four digital radio transmitters on the top of the CN tower. Meanwhile, here in the U.S., much of the emphasis at the NAB Convention this year was on digital television (DTV), with a preview of new HDTV receivers from Panasonic, Sharp, and Zenith, along with studio and transmission equipment.

More Radio News/Talk

Maine state officials are reviewing the Emergency Alert System in the aftermath of last winter's "Great Ice Storm of '98." The Emergency Alert System, which replaced the old Emergency Broadcast System in 1996, relays information via Maine Public Radio. However, all six of Maine's public radio stations were knocked off the air by the storm, thus cutting off the system. A coating of as much as six inches of ice during the storm caused significant damage to transmitter towers across the state. On the opposite end of the spectrum, WVOM, "The Voice of Maine," received several commendations for their continued service during the storm. The Army National Guard and a local snowmobile club helped keep WVOM alive during widespread power outages with an airlift of propane tanks to power generators at the Passadumkeag Mountain transmitter site, providing darkened homes across the state with what was perhaps their only link to the latest news of the storm damage and restoration of power.

A check of the ratings from Portland, Maine, has the relatively new Top 40 WJBJ-97.9 gaining for the second ratings period in a row, jumping from sixth to fourth place. Classic rocker and long-time ratings leader WBLM-102.9 continues to hold the lead though, with country WPOR-102.7 and AC WMGX-93.1 hang-
ing on to second and third. News/talk
WGAN-560 is the first AM station to
show up in the ratings, at number six.

Boston University is adding WRCP
Providence, Rhode Island, on 1290 to
their collection of stations, bringing pub-
lc radio and WBUR-FM programs to the
Ocean State. Boston University operates
flagship WBUR Boston on 90.9 and
WBUR West Yarmouth, Massachusetts,
on 1240, along with TV stations WABU-
68 in Boston, WBNU-21 in Concord,
New Hampshire, and WZBU-58 in
Vineyard Haven, Massachusetts. In an
unrelated story from the smallest state in
the union, public radio has expressed an
interest in WCVY-91.5, the Coventry
High School station. Rhode Island does
not have its own full-time NPR outlet.
The islands off Cape Cod, Massachusetts,
will also soon be enjoying local public
radio. WGBH in Boston has nearly com-
pleted construction of two new stations:
WCAI Martha’s Vineyard on 90.1 and
WNAN Nantucket on 91.1 FM. WGBH
broadcasts at 89.7 from the Great Blue
Hill, located just south of Boston, with
100 kW of power, and is a favorite target
of FM DXers.

A small station in South Dakota is giv-
ing the big guns a run for the money. 1520
in Sioux Falls recently changed to all
sports KSFS “The Zone” when Christian
Brown left for another outlet. Riding high on their local
sports events coverage that other media
have ignored. Riding high on their local
success, KSFS has obtained the rights to
have ignored. Riding high on their local
sports events coverage that other media
can’t handle. In time, most of the stations will
be going to the digital band. Originally,
CBL went to FM because the AM cov-
erage wasn’t that good, according to the
CBL engineer.

Here are a few of the stations that are
expected to abandon AM in exchange for
FM frequencies this year in Canada. Most are
simulcasting on AM and FM during a
transition period, giving listeners plenty
of opportunity to make the switch, and
giving DXers a last chance to log them
before they’re gone.

CBF Montreal, PQ, from 690 to 95.1
CBL Toronto, ON, from 740 to 99.1
CBM Montreal, PQ, from 940 to
CBME-88.5 (CBM-FM remains
on 93.5)
CFNL Fort Nelson, BC, from 590 to
102.3
CHNR Simcoe, ON, from 1600 to
106.7

News From Canada

Patrick Martin spoke with an engineer
at CBC-Vancouver and learned that all
MW LPRTs are not running the pre-
scribed 20 to 40 watts. As the CBC
replaces the old tube models with solid-
state, they can run up to 400 watts. Most
are still running 40 watts, but about half
a dozen run more power. CBRU in
Squamish, British Columbia, on 1260 is
running 200 to 250 watts. CBKY
Keremeos, British Columbia, is running
near 400 watts on 1350. CBUU Clinton,
British Columbia, on 1070 is running in
the 200- to 300-watt range, as is CBRI
Grand Forks on 860 relaying CBU-690.
There are no plans to move CBU, CFPR,
CBX, CBK, CBR, or CBW to FM, as they
cover many remote areas that FM can’t
handle. In time, most of the stations will
be going to the digital band. Originally,
CBL went to FM because the AM cov-
erage wasn’t that good, according to the
CBL engineer.

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transition period, giving listeners plenty
of opportunity to make the switch, and
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before they’re gone.

CHOW Welland, ON, from 1470 to
91.7
CHSJ St. John, NB, from 700 to 94.1
CICY Medicine Hat, AB, from 1390
to 96.1
CIJM Edmundston, NB, from 570 to
92.7
CIOK Fort McMurray, AB, from
1230 to 93.3
CJTT New Liskeard, ON, from 1230
to 104.5
CKLY Lindsay, ON, from 910 to
91.9

X-Band Files

Another new X-bander is on the air and
interested in reception reports. Engineers
recently finished tuning up the new
expansion band station in the Portland,
Oregon, area, KKJY Lake Oswego, on
1640. It relays the programming of
KKSL-1290. KKJY is diplexed into one
tower of the three-tower KKPZ-1330
array. The biggest problem in tuning
things up was restoring the 1330 pattern
after the diplexing filters were installed.
The engineers are most interested in

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### Applied for Permits to Construct New FM Stations

<table>
<thead>
<tr>
<th>State</th>
<th>City</th>
<th>Frequency</th>
<th>Power</th>
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<tr>
<td>AK</td>
<td>Fairbanks</td>
<td>96.9 MHz</td>
<td>10 kW</td>
</tr>
<tr>
<td>AR</td>
<td>Harrison</td>
<td>91.9 MHz</td>
<td>6 kW</td>
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<tr>
<td>AR</td>
<td>Lakeview</td>
<td>93.5 MHz</td>
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<tr>
<td>AR</td>
<td>Texarkana</td>
<td>89.3 MHz</td>
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<tr>
<td>CA</td>
<td>Arvin</td>
<td>91.7 MHz</td>
<td></td>
</tr>
<tr>
<td>CA</td>
<td>Fremont</td>
<td>105.7 MHz</td>
<td>(KARA booster)</td>
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<tr>
<td>CA</td>
<td>Lenwood</td>
<td>104.5 MHz</td>
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<tr>
<td>CA</td>
<td>Needles</td>
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<td>50 kW</td>
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<td>CA</td>
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<td>300 watts</td>
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<td>Baldwin</td>
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<td></td>
</tr>
<tr>
<td>MI</td>
<td>Baldwin</td>
<td>91.9 MHz</td>
<td></td>
</tr>
<tr>
<td>MI</td>
<td>Newaygo</td>
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<td>MN</td>
<td>Nisswa</td>
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<td>MN</td>
<td>Pillager</td>
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<td>La Monte</td>
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<td>MO</td>
<td>Poplar Bluff</td>
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<td>W. Wendover</td>
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<td>OR</td>
<td>Bend</td>
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<tr>
<td>OR</td>
<td>Cave Jct.</td>
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</tr>
<tr>
<td>OR</td>
<td>Florence</td>
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</tr>
<tr>
<td>OR</td>
<td>Roseburg</td>
<td>88.3 MHz</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>Selma</td>
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<td>PA</td>
<td>Coatesville</td>
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<tr>
<td>PA</td>
<td>Wrightsville</td>
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<td>York</td>
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<td>Dillon</td>
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<td>SD</td>
<td>Sioux Falls</td>
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<tr>
<td>TN</td>
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<td>Abilene</td>
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<tr>
<td>TX</td>
<td>Bay City</td>
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</tr>
<tr>
<td>TX</td>
<td>Beeville</td>
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<td>Bluffdale</td>
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<td>TX</td>
<td>Brownfield</td>
<td>88.5 MHz</td>
<td>4.5 kW</td>
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<tr>
<td>TX</td>
<td>Brownwood</td>
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<td>6 kW</td>
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<td>TX</td>
<td>Callisburg</td>
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<td>TX</td>
<td>Cuero</td>
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<td>Eastland</td>
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<td>Gonzales</td>
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<td>Harlingen</td>
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<tr>
<td>TX</td>
<td>Midland</td>
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<td></td>
</tr>
<tr>
<td>TX</td>
<td>Midland</td>
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<td>New Boston</td>
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<td>Stephenville</td>
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<tr>
<td>TX</td>
<td>Stephenville</td>
<td>89.7 MHz</td>
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<td>UT</td>
<td>Blanding</td>
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<td>UT</td>
<td>Levan</td>
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<tr>
<td>VA</td>
<td>Jonesville</td>
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<td>WA</td>
<td>Asotin</td>
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<td>WA</td>
<td>Milwood</td>
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<td>WI</td>
<td>Cuba City</td>
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<td>9.9 kW</td>
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<td>WV</td>
<td>Princeton</td>
<td>90.1 MHz</td>
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<tr>
<td>WV</td>
<td>S. Charleston</td>
<td>89.5 MHz</td>
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<tr>
<td>WV</td>
<td>Vienna</td>
<td>106.1 MHz</td>
<td>(WRZZ booster)</td>
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<tr>
<td>WY</td>
<td>Casper</td>
<td>89.3 MHz</td>
<td></td>
</tr>
<tr>
<td>WY</td>
<td>Gillette</td>
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<td>WY</td>
<td>Lost Cabin</td>
<td>99.1 MHz</td>
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<tr>
<td>WY</td>
<td>Sheridan</td>
<td>88.1 MHz</td>
<td></td>
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<tr>
<td>WY</td>
<td>Thermopolis</td>
<td>98.3 MHz</td>
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### Granted Permits to Construct New FM Stations

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<th>State</th>
<th>City</th>
<th>Frequency</th>
<th>Power</th>
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</thead>
<tbody>
<tr>
<td>AR</td>
<td>Batesville</td>
<td>99.5 MHz</td>
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</tr>
<tr>
<td>CA</td>
<td>King City</td>
<td>91.3 MHz</td>
<td>400 watts</td>
</tr>
<tr>
<td>CO</td>
<td>Montrose</td>
<td>88.3 MHz</td>
<td></td>
</tr>
<tr>
<td>IL</td>
<td>Genesee</td>
<td>88.1 MHz</td>
<td></td>
</tr>
<tr>
<td>LA</td>
<td>Arcadia</td>
<td>92.5 MHz</td>
<td></td>
</tr>
<tr>
<td>IL</td>
<td>DeRidder</td>
<td>91.1 MHz</td>
<td></td>
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<tr>
<td>MN</td>
<td>Rochester</td>
<td>88.7 MHz</td>
<td></td>
</tr>
<tr>
<td>NM</td>
<td>Albuquerque</td>
<td>97.7 MHz</td>
<td>(KLVO booster)</td>
</tr>
<tr>
<td>NM</td>
<td>Albuquerque</td>
<td>106.3 MHz</td>
<td>(KDNR booster)</td>
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<td>NY</td>
<td>Truxton</td>
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<tr>
<td>OK</td>
<td>McAlester</td>
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<td></td>
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<tr>
<td>SD</td>
<td>Lead</td>
<td>94.3 MHz</td>
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</tr>
<tr>
<td>TX</td>
<td>Big Spring</td>
<td>91.5 MHz</td>
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</tr>
<tr>
<td>TX</td>
<td>McCook</td>
<td>91.5 MHz</td>
<td></td>
</tr>
<tr>
<td>TX</td>
<td>Paris</td>
<td>89.3 MHz</td>
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</tr>
<tr>
<td>UT</td>
<td>Logan</td>
<td>89.5 MHz</td>
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<tr>
<td>WY</td>
<td>Thermopolis</td>
<td>98.3 MHz</td>
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### Cancelled

<table>
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<th>State</th>
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<th>Frequency</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>WY</td>
<td>Franklin Lakes, NJ</td>
<td>88.9 MHz</td>
<td>Not renewed</td>
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### Requesting AM Facility Changes

<table>
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<tr>
<th>State</th>
<th>City</th>
<th>Frequency</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>WY</td>
<td>Galena</td>
<td>1560 kHz</td>
<td>Seeks move to Beloit, WI</td>
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</tbody>
</table>

WGXL Port Washington, WI
receiving reports about the station’s nighttime coverage, and the level of interference to/from KDIA Vallejo, California, on the same frequency, and where this interference is located. Please make your reports brief. Reports can be sent to Telecommunications Engineering, Gray Frierson Haertig & Associates, 820 North River Street, Suite 100, Portland OR 97277. E-mail reports can be sent to Cris Alexander at <CBCENG@aol.com>. Thanks to Patrick Martin for this update. WJDM Elizabeth, New Jersey, on 1660, the first X-band station to sign-on, has now been officially granted a license by the FCC. WJDM was previously operating under an FCC special temporary authorization.

**Pop Comm** reader Dino Davila asks, "Why are they calling the new AM broadcast band 'The X-band' when there already IS an X-band? The X-band has always been in the microwave region along with the L-band and the S-band. What's up with that?"

The X-band is short for the expanded band, or the expansion of the AM broadcast band to 1700 kilohertz. DXers gave it the X-band nickname, perhaps unaware of the microwave X-band designation.
When seconds count, REACT needs you...

...to summon help for an injured motorist, an elderly woman trapped in a fire, a trucker stranded in a blizzard, a drowning child!

As a REACT volunteer CB radio monitor you may be the only communications life-line for someone in serious trouble. You relay messages from those desperate for help to police or other emergency services.

Your REACT Team will also use CB and other radio services to provide safety communications for events like parades, marathons and even balloon races. The fellowship with other REACT members at Team meetings and annual conventions is an added bonus.

Volunteer. Join Today!

Add a New, Exciting Challenge to Your Life. Help Save Lives and Property!

REACT International, Inc.
Tel (310) 316-2900
FAX (310) 316-2903
5210 Auth Road, Suite 403, Suitland, MD 20746

CIRCLE 72 ON READER SERVICE CARD

62 / POPULAR COMMUNICATIONS / July 1998
Anti-Castro broadcaster La Voz del CID has been off shortwave for quite awhile, as we've noted in previous columns. Earlier, it had been reported that Cuba Independiente y Democratica, the organization which funds the broadcasts, had been having trouble raising money, so it was assumed an insufficient bank account was probably the reason for the silence. But a recent issue of WRMI’s shortwave schedule not only announces the return of La Voz del CID but (rather offhandedly) provides an explanation for the disappearance.

According to the WRMI notes, La Voz del CID transmitted from El Salvador and had gone off the air due to “political problems in that country.” Most of those who follow and research clandestine broadcasting had believed that the transmitters were in Guatemala. At any rate, CID is now airing on WRMI’s 9955 from 2330 to 0000 and Saturdays from 1430 to 1500.

There are several new entries for your Ethiopia/Eritrea scrapbook. One is the Voice of Democratic Eritrea - Voice of the Eritrean Liberation Revolutionary Council, which broadcasts against the Eritrean government daily from 1500 to 1530 on 9230. Another one, on the air at 1600 to 1629, is the Voice of Truth which is operating on 9230. This one speaks for the Eritrean Islamic Jihad Movement. There’s a burst of gunfire sound effects near the close of the broadcast. Still another one is The Voice of Free Eritrea, operated by a group called the Eritrean National Alliance, an umbrella group which includes several organizations opposing the current Eritrean government. This one broadcasts on 9230 from 1415 to 1445 in Arabic and Tigrinya. As near as can be told, both stations are actually in Colombian territory. Check around 2300 in the area on or near 6280.

One of the very few South American-based clandestines, Radio Patria Libre, continues to make irregular appearances in the area around 6250, usually around 2200, which is a trifle early for good reception in many areas of North America during most of the year. It used to be on around 0000 or 0100 which made for more regular reception. The station is run by Colombia’s ELN guerrillas. A second Colombian clandestine, even less frequently heard, is La Voz de la Resistencia, also operating on only an occasional basis. As near as can be told, both stations are actually in Colombian territory. Check around 2300 in the area on or near 6280.

Nigeria continues to be a very active target for opposition broadcasters these days. One such station is Radio New Nigeria, which broadcasts via German government transmitters. It is on the air from 0600 to 0630 Saturdays on 11670, and Sundays at 1500 to 1530 on 6175 and 0100 to 0129 on 5900, to Nigeria/West Africa, Europe, and North America, respectively. The station announces itself as “The Voice of the Nigerian Advocacy Group of Democracy and Human Rights,” a group based in Boston.

Iranian clandestine, the Voice of the Mojahed, has been showing up occasionally on such frequencies as 5650, 5670, 5680, 5780, 6270, 6280, signing on around 0250 and continuing for an hour or so. They sometimes have more than one frequency in operation at the same time, and are often chased by a “bubble” type jammer.

The Voice of the Islamic Revolution (Continued on page 77)
Voice Of Nigeria Being Heard, And Radio Australia QSLing Again!

Broadcasts from the new, or rather, rejuvenated, Voice of Nigeria outlet on 15120 continue to be widely heard. Michael Miller has been picking them up quite well, even at his Washington State location. The broadcasts are in several languages over a multi-hour period which runs through our morning and afternoon hours (0500 to 2300). There have, however, been technical problems, which have created hum and distortion in the audio, but hopefully that has been fixed by now.

You can send reception reports to P.M.B., 40003 Falomo Post Office, Ikoyi, Lagos, Nigeria. The studios are in the new capital, Abuja.

Sue Wilden of Indiana sends word that there's a scam ring based in Indianapolis which is asking for investors in "excess" oil profits. One of the programs broadcast in opposition to the current Nigerian government also has an Indianapolis address. In addition, Passport to World Band Radio carries a warning about Nigerian-related confidence scams. Somehow, names of people who send reports to Nigerian stations get into the hands of those who would like to separate you from a lot more than your IRCs.

New Site Chosen For AWR

Adventist World Radio has announced the purchase of 133 acres of land near the small town of Argenta in northeastern Italy. This site will eventually be the location for a large AWR shortwave station featuring four powerful transmitters and six highly directional antennas to beam to Central and Southern Asia, Africa, and the Middle East. Plans are to have the station on the air in July, 2000.

Cutbacks At Radio Portugal

The black cloud making its way around the world and raining bad news on shortwave stations here and there passed over Portugal recently. Radio Portugal has had to discontinue its foreign language programming. Now all you can hear from Portugal is Portuguese, and even that will be on a restricted schedule.

The National Radio of Cambodia, silent for several weeks late this past winter, has returned to the air, and apparently is now broadcasting closer to its listed 11940 frequency than in the past. It's still plenty tough to hear, though. There are English broadcasts at 0000 and 1200.

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Tricia Ziegner got this brief QSL letter from the Cyprus Broadcasting Corporation.

Andy Johns in Texas received this QSL for his reception of Radio Polonia on 9525.
The Mexican, **XERTA on 4800**, which operated briefly last year, is back on the air as this is written, heard at various times in the evening and into the wee hours. Let us know if you hear this one!

**Radio Finland International** has made some changes in the scheduling of its half-hour program beamed to North America. The daily evening slot is now at 0200 on 9780 and 11900. The morning airing — at 1230 on 11900 and 15400 — is now heard Sundays only.

WBCQ will be the call letters of the new shortwave station operated by former pirate Allan Weiner. The station, to be built at Weiner’s farm in Maine, is scheduled to go on the air late this summer and will provide time for hire to free broadcasters. The transmitter will run 50 kW. No times or frequencies have been announced yet.

No signals are being heard yet from WWBS, Macon, Georgia. Keep checking 11910 around 0000, which is the initial time block they expect to use.

Here’s some good news! Radio Australia once again welcomes reception reports and responds with QSLs, thanks to the convincing efforts of the Australian Radio DX Club, which will check the reports, fill out the cards, and return them to Radio Australia for mailing. Reports go to Radio Australia, GPO 428G, Melbourne, 3001, Victoria, Australia.

By the way, the fate of the now silent Radio Australia Darwin transmitters remains undecided. One faction of the group advising the ABC wants them to be put back into the service of Radio Australia. What a radical idea!

Reports say that long-absent **Radio Kisangani** in the Democratic Republic of the Congo has returned to the air. At least they ran some tests on 11455 earlier this year, operating in upper sideband. They were being heard around 1800. The frequency 11455 was one of the last frequencies they used before their long night arrived, so this is where regular programming would likely be found. This station was never heard really well in North America, though, and there’s no reason to expect that to have changed.

It looks like things are going to get real busy for the engineering department of the Voice of America. The VOA has ordered 84 new shortwave transmitters for delivery over the next 18 months!

Remember, we always welcome your informational input. Log reports should be listed by country, double-spaced between items, and tagged with your last name and state abbreviation. Besides your loggings, we’re always in need of such things as info about station address changes or QSL policies, photographs of shortwave stations or personalities, photos of you and your shack (or, if you’re the shy type, of just your shack), spare sample QSL cards, station brochures, schedules and any other informative or illustrative items that you care to send. Thanks so much for your continued interest in and support of this column! It is very much appreciated!

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. 7365 at 1243 in Japanese; then English to Asia. (Silvi, OH)

**ASCENSION ISLAND** — BBC world service, 7160 to Africa at 0531 and 17830 also to Africa at 1932. (Jeffery, NY)

**BELARUS** — Belarusian Radio, presumed, 7210 at 2128 in presumed German. Much interference from ham operators. (Silvi, OH)

**BELGIUM** — Radio Vlaanderen Int’l, 11680 at 1743 with “Brussels Calling.” (Jeffery, NY) 7300 sign-on, then “Radio World” at 1735. (Alexander, PA)

**BOTSWANA** — Voice of America relay, 7415 at 0433 with “Daybreak Africa.” (Jeffery, NY) 12080 at 2202. Also here in FF at 2123. (Harris, TN)

**BRAZIL** — Radio Globo, 9585 at 0237 with fast PP talk, mentions of Sao Paulo. (Paszkiewicz, WI) Radio Brazil Central, 11815 at 0203 in PP. Fair on a fairly good meter band opening. (Paszkiewicz, WI)

**BURKINA FASO** — Radio TV Burkina, presumed, 4815 in FF at 2248 with African music. (Silvi, OH)

**CAMBODIA** — National Radio of Cambodia, presumed, 11940 monitored at 1302 to 1314 sign-off. Several Far Eastern-style songs to closing. (Silvi, OH)

**CAMEROON** — Cameroon Radio TV, Yaounde, 4850 heard at 2325 with FF talk, mentions of Cameroon, music, anthem. (Paszkiewicz, WI)

**CANADA** — Radio Canada Int’l, 9805 at
2137. 11945 at 2138 and 17820 (in RR) at 1800. (Harris, TN) 11945 at 2200 Saturday with news, comedy show. (Salzman, VA) 11855 at 1325. (Northrup, MO) 11760 heard at 1325 in SS. (Harris, TN) 6000 at 0338, 9820 at 0336.

CHINA - China Radio Int'l, via Spain, 9725 at 2357 with "It Is Written." (Harris, TN) at 0411. (Jeffery, NY) at 0349. (Harris, TN) Also 9820 at 0414 and 9830 USB at 0412.

CUBA - Radio Havana, Cuba, 6000 at 0411. Also 9820 at 0414 and 9830 USB at 0412. (Harris, TN) 6000 at 0338, 9820 at 0336. (Jeffery, NY) 11760 heard at 1325 in SS. (Northrup, MO)

CYPRUS - Cyprus Broadcasting Corp., 7105 at 2215 to 2244 close. Mostly music. (Silvi, OH) (weekends only — Editor) BBC relay, 21470 at 1544. (Jeffery, NY)

ECUADOR - HCJB, 9640 at 0747 with Salvation Army program. (Hill, ID) 9745 at 0443 with "Ham Radio Today." (Jeffery, NY) 0356.

GERMANY - Bayerischer Rundfunk, 6085 at 0259 with instrumental music, announcements, local time check, news in German. (Paszkiewicz, WI) Südwestfunk, 7265 at 0225 with GG talk, pops. (Paszkiewicz, WI) Deutsche Welle, 9545 in GG heard at 2145. (Harris, TN)

GREECE - Voice of America relay, 15205 at 1754 with live call-in program. (Harris, TN)

GUINEA - Radio Guineenne, 7125/9650 in FF at 0240 with talk, hi-life. IDs, phone number, guitar IS. (Paszkiewicz, WI)

GUINEA-BISSAU - Voice of the President, 7750 at 0200. (Paszkiewicz, WI)

HONDURAS — Presumed HRLM, 5890 at 0205 in SS with religion. Lost to wideband QRM. (Paszkiewicz, WI)

INDIA — All India Radio, Bangalore, 11620 at 1800 to 1940 in EE. Also 15200 (Delhi) at 1350 to 1500 in unidentified language. 13780 (Bangalore) at 1801 to past 1905. (Silvi, OH) 11735 at 0255 with subcontinental vocals, talk, tabla/drum, snake charmer music. 13620 at 0248 with Hindi. (Paszkiewicz, WI)

IRAQ - Radio Iraq Intl, 11784.95 at 2150 with open carrier, then Mideast music at 2154. Talk in language at 2156. Strong carrier, but poor, weak modulation. Totally covered by unidentified carrier at 2158 on 11785.1. Also at 0410 on 11785 again strong but with poor, distorted audio. EE music, commentary, ID "This is Baghdad, Radio Iraq International" and more music. Frequency and address given at 0430 and into unidentified language. Covered by Deutsche Welle's 0457 sign-off. (Alexander, PA)

ISRAEL — Kol Israel, 7465 at 0501 with news, ID, weather. (Jeffery, NY)

JAPAN - Radio Japan/NHK, 11705 at 1305 with news. (Paszkiewicz, WI) 11680 at 1305 with JROID. (Paszkiewicz, WI) 11705 in SS with local vocals, rocks, radio ann. (Paszkiewicz, WI) 11735 at 0255 with subcontinental vocals, talk, tabla/drum, snake charmer music. 13620 at 0248 with Hindi. (Paszkiewicz, WI)

LIBERIA — Radio Veritas, 5470 in EE and vernacular at 0518 with religious talk in local language, EE ID "This is Radio Veritas, the radio stations of the Catholic Media Centre, broadcasting to you from Monrovia, Liberia." Frequencies, cannned promo "For complete coverage of news and events, topics of national concern and religious radio programs, no one features the diversity of programming like we do. Radio Veritas, broadcasting from Monrovia on 97.8 FM, 5 point 4-7-0 mega-

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/ous
SA South America
SS Spanish
UTC Coordinated Universal Time (ex-GMT)
v Frequency varies
w/ With
WX Weather
YL Female
// Parallel Frequencies
RADIO AFRICA

THANK YOU FOR YOUR RECEIPT REPORT OF
DATE JUNE 30, 1994
TIME 0530 UTC - 0600 UTC
FREQUENCY 7,970 KHz

RADIO AFRICA BROADCASTS EVERY DAY FROM 6:00 PM TO 11:00 PM LOCAL TIME IN BATA (1700-2200 UTC).

FREQUENCY FROM MAY 14, 1989 ONWARDS 7,970 KHz 41 METERS.

LISTEN ALSO TO RADIO EAST AFRICA, 9585 KHz 31 METERS, 0500-1400 UTC SATURDAY & SUNDAY

FOR MORE INFORMATION AND A PROGRAM SCHEDULE PLEASE WRITE:

RADIO AFRICA
10201 TORRE AVE, SUITE 320
CUPERTINO, CALIF. 95014 USA

Radio Africa, in Bata, Equatorial Guinea, sells religious programming through an office in California. (Thanks Andy Johns, TX)

hertz in the 90-meter band and 3 point 4-5-0 megahertz in the 60-meter band shortwave.

Listen to Radio Veritas! We are the voice of truth!" (Notice they got their meter bands mixed up.) At 0534 cock crows, then woman into EE news. (Quaglieri, NY) 3450 at 0645 to past 0710 with EE news about Liberia and other African countries, ID and Afro-pops. (Alexander, PA)

LITHUANIA - Radio Vilnius, 5950 (ex-5905) at 0030. Also Announced (Alexander, PA)

MEXICO - Radio Educacion, 6185 at 0907 with tourist show in DD, EE/SS ID at 0913 and into SS. (Quaglieri, NY) Radio Mexico Intl, 9705 at 2355 in SS. (Harris, TN)

MONGOLIA - Voice of Mongolia, 12080 at 1130 to 1220 in presumed JJ, then into EE. (Silvi, OH) 1202 with EE discussion about housing. (Ziegner, MA)

MOROCCO - RTV Morocaine, presumed, 11920 at 0157 to 0305 with music and an-

mouncements, sparing no expense. Suppressed carrier USB. Staying on the air longer than usual. (Alexander, PA)

NETHERLANDS ANTILLES - Radio Nederlandse Bonaire relay, 5950 heard at 0438 with "Newroom" segment. weather. (Yanosik, PA)

NIGERIA - Voice of Nigeria, 7255 at 0531 with news. (Jeffery, NY)

PERU - Radio Andina, Huancayo, 4995.58 kHz at 0956 past 1030 with morning programming of local music and many announcements including a PSA by crazed-sounding woman. Station had usual poor audio. (Jeffery, NY)

RADIO AFRICA - Editor Voice of America relay, 4995.53 at 0045 to 0107 close with Peruvian folk music. Off with national anthem. (Alexander, PA) Radio Peru, San Ignacio, 5637.32 at 0145 to 0206 close with Peruvian folk music. SS announcements, IDs, Peruvian folk music. Off with national anthem. (Alexander, PA) Radio Villa Rica, Huancavelica, 4886.75 at 1101 with SS talk, canned ID by woman at 1102, Peruvian folk music. (Alexander, PA) Radio Ondas del Rio Maranon, 6675.53, 0045 to 0107 close with

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<td>$11.25</td>
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<tr>
<td>Three</td>
<td>$24.95</td>
<td>$31.85</td>
</tr>
<tr>
<td>Six</td>
<td>$45.95</td>
<td>$60.75</td>
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</tbody>
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THE MONITORING MAGAZINE
July 1998 / POPULAR COMMUNICATIONS / 67
Here's the program and frequency schedule for Radio Nelle, lands for the summer broadcasting period.

<table>
<thead>
<tr>
<th>Time</th>
<th>Program</th>
<th>Frequency (kHz)</th>
<th>Country/Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>Venezuela - Radio Caracas</td>
<td>5840</td>
<td>Venezuela</td>
</tr>
<tr>
<td>1030</td>
<td>Brazil - Radio Brasil</td>
<td>5840</td>
<td>Brazil</td>
</tr>
<tr>
<td>1030</td>
<td>Argentina - Radio Argentina</td>
<td>5840</td>
<td>Argentina</td>
</tr>
<tr>
<td>1030</td>
<td>Peru - Radio Lima</td>
<td>5840</td>
<td>Peru</td>
</tr>
<tr>
<td>1030</td>
<td>Chile - Radio Santiago</td>
<td>5840</td>
<td>Chile</td>
</tr>
<tr>
<td>1030</td>
<td>Colombia - Radio Colombia</td>
<td>5840</td>
<td>Colombia</td>
</tr>
<tr>
<td>1030</td>
<td>Ecuador - Radio Guayaquil</td>
<td>5840</td>
<td>Ecuador</td>
</tr>
<tr>
<td>1030</td>
<td>Bolivia - Radio Sucre</td>
<td>5840</td>
<td>Bolivia</td>
</tr>
<tr>
<td>1030</td>
<td>Uruguay - Radio Montevideo</td>
<td>5840</td>
<td>Uruguay</td>
</tr>
</tbody>
</table>

For more information about World Radio Network please consult www.wrn.org (This is not a classified list)
Communications Confidential

YOUR GUIDE TO SHORTWAVE “UTILITY” STATIONS

Civil Aviation Primer

A very popular area of the “utility station” umbrella is civil aviation. You can listen to flights crossing the Atlantic or Pacific, or flying across Africa or Australia. As in maritime communications, by international agreement, all aviation communications take place in upper side band (USB). Also, with some exceptions, English is the primary language of the international aviation community.

To keep things from getting confused, the world is split up into regions, known as Major World Air Route Areas (MWARA), which readers will sometimes see noted on a civil aviation log. These regions or areas are designated as follows: AFI (Africa); CAR (Caribbean); CEP (Central East Pacific); CWP (Central West Pacific); EA (Eastern Asia); EUR (Europe); IFO (Indian Ocean); MID (Middle East); NAT (North Atlantic); NCA (North Central Asia); NP (North Pacific); SAM (South America); SAT (South Atlantic); SEA (South East Asia); and SP (South Pacific). These areas are often sub-divided into smaller areas. For example, the North Atlantic has NAT-A (includes the south central part of the North Atlantic, from Paramaribo and Paramaribo to the south, to Canarias to the southeast, northwest to New York and Gander, and to the northeast to Shanwick); NAT-B (for aircraft west of 30 degrees west in flight over the North Atlantic); NAT-C (for aircraft east of 30 degrees west in flight over the North and Central Atlantic); NAT-D (for aircraft flying over the most northern part of the North Atlantic, including the north polar region and most of Canada); NAT-E (for aircraft in flight between New York and Santa Maria (Azores); and NAT-F MWARA (for aircraft in flight between Gander and Shanwick) groupings. As you see, each has a specific area of airspace they are responsible for. There are certain groups of frequencies used within each NAT area, and there are certain ground stations responsible for aircraft entering these areas on these frequencies.

What you will hear most often on these frequencies are aircraft reporting waypoint positions. Waypoints represent an exact spot, no matter if it’s on land or over the ocean. Waypoints can have either a five-letter name or be latitude and longitude. These position reports come rapid fire in a specific order. For example, Air France 594 might pass to New York “Air France 594, 43N/50W, 2255, 250, estimate 43N/45W 2324, 42N/40W next.” He flew past the first position at 2255 UTC. His flight level is 250 (25,000 ft), the next position he estimates he should arrive at 2324 UTC, and then radios what his next position report will be. Optionally, they may add fuel status, weather and speed. It’s hard at first, but with some practice, you can follow the flights fairly easy. Table 1 is a list of ICAO/MWARA areas, frequencies, and stations that can be heard.

In certain parts of the world, special regional areas, known as Regional And Domestic Air Route Areas (RADARA), have been established. These mostly domestic air routes are within Africa and parts of the Pacific and Indian Oceans. These are often notable exceptions to the English language use.

Long Distance Operational Control (LDOC) centers are another exception. It makes sense for Air France to speak in French to their own aircraft. LDOC’s frequencies are allocated for carriers so they can maintain contact with their aircraft. Companies that cannot afford their own system will use companies that provide phone patch and other services, such as Stockton Radio, Berne Radio, and ARINC. There can be several LDOCs on a single frequency.

One last type of aviation station is the Volmet. Volmet comes from the French words for “flying weather.” Frequencies represent areas as in the MWARA/RADARA assignments. Anywhere from two to six stations may have time slots for their weather reports. Typically check at the top of each hour (H+00) and every 10 minutes.

Now, to help you along, you may want to obtain some aviation charts in order to follow your flights. The North Atlantic Route Chart for example, shows fixed route waypoint locations. I ordered mine from a company called The Outer Marker, 521 Spirit of St. Louis Blvd., Chesterfield, MO 63005; Phone: 800-441-2072. They also have a Web site where you can order online. Among the charts they offer are U.S. IFR/VFR Low Altitude, Planning Chart, Gulf of Mexico/Caribbean; Planning Chart, Northern Pacific/Atlantic; Route Planning Chart, Visual Navigation Charts: Sectional Charts; Terminal Area Charts; World Aeronautical Charts; U.S. Gulf Coast VFR; Instrument Navigation Charts; Supplementary Charts, such as Airport/Facility Directory; North Pacific Route Charts; North Atlantic Route Charts; Chart Supplement Pacific; and the NOAA Aeronautical Chart. I’m sure other aviation supply firms offer a similar selection.

Useful Web Sites

Last, we have some Web sites that may be useful if you have Internet ability. Airnav at <http://www.airnav.com/> provides free access to detailed aeronautical information on airports and navigational aids in the U.S. with database searches. Tony Orr’s Northern Virginia HF/VHF/ACARS page at <http://patriot.net/~jetset/> offers a lot of info and some great links. The AR Group ICAO/IATA Airport Locator at <http://www.ar-group.com/icaoiata.htm> is from Air Routing...
Table 1. MWARA HF Frequency/Station List

<table>
<thead>
<tr>
<th>Frequency Range</th>
<th>Stations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NAT-A 1: 3016.0 - 5598.0</td>
<td>Stations: Canarias, Gander, New York, Piarco, Santa Maria, Shanwick</td>
<td></td>
</tr>
<tr>
<td>NAT-B 2: 2899.0 - 5616.0</td>
<td>Stations: Gander, Iceland, New York, Santa Maria, Shanwick</td>
<td></td>
</tr>
<tr>
<td>NAT-C 3: 2872.0 - 5649.0</td>
<td>Stations: Gander, Iceland, Shanwick</td>
<td></td>
</tr>
<tr>
<td>NAT-D 4: 2971.0 - 4675.0</td>
<td>Stations: Baffin, Bodo, Churchill, Gander, Iceland, Montreal</td>
<td></td>
</tr>
<tr>
<td>NAT-E 5: 2962.0 - 6628.0</td>
<td>Stations: Canarias, New York, Santa Maria</td>
<td></td>
</tr>
<tr>
<td>NAT-F 6: 3147.0 - 6622.0</td>
<td>Stations: Gander, Shanwick</td>
<td></td>
</tr>
<tr>
<td>CAR-A 7: 2887.0 - 5550.0</td>
<td>Stations: Barranquilla, Boyeros, Guatemala City, Merida, New York, Panama, Piarco, San Andres Island, San Jose, Tegucigalpa</td>
<td></td>
</tr>
<tr>
<td>CAR-B 8: 3455.0 - 5520.0</td>
<td>Stations: Barranquilla, Boyeros, Cayenne, Georgetown, Maiqueta, New York, Panama, Paramaribo, Piarco, San Andres</td>
<td></td>
</tr>
<tr>
<td>SAM-C 9: 3479.0 - 5526.0</td>
<td>Stations: Belem, Bogota, Brasilia, Iquitos, Leticia, Manaus, Maiqueta, Porto Velho, Rio de Janeiro</td>
<td></td>
</tr>
<tr>
<td>SAM-NE 10: 3749.0 - 5526.0</td>
<td>Stations: Belem, Cayenne, Georgetown, Maiqueta, Paramaribo, Piarco, Recife</td>
<td></td>
</tr>
<tr>
<td>SAM-NW 11: 2944.0 - 4669.0</td>
<td>Stations: Barranquilla, Boyeros, Guayaquil, Guayaquil, Lima, Quito, Panama</td>
<td></td>
</tr>
<tr>
<td>SAM-SW 13: 2944.0 - 4669.0</td>
<td>Stations: Antofagasta, Asuncion, Bariloche, Comodoro Rivadavia, Cordoba, Ezeiza (Buenos Aires), La Paz, Lima, Mendoza, Paua (Easter Island), Puerto Montt, Punta Arenas, Resistencia, Salta, Santa Cruz, Santiago, Talaru, Ushuaia</td>
<td></td>
</tr>
<tr>
<td>SAT-I 14: 3452.0 - 6535.0</td>
<td>Stations: Brasilia, Canarias, Cayenne, Dakar, Manaus, Paramaribo, Recife, Rio de Janeiro, Sal</td>
<td></td>
</tr>
<tr>
<td>SAT-2 15: 2854.0 - 5565.0</td>
<td>Stations: Canarias, Cayenne, Dakar, Johannesburg, Manaus, Paramaribo, Recife, Rio de Janeiro, Sal, Salvador, Windhoek</td>
<td></td>
</tr>
<tr>
<td>AFF-1 16: 11420.0 - 6535.0</td>
<td>Stations: Abidjan, Bamako, Bangui, Bissau, Bobo Dioulasou, Douala, Casablanca, Conakry, Dakar, Freetown, Kano, Niamey, Nouadhibou, Nouakchott, Ouagadougou, Roberts (Monrovia)</td>
<td></td>
</tr>
<tr>
<td>AFF-2 17: 3419.0 - 5652.0</td>
<td>Stations: Algiers, Kano, Gao, N'Djamena, Tamatave, Timimoun, Tripoli, Tunis</td>
<td></td>
</tr>
<tr>
<td>AFF-3 18: 3671.0 - 5551.0</td>
<td>Stations: Addis Ababa, Aden, Asmara, Bahrain, Bengazi, Bouab, Bugumbira, Cairo, Conorus, Dar es Salaam, Entebbe, Hargeisa, Djibouti, Jeddah, Khartoum, Kigali, Kisimiyu, Male, Mogadi, Nairobi, Port Sudan, Sanaa, Seychelles, Tripoli</td>
<td></td>
</tr>
<tr>
<td>INO-1 20: 3476.0 - 5634.0</td>
<td>Stations: Antananarivo, Beira, Bombay, Cocos Islands, Colombo, Dar es Salaam, Harare, Jeddah, Johannesburg, Kigali, Lilongwe, Luaka, Madras, Mahajanga, Male, Mauritius, Monorona, Nairobi, Perth, Seychelles, St. Denis, Toamasina</td>
<td></td>
</tr>
<tr>
<td>MID-1 21: 2992.0 - 4669.0</td>
<td>Stations: Adden, Aman, Ankara, Bagdad, Basra, Beirut, Cairo, Damascus, Jeddah, Kuwait, Manama, Odessa, Sanaa, Simferopol, Tehran, Thilisi, Yerevan</td>
<td></td>
</tr>
<tr>
<td>MID-2 22: 3467.0 - 5658.0</td>
<td>Stations: Abadan, Almaty, Ashkabad, Bishkek, Bombay, Delhi, Dushanbe, Kabul, Karachi, Kathmandu, Kuwait, Lahore, Male, Muscat, Odessa, Samarkhand, Seychelles, Tashkent, Tehran, Thilisi, Urumqi, Yerevan</td>
<td></td>
</tr>
<tr>
<td>EUR-A 23: 3479.0 - 5661.0</td>
<td>Stations: Aktyubinsk, Almaty, Bishkek, Dushanbe, Kyzyl-Orda, Moscow, Samarkhand, Tashkent, Uralsk, Yerevan</td>
<td></td>
</tr>
<tr>
<td>EUR-B 24: 3479.0 - 5661.0</td>
<td>Stations: Arkhangelsk, Berlin, Dusseldorf, Kiev, Lvov, Minsk, Moscow, Murmansk, Odessa, Rigaa, Simferopol, Sofia, St. Petersburg, Syktvykar, Turin, Vilkiyi, Vinnus, Vologda</td>
<td></td>
</tr>
<tr>
<td>NCA-I 25: 3019.0 - 5646.0</td>
<td>Stations: Ivel, Khanty-Mansiysk, Moscow, Syktvykar, Uevelsky, Yerogvol</td>
<td></td>
</tr>
<tr>
<td>NCA-2 26: 2851.0 - 4678.0</td>
<td>Stations: Barnaul, Irkutsk, Khanty-Mansiysk, Kirensk, Kolpashevo, Krasnoyarsk, Novosibirsk, Podkamennaya, Surgut, Yeniseysk</td>
<td></td>
</tr>
<tr>
<td>NCA-3 27: 3004.0 - 5664.0</td>
<td>Stations: Chita, Chulman, Ekimchul, Irkutsk, Kirensk, Khabarovsk, Pyngyang, Ulaanbaatar, Ulun Ude</td>
<td></td>
</tr>
<tr>
<td>EA-I 28: 3016.0 - 6571.0</td>
<td>Stations: Beijing, Guangzhou, Hailand, Irkutsk, Jinan, Kunming, Lanzhou, Pyngyang, Shanghai, Shenyang, Taegu, Ulaanbaatar, Urumqi, Wuhan, Zhengzhou</td>
<td></td>
</tr>
<tr>
<td>EA-II 29: 3485.0 - 5649.0</td>
<td>Stations: Guangzhou, Irkutsk, Pyngyang, Ulaanbaatar</td>
<td></td>
</tr>
<tr>
<td>SEA-1 30: 3470.0 - 5670.0</td>
<td>Stations: Bali, Bangkok, Colombo, Calcutta, Dhaka, Guayaquil, Jakarta, Kathmandu, Kuala Lumpur, Kunming, Madras, Male, Singapore, Yangon</td>
<td></td>
</tr>
<tr>
<td>SEA-2 31: 3485.0 - 5649.0</td>
<td>Stations: Bali, Bangkok, Guayaquil, Hanoi, Ho Chi Minh, Hong Kong, Jakarta, Kuala Lumpur, Kota Kinabalu, Manilla, Seoul, Singapore, Tokyo, Vientiane</td>
<td></td>
</tr>
<tr>
<td>SEA-3 32: 3470.0 - 5733.0</td>
<td>Stations: Bali, Cicco Islands, Jakarta, Male, Perth, Singapore, Ujung Pandang</td>
<td></td>
</tr>
<tr>
<td>CEP-1 33: 2869.0 - 3413.0</td>
<td>Stations: Honolulu, San Francisco</td>
<td></td>
</tr>
<tr>
<td>CEP-2 34: 2998.0 - 4666.0</td>
<td>Stations: Guam, Hong Kong, Honolulu, Manilla, Mumbai, Porto Moresby, Seoul, Taipei, Tokyo</td>
<td></td>
</tr>
<tr>
<td>NP-3/4 35: 2932.0 - 5628.0</td>
<td>Stations: Auckland, Brisbane, Honolulu, Nandi, Pascua (Easter Island), Port Vila, Raratonga, Tahiti, Wallis</td>
<td></td>
</tr>
</tbody>
</table>
International. They maintain a multitude of data on airports around the world, including airport identifiers. You can retrieve airport location information here. At [http://www.landing.com/landing/pages/search.html] we find the Landing Search Engines for aviation search databases. You can search aircraft registrations and much more. Daily North Atlantic Tracks can be found at [http://www.dave83.simplenet.com/747/html/latracks.html]. This information is provided courtesy of Marc Brodbek. Steve's Downunder Hideaway at [http://www.ozemail.com.au/~sirsteve/steve%27s.htm] is another offering great information and links. The Worldwide UTE News Club list, at [http://www.geo.net/-berri/], includes HF aviation worldwide. The North Atlantic mailing list covers aviation over the North Atlantic A thru Z including ACARS, HF, and VHF info. To subscribe, send e-mail to [MasJordomo@qth.net] with the following command in the body of your e-mail message: subscribe Atlantic.

While I was surfing the Web, I came across this site of interest to military fans: Defense Switched Network (DSN), [http://dsnbbs.nsr.disa.mil/], where there is a downloadable copy of the DSN directory previously available only from the Government Printing Office.

The Air Force News Service reports the 89th Airlift Wing's historic aircraft 62-6000 (SAM 26000) is being retired. First brought into the Air Force inventory on October 10, 1962, this specially selected C-137 became President John F. Kennedy's "Air Force 1" and was used as such up until the Nixon administration. It was on 26000 that Vice President Lyndon B. Johnson became President of the United States after Kennedy was assassinated in Dallas. Indeed, logs coming in this month may well be the last for the aircraft before it begins its journey to the Air Force Museum in Dayton, Ohio.

Reader Mail

Regarding the information on Rome Labs in my May column, Frank Reynolds (NY) was kind enough to send a press release concerning the Forestport site we mentioned. The 1,218-foot antenna was due to come down April 21, 1998, and should be gone by now. The Air Force no longer used the Forestport site for research and didn't have a continued need for the LF (low frequency) site. There were no interested buyers. A demolition team from the 10th Mountain Division, Fort Drum, New York, was to blow the cables, and the antenna will be sold for salvage "on-the-ground." The Forestport Research Facility straddles the municipal boundary between the Oneida County town of Forestport and the Herkimer County town of Ohio.

When it was constructed in the foothills of the Adirondack Mountains in the summer and fall of 1950, the LORAN tower was the second tallest manmade structure on Earth, overshadowed only by the Empire State Building. LORAN, or long-range navigation, was developed during World War II and used LF radio stations to guide bombers. The Air Force erected the tower to test LORAN, hoping to improve it and other wartime navigation systems. But technological advances soon made LORAN obsolete and the tower became integral to the development of a host of LF, long-range navigation systems. Rome engineers have not used the aging site since the early 1990s.

Also, the Ava site that was mentioned has been inactive for a while. Its future will be decided soon.

Reader Joe Olig (WI) passed along the information that some time later this year the USCG Mackinaw, the "Mac" as she is known on the Great Lakes, will be painted red, as will all other icebreakers for the USCG.

Tim Tyler notes that the March 1998 issue of Avionics Magazine is reporting ARINC's GLOBALink HF data link started operation January 26, 1998. Initial service began after installation of the first ground station in San Francisco, California, to be followed by stations in Hawaii and other locations. GLOBALink uses existing HF radios modified for the data link function to support airline operational control and ATC services. Ground stations are connected with a ground packet data network to a central processor and network management center at ARINC's base in Annapolis, Maryland.

Allan Stern checks in with some logs from Florida this month. Allan's shack can be described as awesome. Although it's not all HF equipment, it includes equipment set up for every day in a permanent location, such as a PRO-2006: Mil VHF/UHF (including Patrick AFB UHF); PRO-2002 #1: VHF: Patrick Tower, Appr/Dept, POL, Trans Alert; PRO-2024: Parked on Patrick Tower 24/7; PRO-2036: Avon Park Range, W-157, -497 Areas UHF, JSTARS; PRO-2032 #1: NASA KSC Ops, Customs; PRO-2032 #2: Misc: Disney World, Media, News Helos; PRO-2022: Police, Fire including Patrick Security; BC450a: USCG/Marine Service Search 24/7; BC590: Air Band Search, BC800XLT: (Bedside) Police, Hwy Patrol, Fire, Ambulance; BC2500XLT: Auto-search "fishing" expeditions; Yaesu FRG-7: Parked on 11175; DX-390: GHFS, Coast Guard. Others, used mobile, occasionally include: BC17 in his truck, always on Aircraft Service Search; PRO-43: duplicates "Best" of PRO-2006 for mobile use; PRO-39 #1: Indian River/OSceola Counties (weekend jaunts); PRO-39 #2: At malls, public areas (his smallest scanner); PRO-28: searches (has Search Skip); BC200XLT #1: searches (alarms on frequency duplicate); BC200XLT #2: Ditto; BC210 #1: BC210 #2: Ditto; PRO-2002 #2; PRO-2021 #1; PRO-2021 #2: Fox BMP10/60; and two PRO-2026's still in the box!

Chuck Sayers (PA) also checks in for the first time and has been a Pop'Comm reader since the magazine started. Chuck monitors the Utes and some shortwave broadcasts. The equipment there is for
Abbreviations Used For Intercepts

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AM</td>
<td>Amplitude Modulation mode</td>
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<tr>
<td>BC</td>
<td>Broadcast</td>
</tr>
<tr>
<td>CW</td>
<td>Morse Code mode</td>
</tr>
<tr>
<td>EE</td>
<td>English</td>
</tr>
<tr>
<td>GG</td>
<td>German</td>
</tr>
<tr>
<td>ID</td>
<td>Identification/fld/location</td>
</tr>
<tr>
<td>LSB</td>
<td>Lower Sideband mode</td>
</tr>
<tr>
<td>OM</td>
<td>Male operator</td>
</tr>
<tr>
<td>PP</td>
<td>Portuguese</td>
</tr>
<tr>
<td>SS</td>
<td>Spanish</td>
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<tr>
<td>tfc</td>
<td>Traffic</td>
</tr>
<tr>
<td>USB</td>
<td>Upper Sideband mode</td>
</tr>
<tr>
<td>wx</td>
<td>Weather report/forecast</td>
</tr>
<tr>
<td>YL</td>
<td>Female operator</td>
</tr>
<tr>
<td>4F</td>
<td>4-figure coded groups (i.e. 5739)</td>
</tr>
<tr>
<td>5F</td>
<td>5-figure coded groups</td>
</tr>
<tr>
<td>5L</td>
<td>5-letter coded groups (i.e. IGRXJ)</td>
</tr>
</tbody>
</table>

VHF/UHF; a PRO-2026, two PRO-2006s, an R7100 and an FT50R and for HF an R2000, Sony 2010 and an RBA, "with the usual wires and pointy things up there." Chuck, WA3GSI, has been a ham since 1957.

Another longtime reader, Web Williams (SC), says "I finally decided to start sending in some of my loggings." Glad to hear it, Web!

Then we have Thomas W. Johnson (WI) also checking in. Thomas especially enjoys aeronautical beacons using a DX-394. So far he has logged about 140.

Last, but not least, we have Claude "Danny" Stewart in Louisiana, who has been chasing down some ute stations for "Danny" Stewart in Louisiana, who has been chasing down some ute stations for a few weeks and shares his logs with us. Thanks gang. Now, on with the show.

UTE Logging's SSB/CW/DIGITAL

221: RCK, Rockdale, TX at 0334. (BF)
240: YF, NDB Mont-Joli, PQ, CAN at 1141, 1060 miles. (TW)
351: YKQ, NDB Waskaganish, PQ, CAN at 0502, 659 miles. (TW)
365: "AA." Kenie NDB, Fargo, ND at 0804, 308 miles. (TW)
371: SOA, Sonora, TX at 0317. (BF)
395: XEN, Xenia NDB, Ohio, at 0418, 548 miles. YL, NDB Lynn Lake, MB, CAN at 0332. (TW)
400: CI, Sault Ste Marie, MI heard at 0304. HIV, Punta Caucedo, Dominican Republic at 0305 (BF)
497: RXW, NDB Watersmeet, MI at 1158, 61 miles. (TW)
420: CEK, NDB Crete, NE heard at 0403, 493 miles. (TW)
16085: SPA, Gdynia Radio, Poland w/ARQ idler at 2202. (HOOD)
17405: Mystery station beacon about an honest S4 around 1200 & about an honest S8 around 0300. (WP) (thought we would have some more info by now — Ed.)
1930: LFI, Rogaland Radio, NOR at 2224 in CW w/markers & ARQ bursts. (AB)
2226: Aberdeen CG, Scotland, w/sea area forecasts in USB at 2026. (HOOD)
2311: Net for Arklow Shipping Co. sea-river cargo vls entre 2181 and 4289 DWT, company address is North Quay, Arklow, Co. Wicklow, Ireland at 2100 in USB. (HOOD)
2582: M/V Senneville (Misser Transporation Lines, ON) at 0200 in USB wkg St. John's CG Radio. CAN, two men found on ice flow who were suffering from extreme hypothermia. St. Johns called rescue chopper fmi w/inst to pick men up, to 0240. (RK)
2620: UCW4, North West Shipping Company's St. Petersburg station w/CW msg to Volgo-Balt 122 (UCGU) and Volgo-Balt 207 (UAPQ) at 1706. This station also uses call RFY—reqs as 2620/4223/6380 at this hr., Company address is ul. Bolshaya Morskaya 37, 19000 St. Petersburg. (HOOD)
2840: Poss NATO exercise at 2111 in USB w/various nationalities heard. Stations E, D, G, F in tracking net. (AB)
2872: Shankw, Ireland wkg HB-1K1 in US at 55N/10W & Selcal QR-GH. (HOOD)
3023: Valencia Radio, Ireland at 1146 in USB w/dxo checks w/Kinloss Rescue, UK. (AG)
3035: Cuban CW net here throughout night lately. (AWH)
3039: At 1506 to 1546, GULF WHISKEY w/kg adjust clear of track 1462, other simulated battle comms in USB. (BS) (this was the US Abraham Lincoln battle group in PAC JTFEX 98-1, the 1st Pacific fleet Joint Exercise of the year — Ed.)
3180: UAQK, vsl Ladoga 9 w/posn rpt to UCW4 St. Petersburg. (HOOD)
3322: U.S. Navy MARS at 2349, caught end of FEC "NNNOCB DE NNNONVH" then KKKK & off. (AWH)
3345: ZKBY, Mountain Radio Service, Taupo, New Zealand at 0740 in USB w/OM waiting for calls. (AWH)
3451.5: "OA." Irish Navy Dublin, IRL monitored at 2112 in ARQ w/msg to PT7 for relay to PT71. (AB)
3825: LOLO, M4 numbers station at 2100 in CW, in progress, probably 3rd repetition of 08769 msg. (AB)
4038: NATO, "Strong Resolve" exercise at 0001 in USB, tactical comms by various nationalities. (AB)
4065: TBO, Turkish Navy Izmir, TUR at 2203 in CW w/kgg Gander, posn 52N50W FL340, Selcal QR-GH. (HOOD)
4318: NMG, USCG New Orleans w/FAX to 0235 in USB w/WX forecasts & NAV warnings. (I)
4366: FFL, St Petersburg Radio w/CW tfc list at 0905 & freqs as 845/441, a speech channel being used for CW. (HOOD) ZHM35. Tauranga Coast Guard, New Zealand heard at 0235 in USB w/WX forecasts & NAV warnings. (I)
4412: QRC7, Kiev Meteo, UKR at 1843 in 50 bd RTTY Synops. (AB)
4472: TREASURER wkg WAR46 for pp to COMMAND CENTER at 0448 in USB. (J)
4552.5: Und MV Vanatu Sms at 0810 in USB, sounded like they were Radio Technicians setting up Radiophone links on the remote islands. One of them mentioned "How do you read me over on our new channel?" (I)
4616: Dept of Conservation Stations, Great Barrier Island, New Zealand at 0745 in USB w/OM heard wkg YL. (J)
4675: At 0215 British Airways 9679 heard wkg Gander, posn 525N050L340, selcal EK-JQ. (TO)
4716:6: SHARK 28 wkg Group Key West (USCG) at 2225 in USB re submerged boat that had been its mooring with it on the end of a piece of rope, drifted out to sea, and sank. Also investigating radar contact that turned out to be SHARK 28's own dumped garbage (sensitive radar?) Hadn't noted this freq previously. (AWH)
4868: Cuban CW net at 1320. Station warming up, first time this freq noted in a few months. (AWH)
4880: U1X, Mossad, ISR at 2200 in AM w/ULX2 broadcast. (AB)
4967: INW & EDO, New Zealand Army at 2100 in USB w/radio checks. (J)
4982: SAM 375 wkg Andrews VIP at 1628 in USB at 0850 login was 22902 YCTG. (HOOD)
4985: EK-JQ, Augusta, Italy in 75/850 Synops. (AB)
4992: Golf Uniform & Uniform Juliet French Military stations, French Polynesia at 0900 in FF radio checks. (I)
4992: SAM 683, DVF-19 & pass wkg Andrews VIP w/radio checks around 0640 in USB. (J)
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5054: Open carrier 2250-2300, then YL/SS w/ “Atencion” “354” x3 then SFQs till 2330, off w/ “finales” x2 AM mode. (RK)

5142.6: USCG Group Key West, FL at 0237 in USB, cgl Group Miami, G08G, QSO re ves- sell salvage ops. (AWH)

5156.5: VOR & STALLION 16, U.S. Military Stations at 0655 in USB, lot of stat- ics, only caught occasional word: RTB, AIR- BORNE, NEXT CONTACT. (IJ)

5160: TEL: STRA, Sydney Skycomm, New South Wales, Australia w/Qantas 69 at 0835 in USB w/pp to Qantas Control. Due to deteriorating WX conditions in Japan they were talking about diverting to Nagoya or Hanida. (IJ)

5180: Cape Radio net at 1935 on in USB w/KING 01 wkg USC GC Vigilant, DUTY CAPE. also USS McInerney. 4856 up also w/TH E ENFORCER, WHITEY, RALPH. Shuttle SAR exercise. (AWH)

5225: ZME, Joint WX/Dept of Conservation, Raoul Island, the Kermadec at 0300 in USB, YL w/phone call to New Zealand. (IJ)

5284: Golf Kilo at 2130 in USB w/ID 550 & 5FG in German. (AB)

5287.5: RETXX, MOI Madrid Spain at 0730 in ARQ 100/400 w/Msgs CONDUCTO VEHICULO QUEDO EN PODER. (IJ)

5365.7: OST, Oostende Radio, BEL at 2307 in FEC w/4QT list. (Ed.)

5377: 40-41.4 & 42, New Zealand Army, at 0800 in USB w/exercise Msgs. Units had captured Purple Force casualties, had them in MED teams, more weapons & preparing to question them. Also coordinating the next days Drop Zone activities. (IJ)

5415.5: SS/YL numbers station starting 0730 to 0745 in AM, ended w/“000”. (CDS)

5430: Unid stn in ARQ-E3 192/390 monitored at 0300. (FH)

5431.5: 51TX in CW at 0246 w/120 grp 5L msqs. (TS)

5547: Qantas 12 at 0725 in USB w/kg San Francisco (ARINC), USA/est MALET 0724 FL 290, selcal QR-AE. (TO)

5550: At 0028 N125AC (selcal KR-DB) in USB w/Exercise msgs & arrival times for Palmerston North. (IJ)

5569: At 1625, KING 63 heard cgl any Coast Guard Station, CAMSLANT answered. KING 63 asked them to relay to CG Station Panama City FL that they were complete w/training & dropping pyros, now enbck. At 1326 CG 6558 w/kg CG Air Station Savannah, unusual to hear them on HF. 6558 is one of the local HH65’s. (RM)

5714: ARCHITECT, RAF Strike Command, G at 0302 in USB w/broadcast. (FH)

5745: MRC15, RAF Cadets, G at 1950 in USB, stations on the net: MRC15, MWR34, MRC32, MRS33, MWR97, MRC44. (AB) SESEP Mayport, FL at 1455 to 1615 on w/kg NBBR, USS Bonhomme Richard testing multiple transceiver banks on USB/AM/CW /RTTY, only one LSB (x RTTY was 75/850R w/2 kHz center above window freq, used 3 lines of quick brown fox for test. At 1512 attempting to test multiple ANDVT units. (AWH) (interesting, this is a new SESEP, Ships Electronic Systems Evaluation Facility, freq—Ed.)

5748: Swedish Rhapsody at 2300 in USB, Music Box, 10-count, 5FG in German. Id 46594. (AB)

5762: SS/YL numbers station in progress on USB, off 0245. (CDS)

6371.4: GYA, London? in 75/85 RY’s, then VMTGTCNJ BH at 0124. (FH) (VMTGTCNJ is a Royal Navy synchronization string. NATO in general, has after ea msg a string of same, both in plain text, and then precedes ea new msg, GYU, RN Gibraltar is on 6371, not sure if applied here. — Ed.)

6483: PBB, Dutch Navy Den Helder, HOL at 1659 in RTTY 75bd CARB. (AB)

6487: GKH or NST possible, 75/850 RTTY w/woodes of YYYY the encryption moni- tored at 2245. (FH)

6501: CAMSLANT at 0445 in USB w/kg cut- ter Bramble w/pp crew member is a new father. (CDS)

6535: Unid a/c at 0537 in USB w/kg Dakar, APR DEMOL 37, FL 290, est GUTAV 0555, BKO next. QSY Bamako CTL 119.1 for coordinator. (TO)

6577: At 2213 Guaya 715 in USB w/kg New York reporting PRUITI, FL 370, selcal DE- AK. (TO)

6586: At 2230 MUSS 01 w/kg NY in USB w/oceanic clearance to Brindisi, USAF EC135K. (TO)

6628: Canarias (NAT-E MWARA) at 0232 w/kg Air France 3452 w/posn (0228 FL330), selcal c/c EK-DJ. Santa Maria (NAT-E MWARA) heard at 0237 w/kg Air Force 1 reporting on frequency, selcal AK-FP. Both in USB. (Ed.)

6640: At 0112 United 952 w/kg Ny req selcal c/c AG-HR. (TO)

6647: WATCHDOG 91 w/kg MAFF Base in USB at 1143. A simplex channel for fishery protection vessels/aircraft & the UK Ministry of Agriculture, Food and Fisheries (MAFF). Location of this a/c was near the Isla of Man in the Irish Sea. (HOOD)

6665: RSI, unit Cent/S. American Military station at 0545 in USB OM/SS cgl Control Alpha. (IJ)

6691.3: Martineau. French Forces, first noted 2135, audible 24 hours here, ran ARQ-E 96/170 mode. seems to be tactical link from RFLIA COMSUNP FORT DE France to so-called COMTACTER MARIE GALANT with no indicator, possibly a deployed unit of some sort. supporting EXERCISE CARAIBBE 98 Marie Galant is an island in the Guadeloupe group, separated from the two main ones, Basse-Terre and Grand-Terre, by 43 km. Normally a LIA, found on ARQ-E 96/170 to RFLID (no C.I.) at 1600 & 2200. (FH) (RFLID may be Marie Galant — Ed.)

6701: H7S in USB at 0150 sending numerous EAMS. (TS)

6730: NAVY 50155, VP-3A BurNo 150155, a/c of CinC AFCSE at 0101 in USB w/kg Andrews w/radio cks on F267. (Ed.)

6758: MLK. RAF Pitaraevic. G at 1700 w/CW TAFS. (AB)

6761: Tactical comms at 1523 in USB w/RENEGADE cgl VIPER, also carrier on channel that went into wideband data bursts of some sort, probably not related. (AWH)

6768: SS/YL numbers station starting 0430 to 0445 in LSB, ended w/"000". (CDS)

6786: SS/YL numbers station in AM in progress reading groups, off at 0745. (CDS)

6802: KG34 & KGW3 (Fed Highway Admin) in FACTOR & CW to 2319. (FH) (KG34 is the Nat’l Coordination Ctr of the Nat’l Communications System, Arlington, VA, no record of the KGW call — Ed.)

6834: CW stn sending 5FG’s at 0137. Sent 2 msgs & signed down w/ BT BT 21 21 38 38 00. (TS)

6836.7: FDZ (RFFVA) Paris, F in ARQ-E 200425 to 0028 on C.I. FDZ, w/RFFVA. (FH)

6866: Cuban Bored Man Spy stn monitored at 1500, began w/OM/SS/w/long counts to 30, alternating w/classical piano mx!, then into "sen-al R447" msg rather than usual aten- tion. Alternated mx entire bcast, swapped announcers 1518. Slight occ wobble on carrier freq. (AWH)
8145: Shanwick meteo, Ireland, presumed, at
8122: DFZG, MFA Belgrade at 2155 in RTTY
8073.8: Callsign SOQK at 1500 in CW w/sev-
8038.5: FARLY, SMILEY, & others passing
8015.5: DIVISION MAIN wkg 1st LAR and
EAM. (TS)
8007.5: RFFXXC Favieres, F, 2220 to 0300
on in ARQ-E96/400, turned out to be ckt XXI
7981 from Bangou down from normal 8510.7, CdV
noted 0150, r/t on 7841.7 as usual. (AWH)
8219: LEN3A, M/S Song of America at 0413
in USB, Royal Caribbean cruise ship, c/w/wg
KMI (on 8743.0 for r/T t/cd). (Ed.)
8240: NABD, USCGC Grand Isle (WPB-
1328) at 0105 in USB wkg NNM w/po.
report, 21-38.2N/074-04.7W course 145 at 15
kts. (Ed.)
8300: "New Star" YL/LC/4F numbers sn in
AM at 1207. (TS)
8316: RNZN Auckland, New Zealand, w/
HMMNZS Tarapunga (Survey vsl) at 0650 in
USB w/routine Mgs. HMMNZS Tarapunga
was involved in some survey work of the
South Island coast & having problems w/some
gauges, HMMNZS Monowai (Hydrological/
Oceangraphic Survey Ship) came up and
offered them some spare gauges. (JJS)
8320: "Cherry Ripe" YL/E/E numbers sn in
USB at 1207 w/5F mg (TS).
8344.5: ULDF, vsl Ishim, a sea/river cargo
t/slding mg to London w/EtA for
Goetheburg carrying cargo of steel bars, in CW
at 0828. (HOOD)
8381: 3FKZ3, M/S Carnival Destiny at 0230 in
ARQ. 111.112 DWT, 3400 passenger
Carnival cruise ship w/tlx to M/S Splendor of
the Seas, join 70442 DEST, this is one of the
largest cruise ships in the world. (Ed.)
8391.5: UBUT, Tsmolinina, a 5885 DWT
large cruise ship w/availability of channels data, use tp sign
MGJ. (FH)
8476: RFFXCC Favieres, F, 2220 to 0300
on in ARQ-E96/400, turned out to be ckt XXI
7981 from Bangou down from normal 8510.7, CdV
noted 0150, r/t on 7841.7 as usual. (AWH)
8520: G6K in USB at 0248 w/EAM. (TS)
8031.5: NNOCTB, MARS sn USCG
Venturous (WMEC-625) at 0039 in USB c/wg
"any MARS sn state side." (Ed.)
8038.5: FARLY, SMILEY, & others passing
t/dideas about contact numbers to
SLEDGEHAMMER at 2344 in USB. Several
players mentioned a convoy. (JJ)
8073: Shanwick meteo, Ireland, presumed, at
2155 in RTTY 75/425 w/RY/R/DE between encrypted
msg. (Ed.)
8145: Shanwick meteo, Ireland, presumed, at
2155 in RTTY 75/425 w/RY/R/DE between encrypted
msg. (Ed.)
8178: U.S. Mil tactical heard at 1827 in USB.
FIREBALL 2 c/w FIREBALL 1, no response. (AWH)
8695: DHM91, GAF Munster, Germany at
0810 in USB c/w GAF 970. (UJ)
8696: KOPENIG wkg SPEED BUGGY w/lot's
of iodo checks at 2250 in USB. (KK)
8791: At 1933 DDD in USB req 8T1 relay
report to SIERRA 4 JULIET GULF. (MF)
8794: RAAF Sydney, NSW, Australia at 0630 in
USB w/RF carrier. (FB)
8894: Air France 845 at 0006 in USB wkg
San Francisco (ARINC), USA w/ARP 28N/
150W 0319, est ZIGIE 0348. (TO)
8910: RFFTD, Villacoublay, Fin ARP-E3
192/356 at 2140 on CI. IGU to RFLIG
Comair, Cayenne (ZAH UG). (FH)
8936: RFFTXC Favieres, F, 2220 to 0300
on in ARQ-E96/400, turned out to be ckt XXI
7981 from Bangou down from normal 8510.7, CdV
noted 0150, r/t on 7841.7 as usual. (AWH)
8965: DHM91, GAF Munster, Germany at
0810 in USB c/w GAF 970. (UJ)
8974: RAAF Sydney, NSW, Australia at 0630 in
USB w/RF carrier. (FB)
8971: At 1933 DDD in USB req 8T1 relay
report to SIERRA 4 JULIET GULF. (MF)
8974: RAAF Sydney, NSW, Australia at 0630 in
USB w/RF carrier. (FB)
Remember, it’s spelled Qantas, and you can hear their aircraft on HF. Thanks to Steve Bottom of Steve’s Down Under Hideaway Web site for his “Oop’s” Qantas 767 picture.

1300 again at 1330. (CS) (Congrats. 1st Hurricane Hunter log of the year, TEAL calls are WC-130’s from 53 Wx Recon Sqd. Kestler AFB, Ms, Miami Monitor is the Nat’l Hurricane Center, Coral Gables. FL — Ed.) SLAM 23 clg GIANT TALK for a signal ck at 0035. (RK) All in USB.

1127: DHM91, GAF Munster, Germany at 0655 in USB w/WX forecasts for EDDM, EDDK & LPBJ. (UJ)

1120: SAM 26000. SD-SAM C-137C tail 62-6000, heard at 0130 in USB wkg Andy Presidential w/pp El Mendorb base op’s to pass ETA. (Ed.)

1128: DHN66, NATO Geilenkirchen AFB, Germany at 0620 in USB clg MAGIC 55. (JJ) 11235: RAF Darwin, NT, Australia at 0735 in USB clg SHERPHERD 787 (FJ). (P3)

11240: LDOC Damascus, SYR at 1731 in USB w/Syrianair 532. (AB)

11247: Architect, G at 1804 w/ALF-6030, selcak ck on AJ-BM, Dept LPBJ to EGD. (AB) VIPER, RAF MT Pleasant, Falkland Islands at 0545 w/ASCOT 3220, req wx for SBRF (Recife Brazil). (UJ) Both in USB.

11282: Canadian 133 at 0419 in USB wkg San Francisco (ARINC), USA w/Selcal check HJ-BD. (TO)

11285: Colombo aeradio, CLN at 1608 in USB w/unid a/c, selcak ck on LM-929 (whoiz- it?). TSE 5272 (Transmile) at 1610 in USB w/unid for poron report. (AB)

11288: LDOC Riyadh, ARS at 1622 in USB w/Saudi 003. (AB)

11300: Saman Air Yemen at 0440 in USB passing a/c flts plans to Adiss Ababa. (ABa)

11345: SDJ, Stockholm Radio, S at 1527 in USB w/Northwest 58 & Berlin 7315. (AB)

11351: LDOC Paris, F at 1718 in USB vari Air France flts. (AB)

11387: Sydney Volmet, AUS heard at 1530 in USB. (AB)

11455: Zaire, “The Drummer” at 1635 & throughout day running tambour test loop, weak. Supposedly use in Kisangani. (AWH)

11537: CW signal sending 5FG’s at 1338, signed down w/WT BT 16 169 48 48 00000. (TS)

12140: HWN, French Navy, Paris monitored in 150/850 RTTY RY’s to FAAA. (FI) (FAAA is a collective callsign for “all French warships” — Ed.)

12566: XU7BU, M/V Dibson 1 w/50BD RTTY at 1040, msg from Knu Strelnikov to “Radio SPB Kornilov” (is one of several cargo vats owned by the Altex Co of St Petersburg, but which are Cambodian flagged). (HODD)

12583.5: CBV, Valparaiso Radio Chile at 2200 w/ARQ ready signal, signing CW. (FH)

12588: UFZ, Vladivostok Radio, RUS at 2004 in 50/170 RTTY RY’s, then msg to ship, to tone at 0025 then RY’s again. (FH)

12903: VTH9, Indian Navy, Mumbia, India at 1400 in 50/385 RTTY w/"VTH5/7/9 RBSL BRN RY’s & SG’s." (FH)

12947: UU1, Odessa Radio, w/very high speed CW at 1050 sending crew msg to T/Kh Lev Tolstoy (ELSH8). (HODD)

13155: At 0230 in USB unid stn (military?) w/phonetic text string: E2M4....at 0245 This is scope -door, scope door. (Maybe Sculptor?) E2MW4....at 0245 (Probably an E -6B w/an EAM msg on this USN freq, watch for my up -coming Pop’Comm article on military HF monitoring for more info — Ed.)

13205: Unid BAW flight in USB wkg Gander LDOC w/usng HFL DLOC because satcom on board a/c not wkg. (AB)

13247: SAM 26000, DV-2 plus 37, inbound Barbados for refuel then on to Andrews AFB. ETA 0730 wkg Andrews VIP at 0120 in USB for clarification of orders regarding return flight. (FI)

13311.5: MFA Pyongyang N.Korea at 0910 in RTTY 50/500 w/5Lg’s. (IJ)

13354: Fedex 1800 at 0304 in USB wkg San Francisco (ARINC), USA w/Selcal check BM-DS. (TO)

13386.7: Egyptian embassy either Cairo or Alexandria w/CW Marker. (AB)

13386.1: JTA to RETJCT Fm CECOMENA, SS nx 60044.1: CLP23, Embacuba Lagos in 50/385 RTTY at 1630 clg CLP1. (FH)

22015: GTK76, Portishhead Radio, G at 1028 in USB w/pp. (AB)

22376: NMO, USCG Honolulu in FEC w/strong signal, off 2245. (FH)

22785: RETJCT in 100/850 RTTY on C.I. JTA to RETJCT Fm CECOMENA, SS nx sent, then to USB fone, RETJCT is call sign of Hesperides, pass a ship. Next day heard at 1613 RETH in 100/850 to see ships, then USB fone. (FH)

23337: Rockwell wkg Lajas for comms test at 2016 in USB re: “finally got the problem fixed.” (JI)

23461: Cherry Ripe No. Station at 2320 in USB, YL w/numbers. (JI)

25900: Radio Neige, France at 1500 in NBFM weak w/music service for French ski lifts, also 26070, both faded quickly. (AWH) (I think that counts as a unid stn...nice snag — Ed.)

This month’s contributors: (AB) Ary Boender, The Netherlands; (AG) Alan Gale, UK; (AS) Allan Stern, FL; (AWH) Albert W. Hussein, FL; (BF) Bill Farley, NM; (BS) Bill Smith, CA; (CDS) Claude D. “Danny” Stewart, LA; (CS) Chuck Sayers, PA; (FH) Fred Hetherington, FL; (HOOD) Robin Hood, UK; (JI) Ian Julian, New Zealand; (JI) Jeff Jones, CA; (MF) Mike Fink, FL; (RK) Richard Klingman, NY; (RM) Roland R. “Mac” McCormick III, GA; (TO) Tony Orr, VA; (TS) Tom Sevart, KS; (TW) Thomas W. Johnson, WI; (WP) Walter Petersen, FL; (WPI) William R. Phillipson, CA; (WW) Web Williams, SC; and (Ed.) ye editor in Ohio. Thanks to all contributors for another great turn out.
allowed 250 watts! And even low-power television stations are allowed power levels providing coverage of 15 to 20 miles. Microstations should not receive anything less in order to be effective.

Remember too, that if approved, this would be an FCC-approved service; Ronnie Radio wouldn’t be permitted to come up on any frequency he wishes; an engineering analysis would be done, complete with a report showing no interference to the co-channel and first adjacent channels above and below the channel being studied.

This Is The FCC’s Chance To Do The Right Thing!

The creation of a low-power FM broadcast service would give ordinary folks the ability to own and operate their own small radio station as a lucrative business, creating “small business” opportunities, which is the cornerstone of our great Nation. I believe that if we could look forward five or 10 years from now, we’d see this as the Commission’s “Kodak Moment” when the opportunity presented itself to greatly reduce the FM pirate problem that plagues many areas of the country, and is a continuing headache for the understaffed and under-budgeted FCC.

The FCC can, and should, get on with business by approving his proposal. To do less would be a slap in the face to potential small station owners nationwide. Uncle is at the turning point — they can do the right thing, or they can fail to see the importance of their impending decision, and approve other LPFM proposals, or worse yet, reject RM-9242.

The other microstation proposals before the FCC fall short of providing a worthwhile service: therefore, it’s our position that Skinner’s proposal, RM-9242 has something for everyone — and at a respectable power level to make owning such a station worthwhile.

Essential to the success of RM-9242 is to let your Congressional representatives know that you want this petition approved in its present form, and that competition from a microstation with under 15 miles coverage simply won’t significantly impact a full-power station’s revenue or audience. After all, haven't larger broadcasters become all-too-powerful in most areas of the country, turning our Nation’s airwaves into a repetitious landscape of the same voices and programs? You and I know that what's missing from radio is the good old-fashioned local news, local happenings, interviews, and advertising dollars. How many Pop’Comm readers agree? You know darned well that if the broadcasting industry feels threatened by this, they’ll use everything at their disposal to squash Skinner’s petition. Let's give this one the attention it deserves! And, while you’re at it, let us know your thoughts on RM-9242.

Here’s an intriguing thought: I wonder if Reps. Billy Tauzin or Markey would champion this fight? After all, RM-9242 is also good for America.

Clandestine Communique
(from page 63)

in Iraq is being noted on a lengthened schedule (from 0330 to 0530) on 6195, 7115, 7295 and 9610 with Arabic language programs.

Again active is the Cambodian clandestine, the Radio of the Provisional Government of the National Union and Salvation of Cambodia (remember when clandestine station names used to be short?). The station is (more or less) back on its old spot of 5407. The Khmer language broadcasts are scheduled from 1130 to 1330 and 2330 to 0130. For North American listeners, the morning segment is the best opportunity.

The Democratic Voice of Burma is now operating on 15330, signing on at 1245 and running until 1345. The program is transmitted from Germany.

The station that’s been broadcasting against the Taliban-run government in Afghanistan, and calls itself “Radio Afghanistan,” now uses 7085 from 0730 to 0830 and 1230 to 1330. We suspect this one may be using very low power.

The Voice of Tibet program is now scheduled from 1200 to 1258 on 11570.

The ever-mysterious New Star Broadcasting Station was recently noted on a new frequency of 13750, in addition to its normal channels of 8300, 9725, 11430, and 15388. These strange broadcasts (mostly music and number groups and messages in Chinese) have been around for many years. They’re not easy to hear in North America, but it’s certainly not an impossibility. One reason for the difficulty is the irregularity of the schedule. The broadcasts may appear at almost any time from 2200, and have been noted as late as 1630. The broadcasts usually begin on the hour, but sometimes start on the half hour, and are of lengths varying from five minutes to half an hour, occasionally even longer. Logging this one will very likely require a lot of persistence. The most often reported frequency is 8300 and, in North America, the hours from 0900 on are most likely to produce results. There seem to be equally logical arguments for the station’s location being on the mainland, as well as Taiwan. It’s doubtful anyone but the operators, the governments involved, and certain other agencies know for sure. Needless to say, no one has ever QSLed this station, nor located a mailing address.

That covers things for this time. If you have loggings, comments, or other information relating to the clandestine broadcasting scene, please know that they would be very welcome.

Until next month, good hunting!

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Life On The Farm Is A Mooving Experience

I
n case my life wasn't enough of a source of ridiculous things (having Norm for a friend, climbing on things which I know are too steep, and trying to build silk radios out of a sow's ears), I might as well admit that I've added one more abnormal thing. I now reside among some 80 cows.

My wife always wanted to live in a big old farmhouse. They are hard to find, expensive, and require endless work to modernize and maintain. We now rent one, smack in the middle of a dairy farm whose owners live in a lovely, modern house a mile or so down the road. Cows live here. They’re steers, really, but they look like cows to a radio person. Spayed bulls, I think they are. Gelding heifers. Anyway, the place is nice, the family is happy, and the cows are pretty good neighbors. They leave us alone; we leave them alone, and I have lots of giant trees where I can string antennas. I had just strung over 400 feet of wire from my first-floor ham shack to the top of the silo (easier to climb than a tree) and was wallowing in signals. Even this unmeasured spool of fence-wire had more capture area than anything I've ever used before, and the performance was particularly good as I got down toward the broadcast band.

As all those seeking my QSL can tell you, I’d rather listen than transmit. Naturally, the first night of great reception keeps a person up later than normal, and it was about 4 a.m. when I noticed an increase in the mooing from the normal rate of about one every half-hour or so, to about one a minute — and some of them sounded a lot like cows saying “whoopie,” and “yahoo,” or whatever it is that cows say when they get loose.

I had been listening to a station west of the Mississippi — probably Kansas or Missouri, and I was waiting for an ID when this mooing frenzy made me stop and investigate. A cow doesn’t have to exert much effort to push its nose right through a window screen, tearing the fiberglass screen from its frame. It’s not that they’re malicious, but I was glad we didn’t own a china shop. I called our landlord who said he’d be right over, but asked if we could sorta keep an eye on the strays, and try to keep them from heading down the long driveway to the highway. “Sure,” I said. I woke my wife and son.

I expected two groggy cowhands, but instead got two enthusiastic herdpersons joining me in the backyard, where my wife’s 24-hour-old strawberry garden had been. The fertilizer would probably have done it some good if the offending bovines hadn’t flattened every one of the 24 plants. Our landlord had told us they always headed for a garden first, but we thought we’d be an exception.

“Like, moo and stuff,” my son said, waving his arms and turning a few cows away from the driveway and back toward the barn. My wife was whistling and calling “Here, cows, c’mon cows — that’s a good cow,” while I resorted to the classic “Hyaaaah!” and “Gettemup!” and, to our collective surprise, we were able to move quite a few cows right to where we wanted them.

We quickly learned that cows will walk away from you if you yell and wave your arms. The trick is getting onto the other side of a cow that’s running away from you, which is why horses were invented. We had no horses.

I went into the house for some flashlights, (a cow’s eyes shine like a deer’s). My scanner was locked onto the county sheriff’s frequency, and I heard the dispatcher sending two patrol cars to slow traffic around some 20 cows on the road. I used our landlord’s two-way business radio in the barn, and called to warn him about the cows on the road. “Yup. I’m drivin’ about 10 of them along here in front of the truck,” he told me. I could hear his brother yelling cow-words from the cab of the truck. “I need one of you to go to the end of the driveway and make them turn up toward the house.” My son took the challenge, and headed off to do the quarter-mile on foot.

There was a whole lot of laughing, cow-counting, and bad jokes till the sun peeked over the horizon. We were late for church, and I later found that one of our wandering neighbors must have pushed on my new longwire, which was no longer attached to the top of the silo.

The lawn is now much greener in a few spots. We have been granted honorary degrees in cow-herding from our landlord, and my dear wife has replanted her strawberries. That silo’s a long, hard climb, but I’ll probably put my antenna back up soon. I’d thought about electrifying it with a fence-charger, but I doubt it’d be any good for my receiver.

You don’t live on a farm and ignore the goings-on, even if you are just an observer. We keep an eye on the gates, talk to the cows, and maintain regular radio contact with our landlord whenever something isn’t quite right. I’m thinking about a mount to put a tri-band beam on top of that silo, and a little cow-watching is a small price to pay. Mooo.
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