Shortwave Fun: Try It the Hard Way

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PORTABLE SHORTWAVE

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TABLE TOP RECEIVERS

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- ICF2013: $344.95
- ICF700U0: $179.95

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- AOR AR3030: $599.95p
- DRAKE R8A: $1069
- ICOM R71A: $CALL
- R7100: $CALL
- R100: $CALL
- JRC NR035DB: $1699
- Kenwood HS900: $196.95
- LOWE HF150: $569.95
- HF225E: $959.95
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This month's cover: An engineer checks the 800-kHz transmitter of Trans World Radio in Bonaire, Netherlands Antilles. In addition to the mediumwave powerhouse station, TWR also operates several shortwave transmitters from the site. Photo by Larry Mulvehill, WB2ZPI.

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(Internet e-mail: POPCOMM@aol.com)
Tom Kneitel, K2AES/KNY2AB, Senior Editor
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As you'll read in Capt. Mauldin's "You Should Know" column this month, there's a movement afoot within the Federal Communications Commission to create a radio service that caters to families without licensing. And it seems real close to happening. For some reason, the FCC has taken it upon itself to act on a mandate by Congress in the late 1970s to delicense the General Mobile Radio Service, much like it did with the former Class C (radio control) and Class D (voice) citizens bands.

Do we need a Family Radio Service? Do families have a unique need for two-way radios in their lifestyles? Apparently, the folks in the RadioShack Division of Tandy Corp. think so. Motorola's folks agree, and have told the FCC in filings that an FRS would serve the public. They've been joined in comments filed by the Telecommunications Industry Association, too.

I've been licensed on GMRS for a very long time—almost two decades. I've found it to be a valuable radio service for my family to use. When I lived on the east coast, my wife and I used the 222-MHz ham band to keep in touch. With wide-coverage repeaters, it was a cinch to reach out to each other, especially considering we each drove 30 miles one way to work in opposite directions each day.

However, when we moved to the Midwest, we found the 222-MHz band just wasn't useful because of the lack of any repeaters in our area. Sure, we used it simplex around town, but we couldn't get the extended coverage that repeaters offer. So, we scrapped the 222-MHz radios and installed UHF radios in each of our cars, put a repeater on the air and set up a control station in our house. This allowed us to keep in touch on a UHF business band repeater, but the FCC rules limit the amount of personal traffic that can be said on business radio service frequencies. We found that GMRS would work fine as a backup. We had been using UHF handi-talkies on GMRS frequencies for things like keeping in touch in a mall, or to arrange pickups for each other while in another town on business ("Hey, I'm done with my meeting; come on over and pick me up!).

I really like GMRS. It's an excellent concept and it's hard to believe that it was the original CB back when CB was created in the late 1940s. The problem then, however, was there wasn't an abundant supply of cheap UHF radios available. However, now you can buy radios capable of operating on GMRS in many stores. Personally, I can walk into a local farm supply store and buy a Motorola HT350 on 10 GMRS frequencies, not to mention the local RadioShack store that offers its own version of GMRS radio.

I've taught my two young sons how to use radios on GMRS and they love walking around chatting to each other on one of the interstitial frequencies with their headsets and HTs. They also know they need to give Daddy's call sign every one in a while. After all, we're licensed.

However, the FCC seems bent on creating the FRS that will share some GMRS frequencies and then take some others that were considered on reserve for GMRS. The FCC is proposing to use the 462-MHz interstitial frequencies sandwiched between the full-power GMRS frequencies and then take the similarly paired 467-MHz frequencies. This means that there will be both unlicensed and licensed users on the seven 462-MHz frequencies. If one stops and takes a look back several years, you might remember when kiddie-talkies, those unlicensed 100-mW walkie-talkies that operated on 27-MHz CB channels, shared citizens band frequencies with licensed CBers. Heck, that's how I got my start in CB about 25 years ago. One year for Christmas my parents gave me a two-channel 100-mW Realistic walkie-talkie with Channel 11 crystals (I eventually bought crystals for other channels), and I chatted with some of the local kids in the neighborhood with CB base stations. They were licensed and thought nothing of communicating with my unlicensed station. In fact, without digging up a copy of the old FCC rules for CB, I think there was a ban on unlicensed stations communicating with licensed stations. But, who cared? Apparently, the FCC cared because they moved those unlicensed kiddie-talkies to the 49-MHz band, where they reside today with the hodgepodge of cordless phones and baby monitors.

Well, the FCC wants GMRS users to share their interstitials with FRS users. Will it work? In all honesty, I think each would ignore the other. But it will create a potential logjam on these frequencies that GMRS users, who pay a fair amount for their licenses, have come to appreciate. When the full-power GMRS channels are busy with communications, you can almost always find the interstitials quiet and usable. I think it's the best place for my kids to chatter away without causing potential problems for full-power users.

I also like the idea of an FRS, but I don't think the 462- and 467-MHz bands are the place for it. Surely, there are other places that would work better. I personally favor the catch-all 900-MHz band. While hams can use the 902-928 MHz band, few actually do because there is no commercially manufactured ham equipment for this band and there are other unlicensed users that cause potential havoc. For instance, there are industrial and scientific operations on that band in some areas, vehicle monitoring systems can use the segment and the new 900-MHz cordless phones use the band, too. I even have a wireless transmitter in the shack that can send video signals from a VCR to your TV in this band (it's great for sending scanner audio from your base scanner to your handheld scanner on 900 MHz!). Perhaps you're getting my drift here: Hams avoid the 902-MHz band because of all the junk that shows up there. Unless you live in the middle of nowhere, it can prove to be a crappy band.

Re-enter FRS. If GMRS users have to contend with unlicensed users on their 462-MHz interstitial frequencies, they may give up altogether. That means that some of the simplex communications that take place on the interstitials may wind up on the full-power frequencies. Yes, that's where you'd hear my kids chatting if they had to contend with unlicensed users in the neighborhood!

At pretime, the FCC already has issued a Notice of Proposed Rulemaking and

(Continued on page 86)
MAILBAG

LETTERS TO THE EDITOR

Each month we select representative reader letters for our Mailbag 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 Mailbag.

Orders to: Chuck GYSI, N2DUP, Editor, Popular Communications, 76 N. Broadway, Hicksville, NY 11801-2909, or send e-mail via the Internet to POPCOMM@aol.com.

Yes, Hamfests Ask Too Much At Gate

I totally agree with your editorial on hamfests (October POP'COMM). I attended two in the past two years sponsored by the same amateur radio club. The first time I went to see if I could obtain material to help me with my shortwave listening hobby, but found nothing. I went again this year to get computer software, which is readily available at these shows.

However, I did not feel either show was worth the $4 admission charge. Most vendors had junk that was both overpriced and ready for the trash heap! I swear the same stuff was on display from the previous year!

You are right. The sponsors of hamfests shouldn’t be so greedy with admission prices and be more realistic. I would make it a point to attend more shows so I can get more equipment and knowledge, but I don’t feel it is worth the high admission price.

Sue Wilden, KIN9GK
Columbus, Ind.

Readers’ REACTions Prove Favorable

(Editors’s note: The following letter was sent to POP’COMM’s CB Scene columnist, Jock Elliott.)

I want to tell you how much I appreciate your upbeat, positive attitude toward CB radio. Your writing makes it clear that you regard CB as a highly valid communications tool, not a play toy.

Your convictions about CB emergency Channel 9’s continuing safety importance to millions of American travelers are most encouraging. Thousands of REACT volunteers who monitor that emergency frequency know just how accurate your views are.

You are doing much to enhance the image of CB radio. It is an approach that was long overdue. You deserve a great deal of credit for treating CB seriously. It has saved too many lives to be regarded as anything other than an important communications link.

The outlook you present can only benefit users of the band. You encourage higher standards of CB operation by the very tone of your writing. For this you are to be commended.

Thanks very much from all of us—REACTers and others—who monitor CB emergency Channel 9 to safeguard travelers and assist police continentwide.

Ron McCracken
Past President
REACT International Inc.

Congratulations on becoming the editor of POP’COMM. I hope you have many wonderful years in this new position and I’m sure that you’ll do as good (or better) a job as Tom did. I enjoyed your first editorial and look forward to many more.

I’ve been a reader and subscriber to POP’COMM for eight years now and I don’t have any plans to cancel. POP’COMM usually is read from front to back in less than three days and that’s on top of four other magazines, the newspaper, books, working and raising a family.

To regress a bit, I would like to say thank you to the staff of POP’COMM for the past article on REACT just after the Flood of ’93. It made our REACT team very happy (and me, too, as it was my favorite picture that was on the lead page).

Keith Mehl, N0TPP
Secretary/Treasurer,
Greater Des Moines
REACT 4872
Secretary, Iowa REACT Council
(via America Online)

Forbidden Zone

I own a Kenwood R-2000 communications receiver. The set is rated to receive low frequencies down to 100 kHz, but the tuning knob will continue to read below that. Yesterday, I kept on tuning downwards toward the low end of the frequency spectrum to see if I could hear whistlers. I was surprised to see that after the frequency display reaches 1 kHz, it next goes to 0 kHz, and then begins displaying negative digits below zero. What’s this all about?

Owen Moriarty,
Salt Lake City, Utah

The Kenwood R-2000 happens to be an excellent receiver. Most listeners wouldn’t attempt to tune below the set’s... (Continued on page 86)
**HF 150 IBS****

REAL RADIO, RUGGED, RELIABLE

Simplicity makes the HF150 easy to operate, and the synchronous detection produces superb audio which enhances the outstanding performance!

- Frequency: 30kHz - 30MHz
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- 60 Memories (FREQ. & MODE)
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- Built-in Speaker, Ext. Jack & Record OUT
- Power 10-15VDC .15A (.3A max)
- Includes FREE AC adaptor
- Size: 7.3"W x 3.2"H x 6.3"D; 2.9 lbs.

The Lowe HF 250 is set to become the new world standard for midpriced receivers.

The new HF 250 combines Lowe's traditional high standards and quality of construction together with the advanced facilities and control features required by today's discerning listener!

**FEATURES**

- Frequency coverage 30kHz to 30MHz
- Computer control via RS232 port.
- Tuning step size 8Hz
- Clock with 2 independent timers
- Back-lit display
- Fast tuning in 10kHz steps
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- 255 memory channels
- Infra red remote commander
- Memory channels also store frequency, mode, filter selection and attenuator setting.

**AP150**

The Ultimate Lowe Accessory!

A combination audio filter, amplifier and speaker. Works well with any SW receiver or transceiver, but designed to compliment the HF150.

** Features:**

- 10W Audio amplifier
- Variable notch filter
- High pass filter
- Low pass filter
- Built-in loudspeaker
- External speaker output
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**PR150**

Pre-Selector w/ Pre-Amplifier

A perfect match to the HF 150, but equally effective with other SW receivers. Obtain wide coverage of 100kHz to 30MHz through the use of seven tunable bandpass filters. Multiple antenna inputs, pre-amp attenuator and much more. 

* Hear what you've been missing!
* Antenna input: 50ohm unbalanced, 600ohm balanced
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A super combination of hardware and software for the receiving and decoding of ACARS (Aircraft Communications Addressing and Reporting System). This format is used to transmit data between aircraft and airport ground stations. This information is transferred via VHF to the ACARS ground station. When using the Air Master software with your PC and an air-band receiver, you'll be able to view the ACARS messages as they are received. The package includes the MS-DOS software for use with a 386 or higher PC, the computer interface and manual.

Rated 4 stars by Passport's Larry Magne

- Multimode: AM, SSB, CW
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- Filter for all Modes: 2.2, 4.7, 10kHz
- 200Hz audio CW filter
- Built-In Speaker, Ext. Speaker, Rec. Jacks
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- Size 10"W x 4.2"H x 8"D; 4.18 lbs.

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**HF 225 IBS****

- Multimode, AM, SSB, CW
- 30 Memory Channels
- Optional AM Synchro & FM
- Filter for all Modes: 2.2, 4.7, 10kHz
- 200Hz audio CW filter
- Built-In Speaker, Ext. Speaker, Rec. Jacks
- 10-15VDC .15A (.3A MAX) AC/Nicads Opt.
- Size 10"W x 4.2"H x 8"D; 4.18 lbs.

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Contact your favorite Dealer today!
Here come our newest “how-to-hear-it” article. This one is different however, because we’re not going to focus on providing information that will make it as easy as possible for you to hear the stations. This one’s just the reverse: A challenge to try and hear all the European countries active on shortwave, but without taking the easiest approach!

Even so, some will be easier than others. The truth is that DXing some of the Europeans is a very difficult business, even under the best conditions! The government radios of some countries just aren’t powerhouses of the Deutsche Welle variety. If anything, they’re more like some of the peanut-whistle stations of South America insofar as audibility is concerned. Sometimes that even applies to stations using relatively high power.

Our country-by-country run-through offers you shots at signals from lower-power transmitters where they exist, and suggest trying services or time/frequency combinations not designed for reception in North America. In a couple of cases, we’ve picked a station other than the well-known government broadcaster. Our list has been devilishly designed to cause your frustration meter to climb well into the red area!

Let’s get to it, then. All times are in UTC.

**ALBANIA**—Have a try for Radio Tirana’s relay of the Home Service’s First Programme, which airs on 6100 from 0400-2300.

**AUSTRIA**—Radio Austria International’s service to the Middle East from 0500-0800 should be very tough. It airs on 15450 and 17870 in Arabic, English, German and French. From 0800-1100, the focus shifts to Australia/New Zealand.

**BELARUS**—Radio Belarus, also called Radio Minsk, airs broadcasts to Europe in Belorussian from 1900-2000 on 5940, 7105, 7210 and 7405. The first and last frequencies actually are from transmitters in the Ukraine, though, so if you do hear one of those you’re not really hearing it direct.

**BELGIUM**—Radio Vlaanderen International (formerly Belgian Radio and Television) has any number of broadcasts unsuited for North American reception. Try Dutch to Europe on 5910 at 0830-0930 Wednesdays and Saturdays.

**BOSNIA-HERCEGOVINA**—Radio Bosnia-Hercegovina is supposed to be operating with single-sideband broadcasts on a variable frequency of 6890, more or less 24 hours a day. The civil war going on in this area leaves the status of this station quite an open question, however.

**CROATIA**—There isn’t much difference between the easy and the difficult on the schedule of HRTV Croatian Radio. It’s all about the same, and definitely registers on the “difficult” side of the dial. Currently, the station is using 5895, 7370, 11635 and 13830. The latter two frequencies probably are easier to hear, so forget we listed them!

**CZECH REPUBLIC**—Try good old Radio Prague, broadcasting to Europe at 1830 on 7345 and 9420. Hats off to this station, which didn’t feel it had to have a name change when the country came out from under communism.

**DENMARK**—It doesn’t matter how great a DXer you are, you can’t hear shortwave broadcasts from Denmark, not directly anyway. There’s an extensive schedule of 25-minute broadcasts via Radio Norway, however. Check at 0830, 0930 or 1030 on 15220, 17740 or 21705. At that hour, most of the time all you’ll hear on those high frequencies is “ssshhh.” It’ll
put you right back to sleep!

ENGLAND—Try the BBC broadcasting to Europe on 3955 from 0300-0815.

ESTONIA—Radio Estonia, at Tallinn, has a broadcast from 2130-2200 on 5925. It’s aired in Estonian on Tuesdays, Wednesdays and Fridays; in English on Mondays and Thursdays and doesn’t exist on Saturdays and Sundays.

FINLAND—Radio Finland is a regular visitor for most of us but here’s something with a little more spice. Try to pick up their news broadcast in Latin, aired daily from 0553-0600 on 9635 and 11755.

FRANCE—It’s surprising in this day of all the big guns on shortwave, but Radio France International still operates a little 4 kW transmitter. It’s on 3965 and broadcasts to Europe and Africa from 2200-0700. Be prepared to contend with interference from hams.

GERMANY—Bayerischer Rundfunk, based in Munich, operates in German around the clock over a 100-kW transmitter on 6085. Ah, but Deutsche Welle—The Voice of Germany—also occupies the frequency! However, DW is off the air once or twice for brief periods during our evenings, which opens a window for the Munich station. You’ll have to park on 6085 and wait.

GREECE—This one isn’t actually all that hard. Try Radiofonikas Makedonias, broadcasting to Europe and the Mideast from Thessaloniki. Check 9935 from 0600-2255 or 11580 from 1400-2255. Unless you happen to speak the language, it’ll be Greek to you.

HUNGARY—The Kossuth Radio domestic service is aired over a 100-kW transmitter on 6025 from 0330-0000, all in Hungarian.

ICELAND—The Icelandic National Broadcasting Service at Reykjavik has a 10-kW single-sideband transmitter, which it uses five times a day for brief broadcasts in Icelandic to Europe or North America. Try 1855-1030 (to Europe) on 11402 or 13860.

IRELAND—Ireland hasn’t had a legitimate shortwave broadcast station in something like 50 years. But every now and then an Irish-based pirate broadcaster will come on the air. Active fairly recently was ABC Dublin, on 6940 on Sundays from 0900-1200. The power of this one is a minuscule 55 watts.

ITALY—Have a go at Adventist World Radio’s broadcasts on a 10-kW transmitter at Forti, in northern Italy. Various languages are used from 0800-1600 on 7230.

LATVIA—Latvian Radio, Riga, is a mean one, even at its best. Various services are aired from 1800-2200 on 5935.

LITHUANIA—Radio Vilnius carries various home service program services on 6100 and 9710 from 0400-2200. Radio Vilnius on 7150 actually is transmitted from a Russian site.

MALTA—Rather than digging into the Malta relay schedule of the Voice of Germany we’ll go with the Voice of the Mediterranean, aired over DW’s Cyclops, Malta facility. Try the English/Arabic broadcast at 0600-0800 on 9765.

MOLDOVA—Radio Dniester International has been heard by quite a few DXers in North America. Check 9620 or 15290 (depending on the season) at 2130-2200. We offer this instead of the government station, Radio Moldova International, because the latter is beamed from transmitters in Romania.

MONACO—Trans World Radio, Monaco, has an extensive schedule that includes broadcasts in several languages. Try their daily English offering at 0740 sign-on, on 7110.

NETHERLANDS—Radio Netherlands is another of those broadcasters with a schedule so extensive it’s hard to pick one hard-to-hear transmission over another.
A good Bulgarian target is the Radio Sofia (oops, Radio Bulgaria!) facility carrying the domestic Radio Varna transmissions.

Try the one in Dutch, designed for Dutch forces in Bosnia (if they're still there). It airs Sundays from 0900-1025 on 9635 and 9560.

**NORWAY**—Radio Norway International also has a long list of times and frequencies to pick from. Try their broadcast to Asia and Australia on 17740 at 0900-1000.

**POLAND**—The little-known Polish Pathfinders station has been heard in North America only a handful of times, in part because it was off the air for a number of years. This 1-kW station operates in Polish on 7205 from 1100-1700 weekdays (which makes it unloggable in North America) and 0900-1700 Sundays; the 0900 broadcast offers only a slight improvement in your chances of hearing the Pathfinders station.

**PORTUGAL**—The private Catholic station, Radio Renascenca, has programming in Portuguese on 9600 from 0115-0230. Tougher than that is the one from 0400-0600 on 6100, Monday through Friday only.

**ROMANIA**—Like some others, Radio Romania International’s schedule offers loads of hair-tearing possibilities. We’ll be a little bit reasonable and suggest you go after them in Romanian, starting at 0500 on 9570 or 11970.

**RUSSIA**—One thing about Russian radio hasn’t changed since “the fall”—it still can be a source of endless frustration. There are any number of “stations”—broadcasters using government transmitters, many of which don’t last that long. Here are a couple of government regional broadcasters: Radio Vladivostok in the wee hours on 4010, or Krasnoyarsk on 5290 beginning at 2200. Both stations broadcast only in Russian.

**SLOVAKIA**—Radio Slovakia International? Pretty easy at 0100 to North America. But how about in Slovak to Australia at 0900 on 17485?

**SPAIN**—Try Radio Exterior de Espana’s transmission in the “minority languages” of Catalan, Galician and Basque, Monday to Friday at 1010-1055 on 17715.

**SWEDEN**—You can flip a coin to pick something from Radio Sweden’s schedule. Try the broadcast in Russian directed to Asia and Europe at 1400 on 11650 and 15120.

**SWITZERLAND**—We could find many nasties in Swiss Radio International’s schedule, too. Instead, how about United Nations Radio in Geneva? There are daily single-sideband broadcasts at 0600 and 1800 on 10461; also at 1200 on 17520, using 15 kW.

**UKRAINE**—Go after Radio Ukraine International’s broadcast in German to Europe at 0000-0100 on 4820, 5915, 6020, 9810 or 11870. 4820 would be one of the toughest.

**VATICAN**—Vatican Radio’s schedule has loads of things in it that could cause you grief. A pretty good choice to do the job would be the 0400 broadcast in Croatian on QRM-prone 3945.

**YUGOSLAVIA**—Radio Yugoslavia’s foreign service features about a dozen languages and 14 different frequencies. We’ll pair up one of each and try the relay of the Belgrade home service, beamed to Australia at 1400 on 11835.

There is actually a point to all this. More than one, in fact. As SWLs and DXers, perhaps we sometimes tend to get lazy and stay too much with the big signals. And perhaps sometimes we forget just how much is out there, bouncing around the ionosphere every second of every day. What we hear as we tune across the shortwave broadcast bands is really just the tip of the iceberg.

There are endless shortwave challenges awaiting our attention: interesting services, low-power transmitters and unusual transmissions that we sometimes ignore in the endless effort to log another new country or station. Even though you will probably hear less than half the things we have suggested, there is lots of fun just in trying!

So go to it, and good luck!
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The new AR 2700 from AOR is another break-through for general coverage scanners at an affordable price. It combines wide freq. coverage with many advanced features & options, including computer interface and voice recorder. With this small marvel, you will never miss important calls and conversations through the use of the optional digital voice recorder.

- FEATURES -

Wide frequency range: 500kHz to 1,300MHz with various step size, 5, 6.25, 9, 10, 12.5, 20, 25, 30, 50, & 100kHz (wide FM only).
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AR8000 shocks the market. AOR made every effort to incorporate the latest technology in to this new scanner.

- SPECIFICATIONS -

- Range: .5 - 1900MHz usable to 100kHz
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- Size/Wt.: 6.1 x 2.8 x 1.6 inch. 20 oz. batt. incl.
- Covers .5-1900MHz*
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- Only portable scanner on U.S. market to have true SSB, both LSB & USB. Others attempt SSB using a BFO, but are difficult to tune and produce poor SSB audio.
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Unlike some of the European devices sold today, this unit is smaller, lighter, and makes no power demands on your receiver. With the extra shielding and smaller size there is less chance of additional interference leaking into your radio. The AR8000INF is also the only interface that is upgradeable for use with the optional Tape recorder controller due first quarter '95.

- Low Power, powered by your serial port
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- Light weight, perfect for Laptop use
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Radio, a voice that goes from one end of the world to the other. Just think, that accurate description was written 1,800 years ago! It's the first use of the word "radio," plus that amazing definition. This came from the Talmud (Yoma, fol. 21), and is translated from Hebrew, "Radio kol sheholekh misaph hapalm vuad sophoe."

It took 1,700 more years for members of our civilization to actually invent the device named and described in those ancient religious writings. Not to worry, because as soon as radio became invented, individuals and organizations wasted no time conceiving ways to utilize its potentials. Yes, we shall see, even the word "radio," itself!

Marconi Built the Transmitter

Among the earliest broadcasters were religious groups. A few years later, when shortwave development opened the possibilities of international broadcasting, religious organizations were at the forefront of that emerging technology, too.

Contained entirely within the continental borders of Italy is the sovereign nation of the Vatican City state. Though it is the smallest (108.7 acres) independent state in the world, it is the spiritual and governmental center of the Roman Catholic Church. Therefore, the Vatican commands worldwide influence.

In the early days of shortwave, wireless pioneer Guglielmo Marconi personally helped the Vatican become an important early international shortwave broadcaster. The holiday season seems an appropriate time to check out that station's interesting history.

Station HVJ, Vatican Radio, was installed in 1931 at the request of Pope Pius XI, pontiff of the Roman Catholic Church. It was Pius' hope to broadcast the message of his church to the world.

Who else but Marconi, Italy's (and the world's) most renowned expert on radio, would be summoned by His Holiness? He was asked to create a transmitter specifically for the Vatican's station. In response to being so honored, a 12-kW transmitter for HVJ was especially designed and built under the direct personal supervision of Marconi. In addition to its broadcasting capabilities, the original HVJ transmitter was designed for telegraphy. HVJ regularly handled point-to-point traffic, passing hundreds of messages daily.

HVJ was fully staffed by members of the clergy, representing several nationalities. The station's founding director, who supervised HVJ's installation and first three years of operation, was Father Guiseppe Granfrancheschi. After Granfrancheschi's death in 1934, the new director became Father Filippo Soccorsi, S.J.

By 1938, the original Marconi transmitter had become too antiquated and limited in ability to meet HVJ's growing needs. The 1938 HVJ schedule included home programs in Latin, then there were programs in six modern languages beamed out to the world on 6030, 11740 and 15127 kHz. To meet HVJ's immediate needs and plans for the future, Soccorsi decided a new 10-channel Telefunken 50-kW transmitter needed to be purchased and put into service. The Marconi transmitter was mothballed and placed on reserve status.

At that time, HVJ was moved into the former Vatican Observatory Building (situated at Castel Gandolfo, outside the city walls). It had an annex in the former summer retreat of Pope Leo XIII.

In the late 1940s, on the heels of World War II, worldwide interest in shortwave broadcasting grew rapidly. Countless World War II military surplus transmitters began turning up as shortwave broadcasting stations from Port-au-Prince to Port Moresby. Nations, individuals, networks and everybody else had things to tell the world. Technological advances suddenly had made mass-produced, efficient shortwave receivers readily available. It became possible for many people to tune in those messages. HVJ was ready to join in the proceedings, and with a renewed postwar vigor!

By 1946, HVJ decided to dust off and patch up the creaky 15-year-old retired Marconi wireless rig, and crank it back up for full-time broadcast service! The venerable machine soon was chugging away again full tilt, going day and night on 5971 and 15095 kHz into an omnidirectional antenna.

At the same time, the big 50-gallon Tel-
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The antenna masts at HVJ, showing the old observatory at the lower right.

efunken transmitter was shifted out of first gear. No more casual loafing along on three frequencies! It was put to operating on 6190, 9660, 11740, 15120, 17450 and 17835 kHz. Its antennas included an omni-directional tunable to any of its operating frequencies. There were dipoles for the 6 and 9 MHz frequencies (31- and 49-meter bands), plus four directional antennas to beam programs to the Americas, Australia, China, Japan, Egypt and India.

Since then, HVJ has continued to grow, although the 12-kW Marconi transmitter was mercifully put out to pasture many years ago.

Modern Vatican Radio operates on three mediumwave frequencies plus four FM channels. There is a shortwave trans-
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Another view of HVJ’s antennas, this time from atop the observatory.

mitter running 80 kW at the Vatican, and ones operating with as much as 500 kW at Galeria. Religious and news programming are broadcast over HVJ. Signals are beamed out in English and many other languages (including Esperanto, the artificial language) on 31 frequencies to the Americas, Europe, Middle East, Africa, Australia and Asia. QSL cards are sent in response to reception reports.

HJV has been continuously on the international shortwave scene for 64 years, which puts them on the short list of genuine SWBC pioneers.

**Hoosier Little Whozis**

Within a few miles of the POP’COMM offices there are great streets to live on if you’re a communications nut. There’s Marconi Boulevard, Radio Avenue, even Wireless Boulevard. But wouldn’t it really be impressive to tell people you hailed from a town called Radioville? Now, that’s an ideal location for a communications hobbyist!

That occurred to POP’COMM reader and radio historian John R. Christ, N9HVF, of Elgin, Ill., when he noticed a place shown as Radioville on Indiana’s official state highway map.

Christ is the author of Valley Voices (published by Crossroads Communications, Carpentersville, Ill.), a history of broadcasting in the Chicago area west to Rock
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ford, Ill., and northwestern Indiana.

Soon enough, Ghrist learned it was much easier locating it on the state highway map than actually finding Radioville itself. You have travel to Indiana’s rural Pulaski County, then drive north on U.S. Route 421 from Medaryville toward San Pierre. Pay close attention, because once you arrive at San Pierre, it means you’ve managed to miss Radioville!

Though only 50 miles southeast of Chicago, U.S. Route 421 in that area is a lonely stretch of road through swamps and woods, bordered on the west by a game preserve. Near where a small roadway called County Road 100N crosses Route 421, there are a few scattered farms, mobile homes and a bowling alley. That’s Radioville, even though there’s no post office. Ghrist learned that Radioville is elusive. Like a radio signal, it manages to exist while remaining intangible. But why?

Upon investigation, Ghrist found that a large tract there had been owned by a Missouri couple. In 1932, under the name of Radioville, they filed a plat (survey dividing an area into individual building lots) of the property. This partitioned Radioville into 354 parcels of various sizes. Then, Henry Ullrich, a relative of the couple, who lived in River Forest, Ill., began selling the lots. They were sold, mostly sight unseen, to Chicago residents.

Unscrupulous land promoters have a history of concocting schemes to huckster distant worthless lots to gullible residents of big cities. Sales brochures invariably point out low prices, promising the imminent arrival of water, electricity, tree-lined streets, roads, stores, schools and public transportation. Developers show many beautiful homes soon to be built. Naive people can’t wait to shell out cash.

Radioville had been such a scam, like the worthless Florida swamps sold as building lots in the 1920s, as it also has been elsewhere when rock-strewn, marsh, mountainside, desert and other junk land has been hawked by glib promoters assuring desirable home sites and excellent investment opportunities.

Radioville never was developed, so the lots were utterly useless. Buyers had no idea what they purchased and soon abandoned their land, defaulted on property taxes, or tried to get their money back. That was the end of Radioville, but the 1932 survey has remained valid all these years and still appears on official state highway maps.

Nobody living in that area today knows for sure why the name Radioville was used, but there are a few theories. Local farmer Ken Alberding recalls Henry Ullrich once told him of being interested in medical radio diathermy. Alberding theorizes that’s what inspired the name. Ghrist has several opinions, too. One is that in 1932 the word radio sparked interest because it represented high-tech family entertainment.

Our own suspicion is that Radioville had been deliberately timed and so named to cash in on the prestige of New York City’s famed Radio City, which also had begun construction that same year, 1932. Radio City was bankrolled at $50 million by the Rockefelleres. In 1932, they were the wealthiest and most philanthropic family in the nation. Radio City received enormous and constant media attention. During the Great Depression, Radio City was claimed to be a project to provide employment to many people.

Radio City and Radioville, the names are so similar. Hardly seems a coincidence. For all we know, Radioville purchasers may have been either confused or deliberately misled into thinking they were investing in Radio City, or felt they were buying into another Rockefeller project.

Intrigued by coming upon a “lost,” or at least forgotten, community having such a significant name, John Ghrist embarked upon a mission to rescue Radioville from more than 60 years of virtual obscurity. He wanted to provide it with a meaningful and tangible identity. For one thing, he wrote a story about Radioville in Chuck Schaden’s Nostalgia Digest magazine. Next, John contacted the Indiana Department of Transportation, pointing out that the unincorporated community appears on their maps, yet has no highway signs showing its name. Because of John’s letter, the Indiana DOT agreed to erect Radioville road signs.

The Portage (Indiana) Amateur Radio Club then decided it was appropriate to visit Radioville to celebrate the anniversary of its founding. Under the direction of Gus Flassig, W9HXO, the club was planning to drive its mobile unit to Radioville and operate a special event station there, issuing special Radioville QSL cards.

We aren’t implying that John Ghrist’s discovery of lost and forgotten Radioville is on a par with the French locating Angkor Wat in 1860, or Bingham’s 1911 unearthing of Machu Picchu. Nevertheless, the story of his spotting this uniquely named place, researching it, then rescuing it from limbo, was unusual, heartwarming and very human. This special holiday column seemed just the right time to announce that Radioville now exists with a recognizable and tangible identity.

The road to Radioville is the only road. Hope and Crosby never found it. No problem! But we have finally located it, so let’s look forward to the next issue of POP’COMM when we can again meet on that road. Until then, here’s my personal wish to you for the best holiday season ever.

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Snaring the Sidebanders

These Shortwave Broadcasters
Use a Mode Other Than AM

BY GERRY L. DEXTER

Single sideband (SSB) has been the mode of choice for amateur radio operators and utility communications stations since the transmission method was developed several decades ago. For most of this time, SSB reception capabilities were limited mostly to the more expensive communications receivers—the type of radio average shortwave listeners did not own.

Thus, it didn’t make a whole lot of sense for an international shortwave broadcaster to use a mode most of its listeners couldn’t make any sense of, even though it was a better system.

But there have been a lot of changes in receiver technology over the last decade or more, and things are beginning to change. Today even a relatively inexpensive shortwave set can make sense out of an SSB signal, which has caused a number of SWBC stations to begin trying out SSB as a means of getting a cleaner, interference-free signal to their listeners.

Even so, the SWBC bands are hardly full of SSB broadcast signals. The quantity is more akin to the last few drops of lemonade in the bottom of the pitcher. Still, we’ll bet there’s more SSB broadcast activity on the air these days than you realize. Some broadcasts have been going on for a long time, irrespective of the state of receiver technology. Ironically, one of the first to make regular use of SSB broadcasts was Radio Sweden using a couple of frequencies to relay its home service in SSB for a number of years. But when other stations began to get interested in using the mode, Radio Sweden discontinued it!

Some stations are running their SSB broadcasts as tests, some are actually broadcast feeders, and others are very irregular in nature. Many pirate stations use single sideband but, because there are so many of them and they tend to come and go, we’re going to ignore that segment.

So flip on your BFO or set your SSB selector to upper or lower sideband and let’s check out SSB shortwave broadcasts.

United Nations Radio, Geneva, airs a broadcast in sideband three times a day.

Radio Free Europe/Radio Liberty is one of several major broadcasters you may run across using single-sideband feeders.

Radio St. Helena runs its shortwave special in upper sideband every year or so.
INBS has five brief broadcasts each day: to North America at 1410-1440 and 1935-2010 on 13860 and 15770, also 2300-2335 on 11402 and 13860.

INBS is on the air to Europe at 1215-1300 on 13860, 13870 and 15775 and at 1855-1930 on 9300, 11402 and 13860. All broadcasts are in Icelandic and are transmitted in upper sideband (USB), with a power of 10 kW.

BOSNIA-HERCEGOVINA—Radio Bosnia-Hercegovina is listed with a USB transmission on 6890 on a 24-hour-a-day basis. More recently, it’s been spotted on 7108 USB. Be careful though, as the station also is running an AM transmitter on 7105 at various times. An exact schedule isn’t available, but try them during our local evenings.

ARGENTINA—Radio Nacional is reported to be using an SSB relay operating on 5860, in parallel with its normal 6180 channel at 1100, and probably at other hours, too. Check during our evenings.

Several Argentine mediumwave stations have a shortwave feeder, mostly as a way of relaying their local programming to Argentines in Antarctica. Radio Rivadavia made regular use of shortwave until a couple of years ago. Now it is active again, reported using 5081 at various times. Check for the following on weekend afternoons: Radio El Mundo on 6675.5 or 10063.5; Radio Colon on 8965; Radio America, Radio Continental and Radio Rivadavia, all of which use 15780 at times, and Radio Rivadavia and Radio del Plata on 20276. All are in USB except 20276, which is LSB. Understand that these are very chancy things. To log them you must be prepared to make regular checks, probably over a long period of time.

CUBA—We’d have to class this as a semi-broadcaster since it’s not a listed shortwave outlet but rather a utility station as a semi-broadcaster since it’s not a listed shortwave outlet but rather a utility station, mostly as a way to North America is regularly aired in USB, having some single-sideband transmissions in some of its relay stations. One of the easiest to hear is 7651 (from Greenville) during the evenings. The upper and lower sidebands usually carry different program services. 7651, of course, is only one of many frequencies used for this purpose.

ECUADOR—HCJB also has been running single sideband transmitters for a while. 17490 and 21455 (1.5 kW) are active for much of the day and night, carrying HCJB’s transmissions in various languages to different parts of the world. It takes no tricks or luck to hear this one.

AUSTRALIA—Australian Armed Forces Radio is using some single-sideband transmissions to reach its people serving overseas. The last schedule we’ve seen shows broadcasts from Exmouth Naval Base on 18193 upper sideband at 0800-1000 and 1400-1600 on 9743 USB. From Belconnen, broadcasts are beamed from 0100-0300, 0430-0630 and 1000-1200 on 13525 USB.

SWITZERLAND—United Nations Radio from Geneva has broadcasts in the SSB mode daily at 0600 and 1800 on 10461. A third broadcast airs on 17520 at 1200. The UN transmitter runs 15 kW.

NICARAGUA—Radio Miskuit began as a clandestine station during the Nicaraguan civil war. Now it’s a licensed station but it seems to have trouble staying active on shortwave. When all is well, it uses 5770 USB and runs to sign-off around 2330.

NEW ZEALAND—We’ll stick in one pirate station after all, since it’s a foreign catch. KIWI Radio—when active—sometimes uses 7445 USB. Check Saturday nights our time (Sunday UTC) between 0600 and 0800. Holidays like Christmas and New Year’s, which are observed worldwide, might offer the best chance.

CLANDESTINE—The Voice of Kashmir Freedom is said to have SSB transmissions on 5300 upper sideband from 0230-0330 and 1430-1530. Unfortunately, your chances of hearing this in North America are about as close to zero as it’s impossible to get.

ST. HELENA—Radio St. Helena doesn’t operate on shortwave except for a couple of hours every year or two when they air a special for DXers. The next one is scheduled for sometime in October 1996. It’s likely they’ll use 11092.5 from 2000-2300 on a Friday or Saturday during that month. The station takes phone calls from listeners and issues a terrific QSL card for correct reception reports.

FINLAND—Radio Finland International has been playing the SSB game a bit. You might check 17740 USB for broadcasts from 1230-1300, 1330-1400 and 1430-1500.

ARMENIA—Armenian Radio is scheduled with a transmission in upper sideband at 0345-0400 on 10344.

KIRIBATI—Radio Kiribati’s shortwave transmitter uses upper sideband on 9825 (alternate: 9820). This Pacific Island station signs on at or just before 0600 and, among other things, features news from the BBC. North American DXers report this one often, despite being only 1 kW.

UNITED STATES—The Voice of America often can be heard broadcasting over its feeder transmitters for rebroadcast by its various relay stations. One of the easiest to hear is 7651 (from Greenville) during the evenings. The upper and lower sidebands usually carry different program services. 7651, of course, is only one of many frequencies used for this purpose.

OTHER FEEDERS—Although many of the international broadcast feeders that used to be found on shortwave bands have been replaced by satellite feeds, some still are maintained as a backup, or are used in special cases. Radio Free Europe/Radio Liberty, The Voice of Russia, Deutsche Welle and some other major broadcasters still can be found using single-sideband feeders. There are many frequencies still assigned for this purpose. If you decide to go after them, you’ll really benefit by consulting a comprehensive utility listing, such as Ferrell’s Confidential Frequency List.

We didn’t cover all the single-sideband broadcast transmissions currently on shortwave, but the above should be more than enough to get you started. Good luck in snaring the sidebanders!
The MFJ Enterprises MFJ-9420 20-meter SSB travel radio is great for hams on the go.

Pack This Ham Rig in Your Suitcase

One of the worse parts about going on vacation or a business trip is that it’s always tough to find room to pack all the radio equipment. After the clothes and toiletries are packed, you still need to stow away the toys for idle hours.

MFJ Enterprises knows hams love to operate on HF, but the bands don’t typically offer the convenience of portability like 2-meter and UHF HTs. That shouldn’t stop anyone! Not only is the MFJ-9420 a compact 20-meter SSB transceiver, it also carries a decent price tag. While handheld radios require users to cart along chargers, the MFJ-9420 can travel overseas on the worldwide bands on easy-to-carry D cells. If you want to conserve on the batteries, a wall adapter power supply can keep the rig on the air. Just leave a little extra room in your suitcase for a microphone and antenna.

According to a news release from MFJ, the rig’s exclusive Constant Current speech processor cuts through noise and QRM like no other radios. The MFJ-9420 also has a sensitive audio amplifier and features a quiet, double-balanced mixer front end; single-conversion clarity and ample gain with a powerful audio amplifier. All put together, it should make it easy to get on the air from your hotel room or from the car.

On the receive side, you should have no trouble hearing the receiver even in noise-populated locations as the rig’s big audio comes from a special Signetics audio chip and a rugged 3-inch speaker. The MFJ 20-meter rig also has a calibrated 5-meter (not a bargraph) to help zero in on the best beam heading as well as monitor speech processing levels while transmitting. The radio is effortlessly tuned with a custom-built reduction drive ball-bearing VFO capacitor.

If you are concerned about what to load up as an antenna on this rig, have no fear! The bulletproof Motorola PA transistor runs cool, we’re told, and easily tolerates a 3.1 VSWR as well as accentual deadline shorts or opens.

The MFJ-9420 comes housed in a tough vinyl-clad case with a brushed aluminum panel. It also features a premium plated-through PC board. The transceiver also is covered by MFJ’s “no matter what” one-year unconditional guarantee. This handy rig sells for only $219.95.

For more information or to place an order, contact any MFJ dealer or MFJ Enterprises Inc., P.O. Box 494, Mississippi State, MS 39762; orders, (800) 647-1800; information, (601) 323-5869; or fax, (601) 323-6551.

Push Comes to Talk With This Handy Switch

Any radio can enjoy the advantages of remote push-to-talk (PTT) operation, variable microphone gain, adjustable frequency response and automatic timed shutoff with this unique device that has been released by the Communications Division of Azden Corp.

The folks at Azden have a line of unique mobile and handheld ham rigs for the 10-, 6- and 2-meter bands, as well as the 222- and 440-MHz bands. They also sell commercial radios and accessories.

The PTT-01 is usable with all types of microphones, including dynamic and electret. A removable belt clip, Velcro tape and a soft desk pad allow universal mounting.

An off-local-UX switch allows either flat frequency or a peaked response at 2 kHz, both with adjustable gain to match most microphones to most radios. A lock button permits hands-off operation and a built-in adjustable timer turns off the transmitter after a preset time of one to five minutes.

The PTT-01 measures 2.4 inches wide, 0.87 inches high and 3.35 inches deep. A 9-volt alkaline battery powers the unit, which carries a suggested list price of $40.

For more information, talk with Sid Azden’s universal push-to-talk switch can give any radio the advantage of remote PTT operation with other features.
Wolin, manager of Azden's Communications Division at (516) 328-7501, or write to him at 147 New Hyde Park Rd., Franklin Square, NY 11010; fax (516) 328-7506.

Tune a Tone With CTCSS Encoder

If you use ham radio, General Mobile Radio Service or business radio and you travel, the Communications Specialists TE-32 multitone CTCSS encoder will help you access repeaters or other users' receivers.

CommSpec, as hams and others call the firm, has upgraded their formerly popular SS-32P CTCSS tone encoder and it looks like a winner. A front-dial rotary switch allows direct access to all 32 standard EIA subaudible tones from 67.0 to 203.5 Hz. You won’t be able to access six other common tones from 203.5 to 250.3, however.

The TE-32 is housed in a high-impact plastic case that sizes up to 5.25 inches by 3.3 inches by 1.7 inches. It comes supplied with a mounting bracket, hardware and a 3-foot shielded cable. The supplies allow this unit to be used not only in a mobile application, but also on the test bench.

And, if you are used to paying around $30 for a CTCSS board to open up repeaters on the air, take note that this unit, which easily allows access to 32 tones, comes with a $49.95 price tag. It’s available from stock and comes with CommSpec’s one-year “no-hassle” warranty.

For more information, contact Communications Specialists Inc.’s TE-32 multitone encoder allows radio users to select the CTCSS tone they need to access repeaters.

Optoelectronics’ CX12AR Computer Control Interface allows some VHF/UHF receivers for control purposes.

Input is wired for high-speed scanning and a software-controlled tape recorder control output also is offered on the unit. The CX-12AR converts TTL serial interface signal levels compatible with most personal computers, while allowing up to four different Optoelectronics devices equipped with serial ports to be connected to one computer port in a star network configuration.

Opto’s CX12AR can be used to download memory from Opto’s Scout (see review in June’s POP’COMM) to a computer. After downloading the frequencies, they can be checked against the PerCon Spectrum CD-ROM FCC database, too. When switched in the RS-232 mode, the CX-12AR can be used as a datalogging device for the popular Opto M1 frequency counter. The CX12AR also has a software-controlled tape recorder output.

While a demo version of ScanStar’s software is included with the device, other programs such as DataFile’s Probe (see review in September’s POP’COMM) will do a good job, too, when used in conjunction with the OptoScan 456/535 boards, the Icom R7000 computer control and the AOR 8000.

The CX12AR carries a suggested retail price of $99. For more information, contact Optoelectronics Inc., 5821 N.E. 14th Ave., Fort Lauderdale, FL 33334; phone, (305) 771-2050; fax, (305) 771-2052.

Computer Control Interface for Receivers

Optoelectronics has come out with the CX12AR Computer Control Interface for the AOR AR8000 and CI-V receivers such as the Icom R7000 and R7100. The CX-12AR not only allows CI-V to RS-232C conversion, it also provides complete interfacing for computer control of the IC-R7000 and IC-R7100, which Icom’s CT17 device does not offer.

The CX12AR has two operating modes, which can be switched between full- and half-duplex. The dedicated squelch status

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On a Solar Cycle Built for You

Have you been wondering when HF DX will return in all of its glory? Those signals are just around the bend, getting stronger for upcoming Solar Cycle 23.

You can find out all about the why, how and when of such things in The New Shortwave Propagation Handbook, by George Jacobs, W3ASK; Theodore J. Cohen, N4XX; and Robert B. Rose, K6GKU. The previous edition of this book explained the last solar cycle DX festival; this completely revised and updated volume prepares you to take full advantage of the DX on the way.

The authors lay the groundwork with a clear description of ionospheric signal propagation basics. This includes unusual HF and VHF occurrences encountered by hams and monitors. Then they get into predictions for DX conditions in the forthcoming solar cycle, and explain how their forecasting was done. They even show you how to calculate DX propagation in order to select the proper hour and band for maximum signals to or from a particular area.

There are scores of tables and charts, and you will learn how to prepare do-it-yourself propagation predictions and charts. The authors also provide a wealth of information regarding reference sources, propagation prediction software, and an overview of the propagation services provided by station WWV. All this, plus stunning photography of solar flare activity.

Here’s a useful handbook that is the most comprehensive source of HF propagation written for the hobby communicator. The New Shortwave Propagation Handbook is $19.95, plus $4 shipping and handling. N.Y. State residents add applicable sales tax. Order it through your local dealer or from CQ Communications Inc., 76 N. Broadway, Hicksville, NY 11801. AMEX/VISA/MC/Discover accepted. Toll-free phone orders: (800) 853-9797.

Just the Fax, Ma’am...

Your vision of a private investigator might be TV’s Jim Rockford being shoved down a flight of stairs by someone named Bruno. Delete that 1970s image. Communications technologies now have made private investigation a full-time or part-time career that may be successfully and lucratively pursued entirely from the comfort and safety of your home or office.

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How to Make $100,000 a Year As a Private Investigator is $19.95, plus $5 shipping/handling ($6 to Canada). N.Y. State residents please add $2.12 tax. Order from CRB Research Books Inc., P.O. Box 56, Commack, NY 11725-0056. VISA/MC welcomed. Toll-free order line: (516) 543-9169.

Make Your System 7.5 Mac Run Like a 10!

Mac users love their machines, and it’s easy to understand why. With a click of the mouse, users can send e-mail, access locating hidden assets, insurance fraud and worker’s compensation matters, developing trial cases, checking personal and business backgrounds of everyone from credit card applicants to prospective spouses to political aspirants.

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Most of Pankau’s handbook is devoted to explaining how to perform effective investigations using available technologies. His suggestions are intelligent and perceptive. A few are cleverly sneaky. This information is well presented. There also are sample forms and contract forms provided in Pankau’s well-rounded manual.

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a BBS, hop into the 'Net, or do almost anything else. It's the easiest computer around to plug in and use, but how much do you really know about this fine communications device?

In his 624-page illustrated book (plus CD-ROM), Mac maven Ken Maki shows you how to unleash the power of your Macintosh. This book is a revision of Maki's earlier best seller, Big Mac Secrets, with an emphasis on the undocumented features of the Mac's System 7.5 operating platform. The combo book/CD-ROM set offers practical advice and valuable hints all Mac users should find useful.

You'll learn how to customize a Mac, and how to explore the undocumented features of System 7.5. Maki guides you through an upgrade process and offers troubleshooting help for both software and hardware. With chapters covering networking and system enhancements, the book is written in a clear and interestingly offbeat style that is quite effective.

The accompanying CD-ROM contains more than 600 MB that is compatible with System 7.5. Users can design their own icons, paint their desktop with bizarre patterns, have Elvis drop by or invite Bullwinkle to remind them to call home. The CD-ROM contains software for telecommunications plus six other functional areas.


In Addition...

Updated additions of Dataworld's AM, FM and TV/LP/TX map books have been published, according to press information. These books provide information for broadcast consultants. Each book is organized into a two-page-per-channel 11-inch-by-17-inch format.

The AM books' lower pages display daytime groundwave coverage and co-channel interference. The upper pages contain Class A (clear channel) protected station skywave contours and scaled radiation patterns for all other stations.

The FM and TV books also show coverage and co-channel interference contours on the lower page. The upper page in the FM book contains an area-to-locate study for each channel for the entire nation. Users can instantly determine if new channels are available at a given location. The TV book shows LPTV and TV translator coverage and co-channel contours.

We were not advised of the prices of these books. Remember, they are prepared for use by the broadcast industry. They come from Dataworld, 4827 Rugby Ave. Suite 200, Bethesda, MD 20814.
C$^3$I is a military term that stands for four elements crucial in winning a war or maintaining a standing army: command, control, communications and intelligence. Military satellites play a greater role each year in $C^3$I for both tactical and strategic forces. Satellites, ground stations and mobile communication terminals are central in fighting modern battles, making them high-priority targets during wartime. The Department of Defense is upgrading satellites and communication facilities to ensure survivability. Our next generation military comsat, known as Milstar, will be hardened against jamming techniques.

Our current systems consist of a UHF and SHF network of satellites. Milstar, currently under development, will use EHF. The UHF satellites come in two types: The Fleet Satellite Communications (Fltsatcom) are government owned and carry Navy and Air Force communications; the second system is Leasat, and are leased satellites. Both UHF satellite systems use 225 to 400 MHz.

Fltsatcom were built by TRW. There are five in orbit and each satellite has 10 25-kHz and five 5-kHz channels. One single 500-kHz wide channel also is carried by all Department of Defense (DOD) satellites for one-way communications from the president or national command authority. This is used for the launch of nuclear weapons.

Using frequency division multiplexing (FDM) techniques, up to 21 stations can simultaneously use each satellite. The UHF system is highly mobile. Small manpack, portable and vehicular-mounted terminals are low power and easy to operate. There are eight different manpack satellite transceivers in use on the Fltsatcom and Leasat (Leasats also are known as Syncom) satellite systems. Most manpacks are single-channel radios. Larger multichannel radios are used at the permanent ground facilities and in portable communications vans.

Along with unencrypted and encrypted voice communications, the manpack radios also use a packet data mode. Current models include the URC 101, URC 12 and PSC 3 transceivers. The KY 57 encryption unit secures the packet transmissions. Single-channel transceivers can operate at speeds of up to 2,400 baud. Secure packet is the mode used most by the 82nd and 101st Airborne as well as our other rapid deployment teams. The UHF also is used by Military Intelligence, DOD, the Joint Chiefs and the National Command Authority. Flaming Arrow, a multiservice satellite network, uses the AN/MSC 64 transceivers and a low data rate packet mode.

Joint U.S. and NATO forces use an SHF LSSC-700 Portable SATCOM Terminal with the LST-5E and Advanced Data Controller (ADC).
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Figure 1. Military Satellites.
satellite system known as the Defense Satellite Communications System (DSCS). These satellites operate on 7 and 8 GHz. The DCSC II and III satellites support the Defense Communications System (DCS) and the Diplomatic Telecommunications System (DTS). DTS traffic consists largely of embassy communications. Most telecommunications operators at any U.S. embassy are CIA or National Se-
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Also available from your local Amateur Radio dealer.
curity Agency. It is likely that these satel-
liges also carry traffic for both the NCA and 
CIA. Also note that the embassy codes that 
are changed daily are transmitted to all CIA 
stations via satellite. Most of our radio 
codes are generated by the NSA, although 
the CIA has its own small code section.

‘Would-Be’ Satellites
As communication satellites are among 
the highest priority targets in wartime, the 
Navy has been working in a high-altitude 
communications relay platform that oper-
ates similar to satellites. The platforms, 
which carry the same UHF/SHF transpon-
ders as a satellite, are carried aloft by a bal-
loon. Between 70,000 feet and low-earth 
orbit there is very little atmosphere, there-
fore, the balloons are very stable. They can 
be launched from ships for special opera-
tions or deployed in groups to provide the-
aterwide or worldwide communications cov-
erage. At 70,000 feet, a single balloon can 
provide coverage up to 500 miles using HTs 
(handi-talkies). The Navy also is interested in 
the 120,000-foot range that could provide 
wide coverage. Using two dozen of these 
low-cost (when compared to satellites) plat-
forms, worldwide coverage can be provided.

Platforms are able to stay aloft for up to a 
year. They are also difficult to spot visu-
ally and by radar. At altitudes of 70,000 or 
120,000 feet, they are even more difficult 
to target. High survivability and low unit 
cost make this program—called Zepher— 
an attractive one.

Magnavox Electronic Systems is mar-
keing a portable and truck-mounted satel-
lite terminal to use with the Milstar (EHF) 
satellites. Experimental EHF transponders 
have been placed in five Flatsatcom space-
craft that already are in orbit. 

Magnavox also has developed a non-
military version of a mobile communica-
tions van for business and emergency ser-
ries. This system is designed to provide 
worldwide telephone, telex, fax and data 
communications from moving vehicles. 
Calls are routed through satellites and earth 
stations operated by the international IN-
MARSAT network. Telephone calls are 
directly dialed from the truck using short-
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a stabilized satellite dish covered with an 
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CIRCLE 27 ON READER SERVICE CARD
Have you ever wondered what all those strange-sounding signals are on the shortwave bands? Chances are very good that you are hearing some form of digital radio data communications signals. Typical signals include radio teletype (RTTY), Morse code (CW), facsimile (fax), Simplex Teletyping Over Radio (SITOR), and many others. Another world of listening enjoyment awaits you when you “tune in” to the digital communications modes used on shortwave. The HOKA Code-3 software-based decoder allows you to copy these intriguing signals.

What is it?
Manufactured in the Netherlands, the HOKA Code-3 is a software-based system that utilizes your PC for decoding signals received by your shortwave receiver. An external FSK converter (115-volt AC power supply and serial cables included) that interfaces the receiver to your computer’s RS-232C serial port, the HOKA Code-3 system software program and a well-written instruction manual comprise the entire package. Because the Code-3 package is software-driven, upgrades are a simple matter of loading the new software when available from the manufacturer. The package for this review was supplied with version 5.0 of the system software.

Operation
After you successfully complete the installation of the HOKA Code-3 system, you are ready to embark on a new course of shortwave listening fun! Don’t let the simple appearance of this product fool you; the “standard” system packs a sophisticated decoding capability of 26 modes. All commands to the Code-3 are through the use of “command keys” on the keyboard of the PC. For example, the “B” command selects the data rate or baud rate. The screen overlay on the computer’s monitor supplies all information required to determine the status of the system as well as user-selected parameters.

Once you have tuned your receiver to a signal, the HOKA Code-3 offers three methods to decode the signal. The first and most time-intensive method requires you to manually step through each “module” or code type and data rate until the system begins to decode the signal. This method is easy to accomplish, but most often takes considerable time to implement. The second and easiest method is to allow the Code-3 to do all the work for you! Through its “auto classification” module, the Code-3 will search all modes until it finds the correct code type and data rate for proper decoding. And the third, the so-called “expert” method, requires you to analyze the code type’s parameters and data rate for the proper selection of the correct module. This method takes some serious time to master! After trying all methods, the simplest and “no-brainer” choice is to use the Code-3’s “auto classification” feature. It works well and does not take long to “lock up” on the correct code and data rate.

As previously mentioned, the “standard” Code-3 package decodes 26 digital communications modes. A sampling of these include: Morse code, RTTY, SITOR, Navtex, AX.25 packet, facsimile, ASCII, WEFAX, Twinplex and Pactor. Needless to say, the modes offered by the “standard” Code-3 package are too numerous to mention, but are required for the serious digital communications listener. One rather unique module included within the package is the simulated speed measurement module. It graphically displays code type, data rate and shift of the received signal as well as displaying the signal’s sidebands.

Summary
Although it takes some time to become familiar with the digital modes of communications on the shortwave bands, the HOKA Code-3 decoder system makes this transition relatively simple and painless! Once up and running, the Code-3 package worked as specified and provided many hours of listening enjoyment. Only one complaint regarding the Code-3 system: The enclosed system software carries an archaic copy-protection scheme. It allows only one installed copy of the Code-3 software on your computer.

The “standard” package covers most digital modes used on the shortwave bands. HOKA also offers four extra-cost options to decode other signals such as Piccolo, Coquelet, TORG-10/11 and SYNOP. Versatility and ease of use are the Code-3’s strengths. Current price of the “standard” HOKA Code-3 package is $595. All four extra-cost options are available for $199.95.

For more information on the Code-3, contact Computer Aided Technologies, P.O. Box 18285, Shreveport, LA 71138; call (318) 687-2555; or e-mail to j.springer7@genie.com.

Reviewed by POP’COMM staff
HOW I GOT STARTED

Popular Communications invites readers to write in about 150 words how they got started in the communications hobby. They preferably should be typewritten, or otherwise easily readable. If possible, your photo should be included.

Each month we will 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 can be acknowledged or returned. Entries will be selected for use taking into consideration if the story relates especially interesting, unusual, or even humorous. We reserve the right to edit all 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, 76 N. Broadway, Hicksville, NY 11801, or e-mail to POPCOMM@aol.com.

Our December Issue

This month, our winner is 16-year-old Cameron Sowder of Selah, Wash. Though he is young, he already has found his niche in the hobby:

I got started about four years ago when a ham moved in across the street. One day while I was visiting him, I overheard someone in Moses Lake talking over his radio. I thought to myself, "Wow! Moses Lake is 70 miles from here!"

From that day, his shack became my second home. Almost everything I know about radio was learned in that shack from my neighbor.

Cameron Sowder sitting with a few of the radios that round out his listening shack.

“My first receiver was an old Soundesign multiband that I purchased at a garage sale for $5. Today my listening equipment consists of a Realistic DX-390 for HF, a Bearcat 148XLT, a Realistic Pro-41 for VHF/ UHF, a Rhapsody multiband and an old solid-state multiband. I also have two CBs that are rarely used. I am hoping for at least two more radios for Christmas.

I am a Registered Monitor, KWA7DV, and my primary listening interests on HF is DXing utility stations. With my equipment to keep me busy, I look forward to many more DXing memories in the future!"
Is It Money That Matters? A Springfield, Mo., station is under scrutiny by the federal government, but, surprisingly, the Federal Communications Commission isn’t the source of the investigation. An investigator from the Wage and Hour Division of the U.S. Department of Labor visited KTOZ-AM in May, demanding records pertaining to the staff, the majority of whom are unpaid volunteers. General manager Ron Johnson refused the request. Both the investigator and the Kansas City office of the department wouldn’t give a reason why the records were being sought, Johnson said, but he believes it centers around different interpretations of laws regulating volunteer work.

Although at pre-striking hadn’t been issued, nor any other legal action taken. Johnson says he would press the case all the way to the U.S. Supreme Court, if necessary. His goal, he said, is either to get the law changed or set a precedent. He objects to what he describes as the “storm-trooper tactics” of the federal investigation, and wonders why KTOZ is being singled out when volunteer work and unpaid internships are often the first step in a broadcasting career. Johnson also points out that the station has thrived under The Entertainment Network, having gone from “No. 26 to No. 12 or 13” in the market. The format, an eclectic mix of everything from big band to Dixieland “works,” he said, adding that he’s especially pleased he said, but he believes it centers around different interpretations of laws regulating volunteer work.

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Rules and Exceptions to Rules: A combination of stations in a market under a single owner won’t necessarily result in "undue concentration of ownership or control," nor will it "unduly affect competition and diversity," the FCC ruled in several recent cases. The commission’s Mass Media Bureau approved the assignment of the license of WNNK-FM to the licensee of fellow Cincinnati broadcasters WKRQ-FM and WKRC-TV, and gave the green light to the acquisition of KFTH-FM in Marion, Ark., by the owner of Memphis, Tenn., area stations WNNZ-AM, WHBQ-AM and WFBI-TV.

As explained in the July issue, FCC rules restrict the common ownership of radio and television stations in a single market, in order to promote multiplicity, competition and diversity by avoiding undue concentrations of ownership. To meet the standards for a waiver of the "one-to-a-market" rule, a proposed combination involving stations in a top-25 market must leave at least 30 separately owned, operated and controlled licenses. In the cases of WNNK and KFTH, the FCC was satisfied that the combinations would still leave the two markets with enough alternative broadcast "voices," as well as result in "significant cost savings."

But the FCC denied applications by Atlanta-based WSB Inc. to acquire WJZF-FM in La Grange, Ga., and to change the station’s antenna pattern from non-directional to directional. WSB Inc. made the request in an effort to reduce WJZF’s signal to meet the overhead, and then pay staffers a minimum wage. Only after they could pay minimum wage for six months would the stockholders receive a dividend, he said.

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coverage of Atlanta because its parent company, Cox Enterprises Inc., already owns WSB-AM/FM/TV and the two dominant newspapers in the city. WSB Inc. hoped that by limiting WJZF's role in the Atlanta market, the standards for a waiver of the one-to-a-market rule could be met and the acquisition would be approved. The FCC eventually denied both petitions, primarily because approval would "greatly encourage circumvention of the multiple ownership rules by use of facilities modifications that reduce service to presently-served [sic] populations and decrease efficient use of the spectrum by encouraging licensees to operate with less-than-maximum facilities."

You Can't Keep a Good Station Down: Neither fire nor water nor vandals could keep two radio stations from serving their respective communities. Five months to the day after an accidental blaze destroyed the transmitter of WTIM-AM in Taylorville, Ill., the 1-kW station returned to the air with full power, reports Radio World. "News/talk 1410" was back on within 76 hours of the Jan. 24 fire, thanks to the pluck of its staff, but with only 250 watts from a leased transmitter. Achieving full power was a difficult process, compounded by heavy rains, which reduced the area around the transmitter building to a bog. After two attempts to move the equipment to the permanent site resulted only in a Bobcat and a Caterpillar mired in mud, several truckloads of rock and gravel were brought in to build a short road to the transmitter building — only to be partly submerged after more flooding. Not until June 22 were station personnel able to install the equipment, which returned WTIM to the air with full power on June 24.

Meanwhile, WCRZ-FM in Burton, Mich., was knocked off the air May 14 after vandals cut two guy wires to the station's 370-foot tower, sending it crashing to the ground. A teen-ager was charged with de-
stroking the 4-month-old tower, according to reports in Radio World and from POPCOMM reader Clayton D. Hewitt, KF8UI, of Flint, Mich. By May 25, "Cars 108" was back on the air from a new tower constructed in less than a week, in spite of rain and strong winds. John Risher, WCRZ's vice president and general manager, told Radio World that replacing the tower would cost $150,000, and being off the air for 11 days could cost the No. 1-rated station ad revenue in the six figures.

The incident wasn’t the first act of vandalism against WCRZ. Six months earlier, someone smashed all the lights on the tower, a case that remains unsolved.

Seeking the Middle Ground: While WCRZ was able to erect its tower in a matter of days, a New York City station has spent more than a year trying to build its tower of days, a New York City station has spent more than a year trying to build its tower. The incident wasn’t the first act of vandalism against WCRZ.

WGAN-AM has been a fixture in Portland, Maine, since 1938. In 1961, the station used "funny money" as a promotional item. (Courtesy Bill Gove, Newcastle, Maine)
southern Alaska AMers will need to retune their gardens. Although neither side has won this battle "gratuitous," and still would blemish the skyline."

THE MONITORING MAGAZINE

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**New FM Call Letters Issued**

| KAMK | Forest City, IA |
| KEIA | Sausalito, CA |
| KDHY | Plainview, TX |
| KUTX | San Angelo, TX |
| WANG | Snow Hill, NC |
| WANS | Charlotte, VA |
| WTJ | Bethany Beach, DE |
| WLMQ | Monterey, TN |
| WTPX | Jupiter, FL |
| WVNN | New Castle, DE |

**Pending AM Call Letter Changes**

| KVRF | KYBC | Cottonwood, AZ |
| WBBI | WUMP | Madison, AL |

**Changed AM Call Letters**

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**Pending FM Call Letter Changes**

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**New AM Call Letters Issued**

| KRAO | Colfax, WA |

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Circle 39 on Reader Service Card
about everything in between. The station is WXPR-FM, a publicly funded, 100-kW station in Rhinelander, Wis. “If ever there was a community radio station, this is it,” Mick Fiocchi, WXPR’s general manager, said in a Chicago Tribune article sent to us by Elmer J. Wallesen of La Grange Park, Ill. “We tell people this is their radio station.” And while most public radio stations draw the bulk of their pledges during local programming, “here most calls during fund raising come from popular National Public Radio programs, while most public radio stations during local programming.”

Folks, rural-flavored shows are a staple at the station—and the reason for its success. “I try to create this image of a man talking to you from his old homestead, sitting in a rocking chair...and playing old records on the phonograph,” said “Brother Bill” Kaul, host of a four-hour, Saturday afternoon bluegrass show. Other programs include thrice-weekly reports about birds and “Polka Your Troubles Away.” “We definitely offer an alternative to what else is on the air,” Fiocchi said. “Where else can you hear jazz, blues, and classical music all within a 24-hour period?”

In Brief: Although a year has passed since the FCC released its list of 79 stations that would be permitted to move to the expanded AM band—between 1605 and 1705 kHz—the response on the part of broadcasters and others in the industry has been lukewarm. Finally, though, it appears someone will set up shop alongside the traveler information stations and vintage cordless phones—the U.S. Army. Radio World reports that the Army Broadcast Service will begin a weeklong test of its new mobile radio station on 1670 kHz sometime in late 1995. No word yet on the power or where broadcasts might originate, but someone will set up shop alongside the traveler information stations and vintage cordless phones—the U.S. Army. Radio World reports that the Army Broadcast Service will begin a weeklong test of its new mobile radio station on 1670 kHz sometime in late 1995. No word yet on the power or where broadcasts might originate, but the article does note that the Army hopes to hear from DXers. WKRH-FM in Bath, Maine, fell silent April 20 following a buyout by new management, says POP’COMM reader Betty Lachaussee, of Otisfield, Maine. The former WIGY first signed on in 1971, and became WKRH in the early 1990. In early May, the new owners traded 106.5 MHz and a format of progressive hard rock for 105.9 MHz and Christian radio as WBCI. There is a method to our madness, after all. Researchers at Boston University and the University of Michigan have determined that background noise such as static actually may make it easier for the brain and ears to pick out a faint signal—in our case, a radio signal. Noise can work to an advantage, one scientist told Knight-Ridder Newspapers, by serving as a backdrop and ears to pick out a faint signal—in our case, a radio signal. Noise can work to an advantage, one scientist told Knight-Ridder Newspapers, by serving as a backdrop and ears to pick out a faint signal—in our case, a radio signal. Noise can work to an advantage, one scientist told Knight-Ridder Newspapers, by serving as a backdrop against which a faint pattern then can become discernable.

Thanks: News clippings, photographs, bumper stickers and QSLs are always welcome. Send ‘em to “Broadcast DXing” at POP’COMM headquarters. Happy holidays, and until next month, 73.
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2-Meter Travelin’: Take Your Handheld on the Road!

Now that you’ve mastered using your handheld 2-meter rig around town, why not take it along on your next cross-country outing? In addition to providing tried-and-true emergency communications, include a handy FM transceiver in your travel kit to add safety, fun and new friends to your next road trip.

Before you go, be sure to brush up on how to use your radio—especially the programming functions you rarely use (setting repeater splits and subaudible tones, etc.)—how to power your handheld (from batteries and your car’s cigarette lighter socket) and boost its signal (car-mounted antennas, bigger “rubber ducks” and so on). A little extra effort upfront will make life on the road a lot easier! Reviewing repeater etiquette and procedures wouldn’t hurt either.

Now that you’ve decided to take a radio-active road trip, this month’s column is full of ideas on how to hit the road in style with your VHF gear! So, let’s go!

2-Meter Basics

While traveling, most repeaters you’ll come across will be on frequencies other than the ones you’re used to. How will you know those frequencies are and where the repeaters are located? The ARRL Repeater Directory, a pocket-size reference that’s a must-have for traveling VHF and UHF operators, probably is the best single info source (available from POP’COMM at 800-853-9797).

Accessing repeaters on the road is a lot like using the ones you’re familiar with close to home. Common sense will take you far, as will common courtesy. And don’t be shy about letting people know you’re on the air and traveling through their little corner of the world. Variety is the spice of life—especially if your pace is leisurely—an on-air ragchew can lead to a face-to-face encounter (sometimes called an “eyeball QSO” in some parts). You’ll probably be invited to lunch or coffee, or to see someone’s new ultralight airplane, or whatever!

In addition to the friends you’ll likely make, these side adventures could be more interesting than your planned destinations, so don’t discount them up front!

Radio-Active Road Trips

Here are a few suggested travel activities to keep you busy on your journey. Remember: You may make so many new friends along the way that extra transit time may be required. Amateur radio is incredibly diverse; you’ll undoubtedly come up with your own activities and procedures once you’re under way. Have fun!

Emergencies: Arguably, this is why many hams carry VHF/UHF radios (or cellular phones) in their cars. The nature of the emergency will determine how you use the local radio systems. If lives are at stake, don’t worry about etiquette and protocol—get in there and grab the mike. Emergency ops have the whole show, so if your need is legitimate, everyone will assist you.

Ragchewing: Ragchewing: Ham radio’s oldest activity is the mainstay of many radio-active travelers. On 2 meters, towns, repeaters and conversations come and go periodically depending on geography and population. There are a lot of interesting people to chat with, that’s for sure. With your rig along, you’ll meet them for yourself. You’ll discuss skydiving, cookie recipes, steam tractors, wild nightclubs—or all three! Just be sure to coax the “lurkers” into action by your “This is W1XYZ travelin’ through” calls on new machines.

Asking for Directions: Although not exactly ragchewing, asking for directions often can whip up a good conversation.
fire, sheriff, trains, public service, federal government, military and business, among others. Some newer rigs even double as VHF scanners, adding fun to what might otherwise be boring miles. Yet, some states restrict mobile scanners, so be sure to have yourself appropriately—at least in situations where your radio may be eyed suspiciously by authorities. A run-in with the local radio police won’t improve your itinerary!

Weather Radio: When in Kansas or Nebraska, if you want to see if a storm’s up ahead you can look out the windshield of your car and scan the horizon for miles. If bad weather is in store, you’ll likely know about it in advance! In most other areas you won’t be so lucky (or maybe that Heartland storm is sneaking up behind you!). NOAA weather radio broadcasts on 162.400, 162.475 and 162.550 MHz are run by the National Weather Service. These continuous broadcasts contain weather forecasts, observations and alerts for whatever area you happen to be traveling through. If your two-meter rig can receive the NOAA broadcasts, you’ll have a 24-hour “weather channel” along for the ride. (If you’re fortunate, you won’t be pressed into service as a traveling storm spotter.)

Mountaintopping, Hoteltopping and Skyscrapercamping: Elevation and VHF go together. During your travels you’ll probably come across some type of tower structure, natural or man-made. If you’re going to the top—even if it’s to a hotel room or the 24th floor—take your HT along. See how far it’ll “get out.” If conditions are right (summer is the season), you will be surprised! Be careful: This may be addictive!

Your short list of possible road trip activities only scratches the surface. And although it’s not exhaustive by any means, I hope you can see that there’s a lot of fun to be had in making your FM rig a mandatory traveling companion. Here’s to the open road and open repeaters!

Write In

If there are topics you'd like to see covered in The Ham Column, send your suggestions, QSL cards and letters to me at 1101 NW 66th Street, Oklahoma City, OK 73116. We'd like to know what you're interested in, so don't be shy!
YOU SHOULD KNOW

INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

A Radio Service for Families

This column brought you news of the proposed Family Radio Service several months ago. The RadioShack division of Tandy Corp. petitioned the Federal Communications Commission to allow unlicensed low-power radios on UHF.

This proposal, first presented to the commission in July 1994, would create an unlicensed UHF-FM radio service. According to the petition, the new Family Radio Service would share "unused and little used" General Mobile Radio Service, or GMRS frequencies. GMRS, once known as Class A Citizens Band, operates at 462 and 467 MHz.

GMRS users were up in arms upon hearing the proposal. GMRS users are licensed and have established channels and user patterns. There are many wide-coverage repeaters in the GMRS band that are used by companies and individuals. Their organized opposition to the unlicensed Family Radio Service has been interesting to watch. GMRS users are fighting to protect their frequencies.

In their proposal for the creation of the Family Radio Service, Tandy told the FCC that the service would employ current technology. Users would be unlicensed, and would use lightweight, palm-sized transceivers for low-power, short-range communications. They also said that the proposed FRS would meet the growing demand for an affordable, practical method of direct communications between individuals. In addition, Tandy said the new proposed service would present no impact to present GMRS users. However, GMRS users do not agree. They presented the case of the unlicensed 27-MHz Citizens Band as an example of a massive unlicensed mess. Many public safety groups have repeaters and use GMRS extensively.

Presently, GMRS users are assigned their frequencies by the FCC when licensed. Normally, only one or two frequencies are allocated to the license holder. The GMRS license form is not easy to fill out, and can be complicated for those not familiar with FCC license applications. Most GMRS stations are limited to 50 watts. Unlike ham band repeaters, GMRS users are prohibited from using phone-patch devices on their repeaters. Also, advertising, sales promotions and other commercial activities are prohibited by FCC rules. Most license holders are allocated only one repeater frequency pair, however, they may operate on any of the so-called assigned interstitial GMRS simplex channels.

The General Mobile Radio Service has one special frequency that makes the service appealing. This is known as the "Travelers Aid" frequency. Under FCC rules, licensed GMRS users can switch to and legally use the Travelers Aid frequency, although they are not specifically licensed on the frequency. The Tandy proposal would make this frequency pair available to unlicensed Family Radio Service users for emergency or assistance communications.

Not Everyone Wants It

The Personal Radio Steering Group of Ann Arbor, Mich., a GMRS user group, has strongly opposed opening the GMRS band for unlicensed use. PRSG has said that they believe the mixing of licensed and unlicensed operators on the same frequencies will disrupt and impair current legal operations on the GMRS band. REACT, known as a CB organization, supports the principle of the Family Radio Service but opposes making an allocation in the GMRS band for this service.

Both REACT and PRSG fear that once the unlicensed radios are available to the general public, millions of users will flood the Travelers Aid channels with abuse and illegal communications, making repeaters useless for those who truly have emergencies or need assistance.

Radio manufacturers such as Motorola, Tandy and Uniden see a massive market for low-power UHF handhelds, and are supporting the Tandy proposal with the FCC. The creation of the new FRS would make low-power, short-range, dependable communications available to just about everyone, according to industry news publications quoting the manufacturers.

For those who are unfamiliar with the General Mobile Radio Service and the frequencies allocated, see the accompanying box of frequencies to plug in your scanner.

There are eight authorized repeater channels. Repeaters generally are paid for and maintained by the user, not by public funds. The 462 MHz frequency in each frequency pair is the repeater output channel. There is also authorized simplex communications on the repeater output frequency. The 467 MHz frequency is the repeater input frequency. No simplex, or unit-to-unit direct transmissions are authorized on this frequency.

What Will Be Decided?

The initial round of comments that were submitted to the FCC on the proposed new
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POP’COMM’s World Band Tuning Tips

December 1995

This POP’COMM feature is designed to help you hear more shortwave stations. Each month this handy, pullout guide shows you when and where to tune to hear a wide variety of local and international broadcasters on the shortwave bands.

The list includes broadcasts in languages other than English. Most of the transmissions are not beamed to North America. Keep in mind that stations make frequent changes in their broadcasting times and frequencies.

Changes in propagation conditions may make some stations difficult or impossible to receive. Your equipment and receiving location also will have a bearing on what you are able to hear.

Note: EE, FF, PP, etc., are abbreviations for English, French, Portuguese, and so on. Some frequencies may vary slightly. All times are in UTC, which is five hours ahead of Eastern Standard Time (i.e., 0000 UTC equals 7 p.m. EST).

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FRS rules were due in commission hands over the summer. These comments should have been directly related to the Family Radio Service as it was proposed by Tandy.

After reviewing the submitted comments, as this article is being written, it appears the Family Radio Service is very close to being approved by the commission. The FCC has stated that it believes the service would provide low-cost, dependable communications to small groups, families and associates. The communications will offer clear, dependable communications for short distances such as a few city blocks. The commission cites that the service also would be beneficial to campers, hunters and others engaged in outdoor activity. It appears that the technology is available to offer such a service. The FCC also says that it feels the creation of such a service would provide jobs and create choices for customers needing a low-cost, short-range communications medium. The FCC, therefore, "proposes to amend the rules to establish a Family Radio Service."

Closing comments on the proposed establishment of the Family Radio Service by the FCC, as requested by Tandy, were due in October. These comments are being reviewed and the FRS probably is well on its way by the time you read this. Strangely, the FCC made no mention in their remarks about Tandy's proposal relating to unlicensed access to the Travelers Aid channel.
Hello again and happy holidays. It’s been an eventful year at POPCOMM, and we trust it has been a good one for you. I thought I’d end the year with a potpourri, beginning with a follow-up on the October report on what’s new at the Federal Communications Commission. Anyone who has tried to reach the new 800 phone number on an average weekday knows it’s not easy. Accordingly, Bart Jahnke, KB9NMM, manager of the American Radio Relay League’s volunteer examiner department, reports that the commission is placing its entire callsign database on the Internet. The full database is updated every Monday by midday, and daily updates also are available. The anonymous FTP site is: fcc.gov/pub/XFS_alphabet/amsat. Gopher users should gopher to fcc.gov, while World Wide Web browsers should address http://www.fcc.gov.

Hear About Ham Radio

While browsing through a recent talking book catalog, my attention was drawn to RC56341, All About Ham Radio, by Barry Helmers, AG4V. Most POPCOMM readers will recognize Harry as the former author of the “You Should Know” column. All About Ham Radio is neither a license manual nor a study guide, although several of the latter are recommended at the beginning of the text. (For a discussion of special learning materials and other resources available to the ham or prospective ham, see “HandiChat” on page 74 in the June 1994 issue of POPCOMM) There are no sample questions and answers. Instead, the book offers a thorough and useful overview for those preparing for or contemplating their first license.

The book, a 1992 publication, was recorded in March 1994, prior to recent changes such as the vanity call sign program and the official creation of the Technician Plus license (although the term is frequently used throughout the text). Yet, except for FCC rules and regulations, every area of the novice and technician exams is covered in depth. Topics include operating modes, antennas, propagation and electrical principles. Brief, but cogent treatments of relatively advanced subjects such as oscillators and RF amplifiers also are included. The technical information is interspersed with generous portions of common-sense advice, keaved with lively personal opinions, and delivered in the candid, unpretentious style so many readers have come to appreciate. In short, this one is a winner.

Yuletide Tuning

Well, like the words of an old song, “It’s beginning to look (and sound) a lot like Christmas.” In light of that fact, dear readers, I’d like to devote the remainder of this month’s visit to personal observations and recollections. For openers, ’tis the season for holiday broadcasts ranging in quality from the sublime to the ridiculous. One of my most vivid recollections of recent years came in 1989, when the bishop of the Russian Orthodox Church delivered a special Christmas message over Radio Moscow. For me, this broadcast was—in its own quiet way—as dramatic as the fall of the Berlin Wall the previous autumn. Coming amidst the bloody upheaval in Romania, and a tense stand-off in Panama, this simple declaration of peace and hope from the former bastion of Soviet communism was a particularly poignant manifestation of the holiday spirit of renewal.

While few holiday broadcasts are liable to exert that kind of long-term impact, the airwaves are—believe it or not—full of good stuff this time of year. Most international broadcasters will be putting on special programming. Based on past experience, I particularly recommend monitoring HCJB (the “Voice of the Andes” from Quito, Ecuador), the Voice of America, the BBC and Radio Australia. (Come to think of it, these rank among my favorite broadcast services year-round.) Also, public broadcasters will be offering some of their best radio and TV programming—dramatic and musical, religious and secular, popular and classical.

Of course, when it comes to special events, we can’t let the pros have all the fun. Let it never be said that amateur radio operators don’t know how to celebrate. One consistently popular special event is the field broadcast, usually from a town with a special name such as Santa Claus or Bethlehem (see my December 1994 column for an example). Then there is what often is termed “Operation North Pole”—allowing kids to talk with Santa via amateur radio.

These broadcasts can take several forms. Many originate from hospitals, with local amateurs walking the pediatric wards with handhelds. And St. Nick can be anywhere within range, from the administrator’s office to his own shack. One caveat: stray RF energy can play havoc in today’s highly automated hospital environment, so advance permission from and careful coordination with the hospital staff are crucial. It should be stressed that these formalities are conducted annually to the complete satisfaction of all concerned.

Speaking of amateur radio recalls another favorite holiday memory. Christmas Day 1993 found me at home for the first time in more than a decade. The plan called for a good meal and a quiet family get-together. Just before midday, I turned on the radio and found 20 meters alive with strong signals. Apparently, a lot of people had found time on their special day to share a little goodwill with their fellow hams. Over the next couple of hours, I enjoyed contacts from Colorado to Ecuador, and found the relaxed fellowship characteristic of amateur radio enhanced by the special warmth of the season. I highly recommend it.

Of course the festivities don’t always end when the tinsel comes down. New Year’s Eve means many things to many people. For many hams, it is a synonym for “Straight-Key Night”—the one night per year when hard-core CW buffs trade their paddles, bugs and keyboards for some vintage brass. I must confess that I’ve never monitored one of these gatherings—most frequently found on 80 or 40 meters—but I understand that a good time is usually had by all. A prime attraction appears to be the variety and individuality of the various “fists,” as well as that special feeling of getting back to basics and establishing or re-establishing a connection with the roots of the hobby. Perhaps this will be my year.

Finally, yuletide traditionally brings an influx of new hobbyists and equipment upgrades. This, in turn, presents a golden opportunity for the old timer to lend a helping hand by answering questions, offering helpful hints or just making yourself available for some friendly conversation. This is a great hobby, full of great people. Remember, your time and attention could have a profound impact on a fledgling SWL, CBer or amateur radio operator.

Write in

Well, that ties the big red and green bow around this one, gang. Please accept our best wishes for a blessed holiday season, and be sure to join us again in 1996. Meanwhile, how about making a New Year’s resolution to drop us a line here at HandiChat? Send all comments, observations or questions to HandiChat, Popular Communications, 76 N. Broadway, Hicksville, NY 11801-2909, or via the Internet at POPCOMM@aol.com. So long for now.
Portable GPS Tracks and Maps

The global positioning system (GPS) is now the nation's No. 1 prime location service. This billion-dollar system is maintained by the Department of Defense, and 24 orbiting satellites circling 10,000 miles above us twice a day provide position accuracies to within the radius of a 150-foot circle most of the time. Increased position accuracy could easily get down to the radius of a 5-foot circle through the use of an external second receiver tuned into differential GPS correction signals.

"One hundred and fifty-foot accuracy is close enough for us during aerial search patterns in our helicopter," comments EMT-P Bill Alber, WA6CAX. "We can create an electronic trail of our search pattern, and this way we know we are not flying over a region already covered."

For ground search parties, handheld GPS receivers with tracking capabilities allow searchers to see where they have been, and where they can double back on a search area without overlap. Although 150 feet is a relatively large margin for error, a search for lost hikers that might respond to you calling out for them could be conducted give or take that error span.

What causes the 150-foot error? The principal reason is "selective availability" by the Department of Defense—we have been selected not to be available for the more precise P-Code reception. Our C/A-code receivers, tuning in signals at 1575 MHz, are purposely "dithered" in the proper reception of satellite time, leading to 150-foot errors average, zero errors sometimes, and an extreme of 295-foot errors worst case for short periods of time.

Department of Defense-induced errors protect our national security against a pinpoint incoming hostile missile attack.

Searching a field of deep snow for an avalanche victim is possible with a portable GPS receiver tied into a differential correction secondary receiver. During summer months, lifeguards can pick up correction signals free of charge from U.S. Coast Guard low-frequency transmitter stations along the coastlines and major rivers. But inland areas may require their own differential correction system, or subscription to differential correction signals that ride along the subcarriers of specific FM broadcast stations. Differential decoders that easily plug into most handheld and mobile GPS sets are available from Differential Corrections Inc., Cupertino, Calif.: (800) 446-0015.

Differential corrections are based on an algorithm of incoming GPS satellite signals, a comparison to a known benchmark in your area, and a differential radio transmission of the correction so your little portable or mobile GPS receiver now decodes accuracy down to sub-meter levels.

Even without differential corrections, portable GPS receivers are an excellent way to conduct a search pattern. The relatively inexpensive marine GPS sets, seen selling for about $300 new, have plot capabilities that electronically draw a track of your search pattern. You would designate your starting point as "Waypoint 1," and then conduct your search pattern while watching the screen. As you search back and forth, your portable GPS will show a back-and-forth pattern. After a few hours of searching, your screen will begin to look like a grid of criss-cross traces. You'll even be able to spot areas where you couldn't get into search by their void on the screen.

"We run a Garmin 45 and Magellan 5000DX for our search patterns. The electronic trails are very helpful to ensure we don't search a certain area twice, or we don't overlook an area that we thought we had searched before," comments Rick Graves, an emergency medical technician for Medical Safety Management Inc. "We make our command post the first waypoint, so we know our searchers always can return to home base by observing range and bearing.

Author West tests two portable GPS map units aboard a harbor patrol boat.

These GPS map units are displaying electronic charts.
Tracking your route can be helpful when conducting a search pattern.

ing calculations that each GPS set can do."

Electronic maps on cartridges are the latest improvement to the portable GPS plotters. Two companies now offer electronic charts for GPS sets at less than $1,000: Panasonic Inc., Secaucus, N.J., (201) 392-4222, or Raytheon Marine, Hudson, N.H., (603) 647-7530.

These portable GPS receivers, with built-in latitude and longitude readouts, plus plotting and cartography capabilities, are waterproof for river rescues or heavy weather use. Both sets run on AA batteries, and will run continuously for about eight hours. They also are back-lit for night use.

GPS readouts also can be tied into an automatic position reporting system (APRS) in which your actual latitude and longitude is sent out as an electronic packet over ham or commercial frequencies. A terminal node controller (TNC) at the other end of the circuit displays your position on a portable color laptop computer screen.

For extended rescues, the AEA (Lynnwood, Wash.) PK-12 is a nice addition to a portable color laptop computer screen. This portable GPS receiver, with built-in longitude and latitude readouts, plus plotting and cartography capabilities, are waterproof for river rescues or heavy weather use. Both sets run on AA batteries, and will run continuously for about eight hours. They also are back-lit for night use.

GPS readouts also can be tied into an automatic position reporting system (APRS) in which your actual latitude and longitude is sent out as an electronic packet over ham or commercial frequencies. A terminal node controller (TNC) at the other end of the circuit displays your position on a portable color laptop computer screen.

For extended rescues, the AEA (Lynnwood, Wash.) PK-12 is a nice addition to your GPS system. Find a local amateur operator who may be part of your rescue squad and get them to tie in ham communications for automatic positioning reports.
Make a list and check it twice, better find out who's naughty and nice. That's our advice. Complaints continue to arrive from people who find their cellphone number has been illegally cloned. Some stranger's phone has been programmed with their ripped-off number, and that person is placing fraudulent calls all over the world.

The combination of advanced technology and increasingly clever crooks has made cloning a breeze. This puts cellphone users on notice that they are at risk of being ripped-off number, and that person is plac-

Know who cloners love best? The complacent person who does nothing to protect his or her number, figuring the odds are that crooks will rip off some other hapless soul. Don't play this game. Sit the hand out. It's a stacked deck, you can't win. Yet, by taking only a few simple defensive precautions, it's possible to make it very difficult for your cellphone number to be stolen.

Let's run out a quick list of things that can be done to stop your cellular phone number from being electronically swiped. Here's your Cellular Security Shopping List:

1. Switch Off: It's best to turn the cell-phone's power off around toll booths and plazas, around bridge and tunnel approaches, or at rest stops along major highways. Anywhere there's a lot of traffic stopped or moving at a slow pace, particularly in a metropolitan area, is a spot to switch off the power. These are the favorite haunts of number thieves. You do not even need to be using the phone for them to determine your cellphone number. Unless your cellphone has security programming they can do it any time the phone's power is turned on, even in stand-by.

2. Hear a PIN Drop: Some cellphone service suppliers require or permit subscribers to utilize a PIN (Personal Identification Number) in order to process calls. This is a good feature.

3. Locks of Luck: If your cellphone has a keyboard lock, you want to activate it so that your own phone can't be used by others to make outgoing calls. Perhaps you have a way of locking down the handset of your carphone or placing it in the trunk (maybe along with the antenna) when you park the vehicle, or leave it with a parking lot attendant.

4. Close to the Vest: If you normally place calls only to numbers in North America, why do you need the ability to call overseas? Advise your cellular carrier to lock out overseas dialing on your account stating that you neither make nor receive toll calls from outside of North America. You might wish to do this in writing.

5. A Matter of Record: Be meticulous about your records and documentation. Maintain a file containing your cellphone's bill of sale, the serial numbers relating to your phone, the agreement you signed with the service carrier, all of your bills, etc.

6. The Eyes Have It: Your cellular company may already provide you with a fully itemized monthly bill showing each call made from your cellphone. If you don't get itemized billing, ask about it (may be a slight monthly fee, but it's worthwhile). Check over the bills every month to make certain all calls either match up with your log, or else are numbers known to you.

7. Don't Get Hung Up: It's time to begin getting nervous with the service when you start getting frequent calls on your cellphone from folks who hang up when they hear you. Also, be concerned about callers who ask for someone you never heard of, or are speaking in languages you don't understand.

8. Give a Little Whistle: If you have reason to question the calls shown on your bill, or have any suspicion that your number was stolen, quickly contact your service carrier to make them aware of the situation. Also, let them know should you lose your phone, or if it is stolen.

These things are easy to do. You're cautious enough to lock the door to protect your home, aren't you? Everyone who has received a half-inch thick cellphone bill showing thousands of dollars worth of fraudulent calls should have exercised basic cautions. It's annoying to straighten out the mess, and inconvenient to start all over with a changed number.

Reselling Cellular

As has been explained previously, the cellular industry in the U.S. has been established with each designated service area permitted by the FCC to have two licensees. One is the local landline telephone company, and is known as the wireline carrier. The other one is called the non-wireline carrier.

Less known by the consumer are cellular resellers. Resellers are wholesalers who buy cellular service (air time and facilities access) in bulk at a discount, and then resell it to the public under their own individual company names. Reselling is growing into a thriving business unto itself, and not one which exists in great harmony with the cellular licensees.

Resellers, which usually are small independent companies, compete against one another and the large and powerful carriers for subscribers. Some states have laws that resellers claim restrict their ability to reasonably compete against the carriers. For instance, resellers are often required to
utilize all of the facilities and resell all of the services of the carrier they are dealing with.

Resellers claim that in order to compete effectively against the carriers, they must be able to provide their own switch-based interconnection, then purchase only those services needed. This is a practice called unbundling, in which resellers are charged separately for each wholesale service.

If services are unbundled, resellers claim, only those services that are needed would be paid for. They may not even wish to offer some of the host carrier’s deluxe services. If freed from such costs, resellers could lower rates to consumers and better compete with the larger carriers.

Carriers have enjoyed the luxury of a federally assured duopoly. Two local licenses and no more to be issued is a poor joke played on the naive public. It’s a classic sweetheart deal. One suspects carriers don’t relish competition from a pack of aggressive independent resellers.

In California, cellular rates are among the highest in the nation. A year ago, the state’s Public Utilities Commission ordered the dominant cellular carriers to provide switch-based resellers with unbundled wholesale rates. Carriers simply ignored the PUC order. Little wonder! Compliance would have allowed resellers to reduce their rates by 15 to 20 percent.

California State Sen. Newton Russell, of Glendale, introduced Senate Bill 1090 to ensure that carriers comply with the PUC order. Last July, Russell’s bill fell two votes short of passage in the Assembly Utilities and Commerce Committee. It will be reconsidered in January. Earlier, the state Senate had approved the measure by unanimous vote. Nationally, watch for resellers to continue becoming a force to be reckoned with. Cellular carriers might use their resources and clout to resist. Remember how they got the ECPA rubberstamped into law? We will be watching this situation as it plays itself out.

The resellers industry group is the Cellular Resellers Association, 3928 Point Eden Way, Hayward, CA 94545. Phone: (510) 732-1100.

Here’s a Good Idea

ORA Electronics came up with VibraRing. It’s a unique rechargeable battery for Motorola Micro TAC Series (Model VRB-P5B) portable cellphones. What makes it different is that the thing vibrates.

That means your portable cellphone now can now let you receive calls silently without the annoying ring. Imagine going somewhere and having the thing start howling just at the worst possible moment. Judge Lance Ito banned cellphones from the Simpson trial courtroom so they wouldn’t ring during testimony. Did you see Rosie O’Donnell’s HBO special when some guy in the audience had his cellphone go off? Ho, boy! Rosie made light of it, but I thought she wanted to skewer him with its antenna.

With this gizmo in place, the portable doesn’t make any sound. It will vibrate, like a beeper, alerting the user to an incoming call. You can smuggle the cellphone into a restaurant, theater, courtroom, concert, church, or meeting, and you will be the only one who knows it’s with you. When a call comes in, it can be dealt with by stepping into a hallway or other anteroom where others won’t be disturbed.

VibraRing features a powerful, built-in vibrating motor. The rechargeable battery conveniently attaches to the cellphone the same way you attach the phone’s batteries. It can be used with quick charge or standard charge units, and sells for about $100.

For more information, contact ORA Electronics, P.O. Box 4029, Chatsworth, CA 91313. Phone (818) 772-2700.

Photo Opportunity

A few issues back, we received several interesting photos of the cellular service station in Edmonton, Alberta, Canada. These were submitted by Trevor Fletcher, one of our regular correspondents. This month, we can show you a major radio paging station, thanks to photos received from reader R.G.L. of Quogue, N.Y.

These make it a good time to remind all our readers that we would like to present more photos of cellular, paging, marine communications facilities used to serve the public. Why not shoot some photos of facilities in your area, then send them to this column so we can give others a peek?

No more until next month, but here’s my wish for a happy holiday season. Please send us photos, news releases, news items, opinions, questions and comments relating to cellulars, beepers, PCS, air/ground phones, marine ship/shore, as well as related new products and services.

When writing, please indicate in the address “Telephones Enroute Column,” to ensure speediest delivery of your material. Thanks!
Lew McCoy

On Antennas

CQ magazine author and acclaimed authority on antenna theory and design, Lew McCoy, W1ICP, has written a truly unique antenna book that's a must for every amateur. Unlike many technical publications, Lew presents his invaluable information in a casual, non-intimidating way. Lew McCoy on Antennas—It's not just an antenna handbook, but a wealth of practical antenna advice for the ham!

Order No. MCCOY...$15.95

Building and Using Baluns and Ununs

Written by world-renowned expert Jerry Sevick, W2FMI, this volume is the definitive source for his latest practical information and designs on transmission line transformer theory. W2FMI has unraveled the technological mysteries with designs that are simple and work. Discover new applications for dipoles, yagis, log periodics, beverages, antenna tuners, and countless other examples.

Order No. BALUN...$19.95

The NEW Shortwave Propagation Handbook

The most comprehensive source of information on HF propagation is available from CQ! We’ve built an award-winning team, gathering information from individuals and organizations around the world. Collectively, co-authors George Jacobs, W3ASK, Ted Cohen, N4XX, and Robert Rose, K6GKU, have devoted much of their professional and amateur careers to advancing ionospheric science. Propagation principles, sunspots, ionospheric predictions, photography, charts and tables galore—it’s all in this unique reference volume!

Order No. SWP....$19.95

CQ Buyer’s Guides

Dealers • Manufacturers • Product Specs • Feature Articles • Equipment Prices

1995 Beginner’s Guide to Amateur Radio

Whether you’re a Novice, Technician or just beginning to think about getting your license, CQ's Beginner’s Guide is the perfect addition to your shack. In addition to practical articles on HF, DXing, building your first station, QSLing, and more, you’ll also find our famous dealer and manufacturer’s listings!

Order No. 95BBG....$5.95

1996 Equipment Buyer’s Guide

Learn from the experts about the latest features in HF/NHF gear, choosing the best antennas and reaching the top of amateur licensing. Our 1996 Equipment Buyer’s Guide is a package of solid information including the latest in amateur dealers and manufacturers. Discover why this year’s edition is the best yet!

Order No. 96EBG....$5.95

CQ’s Buyer’s Guides are the single source for information on what equipment is available, features and functions, and where to buy it!

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<td>ARRL Operating Manual (New Edition)</td>
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Keys, Keys, Keys
Enjoy nostalgia with this visual celebration of amateur radio's favorite accessory written by CQ's Dave Ingram, K4TWJ.

Order No. KEYS.....$9.95

The VHF "How-To" Book
This book is the perfect operating guide for the new and experienced VHF enthusiast as only Joe Lynch, N6CL, can describe.

Order No. BVHF.....$15.95

Ham Radio Horizons: The Book
This is an excellent book for the beginner or for use in your club's licensing classes. HRH, by Peter O'Dell, WB2D, is full of information about all phases of ham radio and how to get started.

Order No. BHOR.....$12.95

The Vertical Antenna Handbook
Take advantage of the 20 years of research and practical experience of naval communications engineer Capt. Paul H. Lee, USN(ret), N6PL. Learn basic theory, design, and practice of the vertical antenna. Discover easy construction projects such as a four-band DX vertical or a broadband array for 80 meters. Paul Lee can get you started today!

Order No. VAH..... $9.95

Getting Started in Ham Radio
This is a fast-paced video introduction to the fascinating world of ham radio. CQ's experts show how to select equipment and antennas; which bands to use; how to use repeater stations for improved VHF coverage; the importance of grounding and the basics of soldering. Get the most out of your station, whether it's home-based, mobile or hand-held.

Order No. VHR .....$19.95

Getting Started in Packet Radio
This video will help de-mystify the exciting but sometimes confusing world of packet radio. Learn how to get started using your computer on the radio. Included are step-by-step instructions on making packet contacts and using packet bulletin boards, networks and satellites.

Order No. VPAC. $19.95

Getting Started in Contesting
For the newcomer to contesting or an experienced veteran, this video is for you! You'll get advice and operating tips from some of contesting's most successful competitors, including Ken Wolff, K1EA, Dick Newell, AK1A, and CQ's own contest columnist, John Dorr, K1AR. Here's just a sample of what you'll see: what contesting's all about, explaining contest jargon, tips for beginners, how to compete from a small station, operating secrets from the "pros", live QSOs from world-class stations, and VHF/UHF contesting.

Order No. VCON ....$19.95

Getting Started in Amateur Satellites
Learn with this video how veteran operators set up their satellite stations. Find out how to locate and track ham satellites with ease. Watch as operators access current satellites and contact far ranging countries around the world. This video is filled with easy to understand advice and tips that can't be found anywhere else.

Order No. VSAT .....$19.95

Getting Started in DXing
Top DXers share their experience with equipment, antennas, operating skills, and QSLing. You'll see hams work rare DX around the world. If you're new to DXing, this video is for you! All this valuable information may well give you the competitive edge you need to master the world of DXing.

Order No. VDX .....$19.95

Getting Started in VHF
This is the ideal introduction to VHF. See demonstrations of the latest radios. Also, learn about repeater usage as well as the more exotic VHF operating modes. Whether you are interested in packet radio, satellite operation, or simply using your local repeater, this is your video!

Order No. VVHF. ....$19.95

Ham Radio Horizons: The Video
This introduction to Amateur Radio is an excellent complement to the Ham Radio Horizons book. Enjoy seeing all aspects of ham radio ranging from what it takes (and costs) to get started to how you can get your ham license. HRH is ideal for public events, presentations to community groups and as an opening to your club's licensing courses!

Order No. VHOR.....$19.95

Order Toll-Free 1-800-853-9797

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If you’ve been wondering what to get that special CBer for the holidays, or perhaps looking for something to put on your own list for Santa, I’ve got a few suggestions.

The first is a slick new 40-channel handi-talkie from Cobra, the HH-35WX. This battery-powered unit measures 8 inches high, 3-1/2 inches wide, and 2-1/4 inches deep, excluding its rubber-ducky antenna. It weighs 1 pound, 7 ounces with batteries installed and transmits a full four watts. To save batteries when full power is not needed, a low-power switch reduces output to one watt.

There’s a green LED channel display that’s easy to read under almost any light condition, plus a special battery-saver circuit that turns off the display when it’s not in use. Squelch out the noise, and the display turns off, but it automatically comes back on when you transmit or when a received signal breaks the squelch. Next to the channel display are three red LEDs: one to indicate transmit, one that lights when the batteries need recharging, and another that lights when recharge is under way.

Near the bottom of the HH-35WX on the side is an AC charger jack that allows recharging batteries without removing them from the radio. Another jack accepts a 5-foot power cord with fused cigarette lighter plug (included with the radio), so this rig can run off your car, RV or boat battery.

On the other side of this handheld is a switch for selecting between CB reception or any of three primary NOAA weather channels for instantaneous reception of weather information.

Now, if I were considering the purchase of any emergency CB for someone, the HH-35WX would be one of the top candidates. It offers full legal output, weather channel reception and the ability to operate off its own internal batteries—which is a plus if the battery in your car dies. The antenna connector on the HH-35WX is BNC, so an adaptor will be needed if you want to hook this radio up to the PL-259 connector found on most mobile CB antennas. Suggested retail price of the HH-35WX is $109.95, but chances are it will be available for less from discounters.

**New Base Station**

On the other hand, Cobra has designed a CB base station that the company says is “targeted to teens, young adults and first-time CB users.” The news release announcing this new radio goes on to say that Cobra believes continued strong growth for CB radios will be fueled by non-traditional CB buyers like young adults, who want many of the benefits of cellular phones without the high monthly cost. This is an intriguing idea, and it should be interesting to see if it happens.

But back to the new radio—one look at the 93LTD-WX CB base station and you can see that it’s different. It’s basically a flattened, horizontal design that looks very simple in its layout, yet the goodies that most CBers need are right there: automatic noise limiter, RF gain control, squelch, instant Channel 9.

Even better, this radio includes seven NOAA weather channels, plus Weather Alert, which means a tone will sound when NOAA transmits one of its emergency weather bulletins. In addition, this rig will run off AC or DC power, so it has the flexibility to operate at home or in RVs or campers. Suggested retail price of the 93LTD-WX is $179.95, but it should cost less from discounters. I hope to get a hands-on look at one in the future.

**K40 Donates to REACT**

K40 Electronics, a manufacturer of CB radios and antennas, recently donated 50 K40 CB radios and 50 K30 antennas to REACT. REACT distributed the radios and antennas to REACT teams that had the most hours monitored in the past year, in proportion to their group size.

REACT, (Radio Emergency Associated Communications Teams) is a non-profit organization based in Wichita, Kan., consisting of 550 teams located in the U.S. and abroad. According to REACT, its teams handled about 90,000 incidents involving emergency or assistance communications last year. About 85 percent of the radio traffic was via CB radio.

For additional information about REACT, please visit their website at http://www.react.org.
ACT, phone (316) 263-2100, fax (316) 263-2118, or write REACT International, P.O. Box 998, Wichita, KS 67201. For additional information about K40 radios and antennas, write to K40 Electronics, 1500 Executive Drive, Elgin, IL 60123.

From the Mailbag

Don Hallenbeck, SSB-1556-B, wrote from Pittsfield, Maine, with a clipping on the use of CB in a neighborhood watch program. Using mainly old 23-channel CBs, members cruise the town, alerting police to suspected criminal activity or other things that might be amiss. Information is funneled into a base station in a room just off the police department, but contact with the police is made only by telephone, even though they are in the same building.

Although the program has just gotten off the ground, instances including intoxicated pedestrians, possible domestic violence, motorists needing help, suspicious persons and vehicles and public disturbances have been reported. Thanks for the report, Don; it’s good to see CB being put to a useful purpose!

Brett Mellor of Saugus, Mass., sent a nice note with photocopies from the owner's manual of his Tram D201. It certainly is a gorgeous radio. Even worse, Brett goes on to tell me he picked it up at a yard sale for $40! He has been told that this radio sold for around $900 back in 1971. Now that's serious money, and back then, it was very serious money. In 1969, I bought a brand new car for about twice that amount. Gee, Brett, you really know how to make a guy green with envy.

Kurt Schweizer, P.O. Box 332, North Boston, NY 14110-0332, would like to hear from other CBers. He enclosed one of his QSL cards so it could be published.

Douglas Stingley wrote from Salem, Ore., enclosing a copy of Wheels Alive, a publication of the Association of Christian Truckers. A while back I reported that a Christian ministry had laid claim to Channel 12 nationally as a Christian alternative CB channel. Now the folks at Wheels Alive have written an editorial that appears to oppose the Channel 12 idea—saying Christians should “occupy” Channel 19 until Jesus comes again.

I'm in no position to tell anyone what to do with their faith life, and I certainly have no objection to anyone sharing their faith over CB radio. But I will offer the following observation: Folks around the Capital District of New York state have been holding a regular Christian network on Channel 35, and they take a huge amount of abuse from other CBers who apparently object to the idea. As a result, I think the objections on Channel 19 might be even more vehement.

Nevertheless, the FCC rules clearly state that all channels are available to everyone for all legal types of communications. The bottom line: The only sensible solution is for all of us to choose to get along with each other—Christians and non-Christians, truckers and non-truckers alike.

Finally, let me extend my best wishes for this season. I hope these holidays find you and your family safe and well. And I hope that all CBers extend to each other peace on earth, and goodwill toward all men.

Until the next time, I look forward to your cards and letters. Please write to me here at Popular Communications.

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* "Now in use in 45 countries." -Gillet Shortwave in 1983

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Kurt Schweizer sent in this interesting QSL card.
Douglas Stingley, OR, reports he is hearing a RTTY signal in the early evening on 27045 kHz. The signal, varying between moderately weak to moderately strong, occurs on a frequency allocated for radio control, and is located between CB Channels 7 and 8. Douglas says he is interested in learning if anyone has noted this RTTY signal and whether it is causing QRM to either radio control operations or CBers.

Tracy Petrik, AZ, is experiencing a problem when tuning signals for decoding with his AEA FAXII. If anyone has this equipment and can offer some assistance, please write him at 3033 W. Tonopah Drive, Phoenix, AZ 85207.

William Hassig, IL, sent an article from the Chicago Sun-Times that described the efforts of Paul Masching in locating a door that came off a plane in flight. I am sure that you will recognize the error made by the reporter when she said, "Masching can pick up the location of the beacons that identify a five-mile path to each of O'Hare's runways on certain ham radio frequencies. The signal led him right to the door." The flight was American Eagle 4127, which took off from O'Hare International Airport in Chicago around 9 p.m. one night. Shortly after take-off, the rear passenger door came off the airplane. A flight attendant was almost sucked through the hole.

For those readers who are able to copy Morse code, here is the chuckle of the day, taken from the February issue of the Eighth Air Force News: "One night some of us were in a pub near Heston when a real knockout of a British Air Force girl walked in. Seeing her, several of our radiomen who had a habit of tapping out messages on the table with a spoon started tapping away some rather graphic descriptions of her various charms. After a few minutes the young lady also picked up a spoon and began tapping away. Suddenly my buddies stopped tapping, turned red in the face and hurried out of the pub. Later when I asked why they left, they replied that she called them every kind of dirty word they had ever heard, and then started on some that were new to them—and boy could she send!"

Can anyone help reader Al Marote, FL? He asked for the QSL address for Schooner Roseway, WTC6542.

Jan Bergsten, Sweden, advises there is a very active blockade net off Yugoslavia on 7903 kHz and it is active 24 hours a day. MS is control (probably French) and is in charge of the force. There is a lot of traffic in identifying ships and orders for civilian ships to change course. Many different callsigns of different nationalities are heard.

Some items of interest from the Spring 1995 issue of the National Travelers Information Radio Exchange News include:

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"Lincolnshire Poacher" frequencies and schedules. Chart based on data from Ary Boender, Netherlands.
At its present 50 kW, the station has caused QRM to U.S. travelers information stations.

3) Some great DX was reported by a member of the International Radio Club in Seaside, Ore. The member reported picking up the TIS broadcast from Jack Murphy Stadium in San Diego, Calif.—a respectable distance of 950 miles. Another club member in Sacramento monitored WPAM217 at 0530 local time; the station is operated by Lyondell Petrochemical Co., Channelview, Texas, a distance of 1,600 miles. (Note that both signals were quiet, expanded AM band frequencies, 1700 and 1620 kHz respectively.)

Rick Baker, OH, reports that he caught this notice transmitted by KFS this past summer:

HELLO ALL STATIONS
THIS IS THE GLOBE WIRELESS NETWORK
ANNOUNCING: STATION KEJ, THE NEWEST STATION ON THE GLOBE WIRELESS NETWORK, IS ON THE AIR. QTH HAWAII. ITU CHANNEL PAIRS 407/625/830/1265/1673, SELCAL 1094 4, 6, 8 FULLY OPERATION
AL, 12/16 MHZ QRP. TFC LIST H 15 YOUR SIGNAL REPORTS ARE WELCOME.

Tom Sevart, KS, has discovered a station sending CW non-stop at 0410 UTC on 4275 kHz. It is sending numbers, BTs, ARs, colons and closed parenthesis. It still was going non-stop at 0600.

An item from NewsFact indicates Norway will install the world’s most advanced coastal radio system, a DSC-based Garex 220 (see photo), during 1995 and 1996:

“Eight coastal radio stations along the Norwegian coastline will be integrated into a single network so that they can share workload and resources. The overriding purpose of implementing the Garex 220 is to provide improved safety at sea under GMDSS, the Global Maritime Distress and Safety System. When a crew sends out a distress signal using DSC equipment by a simple activation of an emergency button, the signal with vessel identification and position is picked up by all other ships and coast stations within radio reach. The database holding information about each ship’s last known position also can be used to direct rescue operations and selectively contact the vessels that are closest. The same information is used for routing land-to-sea calls the shortest way possible.”

A note from Gary Jackson, CA, points out that MEDFER beacon TI on 1631.4 kHz and run by Rex Wilson, AZ, has left the air. Gary says Rex was a good verifier and included photos of his MEDFER beacon with his verifications.

Gary also asks for help with QSLing two beacons. He has been unable to obtain a response from RWE, Camp Roberts, and from MER, Mercaderas, Colombia. Have any readers had success QSLing these beacon stations? Contact Gary at 7735 Center Parkway, Sacramento, CA 95823.

Jim Navary, VA, tells us he received details of transmissions from some of the Royal Australian Naval stations along with his QSL from Canberra Control.

Canberra CW:
4286, 6428.5, 8478, 12907.5, 16918.8 kHz (continuous); 22485 kHz (0001-0800); 25461 kHz (on request)
Callsign: VHP (naval periods), VIX (merchant periods)
NOTE: There was no indication of time for either period.
Transmitter site: Belconnen, A.C.T., Australia

Darwin CW:
4316, 6393, 8512, 12750 kHz (continuous); 17084, 22589 kHz (on request)
Callsign: VHJ
Transmitter sites: Humpty Doo, N.T., Australia

USB Voice:
4375, 6510, 8122, 13116 kHz (continuous)
Callsigns: Canberra Control, Darwin Control, Caims Control, Fremantle Control, Jervis Bay Control

Michael Regan, WI, says he uses a Hammarlund SP-600UX and a Radio Shack DX-302 for receiving: “Run the output into an MFJ-1278B modem, then into a Macintosh SE using a terminal program called MacTTY v1.24e, which in turn can handle baud rates up to 9600 baud. Because the MFJ has the capability, I can tune in CW,
A letter from Terry Michaels, WI, said in part: "I read with interest Perry Crabill Jr.'s comments on the 'Mystery Tower' in June's POP'COMM. One of my hobbies is the history of the early microwave radio routes that were built in the 1940s and 1950s.

"During World War II, AT&T began planning a trial installation of the new microwave radio technology they were developing. The company was under pressure to build intercity connecting routes to carry television signals for the rapidly growing television networks. The trial route went from New York to Boston and had seven repeater sites. Each of these repeaters consisted of a two-story concrete block building with horn antennas mounted on a platform attached to the top of the building. This trial route went into operation on Nov. 13, 1947.

"AT&T then built a one-way route to carry television signals from Chicago to Milwaukee, which was completed Sept. 30, 1948. This route had three intermediate repeater towers built against the outside of the structure. There are several reasons for using this tower design. Structural steel was in short supply after the war, so it was thought a concrete tower would be more economical. The tower was adapted from a reinforced chimney design, for which contractors had the necessary erection forms on hand. Also, it was desired to place the microwave radio equipment as close to the antennas as possible to reduce signal loss in the connecting waveguide. This was accomplished by placing the radio equipment on the top floor of the building, with the antennas placed on the roof.

"AT&T then began to construct a coast-to-coast microwave system. It began in New York, with three repeaters between there and Philadelphia. These first repeater towers were concrete cylinders as previously described. However, it was realized a round building was not well suited for housing rectangular equipment bays. As the route went west from Philadelphia, the tower design changed to a square poured-concrete building with the stairway inside. The buildings ranged in height from 60 to 190 feet. The microwave route reached Chicago to Des Moines. The Tampico 'Mystery Tower' was on this part of the route (see photo).

"It was found that these concrete towers were not economical to build; the limited space at the top for mounting antennas would later make expansion of the system difficult. The towers built west of Des Moines used a steel tower, the type commonly seen today. The microwave route eventually reached San Francisco, and coast-to-coast operation began Aug. 17, 1951.

"In addition to the coast-to-coast route, four more square concrete towers were built in Ohio, and five were built in upstate New York for branch routes. Altogether, 49 of the square concrete towers were constructed during 1949 and early 1950, a remarkable achievement that was noted in several publications of the time. It is interesting how the design for microwave towers evolved through several stages, probably because AT&T was in a hurry to get the first microwave routes built and used several preliminary tower designs that would have only existed on the drawing boards had more time been available."

Thanks, Terry, for the informative details.

Before passing to the loggings, I want to wish each of you a happy holiday season, and may you always have good listening!

UTE Loggings: SSB/CW/RTTY/SITOR/etc. All Times in UTC.
201: Beacon GL, La Grande Riviere, Quebec, Canada, at 0603, 886m. (AH)
209: Beacon MT, Chibougamau, Quebec, Canada. (AR)
241: Beacon SZ, North Central Airport, RI, at 1635. (AD)
253: Beacon UR, Daugherty Field, Long Beach, CA. at 0528. (BV)
The SCOUT™ Has Taken Tuning Your Receiver To a New Dimension

Featuring Automatic Tuning of your AR8000 and AR2700 with the Optoelectronics Exclusive, Reaction Tune (Pat.Pend). Any frequency captured by the Scout will instantly tune the receiver. Imagine the possibilities! End the frustration of seeing two-way communications without being able to pick up the frequency on your portable scanner. Attach the Scout and AR8000/2700 to your belt and capture up to 400 frequencies and 255 hits per frequency. Or mount the Scout and AR8000/2700 in your car and cruise your way into the future of scanning. A simple interface cable will connect you to a whole new dimension of scanning.

The Scout’s unique Memory Tune (Pat.Pend.) feature allows you to capture frequencies, log into memory and tune your AR8000/2700 at a later time. A distinctive double beep will inform you when the Scout has captured a new frequency, while a single beep indicates a frequency that has already been recorded. For discreet monitoring, a pager style vibrator will inform you of any hits the Scout captures.

The Scout will also Reaction Tune and Memory Tune Icom CI-V receivers: (R7000, R7100, and R9000) and (Pro 2005/6 equipped with OS456, Pro 2035 equipped with OS535). Download the Scout frequencies to a PC with the Scout Utility Disk and CX-12AR (optional), then compare them to the Spectrum CD-ROM/PerCon FCC Database (optional).

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SCOUT™ $449

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Features

- Automatically tunes these receivers with Reaction Tune (Pat.Pend) CI-V receivers (Icom’s R7000, R7100, and R9000), (Pro 2005/2006 equipped with OS456, Pro 2035 equipped with OS535) or AOR models (AR2700 and AR6000)
- Records and saves 400 unique frequencies
- Records 255 hits on each frequency in memory
- Digital Filter and AutoCapture (Pat.Pend)
- 10MHz-1.4GHz single frequency range
- View frequencies in RECALL mode
- 10 digit LCD with EL Backlight
- 16 Segment RF signal strength bargraph
- CX-12AR Computer Interface (optional)
- PC Utility Disk for downloading memory to PC
- Rapid charge NiCads with 10 hour discharge time
- Scout Spectrum CD-ROM/PerCon FCC database (optional)
- AC Adaptor/Charger
- DB 32 VHF/UHF mini-antenna shown with Scout (optional)
- Distinctive Beeper/Vibrator indicate frequency hits

At right: Scout shown with CLIPMATE™. A handy windshield mount for Scout, for quick access and visibility.
Here is the antenna layout of August Stellwaq of New York. At the left is the Dressler ARA500 active antenna for VHF/UHF and mounted above it is the Dressler ARA30 active antenna for general HF coverage. In the center is a Cushcraft R3 for amateur bands and on the right is a Vanguard Turnstile for polar-orbiting satellites on 137 MHz.

Tom Sevart of Kansas heard this signal on 6963 kHz. Signal analysis by Kevin Tubbs of Vermont indicated: “An FSK signal shifting about 170 Hz and keying at an unknown rate. Signal is in idles or sending a repetitive pattern about 200 bps.”
The new Hi-Performance line is a hi-professional range of mobile antennas for the discriminating Radio Amateur. Best material quality, hi-tech design and maximum performance; this the result of years of experience and technological research by Sirio. Hi-Performance line, second to none!!

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Utilizing the Model DELTA-C Center Insulator with the built-in Model SEP Arc-Plug® Static Electricity Protector!

• Model SEP Arc-Plug® Protector is a special gas tube component designed to "bleed off" static electricity that slowly rises on antennas from thunderstorms, wind and even cloudy days. These static charges can damage sensitive components in receivers or transmitters.

• The antennas are fully assembled—not a kit—and includes the Model DELTA-C center insulator, Model CIN End Insulators, support rope and 12GA Insulated high strength solid copper wire. (ALPHA DELTA antennas do not use the smaller 14GA wire found in other brands.) The SEP is built-in to the DELTA-C Insulator. The DELTA-C hardware will take either coax or open line feeders.

• For SWL or Commercial applications, any model can be user-trimmed to any segment in the spectrum from the \[46.5 kHz\] to \[30 MHz\]. Formulas and cutting charts are included.

• The antennas are rated for full legal transmit power and therefore are very efficient as receiving antennas. They can be configured as dipoles, inverted -Vs or sloping dipoles.

Model DX-20 5696: $39.95 ea.
Model DX-40 5704: $39.95 ea.
Model DX-40X 33 ft. long $49.95 ea.
Model DX-50 133 ft. long $49.95 ea.
Model DX-70 30 ft. long $49.95 ea.
Model DX-100 56 ft. long $49.95 ea.
Model DX-200 100 ft. long $49.95 ea.

For Amateur, Commercial and SWL Applications—
At your Alpha Delta Dealer or add $5.00 for direct US. orders. Exports quoted.

4665: Mosad bcat. USB at 2200, msg for VLB, VLB14888. Unusual msg. (AB)
4742: Architect w/Ascot 2595 w/wx for Lyneham and Bean Norton. USB at 1849. (AB)
4779: At 2100 Saturday, Swedish rhapsody tune being played fol by YL/GG w/24249 and into 5F grps. (SM)
4825: RKL M, Arhangel's Fishery radio in CW at 1823 w/162 list (AB)
5091: YL/EE in USB at 0432 rpts "JSR2" in pho- netics. Both skeds weak. (DS)
5118: Cut rnr sin in CW w/5F grps at 0100. After xmas, white noise on freq. (See 7681 kHz entry.) (TS)
5211: WGY912. FEMA special facility, Mount Weather, Berryville, VA, at 1612 in USB w/kg USAF MAUS APAVE in Lancaster, NH, during SHARES exercise. (RB)
5390: CGD206. Bell Canada, Quebec, at 0125 in USB w/FF R/T calls to bush country phones. (RB)
5419: Sunday 0700, "Atencion 51023," then 100 grps. Thursday 0400 slow "Atencion 05," then off. (TM)
5680: SAR exercise Bright Eyes in USB at 1440. Participants incl. Belgian AF 95 (hel) c/s SAREX95, RAF Nimrod c/s SAREX51 and RAF heli c/s SAREX125. Exercise coordinated by Plymouth Rescue and Yarmouth CG. SAREX95 needed fuel and wanted to divert to Valkenburg in the Netherlands, but cancels request because Yarmouth terminated exercise at 1630. On another day, 3rd Edinburgh Rescue in USB at 0630 w/Alpine 20 (RAF Mountain Rescue Team Stafford), Alpine 21 (MRT Valley), Alpine 22 (MRT Krisko), Alpine 23 (MRT Leuchars), Alpine 24 (MRT Leeming) and Alpine 25 (MRT St. Athane). Rdo cks and wx forecasts. (AB)
5696: Rescue 6035. USCG HU-60A, at 0227 w/kg CAMSLANT Chesapeake, NM, re commencing hoisting ops at poses given. This was re line on N/S Celebration, Carnival Cruise Lines cruise/sh. At 0240, Rescue 1720 (HC-130) w/3p Miami Ops adv situation under control on board. At 0449 STINGRAY 12, US Customs a/c, w/kg MMN req rdo guard, airborne emt AirSfa Miami w/5 POB. A 0636 NBTM. USCGC Polar Star (WAGB-10) ckg/wkg CommSta Kodiak, req ckg on HFDL (HF Data Link) signal, QSY 6 MHz SCN. All in USB mode. (RB)
5835: Nhrs bcat in USB at 1800 for William Susan Susan, QRU. (AB)
6227: KVS565, Apex Towing, Clayton, MO, in USB at 1123 w/kg/boat. At 1129, ckg W. P. Jackson. (JN)
6262.5: U.S. Naval Academy Annapolis, MD, at 2316 w/midshipmen's packet system. YP698 w/kg YP697. First w/kg, YP687 ack. YP698 and "PRODEV w/'BLN 1 to YP SQD AI" re wx advisory. Others noted incl MESHOP (Marine Elex Shop),

Norwegian coastal radio network and its areas of coverage.
for heroin and “turtle” may refer to one of the Dry Tortugas.

“The horse is in the gate.” (RK)

“cojones” several times! (RK)

QSX mkr. Tough copy because of QRM from other stations.

w/JN at 0404 in SITOR-A with tlx re storage plan. (RB)

Adv will call back w/posn and status report at 0600.

John Cabot, which was a cable ship/icebreaker. (RB)

in USB w/kg CAMSLANT Chesapeake, NMN, for wx.

for this cutter? (JN); VCGN, CS John Cabot at 2254 (TM)

CW msg, white noise on freq. (TS)

precommissioned DDG-62 w/HF rdo tests of all.

Shenandoah (AD-44) at 1403 testing KY-75 crypto.

re posn, course. (RB)

and chatter in Italian at 0942 in USB.

Hawaiian 465. Both in USB mode. (RB)

British Airways flight w/selcal ck BR-AF (B747400). (SW)

on 3/4 and 7/8. (SW)

channels 3/4 and 7/8. (SW)

San Francisco, “INT QRK” and req if was hrd on 8

at 0427 in SITOR-B w/tfc to NMC, USCG CAMSPAC,

YP681, YP679, YP664, YP695, YP685, YP690 and

8415: GKE4, Portishead, England, at 0218

8412: UEWY, TH Ivan

8359: MN Wakashio Maru 81 in CW at 0123

6933: CW stn at 0255 going 757 and into 5F grps.

6826: YL/SS in AM at 0300 rptng “Atencion

6817: SPAR 66 clg SPAR 65 at 2214. No joy.

6814: YL/SS in AM at 0300 rptng “Atencion 0449.”

This ship every Wednesday at 0300. (TS)

1006, callsign SNN299, w/Polish news. (AB)

1604 w/nx in AA. (RH)

12160: OTH radar at 0102. (TS)

120/576 w/good chart. (RH)

2327 wkg 7CV. At 2344, GULFSWAY tells 7CV to

20675: YL/GG rptng “Charlie Delta” fm 1100-

20304.7: U/i at 1220 in SITOR-A, presume EGY

AFBs w/SKYKING bcst. Hrd at 1652 in USB. (RK)

14750: MOSL YL rptng “Charlie India Oscar 2” at 1200 US

19982.5: RBV76, Tashkent meteo w/FAX 60/76,

poor chart. Completed at 1625. (RH)

15403.8: MFA Callo in SITOR-A at 1636 w/tfc

in AA.

15980. Every Tuesday at 1200, MOSL YL rptng “Echo Omega.”

386 w/990 grps of 5L grps (6 pages), plus a “CdeV”.

RTTY 75/240 w/RYs and ID. (RH)

3865 w/3840, VLB2 //4665, FTJ2 //4463, PCD2

//42701/3150. (AB)

13330: “Houston,” Universal Radio, Houston,

13250: Speech inversion scrambling in USB at 2357.

12808.5: VTG7, Indian Navy, Bombay, in CW at 1455

12574: MOSL YL rptng “Charlie Delta” at 2053.

in port at Philadelphia to Baltimore. (JN)

Advised 041 to overfly Baltimore and

go to Philadelphia. Passengers will be bused from

Air Jamaica 041. Advised 041 to overfly Baltimore and

to Philadelphia. (JN)

AR-Allen Renner, WI; DS David Sabo, MD; TS-Tom

Institute, La Jolla, CA. (RB)

Institute, La Jolla, CA. (RB)

PP to Defense Attache Office, Moscow. (AB)

w/Jordanian 034. (AB)

2327 wkg 7CV. At 2344, GULFSWAY tells 7CV to

go to Philadelphia. Passengers will be bused from

Air Jamaica 041. Advised 041 to overfly Baltimore and

go to Philadelphia. Passengers will be bused from

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in AA.

15980. Every Tuesday at 1200, MOSL YL rptng “Echo Omega.”

386 w/990 grps of 5L grps (6 pages), plus a “CdeV”.

RTTY 75/240 w/RYs and ID. (RH)

15408.5: MOSL YL rptng “Charlie India Oscar 2” at 1200 US

19982.5: RBV76, Tashkent meteo w/FAX 60/76,

poor chart. Completed at 1625. (RH)

15403.8: MFA Callo in SITOR-A at 1636 w/tfc

in AA.

15980. Every Tuesday at 1200, MOSL YL rptng “Echo Omega.”

386 w/990 grps of 5L grps (6 pages), plus a “CdeV”.

RTTY 75/240 w/RYs and ID. (RH)

15408.5: MOSL YL rptng “Charlie India Oscar 2” at 1200 US

19982.5: RBV76, Tashkent meteo w/FAX 60/76,
Plan to Roll Out Wireless Services

As part of its ongoing effort to expeditiously license a wide range of wireless telecommunications services, the FCC announced a plan to reduce burdens and enhance the competitive potential for 220-MHz services. The 220-MHz service can provide a variety of communications services, including two-way data transmission, paging and traditional dispatch services.

This action by the FCC will speed licensing and enable 220-MHz licensees to keep up with consumer demand for these new and evolving services. The FCC's proposals are intended to promote the continued development of the 220-MHz service and to enable licensees to implement new communications services to meet future needs of the American public.

The Commission proposed to permit 220-MHz licensees not only mobile services, but fixed wireless services as well, such as data transmissions among automatic teller machines. The commission also proposed to allow 220-MHz licensees to offer paging services. For future licensees in the 220-MHz band, the commission proposed:

- Assign 60 channels in 172 "Economic Areas." This is defined by the Bureau of Economic Analysis in the Department of Commerce.
- Assign 65 channels in areas defined by five "220-MHz regions.'
- Allow all applicants, both private and commercial, to apply for these channels.
- Assign the channels through competitive bidding.
- Provide 10-year license terms and require licensees to meet five- and 10-year construction benchmarks.
- Eliminate channel-use restrictions, such as "data only" and "non-trunked."

For licensing nationwide channels, the commission sought comment on three alternative methods of disposing of 33 pending Phase I applications for nationwide non-commercial channels:

- Return the applications without prejudice, and auction nationwide licensees under competitive bidding rules proposed.
- Conduct a lottery to award the four available nationwide channels.
- Grant authorizations among the 33 applicants through comparative hearings.

The commission also sought comment on whether the framework of allocation, licensing and operational rules for nationwide licenses should apply to the 33 pending applications if those applications are awarded pursuant to lotteries or comparative hearings. For example, the commission asked commentators to address whether licenses granted under either of these options should continue to be governed by current rules, with the authorizations awarded for non-commercial use only, or whether licenses obtaining these authorizations should be permitted to operate under the rules proposed for nationwide licensing.

In addition, the FCC sought comment on how to treat pending, mutually exclusive applications for non-nationwide 220-MHz licensees.

The commission tentatively concluded that the principal use of the Phase II spectrum, with the exception of the channels reserved for the Public Safety Radio Service and Emergency Medical Radio Service, is likely to be for subscriber-based services for compensation. Therefore, mutually exclusive applications for these channels should be assigned by competitive bidding. The FCC proposed simultaneous multiple-round auctions. In addition, this proposal contains special provisions for designated entities (which are defined by the statute as small businesses, women, minorities and rural telephone companies), with small business eligibility depending on size.

Freeze on Offset Channels in the 450-470 MHz Band

The commission has adopted Report and Order PR Docket No. 92-235, FCC 92-255, to promote more efficient use of the private land mobile radio (PLMR) spectrum below 800 MHz. The commission formulated a narrowband channel plan in order to promote spectrum efficiency. Under the new plan, channels in the 450-470 MHz band available under former section 90.267 of the Commission's rules, 47 C.F.R. §90.267, that are 12.5 kHz removed from regularly assignable channels and reserved for low-power operation ("12.5-kHz offset channels") can be assigned for high-power operation. The commission recognized, however, that there still is a need for low-power channels. It stated that frequency coordinators, as part of the coordination transition plan, could designate specific channels for low-power use. A key part of the frequency coordination plan is the consolidation of the 20 PLMR services. The commission provided the PLMR community three months to negotiate and submit a consensus plan for consolidation.

Hewlett-Packard Co. (HP) submitted a letter to the chief of the Private Wireless Division, requesting that the light of the Aug. 18 effective date of the new rules, the commission protect current operations on these 12.5-kHz offset channels until the underlying issues regarding frequency coordination and the establishment of dedicated channels in the 450-470 MHz band for low-power use are addressed. HP stated hospitals use tens of thousands of HP telemetry devices operating on the 12.5-kHz offsets to monitor electrocardiographs and other critical information on the status of cardiac patients. HP explained that these telemetry units play an important role in allowing cardiac patients to become ambulatory within limited proximity to the treating hospital, thereby facilitating recovery and reducing in-patient costs. HP suggested that medical telemetry and high-power operations cannot coexist on these 12.5-kHz offset channels.

The bureau agrees with HP that a problem could develop if many applicants were to file for and obtain high-power authorization on these offsets prior to coordinators identifying a new location for low-power operations. Therefore, license applications requesting power in excess of that now permitted on the offsets (e.g., 2 watts output power in all services except the Special Industrial Radio Service, where entities may be licensed for an effective radiated power of up to 100 watts) will not be accepted for filing until issues are resolved relative to the consolidation of radio services and/or the designation of dedicated channels in the 450-470 MHz band for low-power use. Upon the resolution of these issues, the commission will notify the public as to the lifting of the freeze.

$10,000 Forfeiture for Operating Broadcast Station Without License

The FCC both granted and denied in part the Application for Review filed by Stephen P. Dunifer, and issued a forfeiture of $10,000 for operating an FM broadcast station without a license. Dunifer had operated "Free Radio Berkeley" in California.

In Dunifer's Application for Review, he contends that the commission's broadcast rules constitute a complete ban on low-power audio broadcasting thus violating the First Amendment right to free speech, the commerce clause of the U.S. Constitution and international treaties. He further contends that the FCC's action assessing the forfeiture failed to meet established procedural requirements, violated the Fifth and Sixth Amendments, and violated the due process and the equal protection clauses of the Constitution. In addition, Dunifer argued that the $20,000 forfeiture assessed against him was excessive.

The FCC stated: "Sections 301 and 303 of the Communications Act specifically au-
authorize the commission to regulate intrastate as well as interstate communications, and any communications capable of causing interference to interstate communications. Because the purpose of the act, among other things is to prevent interference, the commission need not show interference to justify its regulatory scheme. With respect to the assertion that the commission's rules violate international treaties, Mr. Dunifer has not pointed to any specific treaty or international law that allows him to broadcast without a license.

Dunifer contended that he should have received a citation or warning before the issuance of the Notice of Apparent Liability. Because he engaged in broadcasting, an activity that requires a license, the FCC said his monetary forfeiture can be appealed through a trial de novo in U.S. District Court, with the opportunity for a hearing or a cross-examination.

Section 503(b)(2)(C) of the act establishes a maximum of $10,000 per violation or per day of violation for violators who are neither common carriers, cable operators nor broadcast licensees or applicants. Dunifer was charged for only one violation. In light of the intentional nature of the violation, as well as his "patent disregard for the rules," the commission said it assessed the maximum forfeiture.

Online Forum for Telecommunications Issues Discussion

The FCC introduced on the Internet an open forum in which Chairman Reed Hundt will give his views on various important issues in the telecommunications field and solicit responses from the public.

The forum is an experimental service and will not be conducted in real time. Hundt periodically will review and comment on the ongoing discussion.

Anyone with World Wide Web access to the Internet and a graphics browser may participate. The online community may join the forum by visiting the FCC's home-page at http://www.fcc.gov and selecting "Chairman's Forum."

Appropriate contributions include legal issues, the merits of various kinds of technology and means for implementing them, methods to encourage more appropriate programming and related issues.

Online Data Research Access

The FCC announced the addition of online data research features in the computer systems located in the Wireless Telecommunications Bureau/Common Commercial Wireless Division (Public Reference and Information Branch in Room 628, 1919 M St., N.W., Washington, DC 20554), or call (202) 418-1350.

Consumer Protection and Enforcement

The Common Carrier Bureau's Enforcement Division reported its efforts to educate and protect telecommunication consumers. The Enforcement Division expects to receive 20,000 written complaints and 30,000 telephone inquiries this year. Five years ago, the bureau received 9,000 written complaints and about 17,000 telephone inquiries.

The bureau's Enforcement Division is the famous CN720B SWR/PWR meter. It's handsome styling, all metal construction and easily read face, makes it a great addition.

FREQ: 1.8 - 150MHz
Power range: forward, 20W/200W/2kW reflected, 4W/40W/400W
Tolerance: ±10% at full scale
SWR detection sensitivity: 4W min.
Input/output connectors: SO-239
Dimensions: 180w x 120h x 130d mm
The bureau recommends new rules where appropriate; processes formal and informal complaints against Title II common carriers; conducts investigations and assesses forfeitures and other remedies associated with violations of the Communications Act; educates consumers and carriers, directly and through the media, about the commission’s rules.

The bureau noted throughout the report that educating consumers is a critical component of its successful consumer protection effort. The bureau develops and distributes fact sheets and background information on many issues and also responds to daily media inquiries in an effort to reach consumers.

Consumer complaints and inquiries also have provided the basis for a number of the commission’s recent rulemaking proceedings and proposals. This includes new rules adopted with regard to the unauthorized conversion of consumers’ long-distance carriers, or “slamming”; proposals regarding the pricing and marketing practices of operator service providers; and a proposal for new rules concerning pay-per-call and dial-a-porn issues.

Slamming—In the year ending March 1995, the commission received close to 6,000 consumer complaints regarding slamming. To address this growing problem, the commission issued new rules and policies that went into effect Sept. 11, including provisions designed to guarantee that the forms consumers sign to switch their service are clearly identified and that companies that slam consumers don’t reap a financial windfall from that action.

Operator Service Provider Rates—Again in the year ending March 1995, the rates of operator service providers generated more than 4,000 consumer complaints. Here, too, the commission is considering more stringent regulations to better protect consumers. For example, the commission has sought comment on proposals to implement a rate cap and to provide an additional branding message for consumers. These and other proposals being considered would require carriers to better inform consumers about the rates they can expect to pay from hotels, airports and other public phone locations.

Pay-Per-Call and Dial-A-Porn—The commission proposed new rules for pay-per-call and dial-a-porn services. The bureau says it expects to forward a final recommendation for rules to guard against potential pay-per-call abuses. In addition, the Common Carrier Bureau is working closely with the International Bureau to propose actions addressing the emerging problem of international dial-a-porn.

Other Issues—Other top complaint areas include: carrier marketing and advertising practices, toll fraud, solicitation and international call rates. The bureau is addressing each of these areas through a combination of rulemakings, consumer complaints, conducting investigations and assessing forfeitures, and providing information to consumers and carriers about their respective rights and obligations.

Telephone Consumer Protection Act

The commission finalized its rules implementing the Telephone Consumer Protection Act of 1991 (TCPA), balancing the need to protect consumers’ privacy with the fair business practices of telemarketers.

The TCPA restricted using unwanted telephone solicitations, automatic telephone dialing systems, artificial or prerecorded voice messages and using telephone fax machines to send unsolicited advertisements. In 1992, the commission adopted regulations to implement the TCPA.

In the Reconsideration Order, the commission resolved many issues raised regarding the 1992 order. The commission’s actions clarify certain critical aspects of the regulations implementing the TCPA and ensure that the costs of privacy protection are not borne by the residential subscriber.

Specifically, the commission:

- Clarified that telephone solicitations made by or on behalf of tax-exempt non-profit organizations are not subject to the rules governing telephone solicitations.
- Clarified that calls made by debt collection agencies are exempt from these rules.
- Required that do-not-call requests must be maintained for 10 years.
- Clarified that telephone fax machines need not contain a disabling device to prevent transmission without the required identification. Machines manufactured after the effective date of the rules need only provide the capability to clearly mark identifying information of the user. The commission also confirmed that computer fax/modem boards are subject to the same rules as telephone fax machines.
- Clarified that the entity on whose behalf a fax message is transmitted is ultimately responsible for compliance with the rules banning unsolicited fax advertisements.

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CQ also sponsors these thirteen world famous awards programs and contests: The CQ World Wide DX Phone and CW Contests, the CQ WAZ Award, the CQ World Wide WPX Phone and CW Contests, the CQ USA-CA Award, the CQ WPX Award, the CQ World Wide 160 Meter Phone and CW Contests, the CQ Five Band WAZ Award, the CQ DX Award, and the highly acclaimed CQ DX Hall of Fame.
Radio Pearl Jam? William Hassig of Illinois heard a WMQV-TV news report that a pirate radio station was carrying a live broadcast of last summer's Pearl Jam concert from Soldier Field in Chicago, with Pearl Jam's approval. The report didn't mention the station's frequency.

Dick Pearce of Vermont is going to headline the show this month. The lucky guy has logged more pirates recently than some of us manage over several months! Starshine Radio was on 6956.8 upper sideband at 2311 with many '60s and '70s pop/rock songs and brief comments, sometimes with the host singing along. Dick's not sure if this was direct or a relay.

Radio Pirana was heard weakly at 1925 on 13949.8 lower sideband. Dick says he was able to identify the voice of "Jorge," the usual host on this station, but wasn't able to make out anything else.

Free Radio Experience showed at 0015 on 6956.8 lower sideband but was weak and soon signed off. Dick says there were at least two other pirates on frequency at the same time.

Altered States Radio was heard on 6954.9 at 0030, also very weak. A female announcer, some piano music and one ID was all Dick was able to pick out.

Free Radio Experience showed at 0217 on 6956.8 upper sideband. The music and sound effects were clear but the voice audio was muddy. The show included a couple of drinking songs, one about a UFO. The show was dedicated to all those involved with free radio. George Roberts in Pennsylvania reports hearing this one briefly on 6955 at 0310.

WRFW, 6956.8 USB at 0315: Dick says he tuned in late and caught only the last song. The announcer said there was a "whole lot happening" so he was going to sign off and take a bath or sauna. He also said their one "D" cell battery for their 10,000-watt signal was running down.

"We're a Europirate based in the U.K., but I'm German and my name is Mark Jones. Let's have your company. This is a relay broadcast and we are wondering who is listening," Radio Mirage International said on 6955 lower sideband at 2312. Then he played a couple of songs and was lost in static.

Pearce had Freedom 40 on 6956.2 USB at 0010, mixing with two or maybe three others. It was their first anniversary program, a replay of one aired some months previously.

He Man Radio was part of the above mix, in upper sideband at 0034. They played songs such as "The Twist," "Unchained Melody" and "Pretty Woman." The announcer commented on the Free-dom 40 station and offered T-shirts for $12. He also said he knew "The Voice of..." was in there so he signed off.

Voice of —, this unidentified was part of the above mixture at 0034 with a long, emphatic tirade about something. He said the broadcast was made possible by Up Against the Wall Radio (UATWR).

UATWR, 6956.3 USB at 0116, was heard with what sounded like a repeat of a show aired some months earlier. It included a spoof about Nett in space. UATWR is "the most fun allowed by the FCC, FBI, IRS, FDA," etc.

Black Rider Radio, 6956.8 USB at 0005, was heard via KDED with show No. 6. They played various types of music and offered a QSL card in exchange for two first-class stamps (no Nixons!) and a picture postcard of "your hometown."

Radio Is Not Radio, 6950.8 USB at 0015, but with what Pearce called a "horrendous" AC hum and rapid up-down drift so severe Dick thinks it may have been intentional.

The Asylum, 6955.7 USB at 0045, was weak and possibly with reverb effects and Dick was only able to pick out the ID.

Northern Music Radio, 6955.05 USB at 0158, was a tough copy here, too, but Dick was able to tell it was a female announcer with a moderate accent. She said she was 16, from Finland and that the show was being relayed by NAPRS.

CSIC, 6956 at 0035, claimed to be "broadcasting from the island of Reunion, off the coast of Africa." Announcer said hello to several stations and featured "Fruit of the Loom Newsbriefs." Great going, Dick!

Dennis Henize of Florida caught his first pirate action when he spent part of a Saturday evening monitoring 6955. He heard Modern Music Radio at 0215 with what sounded like avant garde rock and a DJ who had a European accent and said he was 16 years old. The address given for reports was a P.O. Box (28413?, Ed.) in Providence, RI 02908.

Later, Dennis heard a number of other things on this frequency, such as excerpts from political speeches and unintelligible audio clips. Still later there was something calling itself the Quantum Data (Radio?) Laboratory. They gave P.O. Box 146, Stoneham, MA, as their address. Dennis also heard WREZ briefly, calling another station. A very good first affair, Dennis. Stay in touch!

That takes care of things for this month. Keep those reports and pirate station QSLs coming my way!

For more information please write to:
P.O.box 73, 7160 AB Neede, The Netherlands

Don't we all wish for utopia? Or at least a logging of this Dutch pirate station?
We've received news of a new Nigerian clandestine station that came on the air late in June. The station, Radio Freedom Frequency, carries anti-government slogans and commentaries mixed with programs of revolutionary music. The station begins transmissions after midnight local time with a single announcer who identifies himself only as “better tomorrow.” He urges Nigerians to fight for their rights despite Nigeria’s military dictatorship. A source within Nigeria’s radio regulation ministry believes the station is run by various opposition and pro-democratic groups, although representatives for some of these groups denied responsibility for the broadcasts. Government radio and security agents are trying to track down the station and its operators.

Unfortunately, the story did not mention a transmitting frequency. We’d think, though, that this station is operating on a local mediumwave channel rather than on shortwave. Nonetheless, we send thanks and appreciation to Roy Licklider of New Jersey, who spotted this fascinating information on an online service, pulled it off and forwarded it to us.

It seems that, once again, Saddam Hussein’s official Republic of Iraq Radio has clandestine radio opposition using the same name. Republic of Iraq Radio from Baghdad apparently is trying to present itself as the government’s domestic radio service. When this station first appeared about four years ago, it announced it was using government-owned transmitters in Egypt, Syria and member states of the Gulf Cooperation Council, but apparently the station is trying harder to appear as the real thing this time. It’s been heard broadcasting in Arabic at around 1600, using 9570 and 13675 (this latter frequency also is used by UAE Radio, Dubai—the UAE is a member of the GCC). It also has been spotted on 15133 at 1600.

Radio of the Saudi Opposition from Najd and Hijaz is a new clandestine broadcasting in Arabic at 1300 on 11785 and has the scent of Baghdad about it. Najd and Hijaz are areas of northwest Saudi Arabia. Several anti-Saudi Arabia broadcasts have used the 25-meter band at various times over the past few years, all of them Iraq operations.

Another Iraqi radio game is the Voice of Eritrea, which is reported active during the 1600-1700 time period. It’s using 17740 with broadcasts in Arabic and Tigrigna, aimed at the mostly Muslim Tigre people who live within Eritrea. Broadcasts include Islamic prayers, political commentary and Eritrean history. At other times, 17740 carries the Iraqi domestic service.

One of the transmitter sites of Korean clandestine Voice of National Salvation, broadcasting to the South from North Korea, has been confirmed by a member of the Asian Broadcasting Institute, a Japanese-based DX club. While visiting North Korea, the DXer was able to confirm that one of the transmitters is on a hill near Wosan City in the eastern part of the country. Previous investigations by South Korean authorities had put National Salvation’s transmitters at Wosan, Pyongyang and Haeju.

Meanwhile, the Voice of the People, which broadcasts from the South to the North, recently celebrated its ninth year on the air. It announced that it came on the air June 25, 1986.

Clandestine expert George Zeller has been in further pursuit of information about La Voz de Chiapas Libre, which claims to be a mobile clandestine station somewhere in or near the Mexican state of Chiapas. Jay Murley, the spokesman for this station, claims they have received and confirmed some reception reports but would not provide Zeller with specific date, time and frequency information. Indeed, apparently no
one knows what frequencies the station uses (other than it’s somewhere in the 41-meter band), or at what hours the station operates. Supposedly, the transmitter is a modified Hammarlund from the early 1950s and has been operated from northwestern Guatemala, as well as Chiapas. Despite the efforts of the Papua New Guinea army to find and close the station, Radio Free Bougainville still is active, though its transmitter power is too weak to enable us to hear it in North America. During July, Radio Australia reported the station had claimed that the PNG army had launched another offensive against the Bougainville Revolutionary Army. The station’s transmitter is said to be powered by coconut oil! The latest available schedule is 0900-1100 on 3850. Unexplicably, rather than shutting down ineffective TV Marti broadcasts to Cuba, Washington is going to spend money operating on three new UHF channels, in addition to the VHF channel it is currently using. The signal will be “randomly switched” between channels 18, 50 and 64, in hopes of countering Cuban jamming. Here’s another reminder that news about clandestine stations, news clippings, QSL information and the like are always welcome. Please keep clandestine station loggings separate from those for the Listening Post. Thank you! Until next month, good hunting!

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CIRCLE 86 ON READER SERVICE CARD
CIRCLE 1 ON READER SERVICE CARD
THE MONITORING MAGAZINE
December 1995 / POPULAR COMMUNICATIONS / 73
While this is our December issue, it hits the newsstands and mailboxes in plenty of time to shop for holiday gifts for your favorite scanner listener. To kick off this month's column, here are a couple of inexpensive gift ideas you might not think of:

- A chrome metal belt clip for the AOR AR-1000 scanner: This clip is a perfect fit to replace the fragile plastic belt clips used on many RadioShack scanners, including the popular Pro-43. It's available through EDCO, (703) 938-8105, for $3.55, including shipping.
- Metal bookends: Inexpensive and available at any office supply store, bookends make great stands for many handheld scanners. Just slip the scanner's belt clip over the vertical part of the bookend and voila, no more tipsy scanners. About $3. Add an AC adapter, a telescopic whip antenna and an external speaker, and it's hard to tell your handheld from a base scanner.

Airport Facilities Directory: This government publication lists every VHF/UHF radio frequency used by air traffic controllers and pilots at every licensed airport and Air Route Traffic Control Center in the nation. And because it's updated every 56 days, the information is always the latest available. Most airports with a general aviation facility that carries pilot supplies will sell it, and it's a real bargain at about $5.

**A Realistic Change**

Lou Olesvay Jr. of East Brunswick, N.J., wrote to say that when he attempted to perform a published modification to open up the 800-MHz band on his RadioShack Pro-2030 scanner, he found the radio's circuit board to be different than described in the published procedure.

"First, there is no jumper L201—just a blank spot on the printed circuit board where it should have been. But there is a new spot marked X201, which has a diode in that spot," Lou wrote.

"Do you know, or does anybody out there in the scanner world know if RadioShack modified this design on this scanner to prevent the simple, but effective modification?" he asks.

Good guess, Lou! According to a RadioShack spokesman, the design of the model Pro-2030 scanner was changed during March 1994. The change was implemented to bring the radio into compliance with federal law that made it illegal after April 26, 1994, to manufacture or import scanners readily modifiable or capable of receiving cellular telephone frequencies.

Nearly all existing RadioShack scanner models capable of cellular modification underwent similar design changes in late 1993 or early 1994—usually in March or April, the spokesman said.

There's an easy way to tell when your RadioShack (Realistic) scanner was made. On the back or bottom of the radio there should be a small sticker with two numbers and a letter, i.e., 3A4. The first number indicates the month of manufacture, while the second is the last digit of the year. In this case, March 1994. The center letter is a place holder with no significance.

Sorry, Lou. I don't know of a procedure to restore the cellular frequencies in your scanner. If you come up with one, be sure to let the rest of us know.

**Quad Cities Check-In**

Frank Whitmore, N9DIZ, of Davenport, Iowa, says he's been scanning for about five years, and he's been a ham since age 13.

"My scanning experience started as a job-related necessity," Frank says. "My private-security position requires very frequent interaction with as many as 15 police departments in the area. I found it to our mutual advantage to monitor these agencies so our efforts could be better coordinated. Some local cops even monitor my security agency's frequency on a regular basis."

Frank says he uses RadioShack Pro-43 and Pro-2026 scanners, as well as a Uniden Bearcat BC560XLT. He passes on this programming tip: "Imagine a map of your local area, and where each agency's headquarters/dispatchers are. Now superimpose this imaginary map over the keyboard of your scanner. The agency in the northeast corner of your map would be programmed into bank one of your scanner. The agency in the northeast corner would be in bank three, etc. Leave Bank 10 (or whichever) constantly scanning mutual aid and emergency-only frequencies.

"This makes it very easy when traveling to switch from one agency to another wherever you cross into a different jurisdiction," he said.

Davenport is part of an area known as the Quad Cities, even though, as Frank points out, there are actually five or six cities in the area. He sent along these favorite frequencies:

- Davenport, Iowa, police F1, 460.125; police F2/F4, 460.150; police F3, 460.275; fire F1, 460.575; fire F2, 460.600.
- Bettendorf, Iowa, police F1/F2, 460.450; police F3/F4, 460.425; fire F1, 155.805; fire F2, 155.250.
- Rock Island, Ill., police F1, 460.250; police F2, 460.550; police F3, 155.610; fire, 154.340.
- Moline, Ill., police F1, 460.300; police F2, 460.400; police F3, 155.130; fire, 154.310.
- East Moline, Ill., police F1, 460.025; fire, 154.010.
- Scott County, Iowa, sheriff's F1, 156.210; sheriff's F2, 155.850; sheriff's F3, 155.415; fire, 154.220.
- Rock Island County, Ill., sheriff's F1, 159.150; sheriff's F2, 155.715; sheriff's F3, 154.980; fire, 154.265.
- Milan, Ill., police F1, 460.815; police F2, 155.775; fire, 154.190.

"I honestly think that there's nothing more exciting than listening to a high-speed chase romp through your neighborhood," Frank says. "Except if you're the one doing the chasing. That's why I now volunteer as an auxiliary police officer."
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Educational Channels

Stephen Behr of Riverside County, Calif., says the county's Moreno Valley Unified School District uses both low-power VHF and UHF frequencies.

"I was surprised to find them in the VHF band," Stephen says. "During high school graduations, VHF frequencies were very busy. The same frequencies are used by campus supervisors during normal school days. The MVUSD has several year-round campus supervisors during normal school power VHF and UHF frequencies."

"Activate Your Scanner"

As a follow-up to last month's column, Michael Izaak offers a way to use a non-vacuum-activated tape recorder with your scanner while only recording during active transmissions. He calls it his "$5-$10 Scanner Activator."

"First, I used an AC voltmeter to measure the (audio) output of my scanner, adjusting the volume to get an appropriate output," he says. "I then skipped down to my local RadioShack, and bought a relay that matches the scanner's output. I recommend the ones that vary between 7 and 9 volts, as when there is modulation in the signal there is a bit of voltage flickering."

"I then got a silicon diode (any general purpose one will do) and hooked that onto the (coil) terminal on the relay and connected the other end to a jack that would fit the scanner. "Then I connected the remaining terminal (coil) to the other side of the plug. I then connected another plug in the same fashion (before the diode only!)."

"Next I got the terminal on the relay that made a closed circuit (or whatever the tape recorder's format is) and connected the terminals to the "remote" port on the tape recorder."

"I plugged the cords in their correct place, tuned in the NOAA weather broadcasts, and guess what? The tape recorder started when I turned the scanner on, and stopped when it was silent again.

"I guess if you want to monitor the sound, you could get some kind of Y adaptor to have two plugs in one.

Thanks for the tip, Michael. I'm sure many readers will find it worthwhile.

Favorite Frequencies

Frank Fowler of Montgomery County, Md., says he enjoys Popular Communications systems every month. He's a licensed amateur radio operator who sent in some of his favorite scanner frequencies:

McDonald's drive-up window (Glencoe), 154.570; Syscomm-Maryland State Police helicopters, 44.74; Wheaton Volunteer Rescue Squad, 462.650; Wheaton Plaza security, 464.825; White Flint Mall security, 463.900; Montgomery County fire dispatch F2, 154.160; Montgomery County fireground F1, 153.950; and Montgomery County police (Glencoe) F4, 495.3125.

Doing Disney

With the holidays coming up, many families will be taking a Florida vacation at Walt Disney World. Mike Mollet, N2SRO, of Pitman, N.J., sent in a list of frequencies used in and around the theme parks.

"I was down at Walt Disney World a few years ago, and personally know that these frequencies were in use by the different agencies (at that time)," Mike says. "I figured Popular Communications readers could benefit from this information."

EPCOT security, 463.750; EPCOT trouble desk, 462.675; EPCOT Center entertainment, 462.550.

Magic Kingdom security, 464.400; Magic Kingdom operations, 450.0625; and Magic Kingdom trouble desk, 464.625.

Disney World security, 464.125; Disney World fire, 453.875; Disney World fire, 453.925; Disney World ambulance, 453.825; Disney World submarines, 151.895; Disney World operations, 461.600; Disney World parade coordination, 462.775; Disney World parade coordination, 465.800; Disney custodial service, 463.975; and Disney World utilities, 462.475.

MGM Studios operations can be heard on 461.700 and 464.800. The famous Disney monorail uses 462.575. Hotel guests can monitor Travelodge International on 151.655; Hilton Hotel on 154.625; and Buena Vista Hotel on 157.740.

Mike also said that he's the captain of his local Police Explorers Post. "Our county (Gloucester) recently switched over to the 500-MHz band. As a result, the local ambulance squad, fire companies and Police Department have been eager to get rid of their VHF walkie-talkies. The Explorers just received a donation of radios from the ambulance squad and Police Department, and it's worked out great," he says.

Mike said the Explorers use the donated radios when acting as first responders to medical emergencies, or when assisting the police by directing traffic. They've even loaned a radio back to the police when an officer's new 500-MHz radio died.

Help Received

And finally, as another example of the good deeds that occur because of the scanning hobby, let me tell you about an incident that I was involved in recently.

I was at home on a Sunday afternoon, monitoring the local Air Force and Coast Guard frequencies as I usually do, when I heard the captain of a pleasure boat calling for help on the marine VHF distress frequency, 156.800 MHz. After calling several times with no answer, the captain transmitted "in the blind" that he was aboard a 24-foot cabin cruiser and that the boat's gearbox apparently had failed, leaving the boat adrift in Tampa Bay.

As it was clear that the Coast Guard station in St. Petersburg couldn't hear the distress calls, I telephoned the duty officer there and described what I'd heard.

By switching antennas, the radioman on duty was able to establish contact with the stricken boat, and within a few minutes help was on the way.

No one was in immediate danger and overall this was a minor incident as rescues at sea go, but my old Boy Scout leader would've been proud.

Licensed amateur radio operators have a long tradition of helping others in distress. There's no reason scanner listeners can't do the same. If the situation presents itself, get involved!

Write In

Keep those cards and letters coming, folks. Reading about the neat ways in which many of you practice your scanning hobby makes this job fun! And don't forget to include photographs of your monitoring post or interesting uses of VHF/UHF communications systems.

Send your letters to J.T. Ward, Scanning VHF/UHF, Popular Communications, 76 N. Broadway, Hicksville, NY 11801. GEnie online subscribers may contact me directly by addressing e-mail to JTward; via the Internet, send e-mail to JTward@genie.geis.com.
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We at GAP realize there isn’t a perfect antenna. No singular antenna will scream DX on 80 and be the best for local nets on 10. If anyone tells you there is, beware! The perfect antenna does not exist, but the right one for you may. If you want something to bust the pile on the low bands, then consider the Voyager. Just starting out in ham radio and need a great general coverage antenna, the Challenger is easy to assemble and for little effort will yield superior performance, especially on DX. Maybe you knowingly or unknowingly moved into one of those ‘restricted areas’ where the Eagle’s limited visibility, but unlimited ability is desired. This chart helps you select the right GAP antenna. When comparing GAPs, bandwidth is not a concern. With few exceptions, a GAP yields continuous coverage under 2:1 for the ENTIRE BAND.

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A GAP antenna has no traps, coils or transformers. This is important. The greatest sources of failure in multiband antennas are these devices. Perhaps you heard someone discuss a trap that had melted, arced or became full of water. Improvements to these inherent problems are the focus of the antenna manufacturer, while the basic design of the antenna remains unchanged. GAP improved the trap by eliminating it! Removing these devices means they don’t have to be tuned and, more importantly, won’t be detuned by the first ice or rain. The absence of these devices improves antenna reliability, stability and increases bandwidth.

Another major advantage to a GAP antenna is its NO tune feature. Screws are simply inserted into predrilled holes with a supplied nutdriver. The secret is out and people in the know say:

CO - The GAP consistently outperformed base-fed antennas...and was quieter.”

73 - “This is a real DX antenna, much quieter than other verticals.”

RF - “To say this antenna is effective would be a real understatement. Switching back and forth on 40m between another multiband HF vertical and the GAP, there was no comparison. Signals were always stronger on the GAP, sometimes by 5 units, not just DBs.”

Worldradio - “These guys have solved the problem associated with verticals. That is, an awful lot of RF is wallowing around and dropping into the dirt instead of going outward bound. A half-wave vertical does need radials if it is end fed (at the bottom). But the same half-wave vertical does not (as much, hardly at all) if is fed in the center.”

IEEE - “Near field and power density analyses show another advantage of this antenna (asymmetric vertical dipole): it decreases the power density close to the ground, and so avoids power dissipation in the soil below it. The input impedance is very stable and almost independent of ground conductivity. This antenna can operate with high radiation efficiency in the MF AM standard broadcast band, without the classical buried ground plane, so as to yield easier installation and maintenance.”

### BANDS OF OPERATION

<table>
<thead>
<tr>
<th>MODEL</th>
<th>2m</th>
<th>6m</th>
<th>10m</th>
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<td>Voyager DX</td>
<td>45'</td>
<td>39 lbs</td>
<td>Hinged Base</td>
<td>3 Wires @ 57'</td>
<td>$399</td>
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New Release: TITAN DX

This all purpose antenna is designed to operate 10m- 80m, WARC bands included. It sits on a 1-1/4” pipe and can be mounted close to the ground or up on a roof. Its bandwidth and no tune feature make it an ideal antenna for the limited space environment as well as a terrific addition to the antenna farm.

TO ORDER, CALL (407) 778-3728
WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

For those of you trying to keep an ear tuned to the on-going Balkans war, here's a look at best-bet times and frequencies for English broadcasts from this area:

Radio Bosnia-Hercegovina: 7105 (in AM) or 7108 (USB) (not simultaneously) relays a 612 kHz mediumwave service. Most of this is in Serbo-Croat, but there should be newscasts in English at 2130 and 0000. Unfortunately, Deutsche Welle uses 7105 at various times of the day and, to add to the confusion, at least some of the DW schedule is in Serbo-Croat!

Croatian Radio: is using 5895, 7370, 11685 and 13830, with English language newscasts at the beginning of each hour, from 2200-0500.

Serb Republic Radio: English is aired at 0000-0030 and 0430-0500 on 9580 and 11870. Broadcasting, like the overall situation in this forlorn area, is subject to frequent changes.

Shortwave broadcasts to Europe are going to be phased out by both the Voice of Germany and Radio Sweden over the coming year or so. DW is moving to satellite transmissions for its European audience. Europeans may lose VOA-Europe, too. Washington has ended funding for the service. The VOA is hoping to find a private syndicator to take up the slack but, if not, VOA-Europe probably will be a goner.

Adventist World Radio has received an approval from the government to build its new station in Paraguay. But construction on the shortwave station, which will have two 50-kW transmitters, won't start until a license is issued for the mediumwave and FM stations also planned by AWR. The station will be located near the capital, Asuncion.

Ecuador

There's a new religious station on the air in Ecuador. Radio Buen Pastor is operating on 4830 (slightly variable). It is intended as a service to the Saraguro Indians of that area, running 1 kW with an initial schedule of 1000-1100 and 2200-0100. Anyone familiar with the 60-meter band will notice how bad a frequency choice this is, at least for our purposes (with Radio Tachira on 4830 and others nearby). Even worse, the station's antenna system is designed to keep the signal focused on the target area. You may find this one is a bit more challenging to pick up than many of the other Ecuadorians. The address is Radio Buen Pastor, c/o O.M.S. International, Saraguro, Provincia Loja, Ecuador.

In other news, both Radio Oriental on 4780 and Radio Progresso on 5060v have been reactivated. And Emisora Gran Co-
tion loggings should be listed by country, with your last name and state abbreviation indicated after each item. Please leave room in between so we can cut and sort. Also needed are spare QSL cards and photos of you and your listening post, station schedules, brochures and pictures, QSL cards of you and your listening post, station ID, frequency information, address, music. Lost at 1804. (Jeffery, NY) 1830 in EE with news, pops. "Algerian Business Review," frequencies, address, 19/535. Into SS at 1900. (Rausch, NJ)

ANTIGUA—Deutsche Welle relay, 9700 in SS at 0015, 15410 in GG at 2354, 17715 at 1650 in GG. "Algerian Business Review," frequencies, address. (Williams, TX)

AUSTRIA—Radio Austria Intl, 9655 at 0015 in GG at 0100. Into SS at 0110. (Wilden, IN)

BELGIUM—Radio Vlaanderen Intl, 9925 in Dutch at 2013 with rock, news, ID, presumed DX program. (Lamb, NY)

BOLIVIA—Radio San Miguel, 4924.4 at 0120 with commercials, communicados, religious talk, ID at 0125. (Rausch, NJ)

BOTSWANA—VOA relay, 7415 at 0015 with African Service ID, "Weekend Radio" with African news. (Lamb, NY)

BRAZIL—Radio Cancao Nova, 4825 in PP at 0010 with ID, "Let's Sing Together," presumed DX program. (Lamb, NY)

TOGETHER—Radio Europea, 9710 at 1333 in CC. (Wms, TX)

ARGENTINA—RAE on 9690, man and woman in PP to Brazil. (Wms, TX)

ARMEINA—Voice of Armenia—a new name for Radio Yerevan—11920//11960 at 2038 in EE with "The Newsline." IDs. Armenian pops, art features about tapestries, IS and off at 0205. (Lamb, NY)

ASCENSION ISLAND—BBC relay, 9520 at 2251 in PP. 11765 at 2230 in EE/PP, 17830 to Central Africa at 1655, 21660 at 1695 ending sports. Then announced they were switching to 3255, 6005 Central Africa at 1655, 21660 at 1659 ending sports. (Wms, TX) Dave has been studying the BBC's new "stream" transmission lineup. He's found these for Africa: 1400-1600 on 17830; 1600-1700 on 17830 and 21660; 1700-2100 on 17830 and 2200-2300 11835, all via Ascension. (Jeffery, NY) VOA relay, 15225 at 1628 to South Africa. (Wms, TX)

AUSTRALIA—Radio Australia, 9710 at 1333 in CC. (Wms, TX)

BULGARIA—Radio Bulgaria, 11660 at 0054 in
Part of the antenna installation at Radio Canada International’s Sackville, New Brunswick, site. (Gary Hubert, Ontario)

Bulgarian and 2314 in SS. Also at 1569 with IS, sign-on and into Bulgarian. Also 31720 at 2318 in EE. (Wms, TX) 11720 at 0420 with listeners’ letters and local music. (Wilden, IN)

CANADA—Radio Japan relay 5960 at 0126 with language lessons. (Wms, TX) At 1428 with “Media Roundup” program, mailbag, IDs, 15335 at 1500. (Pappas, SD) Radio Korea Intl via Canada, 11715 at 1030 with ID, schedule, site ID, news and “Shortwave Feedback.” (Lamb, NY)

Radio Canada Intl, 9755 at 0106 with news. 15325 at 2012. (Wilden, IN) 0024 in FF, 13670 at 0110, 15305 in SS at 2351. (Wms, TX) radio Exterior de Espana relay, 9630 at 1330 and 13830 at 2111 in Croatian with pops, talks, IS. EE news after 2200 is at :00 and :50 after the hour. 11635 goes off at 2259. (Lamb, NY)

COLOMBIA—Caracol, 5075 at 0125 and 6150 at 0135, both in SS. (Wms, TX)

COSTA RICA—Faro del Caribe, 9645 at 1330 in SS, “Lord’s Prayer” sung in SS. (Wms, TX) Adventist World Radio, 9725 at 1334 and on 13750 at 1306, both in SS. Also the latter frequency in EE at 2338. (Wms, TX) Radio Exterior de Espana relay, 9630 at 1330 and 11815 at 1606, both in SS. (Wms, TX) RFPI, 7385 in SS at 0004. (Wms, TX)

CROATIA—Croatian Radio, 5895/11685/13830 at 2111 in Croatian with pops, talks, IS. EE news after 2200 is at :00 and :50 after the hour. 11635 goes off at 2259. (Lamb, NY)

CUBA—Radio Havana Cuba, 9820 at 0218, 11760 at 0001 with IS and Cuban national anthem, into SS. (Wilden, IN) Radio Rebelde, 5025 in SS at 0124 with soccer. (Wms, TX)

CYPRUS—BBC relay, 9580 at 0013. (Wms, TX)

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

11815 at 1606, both in SS. (Wms, TX)
ECUADOR—HCJB on new 5900 at 0754. (Lamb, NY) 11960 in SS at 1516, 12005 at 1217, 15140 at 1619. (Wms, TX) 15490 at 1900. (Wilden, IN).

EGYPT—Radio Cairo, 12050 at 0105 in AA with Konan, broadcasting to Europe and Eastern North America. Also on 17771 in AA at 0003. (Wms, TX)

ENGLAND—BBC on 7325 at 0022, 9825 at 0100. News in SS at 0100. (Wilden, IN) Here at 2244 and 0002. Also 9915 at 0039. (Wms, TX) 11680 with 0100. News in SS at 0100. (Wilden, IN)

FRANCE—Radio France Int'l, 9790 at 0047 with jazz and commentary in FF. (Wilden, IN) At 0026 //9800, 11670 at 0055. Also in SS on 11670 at 2315.

FRENCH GUIANA—RFI relay, 9715 at 2302 in FF. 13640 at 1258 and 2335 in SS, 15525 at 1634 in FF. (Wms, TX)

GERMANY—Deutsche Welle, 6160 at 0700 in GG (might be via Antigua, ed.) and 9640 at 0201 probably via Brazil, ed.) (Wilden, IN) 11740 at 0058 with IS, ID in GG, then QRM'd by WYFR. Also 21560 at 1657 in GG. (Wms, TX)

GREECE—Voice of Greece on 11645 at 0522 in Greek. (Wms, TX) 15495 in presumed Greek at 0040. (Wms, TX)

IRELAND—Radio Makedonias, 9935 in presumed Greek at 0040. (Wms, TX)

IRAN—IRVIR, 15085 (nominal 15084, ed.) with prayer in Farsi at 2341. (Wms, TX)

ITALY—Radio Roma (RAI) on 11800 at 2323 with classical music. (Wms, TX) (In Italian, ed.)

JAPAN—Radio Japan, 9355 at 1542 with pops in JI. 9750 at 1544 in JJ. (Wms, TX)

JORDAN—Radio Jordan, 11940 at 2326. Women announcer and music in ballads in AA. (Wms, TX)

KAZAKHSTAN—Radio Netherlands relay, 9845 at 0039 with news in EE. (Wms, TX)

KUWAIT—Radio Kuwait. 9840 at 2306 to Europe and Eastern North America, in AA. Also 15495 at 2356. (Wms, TX) 11990 at 1800 with ID and rock. (Pappas, SD)

MALAYSIA—presumed RTV Malienne, 4782 (weak) //5995 in FF with pops, talks, mention of Bamako, interview. (Lamb, NY)

MEXICO—Radio Educacion, 6185 at 0137 in SS.

MOROCCO—RTV Marocaine, presumed, in FF at 1630 on 15335. (Wms, TX)

NETHERLANDS—Radio Netherlands, 6020 at 0100. Sign-off with frequencies at 0125, (Wilden, IN) 0131 in DD. Also 9895 in SS at 2312. Presumed also on unlisted 11680 at 2316 in SS. (Wms, TX)

NETHERLANDS ANTILLES—Radio Netherlands Bonaire relay, 6165 at 0136. (Wms, TX)

NETHERLANDS—Radio Netherlands Bonaire relay, 6165 at 0136. (Wms, TX)

NIGERIA—Voice of Nigeria, 7255 at 0533 in II, ID in SS. (Wms, TX)

PAKISTAN—Radio Pakistan, presumed, 11570 at 1722 in EE with talk on Islam, news with mentions of Pakistan, local music. (Lamb, NY)

PARAGUAY—Radio Nacional, 9735 at 0022 in SS with mentions of Paraguay. (Wms, TX)

PHILIPPINES—VOA relay, 11670 at 1949 with "New Music USA" for the Pacific. ID and off at 0200. Early for VOA Philippines on the east coast but that's what the VOA engineering schedule showed. Not heard since. (Lamb, NY) On 17820 at 0004. (Wms, TX)

PORTUGAL—Radio Portugal Int'l, 9570 in PP at 2252. 9635 at 2254, 15200 at 1621 and 21655 at

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CIRCLE 78 ON READER SERVICE CARD

THE MONITORING MAGAZINE
Deutsche Welle relay, 7170//9615 at 2027. Frequencies and site ID. (Lamb, NY) 13780 at 0115 in GG. (Wms, TX)

RUSSIA—Voice of Russia, 11760.9 at 1955 with IS and another station underneath. 15105 at 1818 with talk on Russia's economic situation and another station underneath here, too. (Wilden, IN) 13650 via Serpukhov at 1611 in FF to Africa. 13705 at 1305 in unidentified language. (Wms, TX)

Jeffery has found these EE transmissions from the Voice of Russia: 0000-0100 on 9720; 0100-0300 on 9620; 0300-0400 on 9620(?), 13645(?), 15180(?), and 15425; 0400-0500 on 9620(?) and 15180(?) at 15425; 1200-1400 on 11775 at 1310, 11795 at 1311, not listed. Also 15110 at 1616. (Wms, TX)

SUDAN—Radio Omdurman, 9200 at 1835 in EE with Islamic history talk and talk about development projects, "News in Brief," and schedule. Into AA at 1900. (Lamb, NY)

SWEDEN—Radio Sweden, 15240 at 1330 with report on "Steamboat Days," IS, ID. (Pappas, SD) 0139 talking about events in Sweden. (Wilden, IN) 11775 at 1310, 11795 at 1311, not listed. Also 15110 at 1616. (Wms, TX)

TURKEY—Voice of Turkey, 15430 at 1640 with ballad in unidentified language, then woman talking in AA. (Wms, TX)

Voice of America, 6875 at 0439. (Wilden, IN) (This is a sideband feeder, Sue. ed.)

VATICAN—Vatican Radio, 5860 at 0451 in FF with religious talk, IS, ID, into EE at 0500. Also 7305//9600//11830 at 2238 in CC, into EE at 2345.

And that's all, folks! We had to close things down a bit earlier this time because of some travel commitments. A pat on the back for these good people who came through for all of us:

Dave Jeffery, Niagara Falls, NY; Ed Rausch, Garden Grove, NJ; Steve Williams, Corpus Christi, TX; Sue Wilden, Columbus, IN; Mariana Pappas, Huron, SD, and Marie Lamb, Brewerton, NY.

Thanks to each of you!
Mailbag
(from page 6)

100 kHz lower frequency limit. Your bold explorations have provided you an encounter with the strange and little known reverse frequencies in the mysterious NegaHertz (NHs) portion of the spectrum. Nobody knows for sure what exists there, but whatever it is, it can't be good. A regular frequency cycle alternates from zero to a positive peak to zero to a negative peak and back to zero. These weird NHs frequencies alternate zero-neg-zero-pos-zero. If you should hear anything there, be sure to let us know.—Editor.

Those Were Good Words
In the Telephones Enroute column last April, you were kind enough to mention our Cellular Surveillance Interface. Many thanks. It took us a while to figure out why we were getting a number of telephone calls from all over the world. Your magazine and this column in particular has a wide-based audience. Once again, many thanks for your efforts.

W.J. (Bill) Fischer, Electronic Countermeasures Inc. Calgary, Alberta, Canada

Thoughtwaves
(from page 5)

an October deadline was set for persons to comment on the FCC's plans. GMRS licensees seem to be upset by the plan and some have filed complaints with the FCC in response to its notice. The Personal Radio Steering Group—you can call them at (313) MOBILE3—is leading the opposition among GMRS licensees.

GMRS radios are a hot item these days. Uniden, Maxon, Tandy and Motorola all have proved that. Hunters use them, and so do professors. In fact, because of their widespread popularity, you'll find a lot of unlicensed operations on GMRS, too. That's because the buyers of these mass-marketed radios don't bother to fill out the complicated FCC Form 574 and send in the required $60 for the license and user fee. Actually, it seems as though the FCC may be acting to close the barnyard door after all the animals have bolted. The commission surely has taken notice of all these GMRS handsets being sold, but you can bet that someone who has just spent about $300 to $400 or more for two GMRS handsets probably doesn't have much desire to spend another $60 (it was $80 up until a few months ago) to obtain a license. I mean, who's going to check up on you, right? And with recent announcements by the FCC that it no longer will enforce violations in the amateur and personal radio services, the buyer shouldn't have much to worry about. So, we really already have unlicensed users on GMRS channels who don't intend to get a license and there's not a whole lot you can do about it. It's all because the FCC started charging prohibitive fees for licenses and tacked on user fees to boot!

I hope that many GMRS licensees respond to the FCC's proposal to create the FRS. It's a good idea, but not on GMRS frequencies. Find room on 900 MHz or even higher in the spectrum. Make it unique without riding on the coattails of another viable radio service. You can bet that a lot of GMRS repeaters sponsored by individuals will be shut down if they have to contend with potential interference from FRS users on adjacent interstitial frequencies. Heck, I guess that's why my wife and I both have cellular phones. At least we only have to listen to each other. 73, Chuck

Hopes To Broadcast

I really enjoy Popular Communications and CQ Magazines, finding the information and advertising exciting.

My occupation is in the military. I have been a US Navy Radioman for 12 years. My reason for writing relates to the April issue, which contained a story by Tom Kneitel about low power broadcasting. This article was fascinating, especially the mention of the Seattle reader who asked where to write for information about building an AM or FM broadcast station. This is also my dream. With eight years left in the military, it's time for me to start doing some research if any of my dreams can ever turn into realities.

The information I need relates to license requirements in the broadcast services, as well as FCC regulations for stations. How much transmitter power would I need to cover a 35-mile range? What are the best antennas for AM and FM? What about fees to pay for playing music?

Hope you can head me in the right direction so I can begin collecting this type of information.

Kenny Dalle, RMZ
Bath, Maine

The FCC’s complete regulations relating to AM and FM broadcasting stations are in Parts 73 and 74 of their rules. These are available from the US Government Printing Office, Supt. of Documents, Mail Stop: SSOP, Washington, DC 20402-9328. They are contained in a book entitled "Code of Federal Regulations Title 47, Parts 70 to 79." Check with the Goett. Printing Office regarding the current price of the latest edition.

For music licensing fees, request information from ASCAP at One Lincoln Plaza, New York, NY 10023, and also BMI at 320 West 57th Street, New York, NY 10019.

Power ratings and equipment selection factors are matters that depend on whether you hope to use AM or FM, where you want to locate, and other elements. Start looking through broadcasting trade publications to get some idea of what's around. You would be well advised to hire a consulting engineer to come up with the specific transmitter site selection and equipment choices.

Under the present FCC AM station freeze, you couldn't build a new AM'er from scratch, anyway. It's also easier to take over an existing FM, rather than start up a new one. Distressed and dark AM and FM stations are available at reasonable prices. All of them need plenty of effort, new ideas, and creative enthusiasm to come alive again. Broadcast station brokers always have "used" stations for sale. But there are no free lunches in radio; all broadcasters work hard for every dollar. Good luck!—Editor.

Calling All Military Monitors

I am trying to establish an International Military Monitoring Enthusiasts Group. I presently edit a newsletter called SIGNET, dedicated to all forms of military communications on HF/VHF/UHF/SHF. This newsletter was originally created to enable UK and European listeners in military monitoring to exchange information. The aim of the International group will be to bring together enthusiasts from throughout the world, especially North America and Europe, to exchange ideas via the newsletter. If any POP'COMM readers are interested, they can receive a sample copy of the current SIGNET and more details by sending three IRC's.

David Mulligan, Editor, "SIGNET," B.C.A.G., 19 Crescent Road, Hunstanton, Norfolk, PE36 5BU ENGLAND

The copy David sent us had 16 pages, was staple-bound, and contained lots of juicy frequencies and other information.—Editor.
CB RADIO OWNERS AND DEALERS. A new line of accessory circuits is now available. Breaker Beep, Receiver Pre-Amplifier, Roger Beep, many more—some never before available! Send an S.A.S.E. for our complete catalogue to 6810 7th Street, N.E., Tacoma, WA 98422.


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MINI SONY Surveillance TV System. Swedish/German light meters, temperature chart recorder, professional sound meter, Shack applications. Pictures/Info. $117/LASAE to R. Summum, 6804 Rockford Drive, Louisville, KY 40219.

TUNE In On Telephone Calls. Revised and Updated Edition! Tom Kneitel's controversial 160-page book. Everything you need to know to effectively use a scanner and communication receiver to eavesdrop on private telephone calls from homes, offices, cars, ships, aircraft, trains. Explanatory text, photos, extensive listings section covers USA/Canada on HF, VHF, UHF, and above; thousands of locations, frequency assignments. Explains equipment, best techniques, laws regarding monitoring, cellular, cordless, ship/shore, high seas, Air Force 1, airliners, 1-way paging, more. Only $14.95 plus $5.00 s/h (Canada $6.00) from CRB Research, PO Box 56, Commack, NY 11725. NY residents add $1.70 sales tax. Dealer inquiries invited. VISA/MC OK. Tel: 1-800-656-0056.

WANTED: RADIO NEWS MAGAZINE, February 1944 (Special Signal Corps Issue). Pay $25.00-$50.00 depending on condition, & Military Radio Manuals (all years). GENE, KD4YZ, 1-800-619-0900, MML Box 720024, Atlanta, GA 30358-2024.

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LOOKING FOR crystals for Drake 2B receiver. Also need information on restoring cellular capacity to Realistic Pro-46 scanner. Sue Wilden, 2204 6th Street, Columbus, IN 47201.


COMMODORE 64 HAM PROGRAMS—8 disk sides—over 200 Ham programs—$16.95. 324 stamp gets unusual software catalog of Utilities, Games and British disks. Home-Spun Software, Box 1064-PC, Estero, FL 33928.

NTR-1 DSP NOISE/TONE REMOVER, new! Paid $169.95; yours for only $95. Send money order to Yassim Abdela, Two Riverside Street, Rochester, NY 14613. Call (716) 254-0940 before mailing check.

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Approval: All ad copy is subject to Publisher's approval and may be modified to eliminate references to equipment and practices which are either illegal or otherwise not within the spirit or coverage scope of the magazine.

Closing Date: The 10th day in the third month preceding date of publication. Because the advertisers and equipment contained in Communications Shop have not been investigated, the Publisher of Popular Communications cannot vouch for the merchandise listed therein. Direct all correspondence and ad copy to: PC Communications Shop, 76 N. Broadway, Hicksville, NY 11801.

Please take note: As of May 1, 1995, we are no longer accepting free subscriber ads.

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O XTL1000 EZ $69.95

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O XTL2000 EZ $89.95

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