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Action Packed Distress Call & SAR Log
Vital HF, VHF, and UHF frequency information you need.

By Tom Kneitel, K2AES, Editor

Floating Radio Station—Not!
An inside look at how the FCC scuttled ideas of a floating broadcast station.

By George Roberts

On A USCG Air/Sea SAR Mission
How radio/distress signals trigger a U.S. Coast Guard SAR operation.

By Petty Officer Charles E. Smith, U.S. Coast Guard

Tuning In On Yesterday
Remembering the events that shaped radio's history.

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This month's cover: The air-sea rescue unit of the U.S. Coast Guard group prepares for a mission in Cape May, NJ. Photo by Larry Mulvehill, WB2ZPI.
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- Shortwave Receivers Past & Present By F. Osterman
  Your guide to over 200 receivers with new and used values, specifications and features. Photos for most. $8.95 (+$1)
- World Radio TV Handbook
  All shortwave broadcast stations organized by country with schedules, addresses, power, etc. $19.95 (+$1)
- Discover DXing! By J. Zondlo
  An introduction to DXing AM, FM & TV. $4.95 (+$1)
- The World Below 500 KiloHertz By P. Caron
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The Bad, The Good, & The Ugly

Last January, POP'COMM carried a feature about the popular hobby of monitoring cordless telephones. As usual when we cover topics such as this, additional snippets and kernels of relevant interest began popping up from readers and other sources.

While the January issue was still at the printer, we received a letter from a reader in Sacramento County, California. This fellow, who happens to be a licensed amateur, wrote that a few weeks earlier he had been arrested and charged with violation of law PC-632(a), “Eavesdropping.” The state of California classifies this as a felony.

The stringent California laws against cordless monitoring had been pointed out several times in previous issues of POP'COMM, as they were also to be mentioned in the forthcoming January issue. Our reader told us that he had tuned in on a cordless phone call made by his girlfriend. This was at a time when she was ending their relationship. He was listening in with the hope of gaining a better insight into the reason for the breakup, because he felt she wasn’t telling him the truth. He describes what he heard as “an eye opener.” That caused him to make the terrible mistake of confronting her with her revelations, thus compounding the error by blurtting out the secret of how the information had been obtained. By revealing to someone that he had listened in on her cordless phone call, it entirely shut off any future flow of juicy information. There might have been much more to hear at a later date. No matter, he had provided information that was possibly self-incriminating.

In the aftermath of his information revelation, the ex-girlfriend went to the police and promptly filed a felony eavesdropping complaint. The rejected suitor was subsequently arrested and forced to sit in jail for four days. Then he was brought before a judge where he learned that his $5,000 bail wasn’t going to be reduced. Neither was the judge going to let him out on his own recognizance. His parents posted his bail, but the judge going to let him out on his own recognizance. His parents posted his bail, and the following day, he learned that the state of California classifies this as a felony. The scanner owner had first accidentally discovered the activities one night when he happened to scan past the cordless phone channels. Someone was making sales pitches via long distance calls that he thought were being done with the intention of ripping people off. He was so disturbed and upset that he began making tapes and turning them over to the FBI, according to the newspaper account.

The scam required people to send in money to supposedly become eligible to win a prize consisting of $25,000 in cash. All who sent money were promised a “Say No to Drugs” package. The US Attorney’s office later stated that the victims of the scam were not selected at random. It was determined, “They picked on extremely unsophisticated people, often people with emotional or physical problems. They convinced these people to go into their savings accounts and send thousands of dollars, anywhere from $1,500 to $15,000. The most gullible and defenseless people were the victims.”

One tape had the caller spend 20 minutes explaining to an elderly woman the name of his company and the address where to send her check. The woman told him that her husband was just learning how to get around with the help of a walker. If necessary, the company would agree to send a private messenger service to homes to pick up the money.

At times, the company reps would pretend they were bank officers, providing victims with information how to withdraw money from their accounts. The scannist recorded one particularly tacky call on the same phone used for the scams. It was apparently one of the members of the operation speaking to his mother, explaining how badly he felt about doing the kind of work in which he was involved, because it included cheating people. Mom offered consoling words of reassurance, asking him where else he could ever make that kind of money.

After a two-month investigation in which the agency made its own tapes, the FBI moved in and made the arrests. The people were charged with wire fraud, mail fraud, and conspiracy. Prosecutors gave (Continued on page 81)
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. All letters submitted must be signed and show a return address. Upon request, we withhold sender's name should the letter be used in Mailbag. Address letters to Tom Kneitel, Editor, Popular Communications Magazine, 76 N. Broadway, Hicksville NY 11801.

Big Brother is Listening

Your January editorial was about the many federal agencies performing electronic surveillance on citizens’ private telecommunications. Arriving on my day off, the editorial got me wound up and I wanted to add my quarter’s worth.

Print and broadcast media are complaining about restrictions put on their right to disseminate material they deem appropriate. The artistic community complains that the government is censoring their work. Cigarette smokers are sent out of doors to exercise what they see as one of their rights. The federal government tells us how to run our local schools. Legitimate ownership of handguns has become so difficult that criminals can get handguns more easily than honest citizens. Scanner owners are told which frequencies we aren’t allowed to monitor, and manufacturers are forbidden to sell receivers that pick up certain frequencies.

The list goes on and on. We are losing a little at a time. You may have heard the story about being able to cook a frog by slowly bringing up the heat one degree at a time. Before the poor frog knows what hit him, he’s cooked.

The problem is that we haven’t yet realized that we either hang together, or we hang separately. So long as we keep looking at the loss of someone else’s rights as their problem, and not everybody’s problem, then personal rights are going to continue to be chipped away a little at a time. Government intrusion and regulation already exists in every facet of our lives. It’s more than I care to think about.

And, by the way, how can we, as hams, be expected to control harmonics and spurious emissions on frequencies that we can’t buy equipment to monitor?

David Schoepf WBOZG
Somerville, AL

Your January editorial was off base. The federal government requires the use of electronic surveillance in order to investigate certain criminal activity and threats to national security. You would tie the hands of agencies working to end the things you enumerated in your editorial, such as smuggling, illegal immigration, etc. I believe you should support these efforts rather discuss them in a negative manner.

R. Sorensen
Indiana

Reference is made to your January editorial regarding the unconstitutional indiscriminate monitoring of everyone’s international calls, faxes, and telexes by the National Security Agency. Mr. Kneitel did a great job of alerting readers to this particular encroachment by the federal government in violation of the rights guaranteed citizens by the Constitution. However, Mr. Kneitel did an about face and dismissed the efforts of a group that has apparently filed a lawsuit against the NSA for their unconstitutional actions by disparagingly saying, “Rotsa ruck luck” on the lawsuit NSA isn’t correct. My comment, “rotsa luck” on the lawsuit wasn’t intended as criticizing the good intentions of the worthy plaintiff. It was an educated guess that doubted that such litigation would curb the NSA. The NSA is a runaway supersecret agency that, for decades, and under many administrations, has been allowed to freely operate beyond Constitutional restraints as it eavesdrops on citizens. Remember though, all federal agencies (even NSA) are running on public funds. The budgets of clandestine agencies are often buried deep within the budgets of other agencies. All fed agency purse strings are held by Congress. One effective way to control runaway fed agencies would be by Congressional action. This requires honest, intelligent, and concerned members of both houses of Congress, backed by an informed and involved electorate. Our great nation doesn’t presently have enough quality members of Congress or active voters to make that idea work. So NSA continues to monitor whatever and whenever it wishes. Soren Kierkegaard, a concept crunker I much admire, wrote, “How absurd men are! They never use the liberties they have, they demand those they do not have. They have freedom of thought, they demand freedom of speech.”—Editor
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More aircraft and ships find themselves in need of immediate assistance than you’d imagine. This, due to crashes, fires, storms, equipment malfunctions and other unforeseen events that threaten life and property. Aircraft and ships can get into trouble close to shore, or in mid-ocean.

Of course, aircraft can also experience mishaps in remote land areas, as do people who go to those places for sports, camping, hiking, hunting or other recreation. Hopefully, but not necessarily, a distress call went out via radio to summon aid. Perhaps a location was given, but not always. Once it becomes known that help is needed, it triggers into action an amazingly effective network of trained groups and personnel. Survivors at sea, or persons lost or injured in wilderness areas must be located as quickly as possible in order to provide them with medical attention, food, water, and other needs.

The job of locating and retrieving such persons is known as Search and Rescue (SAR). Who performs SAR? On a national basis, the Coast Guard and all branches of the military have SAR units. Civil Air Patrol (CAP), Air Guard, and National Guard units participate. State, county, and local agencies may also provide services if a SAR is necessary within their jurisdictions.

In many areas, specialized private SAR volunteer teams, squads, and patrols have been organized for for underwater, desert, wilderness, cave, mountain, and ski areas. Radio communications is one of the elements that coordinates and helps all of these efforts to work with such a high level of success.

Hundreds of state, local, and private SAR operations utilize frequencies that vary widely. A few typical examples: the Washoe County (Nevada) Sheriff’s SAR Team utilizes 155.205 MHz; New Mexico’s Wilderness Area Rescue uses 155.295 MHz, while the state’s SAR is on 155.16 and 159.225 MHz; Montana’s National Ski Patrol uses 151.895 MHz; Florida’s Escambia SAR is on 462.575 MHz; while the North Carolina SAR on 154.54 MHz.

The national and international SAR frequencies remain uniform, and there are plenty of them throughout the HF, VHF, and UHF spectrum. If you have a communications receiver and/or a scanner, you can program in some basic frequencies that allow you to monitor actual distress calls, as well as the SAR missions. You’ll be able to follow everything happening just as it takes place.

The accompanying Distress Calls, Search & Rescue Log provides a useful listing of national and international frequencies you’d want to know about. Some explanatory notes relating to the Log will help. HF frequencies shown as SSB, are invariably upper sideband (USB). As a general guide, frequencies in 3 MHz and below are usually for relatively short range communications, and would be most active in the nighttime hours. Frequencies between 4 and 17 MHz would be more likely to be used both day and night, and for medium to long-range communications, with the higher frequencies preferable for the greater distances.

Emergency Position Indicating Radio Beacons (EPIRB’s) are maritime devices. They come in several versions. The EPIRB-A and B units operate on 121.5 and 243.0 MHz. They transmit in AM voice, plus an unmodulated carrier, and also a rapid series of descending (1600 to 200 Hz) audio tones. EPIRB-C units operate on 156.75 and 156.80 MHz, and send out an alternating two-tone (1300 and 2200 Hz) alarm signal. EPIRB-S units send out data (20 kHz bandwidth) for reception by COSPAS/SARSAT satellite. EPIRB-S units can also transmit a homing beacon on 121.5 MHz.

An Emergency Locator Transmitter (ELT) is an aviation version of an EPIRB. These units are essentially similar to EPIRB-A and B devices, and are also carried aboard survival craft.

Keying a transmitter on either 121.5 of 243.0 MHz for 30 seconds or more will activate the SARSAT International Search
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### DISTRESS CALLS, SEARCH & RESCUE LOG

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*Most Important Frequencies*
Canada Para-Rescue Wings.

Maganavox MX-3030 portable satellite digital phone weighs 27 lbs., and is used with the MARISAT-M satellite. The mil spec unit can be used on land or sea for SAR missions. It’s made by Maganavox/NAV-COM, P.O. Box 650, Deer Park, NY 11729.

and Rescue Satellite. Any activation initiates ground station processing to locate the transmitter. Historically, inadvertent activations have been very numerous and caused false alarms that tended to degrade the efficiency of the SAR system. The USAF has cautioned everyone not to key-up on either frequency for more than 15 seconds except in actual emergency or distress situations.

Reception in the 225 to 400 MHz UHF military band is maximized by using an antenna designed especially for this band, or a preamplifier, or both. This is a great band that has attracted a growing number of enthusiasts.

USAF aircraft engaged in SAR missions identify as “Air Force Rescue,” “Air Rescue,” “Petro,” or “Save,” followed by numerals. USAF units ID’ing as “Jolly,” “King,” followed by numerals, are on SAR training missions. USCG air rescue units identify as “Coast Guard” followed by four numbers. USCG surface craft use their assigned name or numbers.

Monitors who tune non-voice circuits have frequencies of interest, too. The letters NBDP on the accompanying Log indicate where to tune for the widely used Narrowband Direct Printing mode. This is often called SITOR, or SITOR-A. The letters DSC denote channels for comm in the less frequently encountered Digital Selective Calling mode.

Satellite communications, via shipborne and portable land transceivers are also used for distress calls and SAR operations. These are handled through MARISAT fa-
The AN/PRQ-501, made in Canada by Garrett Manufacturing Ltd., Rexdale, Ont., sends out rescue beacon signals and voice on 243.0 and 282.8 MHz. It is intended to allow SAR units to locate downed military aircraft crew members.

SAR facilities, and our Log indicates the downlink band. Communications, including voice, are digital.

Note that some VHF and UHF frequencies shown, in addition to the purposes listed in the Log, may also have other applications in selected localities.

The national and international frequencies most likely to produce distress calls and SAR activity are given here. Naturally, the list doesn’t show your own area’s local agencies and volunteer groups. There are still other frequencies not listed here for various highly specialized SAR devices, although they are interesting. One example is the VS-68 Barryvox avalanche victim detector.

The VS-68, made by Autophon AG, of Zurich, Switzerland, is an emergency transmitter and directional receiver. Each member of a group entering an area subject to avalanches carries one set to “transmit.” Each person’s transmitter operates on a different frequency, but the VS-68 receivers tune the entire 420 to 510 kHz band used by all the transmitters.

Should an avalanche occur, the survivors switch their sets to “receive.” Variations in the signal strength of the bleep enable the victims to be located by using the direction finding abilities of the receiver and the VS-68’s internal loudspeaker. This unit will transmit for 15 days, and has a transmitting range of 200 feet.

You now have enough basic information to tune up on the most active frequencies used for distress calls and SAR missions. You won’t want to miss out on these. At the very least, check out those frequencies marked with an asterisk (*), as they’re the best of the bunch.

A Coast Guard Sikorsky HH-52A Sea Guard SAR helicopter on the job. (Coast Guard photo.)
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VHF/UHF Communications Receiver

$1359

This is our best communications receiver for the 25 to 2000 MHz spectrum. It features continuous coverage in this spectrum with all-mode (SSB, AM, FM, and WFM) capability and receiver specs that no "scanner" can touch. This is truly the receiver for professional monitoring. 900 memory channels store frequency mode and tuning steps and can be scanned in 7 different ways including the Icom-exclusive window scan which allows you to scan 2 frequency ranges at once! Other features include selectable tuning steps, noise blanker, computer control option, easy-to-read S-meter, 2 squelch modes, a TV broadcast reception option and much, much more! Step up to the best with an Icom IC-R7100A!

**Icom-R1100**
All-Band Mobile Communications Receiver

$659

If you want the best in a mobile communications receiver, the icom r-100 fits the bill! It covers 500 kHz to 1800 MHz continuously (no gaps) with AM, FM and WIDE-FM modes. You can directly enter any frequency from the keyboard, tune frequencies from the VFO knob, or let your R100 search any range of frequencies you specify. Store up to 100 of your favorite frequencies into the IC-R100's memory channels with receive mode, RF attenuator and preamplifier settings. Scanning is just as simple, with 7 different scan modes to choose from! Other great features include a 24 hour system clock, 15 dB pre-amplifier, multiple selectable tuning steps, automatic noise limiter and even a optional AC adapter for fixed-station use! Comes complete with mobile mounting bracket, DC power cable, wire antenna and telescopic antenna.

**AOR AR1000XLT**
1000 Channel Continuous Coverage Receiver

$419

Continuous coverage of 5 to 1300 MHz (no gaps). Features include: lock-out search and scan, cigarette lighter plug cord, belt clip, case, flex antenna, and earplug. Covers AM and W/N FM. VFO knob or keypad. 6.7" x 1.4" x 2.6", 10 oz.

**AOR AR2800**
.5 to 1300 MHz Scanner

$459

The AR2800 covers .5 to 1300 MHz continuously (no gaps) with 1000 channels. Ten scan banks, and ten search banks. Covers AM, narrow and wide band FM, plus SSB. Works on DC or AC with an adapter. An antenna and mounting bracket is included for your convenience in mounting the unit mobile. 2 1/4" x 5 5/7" x 6 1/2".

**AOR AR1500XLT**
1000 Channel Continuous Coverage Receiver

$459

Continuous coverage of 5 to 1300 MHz (no gaps). Features include: lock-out search and scan, cigarette lighter plug cord, belt clip, case, flex antenna, and earplug. Covers AM, W/N FM, and SSB. VFO knob or keypad. 6.7" x 1.4" x 2.6", 10 oz.

**AOR AR3000A**
HF/VHF/UHF Communications Receiver

$1099

100 kHz all the way up to 2036 MHz (no gaps). Enter any mode including HF, VHF, AM, LSB, USB, FM, and CW. 400 memory channels; search and scan speed is an unprecedented 50 increments/second. RS-232 port is provided to enable full remote control. Includes telescopic whip (BNC antenna input) and DC lead. Powerful 1.2 Watts of dear audio.

**Hurry! Order before new F.C.C. scanner law takes effect in April!**

**Icom IC-R1**
.1-1300 MHz Handheld Communications Receiver

$479

The IC-R1 is the ultimate in miniaturization in a hand-held communications receiver and our best seller! It covers 100 kHz to 1300 MHz continuously (no gaps) with AM, FM and wide-FM modes. Features include: 100 memory channels, several scanning modes, sleep timer, low battery indicator, and several battery power options (listed below). Comes complete with wall charger, flexible antenna and belt clip. The built-in internal NiCad battery lasts about 3 to 4 hours, the various battery options last much longer (BP-84 10 to 12 hrs.). Measures only 1.9" x 4.4" x 1.4" and weighs only 9.9 oz.

**AOR AR2800**
.5 to 1300 MHz Scanner

$459

The AR2800 covers .5 to 1300 MHz continuously (no gaps) with 1000 channels. Ten scan banks, and ten search banks. Covers AM, narrow and wide band FM, plus SSB. Works on DC or AC with an adapter. An antenna and mounting bracket is included for your convenience in mounting the unit mobile. 2 1/4" x 5 5/7" x 6 1/2".

**Prices Limited To Stock On Hand**

Call Toll Free: 800-527-4642
Bearcat BC 890 XLT
200 Channel Scanner - With 800 MHz!

$275

This new item from Bearcat has frequency coverage through 956 MHz* with 200 channels of action in 10 banks! The turbo scan feature lets you zip through the channels in lightning speed. 10 priority channels let you scan important frequencies every 2 seconds. It even includes a VFO knob for up-down frequency control. Other features include weather search, auxiliary tape output, weather alert, illuminated LCD display, reception counter, and step select. Frequency Range: 29 to 956 MHz (not continuous). * Cellular Blocked - Modifiable.

Bearcat 8500 XLT
500 Channel Scanner - With 800 MHz!

$375

Without a doubt, this is the premier scanner on the market today. It features coverage from 25 MHz to 1.3 GHz* in 500 channels. 20 banks store these channels and your 20 most important channels can be designated as priority channels. The exclusive dot-matrix-alpha numeric illuminated display allows you to program in the name of the station (Dallas Police for example) on the screen for easy identification of each channel. The great features of the 890 XLT are also included such as a VFO knob, turbo scan, selectable scan delay, reception counter and step select. If you want the best, get an 8500 XLT today! * Cellular Blocked, Not Continuous.

Sigma SE 1300
VHF/UHF Discone Antenna

$89

If you've been looking for a superior wide band omni-directional antenna covering 25 to 1300 MHz, this is it! The SE 1300 is the ultimate wideband omni-directional antenna for hours of listening pleasure. Not only is it a receiving antenna, but it can also transmit on 50 MHz, 144 MHz, 430 MHz, 900 MHz and 1200 MHz with a maximum power rating of 200 watts. The antenna has stainless steel construction and comes complete with low-loss "N" connector, mounting kit and short mast section. The SE 1300 is excellent for indoor installation since it's only 5 6" high and weighs just 2.2 lbs, yet its construction and weather protected feedpoint beg to be out in the elements. This antenna is a must if you want the best possible results!

Bearcat 200 XLT
200 Channel Portable Scanner With 800 MHz!

$237

The 200 XLT sets a new standard for handheld scanners in performance and dependability. This full featured unit has 200 programmable channels with 10 scanning banks and 12 bands of coverage including aircraft and 800 MHz. It also includes Weather Search, 10 Priority channels, squelch, lockout and delay. It features automatic and manual band search to find new active frequencies and 30 minute internal capacitor memory back-up. Includes Rechargeable NiCad Battery Pack and 120 VAC Adapter. Can also operate from an external 13.8 VDC source. Frequency Range: 29.0 to 54 MHz; 118 to 174 MHz; 406 to 512 MHz; 806 to 954 MHz. * Cellular Blocked - Modifiable.

Bearcat 855 XLT
50 Channel Scanner With 800 MHz!

$179

This is the ultimate 50 channel scanner with 800 MHz. It covers 12 bands and splits the 50 channels into 5 banks. Direct channel access and automatic squelch are only some of the great features this scanner has. Go where the action is — 800 MHz. Go with the Bearcat 855 XLT. Frequency Range: 29 to 54 MHz; 118 to 174 MHz; 406 to 512 MHz; 806 to 912 MHz. * Cellular Blocked - Modifiable.
**UNIDEN BEACARTR BC200XLT**

$239.99 (7/00 Shipping)

Digital programmable 200 channel hand-held scanner with call button keypads for easy programming of the following frequency categories: 29-54 MHz, 118-174 MHz, 406-512 MHz, 806-956 MHz. 

- Features include: Scan delay, memory backup, key lockout, 10 twenty channel banks, direct channel access, automatic search, full 1 year factory warranty. 
- 10 priority channels, Ni-Cad battery pack, AC/DC adapter, charger, flexible rubber antenna carry case. 

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- Features include: VOX, 100 memory locations, 10 banks, direct channel access, scan delay, lighted LCD display, earphone jack, channel lockout. 
- Size: 5 1/8" H x 2 1/4" W x 7 1/2" D.

**UNIDEN BEACARTR BC400XLT**

$99.99 (7/00 Shipping)

Our best selling mobile scanner. 16 channel AC/DC programmable digital, AC-DC cords, telescopic antenna, mobile mounting bracket, weather search priority, 29-54 MHz, 136-174 MHz, 406-512 MHz, external speaker and antenna jack.

**BEACARTR BC-100XLT 100 Channel Digital Programmable Hand-Held Scanner**

$159.99 (7/00 Shipping)

Our best price ever on a full featured complete package hand-held scanner. Manufactured by UNIDEN, Features include 11 bands of weather, aircraft, public service, trains, marine, plus more (29-54 MHz, 118-174 MHz, 406-512 MHz), 10 channel banks, 10 priority channels, lighted LCD display, earphone jack, channel lockout, AC-DC operation, scans 10 channels per second, track tuning. 

**UNIDEN BEACARTR BC800XLT**

$229.99 (8/00 Shipping)

Receive police, fire, ambulance, cordless phones, marines, trains, weather, ham, store, public service plus more. Frequency coverage 29-54 MHz, 118-174 MHz, 406-512 MHz (continuus). 40 channels. AC-DC operation, digital programmable, memory backup requires 2 AA batteries (not included), telescopic antenna included. AC/DC operation included, external speaker jack, external antenna jack. Dimensions: 9" L x 6" H x 2", weight 7 lbs. 

**UNIDEN BEACARTR BC-142XL**

$83.99 (15/00 Shipping)

Programmable, digital, AC or DC operation, weather, weather, priority, call button, squelch, memory backup, 2 step digital display, track tuning, 2 second built-in delay. Frequency coverage 29-54 MHz, 136-174 MHz, 406-512 MHz. Sizes: 9" x 5 1/4" x 2 1/2". Includes AC adapter and telescopic antenna.

**UNIDEN BEACARTR BC760 XLT**

$249.99 (7/00 Shipping)

100 Channel Scanner 

BC760 XLT covers the following frequencies: 29-54 MHz, 118-174 MHz, 406-512 MHz. 

- Features compact size of 6 5/16" x 1 5/8" x 7 3/8", scan delay, priority, memory backup, channel lockout, AC/DC operation, scan delay, key lock, AC/DC power cords, telescopic antenna, mobile mounting bracket supplied, one year warranty, weather scan delay, direct channel access, track tuning, service search, includes programmable frequencies by pushing a single button for police fire, emergency, marine, public service plus puts exclusive optional features never available on any scanner before! First is an RF receive amplifier for optimizing weak signals for only $34.99 plus a CTCSS tone board is available for only $59.99. Next is this lets you make this the number one scanner available in the USA. 

**CIRCLE 115 ON READER SERVICE CARD**
Floating Radio Station—Not!

FCC Scuttles Proposed High Seas Broadcaster

BY GEORGE ROBERTS

For those of us who never got caught up in the TV thing, there is a romance about radio not always easy to put into words.

And, through much of radio’s history, there have always been a few people for whom the idea of broadcasting from a ship at sea has been the ultimate expression of the romance of radio. Unfortunately, now and then, someone will try to make that dream a reality and almost always fail. We’re now following the latest no-go effort—the FCC raid on the M/V Fury, which Voyager Broadcast Services intended to use as a floating broadcasting site.

One of the engineers crucial to the Fury effort was Allan Weiner. He had been one of the main guns of Radio New York International, who built a station on board the “Sarah” and broadcast off the coast of Long Island for a few days back in 1987. International waters or no, it was quickly raided by the FCC and the ship broadcasts were no more.

The Fury was supposed to carry four shortwave transmitters, and most of the air time was to be purchased by Brother Stair, a shortwave preacher currently buying time on a commercial US shortwave station.

Several Caribbean governments said “no” to granting a broadcast license to Voyager/Fury before authorization was granted by the government of Belize. At the time of the raid the ship had a provisional license from Belize (and was flying the Belize flag). The provisional license granted about the same rights as an FCC-issued construction permit, including the testing of transmitters.

FCC agents, along with US Marshals and Coast Guard representatives, raided the M/V Fury on January 19, 1987 as she sat docked at the Haley and Cannon boat yard on the Wando River in Charleston, South Carolina. The FCC obtained a civil in rem arrest warrant directed against the radio equipment on board the Fury (in rem, in this case, means you can arrest a transmitter).

A 1988 permanent injunction against Weiner and others associated with Radio New York International was employed again. That injunction “permanently restrained and enjoined” Weiner and others, known and unknown, once associated with RNI, from operating a station in or outside US territory without first obtaining a license. The Fury had the letters “RNI” painted on the bridge so the FCC could assume the connection if it wasn’t already sure.

Shipyard workers took more than 30 hours over a two day period to cut the transmitters free and remove them from the ship. The equipment was reportedly valued at up to half a million dollars.

The FCC said they monitored a broadcast on 7415 on January 14. Their direction-finding equipment showed the broadcast was coming from the Fury. There are conflicting reports here. Tests into a dummy load were apparently made on that date. But, staff member Johnny Lightning said that dubs of RNI program tapes had been made for anyone requesting them. Some of these tapes were broadcast on 7415 on at least one earlier occasion (Christmas night), though RNI didn’t realize until they started getting QSL requests.

The FCC didn’t specify what the January 14 broadcasts contained.

Scott Becker, who owns the Fury, also made packet amateur radio broadcasts from the ship. Though his technician class amateur license doesn’t allow this, Becker claimed he was operating under a Belize-issued license.
Overall view of the MV Fury being outfitted at Charleston. That was before the FCC raid and this shows the antennas intact.

Bridge of the MV Fury before the FCC boarding. Owners claim that, according to Section 306 of the Communications Act, the FCC had no jurisdiction over foreign flag vessels in US waters. MV Fury was registered in Belize.

Weiner insists that the broadcast station was not fully operational, that no broadcasts were made and that no programming had yet been furnished by those who were going to use the station. Weiner says the station wasn't even going to operate on 7415. He says he was employed by Voyager simply as an engineer. His own Radio Newyork International had hoped to buy time on the station, just as it had once done on WWCR.

Weiner says that the owners had planned to sell the ship to Belize, and then operate it from a fixed location within the territorial waters of Belize. Weiner also says no transmissions had been planned from anywhere else but that location.

Brother Stair, whose Overcomer Ministry was going to use at least one of the transmitters on a full time basis, has his lawyers at work. Apparently a decision was soon reached that starting the project over would be too expensive.

Stair is not the first preacher to try broadcasts from the sea. The High Adventure Ministries station, KHBN on Palau, was originally conceived as a floating religious station beaming into China from outside its territorial waters. But, even though they had a ship picked out, High Adventure soon found the project impractical.

More than 20 years ago, a right wing, fundamentalist preacher, Dr. Carl McIntyre, put Radio Free America on the air from a former research vessel once used by Jacques Cousteau. The ship, positioned in international waters off the New Jersey coast, broadcast on 1160 medium wave. Actually, the Radio Free America case, was the first instance in which the courts ruled that the US could, indeed, close down a broadcaster operating outside its territorial waters. A temporary injunction was soon issued and later made permanent.

McIntyre's problems were as much political as they were technical or financial, and it's probably safe to say the government decided to use McIntyre to set an example. He'd owned a medium wave station that lost its license for violating the then-in-force "fairness doctrine" (a law which, by the way, a number in congress want to re-instate). Indeed, the loss of that license precipitated the radio ship endeavor. Radio Free America used the courts to try to win the right to broadcast, but it lost and finally threw in the towel. Its shipboard broadcast career was extremely short—an off and on affair which amounted to just a couple of broadcasts, each one plagued with technical problems.

There have been shipboard pirate radio operators on the European scene, too. The most famous of these was Radio Nordsee International, which operated on both medium and shortwave from the ship Mebo II. It was positioned off the coast of Holland for a time in 1970 and later sailed to the English (Essex) coast. Wisely, RNI had its land-based headquarters in Switzerland, a country which didn't sign a 1960 agreement against offshore broadcasting.

After a few months off the British coast it returned to Holland because the British were jamming its signals. In the fall of 1971 the Mebo II was firebombed, killing one crewman. Three men were later charged with the crime. They'd been hired by the owners of The Veronica, a competing pirate radio ship which had been broadcasting pop to the Netherlands since 1960. The attack put the station off the air, but only for a few hours. Radio Nordsee continued to operate for a few more years, but increased competition from government broadcasters who had added pop channels and problems with an aging ship contributed to the company finally giving up on its broadcasting efforts.

Abe Nathan, an Israeli who has been pushing for peace in the Middle East for over two decades, put the Voice of Peace on the air from a ship in the waters between Egypt and Israel. His dream was to provide a means through which both sides could air their views. Nathan put most of his fair-sized fortune into the venture, which began broadcasting in 1973. A half year later it was off the air, out of money. The ensuing years saw starts and stops in the broadcast effort, with several fund-raising efforts.
Allan Weiner stands in the M/V Fury's transmitter room before the FCC showed up. These 10 kW and 40 kW broadcast transmitters were specifically included and listed on the ship's valid radio license. The call letters were V3OU3.

There were run-ins with the Israeli government and Nathan even served time in jail. The road for the Voice of Peace was anything but smooth! The Voice of Peace persevered, though, and can probably be said to be one of the rare shipboard radio stations that was something of a success. The station finally closed down last year, Nathan feeling that its mission had been accomplished (see POP'COMM, January, 1994).

Another successful ship broadcaster was "De Hoop" (Vereniging Hospitaalkerkschip), albeit on a vastly smaller scale. De Hoop was a medical ship operated to assist Dutch sailors (mostly Holland's herring fishermen) when they needed medical help. In addition to broadcasting weather reports to the Dutch fishing fleet, the ship's radio was used to broadcast church services on Sundays and Wednesdays. Little more than ordinary ship's radio equipment was needed, since the broadcasts were only intended for the fleet which the ship was serving. So De Hoop didn't have to deal with the kind of technical problems other shipboard broadcasters have had to face.

Getting and keeping any radio station on the air is an expensive proposition, fraught with problems. Those who attempt to do it from on board a ship face even greater difficulties, especially when the station is left within reach of a government unfriendly to such goings on.

The Voyager Broadcasting/M.V. Fury fiasco is still more evidence that shipboard broadcasting—romantic though it may be—isn't a very practical option. You'd be better buying an island somewhere and putting your tower there. In the long run it would probably be cheaper!

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June 1994 / POPULAR COMMUNICATIONS / 19
Richard and John Van Salisbury were rescued by the Coast Guard, October 26, after their fishing boat, Brook Leigh Anne, sank nearly 20 miles east of Manasquan Inlet, NJ.

"The boat started feeling sluggish, so I pulled back on the throttle. Then the bilge alarm went off, and John came up from down below where he was in his bunk. He opened the hatch behind the wheel house and saw that the engine room was flooding," said Richard.

"I told John to radio the Coast Guard for help. But the power was out, so I told him to get the life raft and EPIRB out," explained Richard. The brothers donned their survival suits, activated their EPIRB and launched the life raft.

The brothers spent only four hours in the life raft, floating in eight-to-ten foot seas, before being rescued by the Coast Guard. They credit their prompt rescue to having 406 MHz Emergency Position Indicating Radio Beacon (EPIRB).

The need for satellite-aided Search and Rescue was determined nearly two decades ago. In 1976, the Committee on Search and Rescue recommended the development of a satellite system that would locate distressed aircraft and vessels.

In 1979, The Search and Rescue Satellite program (SARSAT) became a reality using U.S. National Oceanic and Atmospheric Administration (NOAA) satellites, with French and Canadian EPIRB receivers.

The former-Soviet Union added Space System for Search of Vessels in Distress (COSPAS) to the SARSAT system one year later. COSPAS EPIRB receivers are located only on Russian satellites.

SARSAT satellites circle the Earth every 102 minutes at an altitude of 528 miles, while COSPAS satellites circle every 105 minutes at an altitude of 621 miles.

The first satellite-aided rescue occurred in September, 1982, shortly after the COSPAS-SARSAT system went on line, and over 3,400 lives have been saved since the COSPAS-SARSAT program was introduced. Other nations participate in the program as system operators and users.

The COSPAS-SARSAT system operates in the emergency frequency bands of 121.5 MHz and 406.025 MHz, using three Russian and three American satellites. Both COSPAS and SARSAT satellites have interchangeable SAR instrumentation and can be used by Local User Terminals (LUT's) worldwide.

The system senses when an EPIRB is activated and transmits a signal that is picked up by a passing polar-orbiting satellite. The satellite records the frequency and time the signal was received, and downloads that information to a LUT.

To determine the location of the beacon, the satellites measure the 'Doppler' shift in the frequency of the signal.

In other words, "as the satellite approaches the beacon, the signal appears to get lower," said Ajay Mehta, SAR Analyst at the U.S. Mission Control Center, (MCC), Suitland, MD.

Mehta compared the Doppler shift to a train whistle. "When the train is coming towards you, the pitch of the whistle gets higher and then lowers as it's going away.

After calculating the information transmitting from the satellite, the LUT can give a position accurate to within one to three miles for the 406 MHz EPIRB, but only six
to 12 miles for the 121.5 MHz EPIRB. The
121.5 MHz distress signal, as well
Most, but not all, 406 EPIRBs also trans-
mit a 121.5 MHz signal. Currently, SAR
units are unable to home in on 406 MHz
signals but can use direction-finding equip-
ment to locate 121.5 MHz signals.

A Coast Guard Air Station Brooklyn
helicopter picked up the 121.5 MHz sig-
al from Brook Leigh Anne’s 406 EPIRB
and was about three miles from the raft
when RCC Boston gave the position de-
ferred from the polar orbiting satellite.

“When we saw the helicopter, we lit off
smoke and parachute flares,” Richard said.

Richard praised the Coast Guard for
doing a great job in rescuing him and his
brother.

The brothers were flown to Coast Guard
Air Station Brooklyn, NY where an ambu-
ランス was waiting to take them to Coney
Island Hospital. Both were treated for mi-
lance was waiting to take them to Coney
Island Hospital. Both were treated for mi-

Tuning In On Yesterday

A Few Words About Radio In Days Gone By

By Alice Brannigan

Surprising how many letters arrive mentioning the old time radio program, Lum and Abner, asking us to give it some mention here. To those unfamiliar with the program, it was an immensely popular radio show that audiences followed from 1931 to 1954. Simple, too. Usually, two rural gentlemen sat around the Jot 'Em Down Store in the fictitious town of Pine Ridge, Ark. They exchanged tall tales and homey philosophies. Sometimes they left the store to involve themselves in local Pine Ridge matters, most often of the hilarious type.

Audiences loved Lum and Abner, who based their characterizations on people they had known all of their lives in the area around Mena and Waters, Ark., where they had grown up. In 1936, the town Waters eventually changed its name to Pine Ridge due to the national attention and interest the radio program had drawn to the area.

"Lum" was portrayed by Chester Lauck, "Abner" was portrayed by Norris Goff. We dug around in the files here and located a picture postcard bearing the caption, "Home of Lum of Lum & Abner, Mena, Ark."

There is a Lum and Abner Museum located in Pine Ridge, Ark. Also, there’s a National Lum and Abner Society. The group holds a yearly convention in Mena, Ark., and issues a membership publication, plus a catalog of available Lum and Abner program tapes. Correspondence relating to this group may be addressed to Tim Hollis, Executive Secretary, 81 Sharon Blvd., Dora, AL 35061.

Dispatches From The War Zones

The names Ethiopia and Somalia have been in and out of the headlines during recent years, primarily in conjunction with human suffering.

In 1960, Somalia was created as an independent nation when the former colonies of Italian Somaliland and British Somaliland (in 1950, Italy had assumed the trusteeship held by Great Britain since WWII). Between 1977 and 1988, Somalia was helped by Soviet and Cuban troops in an ongoing battle with Ethiopia regarding Somalia's claims to ownership of the large Ethiopian of Ogaden.

Since early 1991, Somalia has been in a state of virtual anarchy, subject to areas locally controlled by warlords. There is no central government, no economy, and no industry. UN military forces have had to help international organizations bring food and medical supplies to the Somali people, and keep the warlords at bay.

In October of 1935, Italy mounted a large-scale invasion of Ethiopia. The invasion forces entered from the Italian colony of Eritrea. The reason cited for the action was an ongoing border dispute between Ethiopia and neighboring Italian Somaliland.

Mogadishu is presently in Somalia. Then, it was in Italian Somaliland, and was a key Italian military radio communications site. Transmitting facilities constructed by the Italians at Mogadishu fed out endless reports from the front lines, keeping the world current on the Italian military’s propagandized version of the daily battles. And justifica-
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The control room of ETA while it was still the Imperial Ethiopian Radio Station.

The Italian stations in Mogadishu were used to transmit press reports and propaganda items relating to the situation in Ethiopia.

In April of 1937, the Italian Navy sent out this unusual QSL to verify reception of its CW stations ICK and IUD in Tripoli and Ethiopia.

Transmitting facilities of the Imperial Ethiopian Radio Station. This station became station IUD of the Italian Navy in Ethiopia.

The Italian Naval Command set up a CW communications station (IUD) in Ethiopia for the purpose of maintaining contact with the station (ICK) at the huge Italian Navy base in Tripoli, Libya. Tripoli was the staging area for sending supplies and reinforcements to the forces in Ethiopia. strangely enough, the Italian Navy readily verified reception reports for this circuit, which operated on 5825, 5880, and 6000 kHz. Reports to ICK got back a QSL card. DX’ers who reported hearing combat zone IUD were rewarded with an ICK card showing the callsign IUD added by typewriter.

It may well have been the first regular live network broadcasts ever to come to broadcasting direct from a war zone. These broadcasts were impassioned, often pleading for help from the nations of the world. Several SWL’s along the Atlantic coast were able to receive ETA’s signals directly.

Forbidden Radio

The mention of radio during hostilities never fails to serve as a reminder that totalitarian governments have invariably attempted to control the information reaching the public. This can include many techniques like censorship, narrow licensing requirements, selective enforcement of regulations, and numerous other methods, both blatant and subtle. In very recent times, some Communist bloc nations engaged in jamming broadcast signals, and imprisoning those citizens caught attempting to receive “forbidden” broadcasts to the USSR were heavily jammed so that Russians couldn’t hear what was being said by anyone from outside the Soviet media.
broadcasts from Western stations such as Radio Liberty, Radio Free Europe, Voice of America, and the BBC.

Let's go back 54 years to 1939 to find the birth of forbidden radio. We traced the roots of the practice via a news story dated September 1, 1939, and filed by an American correspondent in Berlin, Germany.

As of that date, the Nazi government vowed to put people in jail if they listened to foreign broadcasts, or told others about those broadcasts. In some instances, people might be put to death for these crimes. The official government position was that every word contained in foreign broadcasts was a lie.

The government then allowed each of its citizens to own what it called, a “People’s receiver.” This government approved equipment was factory tuned to pick up one single frequency, that being the channel used by the nearest local German government broadcasting station. It was forbidden to attempt to modify or retune these receivers to pick up any other frequency or band. These were receivers with deliberately poor sensitivity so that they would be unable to detect anything other than strong local signals.

All older receivers, ham radios, and multi-band receivers in use prior to September 1, 1939 were declared illegal to own, and were seized by the Nazi authorities.

It is known that many illegal receivers existed in Germany. Many were homemade, while some had been smuggled in by partisans. The sets were carefully concealed in coffee cars, shoes, books, toys, and other places where they remained hidden from detection, allowing for reception of BBC and other German language broadcasts.

No statistics are available as to how many people were caught and punished by the Nazis for listening to foreign broadcasts between 1939 and 1945.

A Veritable Fortress

The Depression era of the 1930’s in the USA was marked by colorful gangs of bandits who drove around toting tommy-guns in fast cars so they could rob and shoot-up small town banks. This is the impression one gets from movies and TV. I have always thought there is some question as to how violent and lawless the 1930’s were, as portrayed in today’s entertainment media.

Now something has given me reason to think that maybe things were actually quite wild during the 1930’s. This is because I just learned about the two fortresses the Indiana State Police constructed in 1937 to house vital radio communications facilities.

One ISP fortress was station WQFW, built at Columbia City. The other was WDHE, at Indianapolis. These stations operated on 1634 kHz, along with other (non-fortified) ISP stations WDHU in Jasper, WQFE in Seymour, and WDINS in Chesterton.

Each of the fortress stations were constructed with thick, bullet-proof, windowless walls fitted with rifle ports. The roof had a bulletproof skylight. The doors had iron bars, and the buildings were considered raid-proof. The grounds were protected by eight floodlights, barbed wire, and a single-entrance gate remotely-controlled from inside the fortress. All persons on duty within the stations were armed with rifles.

Communications were facilitated via dual 154-feet steel towers at each station. In addition to the two-way comms with stations in the the ISP network, receivers tuned to the ISP frequency were installed at all Indiana sheriff’s offices, in 50 police departments, at all ISP posts and in ISP vehicles, plus numerous municipal offices, garages, banks, filling stations, and other facilities. Some of these were able to respond to traffic going out over the ISP network, although they had to use telegraph or landline telephone for their response.

These highly fortified block houses make you realize that the Indiana State Police were taking extreme steps to protect their communications facilities 56 years ago. Somehow, we don’t think of such steps having been required that long ago. Did they fear Bonnie and Clyde, Big Al, Machine Gun Kelly, John Dillinger, or Baby Face Nelson? There must be a story there.

Maybe some reader can find out this story, and let us know if these buildings still exist and are in use. Don’t get too close!

Please join us next month. Thank you for your letters and helpful submissions to the column and archives. We are constantly seeking old QSL’s (originals or good copies), photos or postcards of old radio or wireless stations, station listings, as well as your thoughts, suggestions, and comments.
**Broadcast History**

Grainite and Ether: A Chronicle of New Hampshire Broadcasting, by Edward W. Brouder, Jr., is a 100-page illustrated history of one state’s involvement in AM and FM radio.

Brouder’s book is beautifully done, and obviously the result of many years of research by someone who has assembled and presented the material out of a deep-rooted interest in the topic. His chronicle begins with mentions of some of the first coastal, military, college, amateur and other wireless stations in New Hampshire.

He mentions the state’s official “first” broadcaster, WEAQ, in Berlin. It received a license in 1922, but turned in the license for cancellation in September of the same year. There is no evidence that WEAQ ever operated. After that, Brouder explains how the state’s first real broadcaster was a 50-watt station, WKAV, in Laconia, put on the air in August of 1922 by the local ham radio club.

From there, New Hampshire broadcasting was on a roll. Brouder’s book covers just about every station, telling its story in callsign, frequency, date of first broadcast, and how it operated in New Hampshire. This shows the complete chronological listing of all stations from 1922 to the present. In the back of the book are also lesser known companies, such as Pierson, Howard, Postal, Ware, and many others.

The book contains 400 photos, plus descriptions of individual models. This information includes the model name, years in which the set was produced, price, frequency coverage, tube line-up, and comments.

The new 3rd Edition offers improved photography, which looks much better than that in earlier editions. They have included photos of many receivers which were not illustrated in previous editions.

Even persons who don’t participate in groups can make a difference in reducing the crime rate. They do this when they take the proper steps to reduce their own vulnerability to become victims.

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On Guard! is a book that does a fine job of telling about such matters. It is $17.95, plus $2 shipping and handling.

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Target: Crime!

On Guard! How You Can Win The War Against The Bad Guys, by Laura Quarrantelli, is a 125-page book explaining how individuals and citizen’s groups can reduce crime in their neighborhoods and cities.

The first section of the book tells how to minimize one’s risks of falling victim to auto theft, street crime, residential crime, arson, drugs, gang violence, shooting, abduction, etc. The next section explains how to work with the police in organizing and operating a cooperative neighborhood crime-watch program, including foot and mobile patrols.

A third section contains forms that may be copied from the book and used for reporting criminal activity, bomb threats, etc.

No doubt about the fact that the crime rate is growing at an alarming rate. Police agencies face continually tightening budgets. That means many departments can’t hire the number of officers they feel they need. Volunteer citizens groups, working in cooperation with, and sanctioned by, their local police, have been of genuine help. By spotting and quickly reporting suspected neighborhood criminal activity to the police, they serve to bring down the crime rate.

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Deep Inside Computer Hacking

Secrets of a Computer Hacker, by The Knightmare (with and Introduction by Gar-eth Branwyn), is the most revealing how-to book we have yet seen on computer hacking. These are the chronicles of one man’s insatiable quest to break into computers. The Knightmare doesn’t hack out of malice or for financial gain. As they say, he’s in it for the hack, itself. If your computer has any link whatsoever to the outside world, it’s vulnerable to his attack.

His new book reveals, in step-by-step,
The Knightmare writes in detail about his favorite tricks, such as Trojan horses, viruses, worms, trap doors, and dummy accounts. There are bare-knuckle accounts of his hacks, including on-site and remote-access hacking, as well as BBS busting.

He offers lists of likely passwords, plus a summary of computer laws, as well as a bibliography. There's a Hacker's Code of Ethics, and information on how to keep from getting caught.

It hardly seems that many systems could hope to stave off the ingenious and unrelenting hacking assaults described in Secrets of a Super Hacker. No person concerned with computer security can afford to miss this let-it-all-hang-out manual of computer mayhem. Here's one book computer stores probably won't have out on their book racks!

By the way, The Knightmare's book has plenty of little inside gems. One we particularly liked was about the time the Gerardo TV program accidentally gave hackers a helping hand. On page 51, the author reveals why computer professionals are the easiest targets of all.

Emergency communicators were in short supply to handle over three weeks of communications after the big January Los Angeles earthquake. Your author took an active role in these communications, and my notes should be read by every radio operator who thinks they are completely ready for "the big one." Take a few minutes to learn what we learned the hard way.

Mutual Aid
Does your emergency communications team have a simple call-up procedure when another agency needs more help? For instance, Los Angeles activated as many as 36 evacuation shelters, putting a strain on their local Red Cross communicators. Does your emergency communications team have a mutual-aid agreement with your local American Red Cross chapter? Can the American Red Cross use only their own card-carrying communicators at an evacuation shelter? That was one of the first big questions to be asked in Los Angeles, and it delayed the mutual aid call-up procedure for many hours. The L.A. Red Cross eventually did use any and all communicators who came in and signed up (on official forms) for volunteer duty.

REACT members using their GMRS equipment and repeaters were of tremendous help to the ham operators and emergency operation centers. Your emergency group should definitely make every effort to coordinate REACT GMRS and ham radio as a vital part of your emergency communications plan.

CB radio 27 MHz communications became an important tool for local devastated "block shelters" to intercommunicate between themselves, and to get messages to local evacuation centers or area Red Cross emergency operation centers. A 27 MHz 40-channel transceiver capable of all-mode operation is strongly suggested for your communications vehicle.

Cellular telephone operation is an im-

An emergency lash up like this worked well to get emergency calls out on HF from the earthquake area.

Using the mobile as a remote crossband repeater was very effective during the earthquake.
portant component at shelters, command posts, and the EOC. Surprisingly, most cell sites did not "max out" right after the quake, but stayed on the air for vital wireless communications. But, the biggest problem with the cellular telephones were the constant, "all we have are dead batteries here" report from the evacuation centers. If portable and transportable cellular telephones are issued to emergency communicators at evacuation centers, the communicators should regularly keep track of how the back-up batteries are constantly being rapidly charged, and those "dead batteries" won't factor into the overall communications problem.

We saw many transportable cellular phones operated at evacuation centers. Each one was attached to an inadequate amperage power supply, and to an antenna system that was nothing more than 10 feet of coax and a mag mount whip. For a transportable, run it from a 4-amp gel-cell, and trickle charge the gel-cell. This way, during aftershocks and power outages, the cell phones stays up.

**Coaxial Cable Extensions**

Coaxial cable extensions are a must. Ten to 15 feet of coax is not nearly long enough at the evacuation center. Each transportable should also be packaged with 30 feet of low-loss coax, with appropriate TNC connectors. Regular ham coax is fine, but be sure you have a pocketful of PL to TNC connectors, plus another pocketful of PL to TNC barrel connectors to join the little magnetic antenna. The local Radio Shack stores instantly sold out of these adapters. You must be able to extend the length of the cellular phone coax cable run to an antenna that is out in the clear from your radio operating point.

Handheld transceivers were regularly "falling out" of the local repeaters or base stations when operated inside the shelters. Most American Red Cross shelters must meet specific structural requirements, and you can be sure that they are loaded with steel. Attempting to operate a handheld with a little rubber antenna to a distant repeater or base station was futile. Literally hours of communications time was wasted by operators making transmissions that were completely unintelligible.

One solution would be a 40-watt mobile unit off of a rechargeable battery, hooked to an outside single or dual-band antenna. Instant results, even on low power. Another solution is put your emergency mobile unit dual-band transceiver into cross-band repeat. Since your mobile unit is outside and in the clear, you can easily run both sides of the link on low power, and won't end up with a vehicle dead battery. If your emergency net is on VHF, use the UHF side of your dual-band handheld to cross-band to your mobile unit. If your repeater has a long hang time on its COR, you may wish to cross-band only to the repeater input, not output. This way you can respond to any message without having to wait for the repeater output to drop carrier. Emergency earthquake communicators using their dual-band transceivers in their vehicle as a cross-band repeater to their dual-band handheld never had the problem of staying in touch inside the shelter or EOC.

During the height of the aftershocks, a FEMA official needed communications on a distant H.F. command post. We found the combination ham/marine band taps on a six-foot Outbacker a perfect match to our Part 90 SCC SSB mobile unit. Many high frequency SSB emergency channels are situated within 100 kHz of H.F. marine band frequencies, making the combination Outbacker ham/marine whip a natural at the emergency scene.

**Talk Training**

Many transmissions that took 30 seconds could have been executed in less than 10 seconds. Emergency communicator training exercises should emulate the communications from aircraft and control tower operators. Quick, direct, and minimum key-down time. Ham operators who were skilled emergency communicators were good, but could have been shorter. Hams who were plugged in out of communicator shortages did a great job, but many times took several minutes to send a message that could have been said in less than 20 seconds to another skilled operator.

And let me tell you, it was the relatively new no-code ham population that jumped into the communication assignments—many 12-hour-long graveyard shifts—who did a terrific job without questioning the comm boss. If ever the no-code amateur radio class service was in the spotlight, it was during the L.A. quake. The old-time professional hams ended up at the emergency operating centers, and they too did a fabulous job, assisted by REACT GMRS operators, as well as trained American Red Cross communicators.

The most efficient operation came from those communicators using equipment that they were trained to operate. Hours of valuable air time were wasted when well-intentioned organizations brought in specialized...
Coax adapters are necessary to match different types of fittings at the emergency site. Mobile radio (SMR) systems are often used to try to help out in shelter-to-shelter and shelter-to-EOC communications. While at times these sets would occasionally get through, they may have wasted more time than what they were worth. Instead valuable time was spent over ham frequencies trying to get this equipment up and running. If you haven’t used the equipment before, I suggest you work with it before someone drops it off at your shelter.

Finally, to the thousands of L.A. radio operators on the thousands of different frequencies in use, congratulations to you all. For the high-frequency ham operators who took our messages throughout the country and the world, a big thanks to you, too. And for all emergency communicators, please use this review to help make YOUR big incident run smoothly on the airwaves.

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"Best compact shortwave portable we have tested." Passport to World Band Radio

PLL synthesized tuning • Continuous SW coverage (1.6-30 MHz) plus LW, MW and FM Stereo • 558 channels • Clock, timer and alarm functions • 40 memory channels • External antenna input

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**Satellit 700**

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**Delta Research**

**ICOM™ IC-R7100**

Sweeping 1800 Channels/Minute

DELTACOMM™ IC-7100 communication manager and your MS-DOS computer gives you a custom interface integrated with optimized software that will not just control but will maximize the potential of your R7100. Here are a few (there are many more) examples of the advanced features DELTACOMM™ IC-7100 has to offer:

- **DELTA-COMM™ IC-7100**

  - Synchronous Detection
  - 512 memory channels (64 stations each with 8 alternate frequencies), expandable to 2,048 channels
  - PLL synthesized tuning
  - Continuous SW coverage (1.6-30 MHz) plus LW, MW and FM Stereo
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A note to the column from Uniden tells us that they manufacture approximately 65% of the world's CB radios, and that they are the world's largest maker of SSB radios.

Last year, Uniden points out, the company introduced its Professional Series, consisting of the PC-66XL, PC-76XL, PC-122XL, and top of the line, Grant XL. That series was designed especially with the professional trucker in mind. The units have all metal chassis and high-output speakers.

In addition to the Professional Series, the regular line of CB radios includes the Pro-510XL, Pro-520XL, and the Pro-538W with weather channels. These are priced between $9.95 and $99.95.

Uniden is also introducing a new handheld, the Pro-340XL, with four watt output and electronic channel selector. We hope to look at that one closer next issue.

Another new addition is the road emergency Pro-501XL with LED channel display, volume control, and squelch. A version called the Pro-501AXL comes with a magnet mount antenna.

These sets are available through Uniden's many dealers.

The Company Behind the Radios

It has been a few months since we have gotten around to mentioning historic CB radios. Your mail has reminded me of this. Sorry about that. Hope to make it up with this interesting item.

In the February '93 column, we wrote of the DeWald Co., of Long Island City, New York. DeWald radios weren't very stylish, or marketed forcefully. Their several low-cost CB's in the early 1960's received little notice from CB'ers.

Eric Nelson, of Dix Hills, New York, has done some research into this, pointing out that DeWald's 1962 ads indicated that DeWald was a brand name of United Scientific Laboratories (USL). While USL's own DeWald brand sets may not have been heavily marketed, USL actually manufactured most of the many CB radios brought out by Lafayette Radio and widely sold under the Lafayette brand name between 1960 and 1964. This includes the Lafayette HE-15, HE-20, HE-43, HE-90, HB-111, HB-115, early HB-115A, and HB-222 radios, and their refined versions. These were big sellers.

USL's arrangement with Lafayette is a common practice in the electronics industry known as “private label manufacturing.” Early CB radios bearing brand names such as Allied Radio, Burstein-Applebee, Olson, and others were also produced by other companies, just like the Lafayette radios. A great deal of today's electronic equipment of all types is private labeled.

About the time USL stopped producing equipment for Lafayette, USL moved to Westbury, New York, and had become a division of Vernitron Corporation. Beginning in 1965, under its own USL brand, the company began aggressively marketing three CB radios.

The USL “Contact 23” was their top-of-the line model, with full 23-channel operation, panel meter, speech compression, mechanical filter, and dual voltage power supply. It sold for $199.50. Then there was the USL “Contact 8,” which had a 23-channel tunable receiver but could transmit on only eight channels. This was $149.50. Lastly, there was a USL T-1050A; a 6 channel transmitter coupled to a tunable receiver. The USL T-1050A was a tired old DeWald CB being offered for $119.95. When Vernitron bought out USL, a warehouse filled with unsold DeWald T-1050A CB radios must have been part of the deal.

USL, under the auspices of Vernitron Corporation, dabbled in CB only briefly, then went on to other pursuits.

In The Mail

The FCC advised us that they sent NAL's to the following persons for operating on unauthorized frequencies: John L. Larsen, Seattle, Wash. ($100); Michael J. Tucker, Port Townsend, Wash. ($2,000). Victor, in Lancaster, Penna., writes that this magazine is one of his "true passions." He can hardly wait for each issue to come out. He had a couple of questions in the aftermath of the February column mention of SWR.

First, he asks if there is a significant difference between an antenna matcher and an antenna tuner. I suppose you might consider a matcher to be a balun or part of the design of an antenna. And, you could consider an antenna tuner to be an accessory intended to be placed in the coaxial transmission line to allow the operator to adjust for maximum interfacing between transmitter and antenna system. In popular usage, the terms appear to have become rather interchangeable when referring to an antenna tuner.

Lafayette's HE-15B was made in mid-1962 by USL. It had eight transmit channels. The IF frequency was changed to 455 kHz from the earlier version's 1750 kHz. Set solia for $59.50.
The Lafayette HE-90 was a late-1963 USL creation. It transmitted on six channels. The receiver had a Nuvistor front end.

In 1963, USL manufactured Lafayette’s HB-115 to replace that company’s HE-20 in the $59.95 price slot.

In the mid 1960’s, USL brought out several CB radios under its own name. This was its Contact 23 unit.

Next, Victor asks if there are differences in the way SWR is checked when working with transmitters of different power ratings. Follow the instructions that come with every SWR bridge (meter). As a general rule, checking SWR shouldn’t make much difference whether you are working with a 2 or 4 watt transmitter or one running a few hundred watts (assuming you are on a band where such power is authorized). With the transmitter in AM mode (not SSB), and the SWR meter in “set” mode, adjust the meter to read full scale. Then, shut off the transmitter carrier and change the meter mode to read out the SWR. Key up the mic again (in AM mode) and you get an SWR reading, regardless of the power output.

A letter from a reader asks about obtaining information from other readers regarding Browning’s 23/S-Nine radios, particularly R-2700 receivers. These were manufactured in the 1960’s by Browning Labs. Although his letter isn’t completely clear, it may be that he wishes to purchase one. If you have information, or one for sale, you might want to contact him. He is James Cannon, SSB Network Member SSB-77J, P.O. Box 21, Oconto Falls, WI 54154. Note that Jim is a trucker, so if it doesn’t get back to you pronto, it may be that he’s out on the superslab earning some greenstamps.

A reader wrote to say that he has an antique RCA CB radio known as the Mark VII/CRM-P3A-5. He reports that it is in working condition, with its mic, but no antenna. He would sell it to anyone interested. Write to: Chuck Klasek, 1704 Yule, Moore, OK, 73160.

Overseas Mail

Gary L. Memory, of the American Embassy, Athens, Greece, writes to observe that a low pass filter is useful in reducing TVI, but it is a patch and not a solution. He points out that a transmitter has a certain finite amount of power it can generate. Unwanted transmission products such as excessive modulation, spurs, harmonics, etc., serve to deplete the desired signal going to the receiving end of the contact. Also, a low pass filter doesn’t reduce adjacent channel interference. In all, Gary feels that a better approach is a quality transmitter, properly adjusted and operated. We hear that, Gary!

Nice letter from Frank, 14-AT-545, who told us about the special QSL being issued for his special event station in Paris, known as 14-AT-ED-SES. This station is named for Eugene Ducretet. Frank’s address is BP 6 Vanves Celex, 92173 France.

We heard from Jo, a POP’COMM subscriber in Indonesia, who wrote to say that he enjoys this column because it is tangible evidence that 27 MHz will never die. He sent along the QSL from 91-AT-000, which is from the club station in Jakarta. Readers wishing to write can address letters and cards to Jo, P.O. Box 147, Sawangan 16501, Indonesia.

Anton, K7-375, is one of our regular readers from Manila, Philippines. In a very informative letter, he writes that it’s a toss up as to which column he likes best, this one or Joe Carr’s “Antennas ‘n Things.” Anton belongs to BREAK (Broadcasters International DX Group).
Radio Emergency Action Krew), which operates on Channel 37 (AM-mode). The group was founded in the 1970's by radio and TV station announcers, hence the name. CB radio was very popular in the Philippines during the 1970's, but late in that decade it was eventually declared by President Marcos to be illegal. The ban has never officially been lifted, although many stations are active. Appeals to the government to make the service legal again have not been successful.

Anton complains that many CB channels are clogged by punks who take delight in “splatting” one another, which we presume means jamming with dead carriers. He laments that the punks tie up the channels for hours with long-winded conversations with their girlfriends. CB equipment theft is common.

A curious fact Anton brings out is that Uniden has a large manufacturing facility located in Manila. Yet Filipinos are not allowed to buy directly from it. Scanners, CB's and other Uniden products are made there. The products must be purchased from dealers in the United States, then shipped from the USA to customers in the Philippines. Anton wonders if we might explain what kind of a business deal made that happen. Sorry, Anton, international trade isn't our strong point. We have been carrying around an Icelandic coin like a half dollar for two years in our pocket change. Can't figure out how we got it, or how to unload the thing.

Readers looking to contact Antonio, write Antonio R. del Rosario, c/o EDP Service, Supreme Court, Taft Avenue, Ermita, 1000 Manila, Philippines.

The Ultimate Question

N.R.P., of Texas, writes to say that he has heard many times never to transmit while having the car filled up at a gas pump. In addition, he has heard that radio transmitters should be turned off in any area where blasting is taking place. He wants to know if this is misinformation, if it makes any sense, and if there have been any explosions resulting from those who failed to do these things.

This is not misinformation. Gas pumps in many areas, and blasting zones, are posted with warning signs advising that radio transmitters be turned off. While we have no personal knowledge of explosions resulting from radio transmissions in volatile environments, it certainly makes good sense to cease transmitting for a few minutes until out of such danger zones. This may not be easy for everyone.

Catch you on the flip-flop. Please pass along your comments, QSL cards, station photos, questions, and other CB related information.
Like a shortwave radio signal, let's skip from here to there and take note of some recent happenings on the shortwave broadcasting scene.

We welcome the return of the Argentine Antarctic station, Radio (Nacional) Angel San Gabriel which has reportedly resumed transmissions on its former frequency of 15476. Your best bet to hear this is around 2300 or 2330, mostly in Spanish but with an occasional English language ID.

The Voice of the Islamic Republic of Iran has put some new high power transmitters on the air, adding several new frequencies. Among these are 7100, 7285, 9720, 11745, 11790, 15084, 15260, 15315 and 15365. Long-used 9022 seems to have been discontinued.

There are two new stations on the air from Honduras. Radio Litoral, announcing as "La Voz de Esperanza" is using 4830. Sign on time is thought to be not until 1230, which will make it difficult to pick up in the mornings. You might give this one a shot in the early evening hours, but expect a lot of QRM around this frequency.

The other new Honduran is Radio Poz, operating on or about 4325 from the town of Choluteca and noted signing on at just past 1100.

Broadcasts of the Organization of American States (La Voz de la OAS) have been discontinued. This Spanish language service was aired daily over VOA facilities for many years. As is so often the case, the service was the victim of a budget cutback.

The same problem is hurting Radio Villanueva and its overseas service to North America. The government couldn't afford the rent on the Russian transmitters. Radio Centras continues to operate on 9400.

A couple of months ago we reported that WRMJ was at the air at last, but those turned out to be simply test broadcasts. Once the tests were completed WRMJ went silent again. But based upon what Jeff White of WRMJ told us, the station should be fully operational by the time you read this. The frequency used is 9955.

Radio For Peace International has put some new high power transmitters on the air, adding several new frequencies. Among these are 7100, 7285, 9720, 11745, 11790, 15084, 15260, 15315 and 15365. Long-used 9022 seems to have been discontinued.

Here's the monitoring post of Brendan Boomer in New Jersey. This impressive line-up includes these receivers: a National HRO-500 and HRO-600, Drake SPR-4, SW-4 and R7, an Icom R-71 and a Collins 51S1 and associated panadaptors, distribution amplifiers, antenna rotator. Whew!

The government of Equatorial Guinea has closed down Radio Africa 2000, a cultural station which operated with 10 kW on 6910. Reportedly, the plug was pulled because the Spanish government had cut back the financial aid it was giving the government of Equatorial Guinea. Africa 2000 was supported by the Spanish government.

Roland Richter of Waco, Texas has been DX'ing since 1957. Roland emphasizes the importance of record keeping as a way of learning about propagation and notes that he's kept detailed logs since 1959. He says "I have been able to get a real feel for trends in prop (sic) through tree complete sunspot cycles and have been able to learn enough to successfully "target" finding great DX catches even when listening time has been greatly limited. The idea, of course, is to know when and where to be for the "big" ones...sort of like psychoing out the old fishing hole! I have learned that it is very important to carefully choose listening frequencies that are optimum to the limited time slots often available. The key to doing this has been to carefully log every station heard during a session, even if it is a real routine one like WWV, HCJB or WCC with time, signal strength, frequency and antenna used. It has really paid off in catching some good stuff, but it has more importantly, taught me a lot about prop (sic) in general. But most importantly, it's been fun!"
ALASKA—KNLS, 7365 at 0800 and again at 1300 (Bush, Japan)

ANTIGUA—Deutsche Welle relay, 6048 at 0558 with IS and ID with sign on of English to North America (Meece, OH)

ARGENTINA—RAE, 9690/15345 at 0034 in SS with local folk music and IDs. This runs weekends only. (Lamb, NY)

ARMENIA—Radio Yerevan via Russia. 17690 at 0935 with two day old news. (Bush, Japan)

ASCENSION ISLAND—BBC relay, 9600/15400 at 0700 and 15260 at 0100. (Bush, Japan) 11750 at 2000 sign on. (Low, TX)

AUSTRALIA—Radio Australia, 5995 at 1230. (Demers, NH)

BARBADOS—Radio 980, 9805 at 0500 with news, promotions, IDs. Signs off at 0600. (Bush, Japan)

BELGIUM—Radio Vlaanderen Intl, 5990 at 0503. (Bush, Japan)

BOLIVIA—Radio Santa Cruz de la Sierra, 6135 at 2230 in SS with folk music, all SS. Off at 0200. (Hathaway, Bolivia)

BRAZIL—Radio Vlanderen Intl, 9930 at 0536 with IS, ID, “Brasil Today.” P.O. Box 26.” Off at 0100. (Lamb, NY)

BULGARIA—Radio Bulgaria, 7445/9700 at 2300 and 0100. (Demers, NH) 11630 at 1300. (Bush, Japan)

BULGARIA—Radio Bulgaria, 7445/9700 at 2300 and 0100. (Demers, NH) 11630 at 1300. (Bush, Japan)

CANADA—BBC via Saskville, 5965 at 1213. (Meece, OH)

CBC Northern Quebec Service, 9625 at 1407. (Lamb, NY)

Radio Canada Intl, 6150 to 0522. (Low, TX) 1230 via China at 1230 and 1330, parallel 9535 via China. 11705 via Japan at 2200. (Bush, Japan) 9755 at 0000.

CHINA—China Radio Intl, 4883 at 2308 in RR but soon lost. (Paszkiewicz, WI) 9440 via Xi’an at 1245 in CC. (Meece, OH) 9780/11715 via Mali to 0100 sign off. (Demers, NH)

COLOMBIA—Radio Buenaventura, 4356 at 0337 in SS music, station and Caracol network IDs, commercials and taped news from BBC Latin America service. (Lamb, NY)

Caracol Bogota, 6150, reactivated, 0155 in SS with news, promos, IDs. Apparently the expected new 50 kw transmitter. (Lamb, NY)

COSTA RICA—Radio For Peace Intl, 7375 at 0100 in SS/EE. Demers, NH) New 9375 USB at 0606 with “Sounds of the New Ark” (Lamb, NY) 15300 USB at 2218. (Low, TX) 21465 at 1320. (Northrop, MO)

TTAWR 9725/11870 in SS with mentions of the Bible, letters, radio drama. (Lamb, NY)

CROATIA—Croatian Radio, new 5985 at 2218 with news, IDs, US pops. Croatian folk music to 0651 off. Also 0703 5895/5920 in Croatian but EE religious programming. Off at 0414. (Lamb, NY)

CUBA—Radio Havana Cuba, 6010 at 0730 with news. Also in SS at 0103. (Demers, NH) 9510 at 0649 into SS at 09700. (Pappas, ND)

CYPRUS—BBC relay on 11780 at 0702, off 0730. (Lamb, NY) 15575 at 0400. (Bush, Japan)

ECUADOR—Ecos del Oriente, 3270 at 1045 in SS with instrumental music, col letters, ID, station promo, possible news before fade. (Lamb, NY)

ECUADOR—Ecos del Oriente, 3270 at 1045 in SS with instrumental music, col letters, ID, station promo, possible news before fade. (Lamb, NY)

EQUATORIAL GUINEA—Ecuador de Orinoco, 3270 at 1045 in SS with instrumental music, col letters, ID, station promo, possible news before fade. (Lamb, NY)

FRANCE—Radio France Intl, 4130 via China at 1340. (Bush, Japan) 6045/new 7280 at 0431 in FF. 5925 may be a move from 5920. (Bush, Japan) 9715 in FF at 2206. (Low, TX) 15300 at 1320 in FF; 17860 in SS at 1315, also 21645, 21765 in FF at 1330. (Demers, NH) 17695 at 1451. (Demers, NH)

GHANA—GBC Radio One. 4951 at 0521. (Bush, Japan) 15045 at 0500. (Bush, Japan)

GAMBIA—Africa Number One. 17630 at 1325 in SS. (Bush, Japan, MO)

GERMANY—VOA relay, 9595 at 0600. (Bush, Japan)

Deutsche Welle, 6040 at 0230. (Demers, NH) 7225 via Sri Lanka at 1600 and 12055 at 0900. (Bush, Japan) 9665/11740 at 1949. (Pappas, ND) 15275 in GG at 1315 and 17715 in GG at 1325. (Northrop, MO)

GREECE—VOA relay, 9700 at 1500, 11805/15025 at 0600. (Bush, Japan)

GUAM—KTVR at 1447 at 1513 on 9785 in Mandarin with contemporary Christian music, religious talk, sign off at 1528. (Lamb, NY)

GUATEMALA—TNGA/Radio Cultural, 3300 at 0333 with EE religious programming. Off at 1414. (Lamb, NY)

La Voz de Nahuala, 3362 at 1055 in SS and Mam with “Beer Barrel Polka,” ranchera and marimba music. IDs. (Lamb, NY)

Radio Maya de Barillas, 3324 at 1036 in SS and Mam with “Beer Barrel Polka,” ranchera and marimba music. IDs. (Lamb, NY)

Radio Maya de Barillas, 3324 at 1036 in SS and Mam with “Beer Barrel Polka,” ranchera and marimba music. IDs. (Lamb, NY)

La Voz de Nahuala, 3362 at 1055 in SS and Mam with “Beer Barrel Polka,” ranchera and marimba music. IDs. (Lamb, NY)

La Voz de Nahuala, 3362 at 1055 in SS and Mam with “Beer Barrel Polka,” ranchera and marimba music. IDs. (Lamb, NY)

La Voz de Nahuala, 3362 at 1055 in SS and Mam with “Beer Barrel Polka,” ranchera and marimba music. IDs. (Lamb, NY)

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La Voz de Nahuala, 3362 at 1055 in SS and Mam with “Beer Barrel Polka,” ranchera and marimba music. IDs. (Lamb, NY)
HONG KONG—BBC relay, 7180 at 1400, 11820 at 1330 and 15280/21715 at 0600. (Bush, Japan) 11945 (in parallel with Antigua-5975) at 2325. (Lamb, NY)

INDIA—All India Radio, 11620 at 1330, 1853. (Demers, NH; Rocker, NY)

INDONESIA—RRI Sibolga, 5256.6, tentative, at 17810 at 0100 and 9895 at 1400. (Bush, Japan) 11705 at 1455. (Demers, NH) 11925 via George 2415. (Rocker, NY)

IRAN—VOIRI, 9022/15260 at 1813 in GG with program promos, sports. (Lamb, NY) 15425 at 1340 in special EE. (Low, TX) 9675 (which is 100 kw). (Rausch, NJ)

IRAQ—Radio Baghdad, 11950 at 2354 in presumed RR and Kazakh with test tones, IS, ID, anthem, news, classical music. (Lamb, NY)

ISRAEL—Kol Israel, 7465 at 1800 and into FF at 2230. (Bush, Japan) 9610 at 1800 and 15195//17725//17845 at 0100, 15210/15230/17810 at 0300. (Demers, NH) 11915 at 1500, 15195//17725//17810//17845 at 0100, 15210/15230/17810//17860/21610 at 0700 and 21610 at 0600. (Bush, Japan) 11705 at 1455. (Demers, NH) 11925 via George 2415. (Rocker, NY)

ITALY—Radio Italiana, 2230 with business program. (Demers, NH) 11590 at 0538 in HH with commercial, time pips, ID, news. (Lamb, NY)

JAPAN—Radio Canada relay, 11705 at 2218 to Asia, into FF at 2230. (Lamb, NY) 15370 (in Antigua 9575) at 2320 with classical music. (Lamb, NY)

KAZAKHSTAN—Kazakh Radio, 11950 at 2354 in presumed RR and Kazakh with test tones, IS, ID, anthem, news, classical music. (Lamb, NY)

KUWAIT—Radio Kuwait, 13620 at 2000. (Low, TX)

LESOTHO—BBC relay, 3255 at 0308 with news, program promos, sports. (Lamb, NY) 15435 in AA at 1944. (Low, TX)

LIBYA—Radio Jamahiriya, 15435 in AA at 1944. (Low, TX)

MADAGASCAR—Radio Madagascar, 9810 at 0100 and 9895 at 1400. (Bush, Japan)

MALTA—Voice of the Mediterranean, 11925 at 1515 with music and news in FF. (Demers, NH)

MOLDOVA—Radio Dniester, 5039.2 at 1055 in SS with Peru news, fill music, ID and off at 0700. (Bush, Japan) 15425 at 1300 and 17790 at 0130 and 0700. (Bush, Japan) 15180 at 1500, 9977 at 1100, 15180//15230 at 0600, 15190 at 0800, 15230//17765 at 0400. (Bush, Japan) 11335//13760/15130 at 0002 with anthem, ID, program lineup, news. (Lamb, NY) 11720 at 0340. (Rocker, NY) 13760 at 0001 with ID, sign on and into Korean news. (Meece, OH)

MOROCCO—VOA relay, 6110//9760 at 1100, 9645 at 1500, 11920 at 1630, 12040 at 1800, 15160/15425 at 1130, 17740/21550 at 0100. (Bush, Japan) 15290 at 2305 and 1773//17820 at 0006. (Lamb, NY) 15180 at 1300 in special EE. (Low, TX)

PORTUGAL—Radio Portugal, via Maxquiera, Portugal, 7190 at 0648 in Polish with interview, news fill music, ID and off at 0700. (Lamb, NY)

ROMANIA—Radio Romania Intl, 15365 at 1310 with ID and talk on Romania. (Norhus, MO)

RUSSIA—Radio Aum Shinrikya, 11915//21655 at 0430 with religious program. (Bush, Japan) 9430 at 1100, 13625 at 1300 and 17555 at 0900. (Bush, Japan)

SOUTH KOREA—Radio Pyongyang, 9325 at 1500, 9977 at 1100, 15180//15230 at 0600, 15190 at 0800, 15230//17765 at 0400. (Bush, Japan) 11335//13760/15130 at 0002 with anthem, ID, program lineup, news. (Lamb, NY) 11720 at 0340. (Rocker, NY) 13760 at 0001 with ID, sign on and into Korean news. (Meece, OH)

THAILAND—BBC relay, 7215 at 1500, 15310 at 1400, 17790 at 0300 and 0700. (Bush, Japan)

PAKISTAN—Radio Pakistan, 17765//21730 at 0230 for 15 minutes of EE news. (Bush, Japan)

PAPUA NEW GUINEA—Radio East New Britain. 3385 at 1130 in Pidgin with tribal sing and promo for the new Port Morseby 31 meter band frequency of 9675 (which is 100 kw). (Rausch, NJ)

PAK—La Voz de la Selva, 4924 at 0105 in SS with ballads, ID, time checks, sound effects, mention of Loreto. (Paszkiewicz, WI)

PHILIPPINES—FEBC on 15450 at 0100. (Bush, Japan)

Radio Pilipinas, 17760/17840//21580 at 0230. (Bush, Japan) 15180 at 1300 and 17840/21580 at 0230. (Bush, Japan) 15180 at 1300 and 17840/21580 at 0230. (Bush, Japan)

PORTUGAL—Radio Portugal, via Maxquiera, Portugal, 7190 at 0648 in Polish with interview, news fill music, ID and off at 0700. (Lamb, NY)

ROMANIA—Radio Romania Intl, 15365 at 1310 with ID and talk on Romania. (Norhus, MO)

RUSSIA—Radio Aum Shinrikya, 11915//21655 at 0430 with religious program. (Bush, Japan)

Adventist World Radio, via Russia. 9835 at 2340 (Rocker, NY)

Radio Moscow. 4560 at 2122 with "Culture and

---

Andy Johns, Texas, received this card from Radio Kuwait.

Paul M. Casale has been a DXer for nearly 25 years. His shack in Long Island City, NY, is built around a Kenwood R5000.
Here’s a recent schedule from UAE Radio, Abu Dhabi. Thanks to Stan Schmidt, Indiana.

**IBRAHIM RASHID, DIRECTOR GENERAL, UAE Radio**

the Arts.” (Lamb, NY) 5930//6605 at 0600, 7175//7270 at 0700, 9550 at 1400, 9780//1170 at 12005 to 1100 and 21480//21855 at 0142. Off at 0200 without usual sign off announcement. Off 2101. (Lamb, NY)

**EUROPE**

**SOUTH KOREA**—Radio Korea, 7255//11555 at 0600, 7550//7550 at 0800 and 7550//15575 at 0100. (Bush, Japan)

**SWEDEN**—Radio Sweden 15240 with news at 0800. (Bush, Japan)

**SWAZILAND**—Trans World Radio, 6040 at 0357.

**SRI LANKA**—VOA relay, 11705 at 0153. (Lamb, NY)

**SRILANKA**—Voice of Turkey, 9445 at 2300.

**SWAZILAND**—Trans World Radio, 6040 at 0357 with IS. ID. Evangelischer Rundfunk broadcast. Over VOA. (Paszkiewicz, WI)

**SWEDEN**—Radio Sweden, 15240 with news at 0800 and close at 1000. (Demers, NH)

**SWITZERLAND**—Swiss Radio Intl. 6110 at 2018 with DX program. (Bush, Japan) 7480//7550 at 1100 and 11625//15090 at 2106. (Bush, NY)

**SWITZERLAND**—Swiss Radio Intl. 6110 at 2018 with DX program. (Bush, Japan) 7480//7550 at 1100 and 11625//15090 at 2106. (Bush, NY)

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Do You Need an Antenna Tuner?

There is a great cloud of mythology surrounding antenna tuners, particularly when the conversation turns to what they can and cannot do. Make no mistake, they are useful devices in the right applications. The trick is deciding whether you need one or not.

When Rigs and Antenna Systems Disagree

Every antenna has an impedance expressed in ohms. The same is true of the feed line you use to connect your transceiver to the antenna. Impedance is a complicated beast and, for our purposes, we can think of it as simple resistance.

The impedance of an antenna depends on a number of factors including its length, size of its wire or tubing, operating frequency, height above ground, the proximity of metal objects and even weather conditions (such as ice on the antenna). The impedance of the feed line depends on how the cable is constructed.

Your feed line does more than simply connect your radio to your antenna. It acts as an impedance transformer. That is, the impedance of your antenna is transformed by the feed line into the value your radio “sees” when you connect it to the cable. This system impedance acts as a load for the energy created by your radio—just like a light bulb is a load for the energy supplied by a battery.

Most ham transceivers are designed to work with a load impedance of 50 ohms. When your radio sees antenna system impedance of 50 ohms, or something close to it, you’re on easy street. You press the mike switch, close the CW key or type on your keyboard and all is right with the world.

But what happens when the impedance isn’t 50 ohms? Now you have a situation known as a mismatch.

When a mismatch exists, a certain portion of the power generated by your radio is reflected—like light is reflected by a mirror. This reflected power comes shooting back down the cable to your radio. When it reaches the radio, it’s reflected back toward the antenna. The reflected power combines with the forward power being generated at the radio to create standing waves in the feed line.

By using a standing wave ratio (SWR) meter, you can measure the forward and reflected power. A 1:1 SWR reading indicates that very little power is being reflected back to your radio. This is good. On the other hand, an SWR of 3:1 or more means that a substantial amount of power is being reflected. This is bad. (Don’t you love these simple concepts?)

If your antenna system presents a serious mismatch to your radio, what can you do? You need to provide a 50-ohm load for your transceiver—regardless of what is really present. One way to accomplish this is by using an antenna tuner.

How Does an Antenna Tuner Work?

In its most basic form, an antenna tuner is simply a network of variable inductors (coils) and capacitors. By adjusting these coils and capacitors, the feed line impedance at the transceiver is brought back to 50 ohms. As far as your transceiver is concerned, the load impedance is matched and it’s free to dump all of its power into the antenna system.

Of course, the reflected power is still bouncing back and forth between the antenna tuner and the antenna. Some of this power is lost in the feed line, but if you’re using low-loss feed line, most of it is radiated at your antenna. In the meantime, your transceiver is happy and you’re happy. Who could ask for more?

Use an Antenna Tuner if...

• You want to feed your antenna with open-wire line. Open wire line (or ladder line) offers extremely low loss at HF frequencies (much better than coaxial cable).

One problem is that open wire line is balanced while your transceiver output is unbalanced. You need to use an antenna tuner with a built-in balun to form a bridge between the balanced line and the unbalanced output of your radio. A balun is a type of transformer that converts balanced feed lines to unbalanced, or vice-versa. (BALanced to UNbalanced. Get it?) Most antenna tuners use 4:1 baluns that also convert the impedance of open-wire feed lines to a value that the tuner can handle.

• You want to operate your antenna on bands other than those it was designed for.

When you attempt to use, say, a 40-meter dipole on 10 meters, a big mismatch will develop along with a high SWR. By using an antenna tuner, you may be able to create a 1:1 SWR at your transceiver. (I say “may” because the mismatch can often be so great that it is beyond the capability of your tuner to handle.) The high SWR may cause substantial loss in a coaxial feed line, but at least you’ll radiate some power at the antenna.

• Your antenna has a narrow SWR bandwidth on some bands. Some types of multiband antennas do not offer low SWRs from one end of each band to the other. There is usually a range—expressed in kilohertz—where an SWR below 2:1 can be achieved. With an antenna tuner, you can operate outside the SWR bandwidth and still load the full output of your radio into the antenna system.

Don’t Bother With an Antenna Tuner if...

• Your SWR is 1.5:1 or less at the frequencies you operate most often. An SWR of 1.5:1 or less is not serious and does not require the assistance of an antenna tuner. Most modern rigs will tolerate a 1.5:1 SWR just fine. In fact, many will be happy at an SWR of 2:1.

• You have a high SWR at VHF or UHF frequencies. VHF/UHF antenna tuners are available, but my advice is to save your money. Remember that an antenna tuner messages the antenna system impedance at the transceiver. The mismatch still exists at the SWR is still high at the antenna side of the tuner. Even the best coaxial cables have horrendous losses at VHF and UHF frequencies when the SWR is high. A VHF/UHF antenna tuner will make your radio happy, but most of its power will never make it to the antenna. The best approach is to correct the mismatch at the antenna by adjusting whatever tuning mechanism it provides. If the antenna cannot be tuned, check the cable for defects and make sure you have installed the antenna properly.

• You are interfering with TVs, telephones and other appliances in your neighborhood. Despite what you may have heard, an antenna tuner will not necessarily cure your interference problems. It’s true (Continued on page 82)
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Circle 127 on Reader Service Card
I'm convinced by the end of this decade that most SWL's are going to have a personal computer (PC) of some sort in their shack. Computers won't tune and log the DX for you (that's a relief!) but they will take care of a lot of random "housekeeping" and miscellaneous chores, letting DXers devote more of their time and energy to actually pulling in rare stations. Much of my recent mail has been about using computers in the shack, so here is a column in response.

Which Computer?

First off, I'm going to assume you are already familiar with basic computer concepts and terms like RAM (random access memory), hard drive, mouse, super VGA, Windows, different types of microprocessors, etc. I'm not going to conduct a crash course in PCs here, because Tom Kneitel would be upset if this column ran to 30 pages this month! Such basic computer information is available from a lot of different books, and I suggest that you get a couple and read them. Even if you don't plan on getting a computer for your shack, you'll find such knowledge will eventually be worthwhile for your job or school.

The good news is that you don't need the fastest or most powerful PC around for your shack—infact, a super-duper 486 machine with 8 megabytes of RAM and 160 megabyte hard drive would be overkill for SWL'ing applications. You can get a PC that's perfectly suited for SWL'ing for less than the cost of most shortwave receivers or deluxe scanners.

Your choices in PCs are basically either MS-DOS or Windows using Intel microprocessors (the so-called "IBM compatible" PC's) or Macintosh computers. While these two systems are battling it out in the home and business markets, there's really no question about which is best for the radio shack: it's the MS-DOS/Windows units. The reason why is that much more hardware and software is now available for MS-DOS/Windows machines, and that trend is steadily increasing. I love my Macintosh—in fact, I'm writing this column on one—but I use a MS-DOS system in my shack. In the past, some SWLs have used other computers such as Tandy or Amiga, but these are fading away under the MS-DOS/Windows flood.

For virtually all SWL needs, a PC with a 286 microprocessor, one megabyte of RAM, a 40 megabyte hard drive, a serial and a parallel port, and a VGA monitor will be all you need. Goodies such as more RAM or hard disk space, a super VGA monitor, and a 386 or 486 microprocessor are nice and make the PC more suitable for non-radio uses, but really don't add that much to its utility for SWL'ing. My choice for my DXing computer is a laptop model with one megabyte of RAM, a 40 megabyte hard drive, a 286 microprocessor, an internal modem, and a monochrome display. It's not state of the art computing, but it's fine for my needs and is the sort of computer that's widely available today for only a few hundred dollars.

Receiving Digital Modes

The biggest thing I use my PC for is to receive various digital modes. For these, you will need a separate interface or terminal unit along with appropriate software for your PC. The audio from your receiver is fed to the interface unit, where the signal is converted from audio into a purely digital form that your PC can process and display. The interface unit is usually connected to your PC via the serial port. The interface unit is controlled via special software for your PC. Almost all interface units will let you receive and "see" such modes as Morse code and Baudot code-based RTTY. More elaborate units will let you receive ASCII, FEC, ARQ, SITOR, packet, and even facsimile modes.

Several of the terminal units currently on the market are designed for the ham radio market and have provisions for transmitting digital modes as well as receiving them. While these work fine for receiving, there's no need to pay extra for transmitting capability unless you are, or plan to become, a licensed ham. You can get more performance for your money by using a receive-only unit. Most interface units are "stand alone" external devices, although some are available as plug-in circuit cards you can directly install inside your PC.

Terminal units consist of three basic circuit sections: a series of filters, demodulators, and analog to digital converters. The filters are generally the bandpass audio type designed to pass certain tones while rejecting others; most terminal units will have some sort of tuning indicator to show when your receiver is receiving the desired tones properly. The demodulators extract the content of the different signal modes your terminal unit can receive. Finally, the analog to digital converters take the demodulated audio tones and change them into a digital form that your PC can both process and display.

Interface units are available in a wide range of receiving mode capabilities. If you're starting out in digital mode monitoring, I'd suggest looking for a unit that could at least receive Morse code (CW), Baudot RTTY, ARQ, and SITOR (also referred to as AMTOR and NAVTEX). Such a unit would let you monitor (view?) the majority of digital modes used below 30 MHz. If you get hooked on digital mode monitoring, you can later upgrade to a more elaborate interface unit that includes such modes as FEC, packet, slow-scan TV (SSTV), and facsimile.

How well do such interface units work? Most work really well on all modes except Morse code. The problem there is not so much the units themselves as it is with how the CW is generated. All other digital modes used today are "machine generated," meaning the text or photos (for fax and SSTV) are precisely created by electronic or mechanical means. While Morse code can be produced at a keyboard now, much of it is still created "by hand" using keying devices. The speed, timing, duration, spacing, and other important parameters of the Morse characters can wildly vary, even when transmitted by the same individual. Terminal units expect the characters in various digital modes to be regular and precise. The irregularity and imprecision of hand-sent CW means that a good bit of the CW you try to receive will "print" as gibberish or be badly garbled.

There are some "dedicated" units for reception of digital modes. These require no PC, and include all necessary circuitry and software. All you have to do is connect one to the audio output of your receiver, add a video monitor, and you're ready to go. These perform better than PC interface units, but are also more expensive.

Controlling Your Receiver

Now this sounds like the ideal situation—let your computer do the hard work of tuning around for new stations! It's not that simple, however. Receiver control and scanning software can be very useful in some applications, but useless in some others. Many premium shortwave and VHF/UHF receivers—the Drake R8, the JRC NRD-535, and the Icom R7100 among others—have a RS232 serial port built-in. This port means that you can control the microprocessor-based tuning circuitry of such receivers through your PC if appropriate software is used. Software to do so is advertised in the pages of POP COMM and is available through many of the SWL equipment dealers who advertise here each month. A few receiver manufacturers offer...
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<td>R. Union. Peru</td>
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<td>SS</td>
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Most receiver control software lets you enter desired frequencies and times into a database. Your receiver can then be automatically tuned to a desired frequency at the indicated time by your PC. Almost all receiver control software also permits scanning of frequencies in the database. Some receiver control software will scan through frequencies much like a scanner receiver and pause on a channel with a signal present until the carrier of the signal drops out. Other control software will continuously scan through frequencies in the database and record each time a signal is present; this is a great way to determine how active various frequencies are at times (like late night) when you can’t listen. Some advanced receiver control software even includes terminal unit control capabilities. Such software can scan through your database frequencies and shift your terminal unit to CW, RTTY, or other digital modes received and write all transmissions received to your receiver’s hard disk!

How useful is this sort of software? For scanning frequencies above 30 MHz, it is a terrific tool, especially for uncovering new frequencies and determining just how active different channels are in your area. For frequencies below 30 MHz, it’s much less useful. The reason why is that transmissions on the VHF/UHF “scanner bands” are generally short, whereas transmissions below 30 MHz can go on for hours. The receiver control software might stop at the first signal it finds below 30 MHz and stay there for hours (some software has a “time out” feature, however, to resume scanning after a specified interval even if a signal is still present on a frequency). Moreover, reception below 30 MHz often depends upon proper adjustment of a receiver’s selectivity, sensitivity, automatic gain control, noise limiter, etc. Presently, there is no way for the receiver control software to “know” that a narrow receiver bandwidth should be used or that a faster AGC time is necessary. Those sort of judgments still require a human in the loop.

With those limitations in mind, receiver control software can still be a valuable addition to your shack if your monitoring involves keeping track of several different frequencies within the same time period or searching for new frequencies and judging their level of usage. But, if your monitoring is directed toward just one station at a time, particularly DX stations where correct settings of your receiver’s controls are important, then you can get by fine without controlling your receiver via a PC.

Frequency Directories on CD-ROMs

Prices of compact disc (CD) drives for PCs have been dropping rapidly, and they’re showing up in many PCs today as standard equipment. These drives are used to read CD-ROM (read-only memory) disks, which can contain several megabytes of data and applications programs. One of the most popular types of CD-ROM’s are those which contain files from the FCC’s master station and frequency database. Such CD-ROM’s are organized so that the complete FCC listings for a single state are available on one CD-ROM. Each CD-ROM also includes a data search and retrieval program; the data on each CD-ROM can often be exported to a popular database applications program (like dBase II or III) and sometimes even exported directly into some types of receiver control software. Other FCC databases, such as those for ham radio operators, are also available on CD-ROM.

These CD-ROM directories are especially valuable if you do any VHF/UHF DXing or like to look for more obscure users of the bands above 30 MHz. The search and retrieval programs for most CD-ROM’s are very good, allowing you to do searches based on fragmented data (such as hearing only a mention of “Ellensburg” on 30.17 MHz). Having a collection of databases covering your areas of interest on CD-ROMs will allow you to turn a lot of puzzling receptions into solid loggings. Many of the CD-ROM databases also include address data.
so you can go QSL hunting.

One warning: CD-ROM databases are not cheap. Expect to pay upwards of $60 to $80 per CD-ROM. As an alternative, extracts from the FCC’s databases are becoming available on high density floppy disks for $30 to $40 per disk. Like CD-ROM’s, these are usually sold on a per-state basis. However, to fit the complete listing for a state onto a floppy, certain information (like the licensee’s mailing address) must be left out. However, if you can be content with just knowing the basics like a station’s call sign, authorized frequency, and location, then floppy disks can be a cost-effective alternative to CD-ROM databases.

Other Applications Software

The amount of available radio-related applications software increases each month. You can find programs to track satellites, forecast propagation conditions, practice Morse code, design antennas, keep a logbook of your DX, find the location of the gray line terminator between day and night, or calculate the great circle path from your location to a DX target. An example of the variety of software available can be found in the offerings from one dealer. His products range from a simple 24-hour clock accessory for Windows PCs all the way to a comprehensive database of English language schedules from around the world!

Such applications programs are available on massive CD-ROM libraries, on floppy disks, as “shareware” on floppy disks or via bulletin board systems (BBS’s), or free from BBS’s. “Shareware” is software you try first to see if you like it or can use it; if you decide to use it, you send the developer a nominal fee at the address given in the software. This is a great way to get useful software at very reasonable prices, but you need to use a virus detection and removal utility if you use shareware.

Avoiding Computer QRM

The high speed digital circuitry in PCs generates a lot of broad-band noise throughout the RF spectrum. If you bring a computer into your shack, you need to take steps to keep that noise from getting into your receiving gear.

The first place to start is to make sure you’re using a computer certified by the FCC for home use. Such computers are labeled—a bit misleadingly—as “class B” computers. You would logically think that “class A” computers would produce less noise than class B computers, but that isn’t the case; class A computers are certified only for industrial or business use where interference to radio communications is not a concern. Even class B computers can be surprisingly “dirty.” The key to keeping their noise out of your receiver can be summed up in one word: isolation. Run your receiving gear and PC off separate power outlets and use a noise filter/surge suppressor between your PC and the wall outlet. Keep all cables and other wiring used by your receiver, antenna, and PC as physically separate as possible, and likewise keep your receiving gear and PC as far apart physically as you can. Use shielded cables, and that is one place where a good DC ground on your receiver can help shield your receiver from the radiated PC noise. Be particularly careful when using preamps, active antennas, or loop antennas around PCs, as such devices can pick up and amplify weak radiation from your PC. Watch out for laptop PCs that use so-called “active matrix” displays, as such displays are especially bad sources of RF noise. Don’t be too surprised if you have to re-arrange some items of gear in your shack to get the lowest possible noise level.

You may not think you need a PC in your shack until you try one, and if you do you’ll soon wonder how you got along without one! We’re still in the infancy of “computerized DXing,” and the proliferation of digital modes will soon make a PC a necessity. Now’s the time to start putting a PC to work for you.

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CIRCLE 23 ON READER SERVICE CARD

THE MONITORING MAGAZINE

June 1994 / POPULAR COMMUNICATIONS / 47
SATELLITE VIEW
INSIDE THE WORLD OF SATELLITE COMMUNICATIONS

The Hubble Space Telescope (HST) is back on track but the Mars Observer is lost in space. Let's review what has been happening with NASA during the last year or so.

The Mars Observer was the first US spacecraft in 17 years to be sent to Mars. The day it was to begin its orbit was the day it disappeared. An investigation into its disappearance indicates that the spacecraft stopped sending signals back to Earth after the command to pressurize the propellant tank was given. NASA speculates that the tank had a leak, which sent the spacecraft out of control and into a deep space orbit or onto the Mars surface. Its fate may never be known as Mars is 3.6 million miles away.

HST provides scientists with a close-up view of a shattered comet hurling toward a collision with Jupiter in July of this year.

The Gamma-Ray Observatory (GRO) spacecraft has discovered a new physical phenomenon. Rare flashes of gamma rays are produced in the Earth's upper atmosphere above the regions of intense thunderstorms, and seem to be associated with electrical discharges. It is also directly above such storms that Sporadic-E propagation occurs. Sporadic-E will reflect VHF signals up to 1,200 miles; signals which are normally line-of-sight only. The GRO also discovered that gamma rays do not originate in the Milky Way galaxy, but instead comes to us from deep space.

The research spacecraft Rosat has discovered a huge concentration of so-called dark matter in space about 150 million light years from Earth (a light year is the distance light travels in a year, about 5.8 trillion miles). The discovery appears to confirm that most of the universe's dark matter is concentrated in and around small groups of galaxies, and makes up to 95% of the universe's mass.

The International Ultraviolet Explorer (IUE) provided the first direct evidence that the red super-giant stars, the largest stars known, end their existence in a massive explosion known as a supernovae. IUE transmits on a frequency of 136.860 MHz.

The first successful attempt to "aero-brake" a spacecraft by dipping into a planet's atmosphere was achieved by the Venus probe, Magellan. This maneuver, the spacecraft's orbit around Venus, changed from highly elliptical to nearly circular.

Three interplanetary spacecraft, the Mars Observer, Galileo and Ulysses, were used in an experiment attempting to prove the existence of elusive waves in the universe's gravitational field. This is the first...
time three spacecraft have made simultaneous observations. Einstein predicted the existence of gravitational waves, but none has been detected directly.

The Sampex spacecraft located a new radiation belt around the Earth which seemed composed of cosmic rays—a result from the solar wind interaction with the gas between stars.

The Voyager spacecraft detected radio waves which were believed to come from long-sought-after heliopause, the boundary that separates the solar system from the interstellar space. Voyager 1 is now about five billion miles from the sun; while Voyager 2 is now four billion from the sun. Both were launched 15 years ago. A special low-light-level all sky camera aboard NASA's research aircraft discovered the ozone, as well as huge flashes of upper atmosphere lightning which may affect the ozone.

The Upper Atmosphere Research Satellite (UARS) conducted a study which showed a 20% depletion of the ozone. Ex-astronaut Bryan O'Connor is heading the redesign group for U.S. space station “Alpha” (see June ’88 interview with Mr. O’Connor).

AIDS virus by using advanced x-ray crystallography technology in an attempt to better understand it.

The US-French Topex/Poseidon spacecraft continued its precision measurements of changes in global sea levels. In February, scientists used this data to correctly predict conditions that the ongoing El Nino event would be strengthened, leading to excessive precipitation than experienced in normal winters in the Eastern U.S. In November, this data indicated conditions were primed for another El Nino next year.

### Low-Band Voice Frequencies

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"Freedom" is dead, but "Alpha" will rise from the rubble of its predecessor's death.

By mid-year the Freedom space station, per se, no longer existed. An entirely new station design, nicknamed "Alpha," was being put into place. Program management and staffing was being completely overhauled. In addition, Russia has agreed to become an international partner.

NASA established a 45-member redesign team led by Space Flight's Associate Administrator, Bryan O'Connor. O'Connor's team, which began work in March, recently submitted its final report making three options available. First, to utilize a modular approach to the space station using flight-proven hardware (we already have off the shelf hardware on hand); next, the majority of Freedom systems were suggested to be retained but scaled down; or finally, to use a single module somewhat similar to the Russian Mir design, to be launched on the shuttle and placed into orbit in one trip, ready to use. The President chose option A, and the Alpha Station may become a reality.

NASA is making good use of the retired SR-71 Blackbird, by utilizing this ex-spy plane for a variety of research projects. It has been decided that it is cheaper and quicker to fly than to prepare a launch vehicle to send research instruments aloft.

It was 19 years ago next month that this Soviet and American crew flew the first joint space mission.
NASA also continues research in aircraft safety. They are trying to design engines and control surfaces that will allow aircraft to safely land even if the hydraulic control systems fail. They are experimenting with fiber optic electronic circuits to prevent signals from other sources and lower the risk of shorts and circuit failure.

A new satellite link was tested for use in the 1996 Mars mission, a joint US/Russian venture. The Ames research center in California successfully maneuvered a Russian built robotic rover while it sat in a Moscow laboratory, by satellite link. This was a test of interface compatibility.

Our final note from NASA is a dramatic change in U.S. space policy. NASA has signed an agreement with the Russian Space Agency (RSA) stating the U.S. Shuttle will make up to 10 trips to the Mir space station beginning in 1995. U.S. astronauts will also be part of the regular crew on at least four manned missions to the Mir station. The times they are a-changing!
The Federal Emergency Management Agency (FEMA) may have had a regional station on HF Radio in January trying to set up Pactor communications with another station.

Using an ident of “FC5FEM” the station sent out many test messages. The sender appeared to be learning how to use the Pactor RTTY mode while transmitting live over the air, and ran into great difficulty in doing so. I ran into the station on Jan. 20, at 1909 UTC on 6152.7 kHz, and caught it again the next day on 5403.7 kHz at 1933 UTC.

Testing consisted of repeats of RY's, “of all the fishes in the sea the mermaid is the one for me,” “now is the time for all good women to come to the aid of me,” and “this is a test of this system.” Tests were sent to “FR5FEM,” who was not heard in reply.

I conclude that this is a FEMA station for two reasons: 1) both transmissions are near known FEMA frequencies, i.e., channel F13 on 5402.0 kHz and channel F19 on 6151.0 kHz, and 2) “FEM” in the callsign appears to be a truncation of the acronym FEMA. The “5” in the callsign might indicate FEMA region 5, which consists of stations in the Midwest.

For the next three weeks after the initial intercepts, I tried to find the station doing more testing, but had no luck.

**U.N. In Mexico**

The United Nations High Commission for Refugees (UNHCR) is often heard with Sitor-A RTTY broadcasts over HF Radio. Until recently, the transmissions came mostly from Europe, Africa and Asia; I've had no reports of intercepts occurring within the Western Hemisphere.

In mid February, the UNHCR was found on 10460.0 kHz in the early afternoon (local time) sending Telexes in Spanish from Mexico. The location was given several times as “UNHCR Sochis Mexico,” but Sochis, Mexico, is not listed in my atlas.

The Telexes dealt with many matters, such as “refugiados” (refugees) or “solicita autorization de viaje” (travel authorization), and were monitored on two weekdays.

Unusual Baudot speed: CLP1, the foreign affairs ministry in Havana, Cuba, on the air in January with diplomatic traffic at a baud rate of 70.5. This was on 18639.8 kHz at 1426 UTC.

**New Fax Schedules**

At least three weatherfax stations in the U.S. came out with new transmission schedules in January. They were NAM, Norfolk Naval Base, Va., NMF, Boston Coast Guard Station, Mass., and NMC, Point Reyes Coast Guard Station, Calif.

NAM changed not only its schedule on Jan. 19, it also changed the name of the place where the weather charts are plotted from Naval East Oceanography Center to Naval Atlantic Meteorology and Oceanography. The site of the transmitter was moved from Norfolk to Cutler, Maine, and was noted on the schedule issued at 0000 UTC. The other transmitter at Keflavik, Iceland, remains in use.

Many of the weatherfax charts were redesigned and had a much cleaner appearance than did the charts they replaced. They were smaller in size, which reduced the transmission time from 15 minutes to 10 minutes each. The transmitter, therefore, is shut off for five minutes after each of the newer charts is sent. The charts that were not changed still take 15 minutes to send over the air, and the transmitter remains on after they are sent.

The number of weatherfax products was increased from 52 under the broadcast schedule of Aug. 2, 1993, to 62 under the current schedule. NAM also increased the number of weather satellite photos sent daily from five to 10.

Under the schedule of last August, 3357.0 and 10865.0 kHz were in use 24 hours a day. Now the lower frequency is in use from 0000 to 1300 UTC, and the higher frequency from 1200 to 0000 UTC. The other three frequencies, 8080.0, 15959.0, and 20015.0 kHz remain on call via COMSPOT as under the old schedule. The Icelandic frequency/time schedule remains unchanged. Continuous charts are sent on 9318.0 kHz, and 3820.5 and 18486.0 kHz are on call via COMSPOT.

Oh yes, I almost forgot to tell you—the current schedule retains the very, very, very small type style that was first seen over a year ago. Keep that magnifying glass handy.

NMF, Boston Coast Guard Station, Mass., put its new radiofax schedule into effect on Jan. 31. Starting the day on 3242.5 kHz, a fax header is issued at 0300 UTC, followed by a fax schedule at 0305 UTC. Weather charts follow at 0315,

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**Photo mosaic weather chart of the Indian Ocean area are sent at 1630 UTC on Spacenet 3, transponder 17, 1927.5 kHz. (From Robert Margolis)**
NOAA-9 satellite weather photo of North America was received on 137.620 MHz. When this real time photo was taken, the satellite was passing from the northeast to the southwest over Labrador and Quebec Provinces, Canada, the Atlantic coast of the United States, Cuba, Costa Rica, and out over the Pacific Ocean. Labrador can be seen near the upper right corner, Lake Michigan in the middle, and Florida, Cuba, and Mexico, in the lower third of the photo. (From Robert Margolis)

0325, 0338, 0351, 0401, and 0414 UTC. Staying on the same frequency, NMF issues a fax header at 0700, followed by weather charts at 0705, 0715, 0725, 0735, and 0745 UTC. NMF returns at 0905 UTC with a fax header, followed by a legend at 0910, request for comments at 0920, and weather charts at 0930, 0943, 0956, 1006, 1016, 1026, and 1039.

NMF moves to 7530.0 kHz for a fax header at 1730, and charts at 1735 and 1748. Another fax header comes at 1835, followed by charts at 1840, 1853, 1906, 1916, 1926, 1936, and 1946.

Staying anchored on 7530.0 kHz, NMF sends a fax header at 2015, and charts at 2020, 2030, 2040, 2050, 2100, 2110, 2120, 2133, 2146, and 2159.

Also with a new radiofax schedule on Jan. 31, was the Point Reyes, Calif., Coast Guard station, which kicked off the event with a notice stating, "Responding to user requests," the coast guard station and the National Weather Service, Washington, D.C., were implementing a new, expanded radiofacsimile program.

NMC now sends out schedules in two parts, at 1104 and 1115 UTC, and at 2324 and 2335 UTC. The basic time periods for fax transmissions are 0145 to 0420, 0420 to 0723, 1104 to 1148, 1415 to 1623, and 2013 to 2345 UTC. Daytime frequencies are 8682.0, 12730.0, 17151.2, and 22528.9 kHz. That last frequency is a change from 22527.0 kHz. Nighttime frequencies are 4346.0, 8682.0, 12730.0, and 17151.2 kHz.

Photo Quality Faxes

When I bought an OFS WeatherFAX board for my computer several months ago for processing weather satellite photos, Jerry Dahl at OFS told me that although my Hewlett-Packard LaserJet IIP plus printer was adequate for printing out photos at 300 dots per inch, upgrading to a LaserJet 4 printer at 600 dpi will give more "astounding" photos. I was reluctant to buy the recommended printer because I had my LaserJet IIP plus for less than a year and didn't feel it was ready to be consigned to the junk heap. Meanwhile, I put up with the muddled and darkened printouts and wished that there was another way in which to improve the printing quality.

Leafing through a thick stack of catalogs of computer equipment, I came across a product that seemed to be what I wanted. It was a "doubleRES 4 Accelerator Board" for $449.90 from Tiger Software of Coral Gables, Fla. (1-800-888-4437), that beefed up the resolution of LaserJet II and III printers from 300 to 600 dpi. It worked within Windows 3.1 on MS-DOS based computers. Upon calling Tiger Software, I learned that my LaserJet IIP plus was not quite the same as a LaserJet II, and therefore the
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CIRCLE 72 ON READER SERVICE CARD

“Admiral, sir, I think we’re in for some very rough weather.” (Corrupted weather chart of NPG, USN, San Francisco, California, from Robert Margolis)

product would not work with my printer. It looked as if I was stuck with so-so printouts.

A couple of months later, while reading the ads in back copies of computer magazines, I came across one for a resolution board that could make a LaserJet II, III, IIID, or 4 print graphics at a whopping 2400 dpi resolution. It was LaserPix 5.0 from XLI Corp., 800 West Cummings Park, Suite 6650, Woburn, Mass., 01801. It also printed text at 1200 dpi and cost $1,295. Seeing sample printouts the firm mailed to me, I called the firm’s 800 line, only to learn that that product also will not work with the LaserJet IIIP plus. I was now convinced that I had to have a suitable laser printer and chose to get the LaserJet 4 after finding no place in my area selling the older LaserJet II’s and III’s.

After purchasing a LaserJet 4, which, incidentally, prints out at a resolution of 600 dpi, I called Dick Davidson at XLI (1-800-433-8040) and told him I wanted to purchase the LaserPix 5.0 so that I can get photo quality reproductions of weather satellite fax transmissions.

Since I only planned to use the product for working with fax charts, and not for doing desktop publishing, Davidson advised me instead to get PhotoJet, which is the graphics portion of the LaserPix package. It would enable me to do everything the LaserPix can do, except for printing text at 1200 dpi, for only $895. I placed the order. A couple of days later, the PhotoJet package arrived at the front door. I put the circuit board inside my computer, installed a printer interface board in the options slot of the LaserJet 4, connected the printer to the circuit board with an interface cable in the package, and installed the printer driver software program to Windows 3.1 (there
is no DOS version), which was on the hard drive. The PhotoJet package also came with a Limited Edition of Picture Publisher from Micrografx Inc. of Richardson, Tex. This is a generic version of the full retail software, but it had all that I needed for processing weather satellite photos. This too was placed within the Windows program. The entire installation was complete in less than a half hour.

Since then, I have been using the OFS WeatherFAX for picking up not only weather satellite pictures, but also UPI wirephotos off of TVRO satellite and Argentine and North Korean wire photos off of HF Radio, and I process all in the Picture Publisher program. The results are truly "astounding," as Jerry Dahl said they would be. The NOAA-9 polar-orbiting weather satellite photo shown in this column was printed out at 2400 dpi without any image processing whatsoever. I could have enhanced the photo so that it would look about as good as what the satellite's camera saw. Maybe I'll do that next time. In the meantime, I highly recommend this product to those of you who work with satellite photos and want the printouts to look as if they're on steroids.

What happened to my LaserJet IIIP plus printer, you ask? It's now connected to the Universal M-8000 Communications Terminal on a full-time basis.

**Stax of Fax Dept.**

Heard an unidentified station sending a radiofax chart on 5864.4 kHz at 120/576 at 0421 UTC in January. No listing for a fax station on this frequency.

Received several news photos and weather charts from Steve Wielgos of Indiana in early February. One newsphoto, from Telam, Buenos Aires, Argentina, sent Jan. 23, showed two bikini-clad women getting a suntan on a sandy beach in the South American country. That photo looked very familiar to me, so I went...
through my pile of radiofaxes to see if I also had received it over my radio. Indeed I did, but my copy was logged in on Jan. 31, eight days after Steve’s. My photo showed the same two women wearing the same bikinis. There was one difference, however—the poses were not the same! It appears that the photographer took a series of photos, clicking off shot after shot after shot, and it was evident that Steve’s copy was taken before mine.

I’m always looking for interesting radiofax newsphotos and weather charts, and weather satellite photos to exhibit in this column. Here are some guidelines for getting your material into print. The main criterion is that the photo or chart should be of interest to your fellow readers. KCNA, Pyongyang, North Korea, sends out a huge amount of pictures showing groups of people standing before a painting showing North Korean mountains that is displayed inside the Great Hall, or whatever they call the place. These photos, as well as others, such as workers operating machinery, or new buildings that have opened up, are commonplace. I prefer action shots involving people, but not scenes depicting car, bus, train, or plane accidents, or bullet-riddled bodies, as sent by Telam several times in January and February during an outbreak of violence on the streets of Buenos Aires. Many headshots sent by Telam and Noticias Argentinas are not suitable either, because the persons shown are, for the most part, unknown to us.

Unusual weather charts are wanted, ones that are not seen every day of the year. I need charts from European, Asian and African weather stations because they are not seen regularly by American viewers. I have plenty of my own charts from U.S. Coast Guard stations, the U.S. Navy and Air Force, the Canadian Military, and American coastal and intercoastal stations, and I don’t need more of them, unless the transmissions are out of the ordinary, such as goofs made during transmissions. Two examples of errors in transmissions are shown in this month’s column.

The quality of pictures and charts is important too. Misframed frames and grayed images are unacceptable. Occasionally I will allow poorer quality material, but only when a photo or chart is a “one-time” transmission that will never be seen again. I use them “for the record.” Lastly, it is important for all contributors to know that material they send to me gets used in the first available issue, and it is appreciated.


RTTY Intercepts

2233.8: "SIHVHF.” M0L Ben. Germany. w/standard operational msg to Kiel. ARQ-E/72. FDM. at 2000. (L.D.)
2385.3: “BYBVHF.” MI0L. Bonn. Germany. w/encrypted tlc to Munich after ZCZC 011 BYBVHF 081906. Was Arg-E/F. FDM. at 1806. (L.D.)
3249.5: EIP. Shannon Air. Ireland. w/RYRY + EIAAFFX ID. 850/50 at 0135. (H.M.)
4000.8: USA MARS sta. w/net BC at 0033. (FEC.)
4002.0: YRR2. Bucharest Moto. Romania. w/code in tx at 0100. 400/50. (H.M.)
4023.8: B92. Paimst Air. Mauritius. w/aviation wx. ARQ-E/48 at 0217. (R.M.)
4084.0-4086.0: Un-ID. but most likely the Canadian Military link to Australia. w/all FDM channels encrypted. 170/5 at 0238. (R.M.)
4167.2: Un-ID msg w/encryption at 0042. 850/300. (R.M.)
4173.0: SVUP. the Greek cgo ship Pantens A Leonis. w/arrived Norfolk msg to shipping ofc. ARQ at 0454. (R.M.)
4176.5: UKET. vesse Adohito Bukhova w/TG in ARQ at 0212. (R.B.) Listed as the Russian ctnr ship Nadzohit Ohukhova—Ed.
4178.0: OISP. the Finnish trkr Igloo Norse. w/msg in ARQ at 0054. (R.M.)
4215.0: WCC. Chatham R., Mass. w/fic list at 0841. FEC. (R.B.)
4252.5: Un-ID using unk TTY mode. 375/95 at 2035. Seemed to be idling. (R.B.)
4442.5: RCC72. Kiev Meteo. Ukraine. w/encoded wx. 50 baud at 0031. (A.B.)
4600.0: ZRU. un-ID Italian Navy. w/encrypted ARQ tlc at 1900. Also. IFS. another un-ID. w/oc oc oc syncl KL pk pk nca nca nca in FEC at 1855. (A.B.)
4602.0: Un-ID w/SW. grps “runtime” tlc at 0050. ARQ. Ends w/“NNNN INT QSL 2050? RGR IFIS TAR.” (A.B.)
4613.0: LZA8. Sofia Meteo. Bulgaria. w/decoded wx. 50 baud at 0048. (A.B.)
4618.4: Un-ID w/periodic “controle de voe” or op mgs. ARQ-E/200 at 0259. Lots of misprinting prevents positive ID. (R.M.)
4646.0: Un-ID w/encryption at 0230. 170/81. (R.M.)
4788.0: 6VY25. Dako Meteo. Senegal. w/coded wx at 0139. 400/50. (R.M.)
4853.0: Un-ID w/encryption. ASCII 170/300 at 0118. (R.M.)
5208.0: FSB. Interpol. Lyon. France. w/ARQ phasing sig + CW ID at 0209. (R.B.)
5434.7: Un-ID idling. CIS 11/170/100 at 2041. (R.M.)
5797.0: Navmarcormars sta w/MARSgrams at 1733. ARQ. (R.M.)
5863.5: Navmarcormars sta. MARS tfc. Pactor at 1841. (R.M.)
6262.5: CDCP. Baco-Liner 1. w/msg to Pilot Vissingen. ARQ at 2144. (A.B.) German ctnr ship—Ed.
6264.5: UNXRD. the Russian trkr Ventspils. w/TG s. ARQ at 0300. (R.M.)
6265.7: MAAJ. the British ves Martha Majesty. w/EIA SW Passage msg in ARQ at 0218. (R.B.)
6270.5: SVBT. vesse Doni Triton. w/ARQ tlc at 0057. (R.B.) Greek cgo ship—Ed.
6272.0: C6KD. Carnival Cruise Liners’ pgst ship Fiesta Marina (formerly Carnival) w/AMVER at 2250. ARQ. (R.B.)
6274.0: KNRD. NOAA ship Delaware II (R-445). w/tlx to NOAA Marine Support Facility. Miami, Fla. ARQ at 1220. (R.M.)
6314.0: NME. Boston Cogard. Mass. w/wx BC. FEC at 0155. (R.B.)
6317.5: VCS. Hallfax Cogard. N.S. Canada. w/ice bulletin at 1305. ARQ. (R.B.)
6324.0: WCC. Chatham R., Mass. w/fic list + wx. in FEC at 1644. (R.B.)
6915.0: BAP46. Xinhu. Yunyurq. China. w/tx in EE. 850/75 at 1055. (E.W.)
7437.7: NNN. USCG, Portsmouth. Va. w/ARQ phasing sig + CW ID at 2141. (R.M.)
7512.0: ZRU2. Primetote Meteo. RSA. w/decoded wx. 242/75 at 0912. (R.M.)
7540.6: CCM. Chilean Navy. w/SL grps at 0115. 850/100. (R.M.)
7621.0: AFC. Offutt AFB. Elklnm. Nebraska. w/Mission Planning Forecast at 2152. 850/75. (R.M.)
7624.8: HZN47. Jeddah Meteo. Saudi Arabia. w/decoded wx. 950/100 at 2220. (R.M.)
7644.5: USMC MARS sta, NNNOMRG w/Packet R. mgs to NNNOMRH at 1520. (R.M.)
7681.5: AGA1WP. USAF MARS. Wright-Patterson AFB. Dayton, Ohio. w/ARQ-E/48 at 0257. Packet at 1510. (R.M.)
7685.5: NNN0XHD w/MARS net operational mgs. Pactor at 2234. (R.M.)
7720.7: USA MARS sta heard using diff. RTTY modes. Stats incl. AAT56FC w/ARQ-E/48 at 2157. ARQ: AAA6USA, Fort Sam Houston, Tex. w/MARSgrams at 1459. Packet R. & AAM6RC w/msg to AAR6QX. Pactor at 1506. (R.M.)
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COMMAND listen to CTCSS tones and adjust for unexpected or changing conditions. The RELM BC8500XLT comes with AC adapter, telescopic antenna, owner's manual...

CB/GMRS Radios

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<table>
<thead>
<tr>
<th>Frequency</th>
<th>Call Sign/Position</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8129.8</td>
<td>MTO, Rosyth, Scotland</td>
<td>Available freq list, 805/75 at 1830. (R.M.)</td>
</tr>
<tr>
<td>10115.0</td>
<td>French Forces, Paris, France</td>
<td>w/wx &amp; personal code. (R.M.)</td>
</tr>
<tr>
<td>10119.3</td>
<td>New Delhi, Metro India</td>
<td>w/coded wx. 150/50 at 1935 (R.H.)</td>
</tr>
<tr>
<td>10247.0</td>
<td>Bulgarian Emb., Vienna, Austria</td>
<td>w/TG in Bulgarian, 85 baud at 0655. (Z.L.)</td>
</tr>
<tr>
<td>10313.0</td>
<td>OMZ, MFA, Prague, Czech Rep.</td>
<td>w/encryption. DUP-ARQ at 0609 (E.W.)</td>
</tr>
<tr>
<td>10407.2</td>
<td>6VY6, ASECNA, Dakar, Senegal</td>
<td>w/RYYR, 404/50 at 0431 (R.M.)</td>
</tr>
<tr>
<td>10418.6</td>
<td>ETS, Adis Ababa, Ethiopia</td>
<td>w/encryption. 799/45 at 0435 (R.M.)</td>
</tr>
<tr>
<td>10492.5</td>
<td>V5G, MFA, Bucharest, Romania</td>
<td>w/in Romanian at 0455. ROU-FEC/164.5 (P.L.)</td>
</tr>
<tr>
<td>10502.0</td>
<td>Un-ID w/encryption</td>
<td>170/110 at 2147 (R.M.)</td>
</tr>
<tr>
<td>10670.0</td>
<td>Un-ID in AA at 0720</td>
<td>50 baud. (Z.L.)</td>
</tr>
<tr>
<td>11092.0</td>
<td>RFV1, French Navy, Le Port, Reunion</td>
<td>w/mags to Mayotte. ARQ-96/24 at 1217. (R.M.)</td>
</tr>
<tr>
<td>11112.8</td>
<td>RFHI, French Navy, Noumea, New Caledonia</td>
<td>w/controle de voe, ARQ-31/100 at 1340. (R.M.)</td>
</tr>
<tr>
<td>11436.0</td>
<td>Un-ID w/round-the-clock encryption</td>
<td>170/110 at 1900. (E.W.)</td>
</tr>
<tr>
<td>11512.0</td>
<td>Un-ID w/encrypted Packet mags at 0435.</td>
<td>(R.M.)</td>
</tr>
<tr>
<td>12216.0</td>
<td>OMZ, MFA, Prague, Czech Republic</td>
<td>w/5F grps in Czech to New York City. 371/100 at 1845. (R.M.)</td>
</tr>
<tr>
<td>12369.0</td>
<td>Un-ID w/encryption, ASCRI 1400/300</td>
<td>at 1600. (R.M.)</td>
</tr>
<tr>
<td>12383.0</td>
<td>Un-ID w/encryption, 800/300 at 0230.</td>
<td>(R.M.)</td>
</tr>
<tr>
<td>12481.0</td>
<td>ELEU4, ship Laja, w/tfcs via CBV</td>
<td>at 1503. ARQ (L.M.)</td>
</tr>
<tr>
<td>12482.0</td>
<td>WRSP, the American steam tramp Brooks Range, w/AMVER rpt via KPH. ARQ at 0122. (L.M.)</td>
<td></td>
</tr>
<tr>
<td>12544.8</td>
<td>&quot;RSB 1.&quot; prob. in the Middle East.</td>
<td>(Z.L.)</td>
</tr>
<tr>
<td>12597.0</td>
<td>SPB, Szczecin R., Poland</td>
<td>w/tfc list, ARQ at 1404. (J.N.)</td>
</tr>
<tr>
<td>14352.7</td>
<td>Swedish Emb., Guatemala City</td>
<td>w/msgs to Mayotte, ARQ at 1002. (R.M.)</td>
</tr>
<tr>
<td>14384.3</td>
<td>SAM, MFA, Stockholm, Sweden</td>
<td>w/tfc in FF (&quot;kyogun ic, ici bji&quot;) at 0725, ARQ. (R.H.)</td>
</tr>
<tr>
<td>14390.0</td>
<td>CPL65, Cub. Emb., Managua, Nicaragua</td>
<td>w/encryption to CLPL. 500/100 at 1528. (R.M.)</td>
</tr>
<tr>
<td>14391.5</td>
<td>Israeli diplo. ch. Uses FFC. &quot;JWB&quot;</td>
<td>w/mags in FF to &quot;DKC&quot; &amp; &quot;MUC&quot; at 1716. (C.M.)</td>
</tr>
<tr>
<td>14488.5</td>
<td>OEC, MFA, Vienna, Austria</td>
<td>w/msgs to Cairo emb. ARQ-S6/96 at 1025. (E.W.)</td>
</tr>
<tr>
<td>14512.0</td>
<td>PWX33, Brasilian Naval, Brazil, cig LOL at 0809.75 baud. (L.D.)</td>
<td></td>
</tr>
<tr>
<td>14713.0</td>
<td>Un-ID in Piccolo mode at 1220. (A.B.)</td>
<td></td>
</tr>
<tr>
<td>14718.3</td>
<td>RTFH, French Navy, Noumea, New Caledonia</td>
<td>w/unclas mags. ARQ-E3/100 at 1728. (R.M.)</td>
</tr>
<tr>
<td>14812.0</td>
<td>CETKA, Prague, Czech Republic</td>
<td>w/msgs in Czech at 100 baud. (A.B.)</td>
</tr>
<tr>
<td>14814.8</td>
<td>UBMT, MFA, Stockholm, Sweden</td>
<td>w/tfc to Athens. Sweden-ARQ at 1235. (A.B.)</td>
</tr>
<tr>
<td>14840.0</td>
<td>HQX21, MFA, Budapest, Hungary</td>
<td>w/encryption. DUP-ARQ at 0609. (E.W.)</td>
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<tr>
<td>15028.3</td>
<td>TVX51, Polish, Arklow, Ireland</td>
<td>w/unclas mags &amp; nx. ARQ-48/215 at 2145. (R.M.)</td>
</tr>
<tr>
<td>15033.0</td>
<td>TVX51, Polish, Arklow, Ireland</td>
<td>w/unclas mags &amp; nx. ARQ-48/215 at 2145. (R.M.)</td>
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<tr>
<td>15034.0</td>
<td>TVX51, Polish, Arklow, Ireland</td>
<td>w/unclas mags &amp; nx. ARQ-48/215 at 2145. (R.M.)</td>
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<tr>
<td>15035.0</td>
<td>TVX51, Polish, Arklow, Ireland</td>
<td>w/unclas mags &amp; nx. ARQ-48/215 at 2145. (R.M.)</td>
</tr>
<tr>
<td>15036.0</td>
<td>TVX51, Polish, Arklow, Ireland</td>
<td>w/unclas mags &amp; nx. ARQ-48/215 at 2145. (R.M.)</td>
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</tbody>
</table>
were the visit to Guyana by former president Carter. Guyana, w/tfc to CLP1 at 1450, 425/100. Two msgs at 1023, ROU-FEC/164.5. (E.W.) & tfc in SS at 1515, 425/50. (R.M.)

w/RYRY at 1503, 850/75, fold by test msg to RPAO. YJYZ7 at 1426, ARQ. (J.N.)

w/encryption. 461/75 at 1715. (R.M.)

w/msgs & 5L grps to Fort de France, ARQ-E3/192 in ARQ at 1548. (R.M.)

w/5 encrypted msgs (nr’s 0050-0054) after VCVCVC

w/nx in GG & FF at 1433, ARQ. (J.N.)

w/nx in Hungarian, 799/50 at 1210. (R.H.)

SN299, MFA, Warsaw, Poland, w/5F grps & tlx’s to Lagos, Nigeria, POL-ARQ at 1424. (R.M.)

SN299, MFA, Warsaw, Poland, w/tfc to Montreal, Ottawa, Toronto & Vancouver, POL-ARQ at 1430. On another day, SN299 w/nx in EE at 1355, fold by ‘Buleyten Pravny’ at 1357. (R.M.)

SN299 w/5F grps & msgs to Damarus, Syria, POL-ARQ at 1423. (R.M.)

Un-ID w/encryption, ARQ-E/288 at 1352. (R.M.)

5AF, Tripoli Air, Libya, w/ILLYFY c/s + RYRY, 50 baud at 1740. (A.B.)

RUZU, Molodezhnaya, Antarcitca (Russian base), w/wx for islands in the Southern Hemisphere. Torg-11/100 at 1040. (E.W.)

Un-ID Dutch diplo w/TQVK selcalling in ARQ at 1548. (R.M.)

RFFA, Mindefense, Paris, France, w/msg & 5L grps to Fort de France, ARQ-E/192 at 1406. (R.M.)

RFTJ, French Navy, Dakar, Senegal, w/’non protege’ tfc to RLFL at 1530, ARQ-E/192. (R.M.)

CLP1, MFA, Havana, Cuba, w/circulars marked “a todas las embajadas y consulados,” 500/70 5 at 1426. (R.M.)

DF570, PIAB, Bonames, Germany, w/nx in GG at 1444, FECA/96. (R.M.)

Un-ID w/5L grps on maritime freq., ARQ at 1625. (R.H.)

RCW1, MFA, The Hague, The Netherlands, w/nx in Dutch, ARQ at 1314. (R.H.)

CLP45, Cuban Emb., Luanda, Angola, w/encryption. 461/75 at 1715. (R.H.)

RCW1, MFA, The Hague, The Netherlands, w/nx in Dutch, ARQ at 1314. (R.H.)

Grove Enterprises

The Hague re Libyans seeking to enter The Netherlands, Twispixel, YSBV YBBY, at 1206. (M.D.)

Un-ID killing ARQ-E/200 at 1432. (R.M.)

RFLI w/5L grps at 1600, ARQ-E/192. (R.M.)

RFLI w/’controle de voie,’’ ARQ-E/96 at 1632. (R.M.)

Moscow Meteo, Russia, w/wx at 0647, Torg-11/100. (E.W.)

SAM, MFA, Stockholm, Sweden, w/tfc to Manila, SWED-ARQ at 1152. (E.W.)

KUNA, Khartoum, Sudan, ending nr BC in EE at 1717, 175/50. (R.M.)

AAA6USA, USA MARS, Fort Sam Houston, Tex., AAA0USA, Fort Lewis, Wash., and other MARS stations heard with Packet at 1605. (R.M.)

Jana, Tripoli, Libya, w/nx in SS at 1625, 150/50. (A.B.)

SNN299, MFA, Warsaw, Poland, w/tfc in Gdansk to Warsaw to Moscow, mfa@polmar. (R.M.)

SNN299 w/5F grps & msgs to Damarcus, Syria, POL-ARQ at 1423. (R.M.)

Un-ID killing at 1528 & going QRT at 1548. ARQ-E/90-200. (R.M.)

VYJH, Tanjung, Belgrade, Yugoslavia, w/nx in SS, 400/50 at 1602. (R.M.)

AAA6USA, USA MARS, Fort Sam Houston, Tex., AAA0USA, Fort Lewis, Wash., and other MARS stations heard with Packet at 1605. (R.M.)

Jana, Tripoli, Libya, w/nx in SS at 1625, 150/50. (A.B.)

World Food Program, Rome, w/msg re air supply drops over Sudan, ARQ at 1133. (R.H.)

AGAH1, USAR MARS, Hickern AIR, Hawaii, & AGASTR w/MARS tfc, 170/75 at 1746. (R.M.)

LYEB, the Russian fct trawler Malta, w/nx in Hungarian, 799/50 at 1210. (R.H.)

YUWY, the Russian ves Leonid Ivanov, w/msgre air supply drops over Sudan, ARQ at 1133. (R.H.)

AGAH1, USAR MARS, Hickern AIR, Hawaii, & AGASTR w/MARS tfc, 170/75 at 1746. (R.M.)

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acation time means mobile scanning. If you’re planning a trip, pick up some scanner directories for the area you’re visiting from your local scanner shop or from one of this publication’s many advertisers. Organize your listening before you leave on your trip. For instance, what kind of listening will you want to do while you’re on vacation? Will you want to hear all the local police and fire action around you? If you are visiting an amusement park, you’ll want to check out business band frequencies for communications related to security, operations and other activities. If you’re headed for a natural park such as a forest or national park, you’ll want to scan forestry conservation frequencies, primarily in the 151 and 159 MHz bands.

Wherever you visit this summer, plan to take along the handheld or mobile scanner for an enjoyable time. While visiting a state you haven’t been in before, you may want to check with the state’s police before visiting to see whether there are any laws prohibiting the use of mobile scanners. At this time, states that have such laws have exemptions for those who are licensed amateur radio operators. There is a benefit for those who take the step to become licensed, even if it’s the entry-level novice or no-code technician class license. And don’t forget that if the family is along for the trip, non-stop scanning action may not be their plan for vacation fun. Scanning in the right amount of doses, however, shouldn’t bother anyone.

Loretta Hughes of Wilton, California, says she recently visited England and found an interesting article in a newspaper there. Apparently the police in Doncaster, South Yorks, got tired of persons eavesdropping on their transmissions, so they staged a hoax to catch several in the act. Officers transmitted a report of a flying saucer landing on a lane, and then sat back and waited. Apparently several people showed up on the lane and were charged with eavesdropping, the newspaper quoted a South Yorkshire police magazine as saying. The article went on to say that many criminals in England are using scanners to monitor police frequencies—a scary thought in the United States!

John McGowan of Batavia, Ill., responds to the mention in the February column as to using a cellular phone as a scanner through keyboard tricks. He feels we have been slightly misinformed in that while the keyboard commands will let one monitor cellular frequencies, it will not scan, per se. What the command does allow is to manually program in the cellular channel number into the phone to allow one channel to be monitored at a time—all for diagnostic purposes, of course! John says that by entering the diagnostic mode and enabling the receiver audio unmute, some cellular phones will allow the monitoring technique. He also notes that many cellular phone manufacturers have sent memos to their service centers with strict instructions not to show the general public how to enable the function.

John McGowan also passes along some frequency information for Aurora, Ill., one of the larger suburbs in the Chicago area with a population of about 100,000, two gambling riverboats and a gang problem. Aurora police dispatch is on 155.610(F-1); a secure, scrambled, tactical frequency is 151.385(F-2); fire dispatch is on 154.250 for city units and 154.070 for outlying volunteer departments; fireground is on 154.295; ambulance to hospital is 155.340; and local investigations involving neighboring police departments in Kane County use 156.150.

Mike Ramirez of Toledo, Ohio, has been a scanner listener for six years and owns Uniden Bearcat 200XLT and 145XLT scanners. He likes to listen to activity from emergency services to amateur radio repeaters. Mike also sends along frequencies he likes to listen to in the Toledo area: Toledo police—851.0625, 852.0625, 853.0625, 854.0625, 855.0625, 851.4375, 852.4375, 853.4375, 854.4375, 855.4375, 856.4375, 857.4375, 858.4375, 859.4375; fire 851.4875, 852.4875, 853.4875, 854.4875, 855.4875; Oregon police—460.100, 460.075; Lucas County sheriff—460.475; Maumee police—460.375; Sylvania police—460.050; Sylvania Township police—453.575; Ottawa Hills police—460.025; Perrysburg Township police—155.130, 154.770; Woodville Mail—464.825; Toledo Streets Department—150.995, 156.045; Oregon Streets Department—155.085, 153.815, TARTA buses—453.725 (F-1), 453.775 (F-2), 453.675 (TARPS). Remsno Rescue Squads—462.950 (dispatch), 462.975 (dispatch and rescue squad). Life Flight helicopter—123.050. Thanks, Mike, for the great frequencies.

Andrew W. Clegg, who is with the Naval Research Laboratory in Washington, D.C., says he enjoys reading POP’COMM and came across something interesting in Delta Airlines’ in-flight magazine. In fine print on the airline’s in-flight information is the notation that scanners are allowed to be used while in flight! The rules state “VHF scanner receivers...may be operated when the aircraft is not in the taxi, take-off, initial climb, approach, or landing phases.”

Andrew comments that he assumes that “VHF scanner receivers” means regular scanners, including those that have the UHF band (why would they limit the scanning to the VHF band and not the UHF band?).

Andrew retrieved his scanner from his carry-on luggage during a recent Delta flight and started scanning. He says he heard a wide variety of stations, including several NOAA weather stations simultaneously, 2-meter ham repeaters galore, many 800 MHz systems and several air-to-air pilot conversations. He also was able to monitor his hometown police department in Arlington, Va., on 453.825 while 100 miles away from the airport. Using a scanner in flight is equivalent to having a tower several thousand feet tall! Andrew comments that it would be interesting to know what other airlines besides Delta allow scanners to be operated in flight.

On the same note, he comments that he will use his scanner only during the allowed portions of the flight because if too many scanner owners abuse the privilege, the rule could become rescinded. The use of radio receivers (and also transmitters) are
reacted, I was sure when we landed the air-scanner and asked whether he was using a cellular phone. He explained that he was using a scanner, 200XLT during the flight and asked the flight attendant if he could use the radio. He did not mention that it was a scanner, receivers (Icom R100, Uniden Bearcat 200-XLT and Realistic DX-390 shortwave receiver). He planned to use his Bearcat devices designed to radiate RF energy transmitters, CB radios, 49-MHz transceivers, for computers or games connected by VHF FM receivers (Icom R100, Uniden Bearcat 200-XLT and Realistic DX-390 shortwave receiver). He goes on to say he was so upset by the flight attendant’s reaction he did not inquire further. As I mentioned in the Delta Airlines comments above, check with the pilot when you board the plane (I have in the past). If the pilot says no, respect the decision and try again on the next flight.

Rick Garrett, N9GSU, of Muncie, Indiana, says he’s been reading POP.COMM for a long time. He uses Realistic Pro-37 and Pro-2202 scanners in his ham shack. Here are some frequencies of local interest he has found: 461.075, Delaware Investigations (private security) and Ball State University; 462.475 and 462.525, Borg Warner automotive plant security and maintenance; 463.600, Century Cable TV; 151.115, Prairie Creek park police and street department; 154.600, McDonald’s drive-through windows.

What frequency information would you like to share with our readers? What listening tips or comments would you like to send in? What questions do you have on scanning the VHF and UHF bands? We also welcome your photographs of listening posts, dispatch stations and antenna towers. Send your information to: Chuck Gysi, N2DUP, Scanning VHF/UHF, Popular Communications, 76 N. Broadway, Hillsville, N.Y. 11801-2909.
Introducing SoftWave™

A product that combines shortwave/VHF, digital signal processing and Microsoft Windows®, SoftWave™ is the industry's first digital receiver for Microsoft Windows. Each SoftWave package contains a receiver module, a DSP card for a standard PC slot, and program disks. A cable and easy-to-read manuals are also included.

Six different radio "personalities" await the user. With a click of the computer mouse, the user can choose from a standard AM Radio, a Communications (HF) Radio, a VHF Scanner, a World Radio, a Time Synchronizer Radio and a Spectrum Analyzer. Each personality has its own characteristics. SoftWave is several separate receivers in one package. Because the radio personalities are completely under software control, new features are as easy to install as a floppy disk.

The Communications Radio looks like the front panel of a shortwave receiver, with one major difference: in the top right corner of a screen, a spectrum analyzer shows the received signal in real-time. Tune continuously, in 1 Hz precision, from .05 to 30 MHz and 108 to 174 MHz. Completely digital controls such as a blanker, squelch and AGC provide incredible flexibility. Digital audio controls include volume, high and low filters. Another interesting feature is the spectrum analyzer. Both the signal and the IF filter are displayed in real time. Adjust the IF filter to one of 46 settings from 11 kHz to 56 Hz and set the tunable notch filter to knock out those stray signals.

The VHF Radio tunes continuously from 108 to 174 MHz. Load stations into one of the scanning groups provided by ComFocus or create your own scanning group. SoftWave's scanning database will store up to 5,000 stations, identified by name, number, frequency or any other ID method you choose. Split and priority stations can be identified or changed with a few clicks of the computer mouse.

For those who don't know exactly where to find Radio Moscow at 0100 UTC, SoftWave's World Radio solves the problem. By selecting this personality a world map appears on the screen. Use the mouse to point and click on a particular continent and SoftWave gives you a list of all the stations currently on the air from the selected location. SoftWave's digital signal processor tunes up to 100 stations per second and indicates the reception quality for each right on the screen! You can ask the database what's on the air in an hour (or two) or select from news, sports, general interest or user priority. Point and click again and automatically tune to the selected station. Or select "auto tune" and scroll through the stations, listening to each.

The Time Synchronizer Radio displays all WWV frequencies. SoftWave will automatically show the signal strength for each. Select the strongest signal and even reset your computer clock for the correct time.

The Wide Band Spectrum Analyzer, a separate personality, displays all signals in a bandwidth up to 5 MHz. This is useful for finding new signals.

SoftWave also includes a Morse Code decoder. Called the Morse Code Translator, this window displays the text as received. It also shows the words per minute, the error rate, the relative quality of the transmission and the relative confidence of the digital decoder. By selecting the options you can also decode Q signals and commonly used abbreviations. SoftWave even has Word Guess™, a propriety method of "guessing" the word that has been received the signal conditions are poor. By clicking on the Zoom button, SoftWave automatically narrows the IF filter bandwidth and centers the signal.

Since most of SoftWave's computations are done by the DSP, the computer is free to run other Windows applications. You can tune into your favorite station and play Jet Fighter at the same time. Perhaps you want to type a letter on Microsoft Word™. No problem. SoftWave can share the screen with any Windows programs. This allows your to click the mute button when the boss is coming.

SoftWave includes a complete database, accessible to all of the personalities. Current program schedules from shortwave broadcasters throughout the world are pre-installed. Select from one of SoftWave's stations or add your own.

One of the unique features of SoftWave™ is that power to the receiver module is provided by the RS232 cord from the PC. You can locate the receiver module under the desk, in the closet or anywhere within the length of the provided cord. Try to imagine this: a shortwave receiver, VHF scanner, digital signal processor, spectrum analyzer, Morse code decoder, and a database of worldwide programming in your office and nothing on your desk except for a computer monitor.

As would be expected from a digital receiver, SoftWave has world class performance: Noise figure of 9 dB (HF) and 11 dB (VHF), Dynamic Range of 97 dB, HF Sensitivity of -130dBm/(0.14 µV) (CW at 300 Hz, 10 dB SNR), IF Rejection of 85 dB, and a Notch filter Attenuation variable up to 40 dB.

SoftWave™ is currently available from ComFocus at an introductory price if $1,495. The introductory period expires July 31, 1994. ComFocus is also offering a 14 day money back guarantee for sales within the United States. The ComFocus sales department can be reached at 1-800-SOFT-WVE (763-8983). Its service department can be reached at 1-800-763-2750.
HOW I GOT STARTED

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popular Communications invites readers to submit, in approximately 150 words (more or less), how they got started in the communications hobby. They should preferably be typewritten, or otherwise easily readable. If possible, a photo of the submitter should be included.

Each month we will select one entry and run it here. You need 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 they relate is 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 North Broadway, Hicksville, NY 11801.

Our June Winner

This month our winner David M. Perry, writes us from Gaffney, South Carolina. He tries a different twist while explaining how he started:

I fell in love a short time ago, with my Realistic shortwave radio.

I was really surprised and it gave me a great lift, my wife bought it for me as a special Christmas gift.

With digital read-out I think it’s grand, it has AM, FM, and shortwave bands!

I listen to news from a foreign land, in English or Spanish I can understand.

My wife doesn’t mind if I listen in bed, cause while she sleeps, earphones are on my head.

Something else I think is really hip, POP’COMM’s World Band Tuning Tips.

Now I know where I must tune, to pick up other countries during the month of June.

I must close, yeah I’ve really got to go, to get an antenna for my radio!
Twofor Memphis: No less than two experimental FM broadcast station licenses have been issued for Memphis, Tenn. The first is for WKNO-FM, a 100 kW (ERP) station on 91.1 MHz. The licensee is Mid-South Public Comm. Foundation. The other station is WSMS, 91.7 MHz, operated with 25 kW (ERP) by Memphis State University. 1383 Sycamore View Road.

Reports Good DX: Reader B.G. Murphy, in Fla., tells this column that he owns a Panasonic RF-B300 receiver. Using its internal antenna, the set has no trouble pulling in distant stations at night. He mentions New York’s WCBS/880, as well as two stations in Chicago, WLS/890 and WBBM/780.

B.G. has discovered the enjoyment of broadcast band DX. These three broadcasters are clear channel powerhouse stations to be DX ed in the Travelers Information Service. That reminder came from Charlie Warfield, Jr., of Naperville, Ill. Charlie logged WPCB670 on 1610 kHz, located in his own community. Then he racked up WNYB218 on 1620 kHz, situated in Glen Ellyn, which is about eight miles away. Considering that TIS stations run only a few watts and are intended for reception within a few hundred yards, these are fair game for the DX’er.

The two stations Charlie logged were broadcasting repeating messages relating to municipal matters, such as street closings and train skeds.

Two for One: In Los Angeles, Cap Cities, which has long owned local talk/news station KABC/790, purchased another local station, all-sports KMPC/710. The idea was apparently conceived with the intention of dropping KPMC’s sports format, then moving the station into a more generalized talk format aimed at the 18 to 34 year old age group.

This information was sent to us by Pat Ellysion, of Rowland Heights, Calif. Pat asked, “I wonder what Cap Cities has to gain by owning two AM stations in Los Angeles.” We’ll try to answer that.
KABC runs 5 kW, while KMPC pumps out 50 kW during the day, and 10 kW at night. With more than 80 stations in Shakytown all vying for listeners, it’s no wonder that Cap Cities seized the opportunity to acquire KMPC. They got a second, louder, voice in town. In addition, they removed one competitor with 50 kW during the day, and 10 kW at night. With more than 80 stations in Los Angeles AM dial, the people that their words were going to be heard on the air.

Problem Line: The FCC inspectors have found numerous reasons to issue broadcast station NAL’s for alleged deviations from the tech regulations. Some of the NAL’s and alleged violations were:

WAWK, Kendallville, Ind., sent an NAL for $2,500 for a defective lock on the fence surrounding the antenna, and for the public inspection file missing the ownership report and program list.

WCST/WCST-FM, Berkeley Springs, West Virginia, issued an NAL for $4,600 for defective EBS equipment, and not having station authorizations posted. Also operated with less than authorized power for 30 days without FCC authorization.

WBSL, Bay St. Louis, Miss., sent an NAL in the amount of $3,750 because the transmitter metering couldn’t be observed from the operating position, and the public inspection file was missing issues and program lists.

WHLV, Hattiesburg, Miss., told to pay a $9,000 NAL because its tower enclosure had been destroyed, and the required remote control metering was not available at its studio.

WHYS/WHSY-FM, Hattiesburg, Miss., sent an NAL for $11,300 because of inoperative EBS equipment, and an unmain-
The FCC considered all of the facts presented and decided that there had not been a no violation of the rules. The $5,000 NAL was rescinded.

Station KKAT, Salt Lake City, Utah, was sent a $5,000 NAL because the FCC claimed that the station’s deejays broadcast a conversation without first informing a caller of their intention to do so. KKAT acknowledged this happened, saying that it was because of a misunderstanding rather than bad faith. They said the deejays apologized to the caller and that steps have been taken to avoid the rule violation cropping up again.

The FCC thereupon reduced the amount of the fine to $3,500.

Station WBHT-FM, Wilkes-Barre, Pa., received an NAL in the amount of $5,000 for one of its deejays allegedly placing a phone call to the office of the mayor of a neighboring community. He recorded a conversation with the mayor’s secretary, then broadcast it. The secretary claimed to have not been informed in advance of the intended broadcast use of the conversation.

WBHT-FM acknowledged the rule violation, stating that steps were taken to prevent it from happening again. The station that the deejay had been from, was reprimanded, all on-air personnel were warned, and a memo had been circulated to all employees concerning the rule. In addition, an apology had been issued to the mayor and his secretary.

The FCC has offered WBHT-FM the opportunity to submit a written plea seeking cancellation or reduction of the $5,000. Snag in The Deal: Not all radio station transitions go smoothly. Soch was the case regarding the renewal for the license of WCMB/680, Baltimore, Md., and for the assignment of its license from Bennet G. Gaines to WCBM Maryland, Inc.

The FCC remanded the proceeding for further hearing with respect to the cancel of WCMB’s principal, Nicholas B. Mangione. The FCC affirmed all other aspects of the Board’s decision thereby denying an application for review filed by Mount Vernon Broadcasting, a mutually exclusive applicant.

Station was licensed to Magic 680, Inc. When it went into receivership, Gaines was appointed Receiver for the benefit of the creditors and the FCC approved the assignment of the WCMB license to Gaines. Gaines agreed to transfer the license to WCBM Maryland and negotiated a consulting agreement to operate WCBM on his behalf.

Mount Vernon Broadcasting argued that the Board erred in finding it (Mount Vernon) financially unqualified to be a licensee. It also claimed that the Board failed to find that Gaines made an unauthorized transfer of control of the station to WCBM Maryland, and that Mangione had given false testimony.

The Commissioners remanded the proceeding to the presiding judge to review these questions, and to determine whether WCBM Maryland possesses the basic qualifications to be a broadcast licensee.

Weather or Not: Frank Bertieux, of Norristown, Pa., sent along an interesting question. Frank writes that he always hears radio and TV weather forecasters refer to “Accu-Weather.” That makes him wonder what that means, and he hopes we know. What luck. A reader came up with a question for which we have an answer. Hey, we were beginning to get worried there.

Accu-Weather is the name of a company headquartered in State College, Pa. This is a professional weather information source. Their name should be familiar to those who tune to top-rated radio and TV stations in Philadelphia, Los Angeles, New York City, and in medium and small markets. Accu-Weather provides the staff meteorologists at subscriber stations with a continual flow of additional or background information to supplement the station’s own locally developed data. Or, it may be the primary source of a station’s updated meteorological data. It depends upon the station’s requirements.

Accu-Weather maintains a full-time staff of meteorologists. Among their products and services are, a 32-bit UltraGraphix Weather System; high-resolution air-ready custom graphics; their Accu-Weather Forecasts; real-time custom Nexrad Doppler radar; FirstWarn weather warning crawl system; Accu-Data database; and Accu-Weather FAX database.

Providing subscriber stations with ready-to-use programming has become a big industry. Many people think of it only in terms of satellite music, but there are many other services. They provide weather forecasts, world news, traffic reports, stock market prices, sports news, and other specialty spots. Accu-Weather is one of these services. It happens to be one of the more well known.

New Format: The column received a letter from Mark R. Schmidt, Senior Marketing Consultant, Radio WCIB, Falmouth, Mass. In the past, we wrote up 50 kW WCIB’s new tower on picturesque Cape Cod. This time, we’ll tell you about their great new sound. WCIB changed from Lite AC to Hot New Country, and now ID’s as Thunder 101.9 Hot New Country. That means Garth Brooks, Travis Tritt, Brooks and Dunn. Mark sent along new WCIB bumper stickers, a signal coverage map, and a fantastic WCIB T-shirt. Much appreciated!

The big WCIB country signal can be heard all over Cape Cod, as far away as Gloucester and Worcester, Mass., throughout Rhode Island, and west to beyond New London, Conn.

Oops! The clock says it’s almost the top of the hour. Time for a station break and to finally straighten up the booth. For now, we’ll ask you to let this column hear from you. Please pass along news clippings, questions, format changes, photos, bumper stickers, and whatever you may have relating to AM and FM broadcasters.
Hello again, and welcome. Summer has always been my favorite time of year, and here's wishing all of you an enjoyable one. Amateur radio is one of the most rewarding and multifaceted areas of the communications hobby, as well as one of the oldest. Hams were active on the air before World War I, and well before KDKA and Westinghouse sent out those 1920 election returns. Through the years, the Amateur Radio Service has consistently remained on the cutting edge of technology, and the introduction of the VHFC codeless technician license on February 14, 1991, has sparked phenomenal growth. Furthermore, it is an equal opportunity pursuit, taking no account of age, gender, race, religion, or condition, and placing high premiums on skill, ingenuity, perseverance, and personality. Chances are, someone reading this column has considered testing for an amateur license, while others are on the upgrade path. With those readers in mind, I thought this month we would survey some of the organizations and resources available to the handicapped amateur, or prospective amateur.

Within the United States, the leading amateur radio organization is the American Radio Relay League, headquartered in Newington, Connecticut. ARRL training materials include Now You're Talking, a novice-technician study guide, as well as license manuals for all higher classes, and a series of Morse code training tapes. Those already licensed may further their knowledge of general radio theory and application, antenna design, and Morse through various ARRL books, as well as its monthly magazine, QST. Material may be ordered directly from the ARRL, and book stores, libraries, and local Radio Shack outlets may also stock some League material. Their address is 625 E. Main St., Newington, CT 06111.

Speaking of Radio Shack, despite the tendency of recent advertising to downplay its origins, it remains an important source of amateur radio training material. In addition to the ARRL's Now You're Talking, there are written study guides for all classes from novice through advanced, and code tapes for speeds from five through 13 words per minute. For a complete list of prices and catalog numbers, phone your local Radio Shack.

Anyone reading the braille edition of Popular Communications already knows about the National Library Service for the Blind and Physically Handicapped. What some of you may not know is that the NLS magazine program also includes a recorded edition of QST. Anyone thinking of going for a license should subscribe immediately. The technical articles may seem difficult at first, but you can gain a real leg up in preparing for that first license exam. Over the years, there have been a few articles of particular interest to visually impaired operators or applicants, and the recently inaugurated "New Ham Companion" section is first-rate. A call to your regional library may also reveal some interesting book titles, including a few by POP-COMM contributor Harry Helms (AA6FW).

Those who read the February installment may recall my mention of Recording for the Blind, the nation's foremost lender of recorded academic and professional titles. Anyone wishing to pursue amateur radio will find several ARRL titles, along with books on general electronics. Better yet, for a $25 one-time sign-up fee, all RFB borrowers are automatically enrolled in Computerized books for the blind. Those wishing to learn more should contact Recording for the Blind at 20 Roszel Rd., Princeton, NJ 08540, or call (800) 221-4792.

Computer users have some fine training packages from which to choose. Perhaps the best known ham-related program is M. Lee Murrah's Super Morse. At a shareware cost of $15, it is the Cadillac of code packages. Highlights include complete user control of all parameters, the ability to simulate QSO's from easily modifiable lists of words and phrases, and two operational modes—allowing code to be sent either over the phone or on the air. Super Morse may be downloaded from either GENie, in the IBMPC section; or CompuServe, under HAMNET. Those wishing to purchase direct should contact M. Lee Murrah (WD5CID) at 10 Cottage Grove Woods, S.E., Cedar Rapids, IA 52403. Phone (319) 365-6530.

Also deserving of mention are the software-based study guides from The Lanz Company. Bob Lanz (N4I4L) has prepared a series of user-friendly, Q&A-based comprehensive study guides—one for each amateur license class. Each package contains a code module, which, while not nearly as sophisticated as Super Morse, is flexible—allowing several practice modes, and a speed range of from three to 30 words per minute—and easy to use. Users of 386 and later machines, will need to add a "LOADFX," statement to the loading batch file, in order to ensure proper operation. All product inquiries should be directed to the Lanz Company, 3523 Dayton Avenue, Louisvile, KY 40207. Phone (502) 895-1377.

No survey such as this could fail to mention the Courage Handi-Hams of Golden Valley, Minnesota—an organization created to assist handicapped individuals who wish to obtain or upgrade a ham ticket. Founded in Rochester, Minnesota, in the early 1960's, Handi-Hams gained the sponsorship of the Minnesota Society for Crippled Children and Adults (subsequently renamed the Courage Center). Over the next six years, word of their good work spread beyond the Midwest. In 1975, Handi-Hams merged with Courage Center, going on to earn a reputation for national service. A $10 annual fee entitles members to a variety of services—including a quarterly newsletter, an equipment loan program, discounts on various adaptive technology devices and training material, and a useful guide to additional resources. In addition, Handi-Hams sponsors semi-annual radio camps, keeps close tabs on all its students, and will even provide local references for further one-on-one instruction. Correspondence should be addressed to Sister Alverna O'Laughlin (WA0OSG), Director, Courage Handi-Hams, 3915 Golden Valley Rd., Golden Valley, MN 55422. Phone (612) 520-0511. The club station (W0ZSW) conducts three HF phone nets, Monday, 10:00-10:30 A.M.; Central, 129.390 MHz SSB; 10:30-11:00 A.M., 21.442 MHz, SSB; 3:00-3:30 P.M.

All times are given in central time. The frequency is 7.272 MHz, SSB. A Saturday CW net runs from 10:00 to 10:30 A.M. on 7.120 MHz.

Nets have long played a vital role in the Amateur Radio Service, and at least two others deserve mention here. The International Handicapped Net meets from approximately 10:00 A.M. to 1:00 P.M., Eastern on 14.287 MHz. This is primarily a fellowship net, featuring general conversation, information exchange, or just about anything else permissible within Part 97. FARA (Fairfield Amateur Radio Association), Fairfield, Ohio, features a wide area VHFC net on Thursdays at 9:30 P.M., to enable visually impaired hams, and those interested in working with them, to exchange technical tips and other related information. FARA's 13 repeaters and 33 receive sites provide coverage from Michigan to Tennessee, Indiana to West Virginia. Check your local frequency.

Before closing, I am happy to note a recent trend among schools and organizations for the blind toward organizing ama

(Continued on page 80)
There are lots of logs in the hold this month so…

Altered States Radio, logged by Mike Leclerc in Connecticut on 7413 at 2232 with Outer Limits IS and various music selections. Reports go to PO Box 293, Merrill, Ontario N0P 1W0, Canada. Scott Gentry in Illinois found them at 2233. Scott says they ask for a dollar or two IRCs with reports.

Radio Free Euphoria on 7465USB was heard by Gentry at 0233 with Captain Ganja and the Maharishi Hashishi All Ganja, broadcasting in favor of pot—music by Grateful Dead, The Who and Wings. Similar note: Voice of the Runaway Maharishi also noted by Gentry on 7413USB at 2306 with the Maharishi Hashishi Allganja reading listener’s letters, telling everyone to send him their receivers at once, and blowing himself up at the end of a letter from Paul W. Shallbetter. Leclerc had this on 7444USB at 0138—“I have run away from the state of Euphoria. I have stolen a transmitter from Radio Free Euphoria. I have also stolen some marijuana bags from Captain Ganja.” PO Box 452, Wellsville, NY 14895, but in care of Radio Free Euphoria, says Mike.

One more druggie—KNBS, 7420 at 2012 with Phil Muzik and “Fruit of the Loom Newsbriefs,” and comments of the “California Marijuana Corporation.” Wellsville address given.

Duane VanDenburgh in Wisconsin had Happy Hanukkah on 7415 at 0305 with Alvin and the Chipmunks, and announcement for the Merlin address.

Also from Duane, WLIS (We Love Interval Signals) on 7413 at 2300 with the Blue Ridge Address. Also heard by George Roberts in Pennsylvania at 2310. Gentry had them at 2315 on 7414 with an interval signal from Radio Prague. Leclerc logged this one at 2232. Scott also had WJLR on 7408LSB at 2220. Use the Blue Ridge Summit address for this one.

Radio DC was noted by Janet in Virginia (sorry, Janet, I couldn’t make out your last name!) on 7476USB at 2342 sending “Don’t vote Republican” in CW and a program called “Ollie North—KIA Drug Kingpin.” Off with Abba music at 0010.

Leclerc heard Radio Airplane three times on 7465 at 0136 and 0143, and 7443 at 0026, with Captain Eddy and Billy Bob Joe Smith sighting UFO, Elvis, etc.

Radio Cyclops was another Gentry log, on 7425 at 2210 with DJs Mike and Mel poking fun at Kristen Kay, Hillary Clinton (oops, insert “Rodham” in there!), Tipper Gore, Ross Perot, 60’s revival. Leclerc found this one at 2206.

Radio Doomsday went into Leclerc’s log at 2316 on 7444USB—“there’s nothing wrong with your radio, we are controlling transmission.” Music, Canadian comedy, visit from Elvis, Mr. Dope America, the Laughing Song and more. Gentry heard them on 7445USB at 2321. The program included a “Mr. Dope America” pageant. Wellsville address.

“You are tuned to radio station UNIQ—the unidentified pirate,” with Stupid People’s Court, Pirate Radio News, Hall and Oates Bran Cereal, etc. Leclerc, who logged this one, says he heard no address.

Basel Shelley in California heard a test broadcast from Radio Freedom on 7415 at 2202. The broadcast was playing rock and giving the ID at closing.

Gentry had Radio Garbanzo on 7420 at 0234 with “From the M/V Ross Revenge, this is Radio Caroline.” DJ was Barry Lewis with various rock groups.

The Great Southland was another Leclerc log, 7425 at 2003 with John Quigley the announcer, and various numbers. This uses the Merlin address.

No more room. Thanks for all the good input. Keep it coming! See you next month!
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CIRCLE 65 ON READER SERVICE CARD
WHAT'S NEW WITH THE CLANDESTINES

It's back! The National Radio for the Democratic Arab-Saharan Republic was active for a couple of months early last year and then it disappeared. Now it's returned to the air and, fortunately, it's one of those clandestines which can be heard fairly well in North America. The station is using 11320 (it was formerly on 11520). Currently it's on the air until sign off at 0100, mostly in Arabic, although the last hour or so is in Spanish. The station is operated by the Polisario Front which wants independence for the Moroccan-held Western Sahara. Transmitters for this station are believed to be either in Algeria, near the border with Western Sahara, or perhaps even within the Polisario-held part of Western Sahara.

The other Polisario broadcaster—a program called the Voice of Free Sahara continues to be aired over Radio Algiers in Spanish on 9640 and 15215 at 2200 to 2300. This broadcast has issued QSLs for reports directed to Directeur d'Information, Polisario Front, B.P. 10, El-Mouradia, Algiers, Algeria. This address might also work for Polisario's other station.

Radio Algiers carries another clandestine-type program. The Voice of Palestine/Voice of the Palestinian Revolution, which is on the air daily at 1700 to 1800 on 7245, 9510, 9685, 11715, 15205 and 17745—the last three frequencies are probably your best bet. Programs are in Arabic.

The Voice of Human Rights and Freedom in Iran began its existence as “The Voice of the Liberation of Iran,” and later operated with the name “Iran's Flag of Freedom Radio” before taking on its current moniker in January, 1993 (doesn't the term “human rights” cast just a little suspicion in the direction of the good old USA perhaps having a hand in this one?).

The actual transmitters have long thought to be in Egypt and now there's more evidence of that. The station has opened up a medium-wave service which, when not broadcasting anti-Iran programming, carries such domestic Egyptian services as the Voice of the Arabs and Nile Valley Radio. The current shortwave schedule is believed to be from 0230-0425 on 11470; 0600-0645 on 9530 and 11470; 1545 to 1630 on 9530 and 11650 and 1630 to 1825 on 15260. There's a whole mess of address possibilities: c/o R. Ford, P.O. Box 192740; France Box Holder, 18 bis Rue de 77, 77015, Paris; P.L.K. 00559-B, 22391 Hamburg, Germany or Postfach 102824, 44028 Dortmund, Germany. Robert Ross of Canada says he recently QSL'd this one via the Paris address, receiving a full data QSL sheet signed by Mina Alborze, along with an info pamphlet and schedule. The group behind this station calls itself the Organization of Human Rights and Basic Freedoms for Iran. We discussed the Guatemalan clandestine La Voz Popular a couple of months ago. Now Robert Ross, who supplied the original information has also sent a flyer being used to drum up contributions in the US and Canada (see illustration). The station says it has been on the air since May 22, 1987 and claims to run 2 kW. It's a little hard to believe they run that much power, or are even active very consistently. If they were, surely we'd be hearing the station during its listed Tuesday and Friday broadcasts from 2300 to 0045 on 7000, or even 0200 to 0300 on 3500. The station is operated by the Guatemalan National Revolutionary Union (URNG), claims to "constantly live with artillery and aerial bombings and military attacks" and also that the Guatemalan army tries to jam the station's broadcasts, which are in Spanish and Mam. If you should catch a log on this one, Ross says you can send your report to Fernando Garcia, Centro de Promocion Popular, Apto.20-668, Mexico, DF, Mexico. Although we don't have specifics at this point, we understand that the commercial Honduran station Radio Copan International on 15670 has added several more anti-Cuban broadcasts, in addition to the Radio Roquero mentioned last month. We'll try to have specifics for you next time.

Here's a Russian clandestine you may want to try for: Radio Dnestrovskaya is operated by Russian separatists in Moldavia's Pridnestrovie region. The station has a half hour of English beamed to North America daily except Fridays, when it's in Ukrainian. Check 7105 at 0330 to 0400. Reception reports go to Radio Dnestro International, 25th October Street, 45 Tiraspol, Pridnestrovie, via the C.I.S.

We're told that La Voz del CID is experiencing some tense financial times and, as a result, has apparently cut back on some of its broadcasts. You'd think that they'd be getting more support than ever now. Whassa matter, CIA?

That will do it for this time. Remember we welcome whatever information about the clandestine scene—the back alleys of broadcasting—that you'd care to send in. All types of loggings, QSL news, news clips, schedules, theories, letters and so on are all welcome. Until next month, good hunting!

BY GERRY L. DEXTER

THE MONITORING MAGAZINE
REMEMBER WHEN A ROOM FULL OF COMPUTERS COULDN'T DO WHAT YOUR PC COULD DO TODAY...

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CIRCLE 180 ON READER SERVICE CARD
We have another mystery communications installation to report. Bruce Rossi, AZ, sent in four photos he shot at a location about 10 miles southwest of Nevada state route 266 and 15 miles west of U.S. 95—"Lida Junction." Friends of Bruce told him they believed there was a missile site in that area which was in an active status during the early '70s.

When Bruce drove to the location, he found an HF facility with a windowless bomb-proof type structure. He drove right up to the completely isolated building, and saw no indication of overhead power of phone lines. Due to this discovery, the utilities must have been underground.

"The Rhombic antennas each had a feed point that split into two legs, with three elements each. The longest ones were about 500 meters long and the shortest Rhombics about 100 meters. They seemed to be arranged for 360° coverage with the building in the center. Poles to the north of the building could have supported a Log-Periodic wire antenna. The only signs were on a section of fence remaining in the south side of the building.

I had the impression that the people who operated this place just picked up and left one day. The antenna wires are still in place and the wind sock remains on the airstrip."

Thanks for the interesting rundown on this mystery facility, Bruce. In checking for background information in some references, I note that the location of this site is not less than 25 miles from the boundary of Nellis Air Force Base. Perhaps there is a connection between the two facilities?

Mark Heywood, Canada, has indicated that the High In the Sky aeronautical book was sold out earlier this year. However, by now the 1994 issue should be out. Information about this publication can be obtained from the Aviation Hobby Shop, Dept. AC1, 4 Horton Parade, Horton Road, West Drayton, Middlesex, England UB7 8E4. Ask for current price and shipping/handling costs.

Perry Crabill, Jr., VA, has again made some neat beacon catches. He wrote, "I'm especially pleased with TCO in Tumaco, Colombia, South America. I compute the especially pleased with TCO in Tumaco, Colombia, South America. I compute the

The following is the 1994 USAF Thunderbirds air demonstration schedule. (Courtesy of Norm Pihale, MN.)

<table>
<thead>
<tr>
<th>MARCH</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
<th>AUGUST</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-20 Mesa, AZ</td>
<td>9-10 Wilmington, NC</td>
<td>1 McEntire ANGB, SC</td>
<td>1 USAF Academy, CO</td>
<td>2 K.I. Sawyer AFB, MI</td>
<td>6 Elmendorf AFB, AK</td>
</tr>
<tr>
<td>26-27 MacDill AFB, FL</td>
<td>16 Tyndall AFB, FL</td>
<td>7-8 Dover AFB, DE</td>
<td>4-5 Myrtle Beach, SC</td>
<td>4 Battle Creek, MI</td>
<td>7 Eielson AFB, AK</td>
</tr>
<tr>
<td></td>
<td>17 Barksdale AFB, LA</td>
<td>11-12 NAS LeMoore, CA</td>
<td>11-12 NAS South Weymouth, MA</td>
<td>16 Portland, OR</td>
<td>10 Misawa AB, Japan</td>
</tr>
<tr>
<td></td>
<td>23-24 NAS Norfolk, VA</td>
<td>18-19 NAS Willow Grove, PA</td>
<td>18-19 NAS Willow Grove, PA</td>
<td>21 Dayton, OH</td>
<td>13 Osan AB, Korea</td>
</tr>
<tr>
<td></td>
<td>30 Shaw AFB, SC</td>
<td>25-26 Redding, CA</td>
<td>28-29 Goodfellow AFB, TX</td>
<td>27 P.E. Warren AFB, NY</td>
<td>15 Kadena AB, Okinawa</td>
</tr>
</tbody>
</table>

Current as of December 6, 1993

USAir Demonstration Squadron • BOX 9733 • NELLIS AFB • NEVADA 89191

The following is the 1994 USAF Thunderbirds air demonstration schedule. (Courtesy of Norm Pihale, MN.)

I have observed that the most often used frequency reading is 11553 kHz.

Wilton B. Baumann, CA, wrote, "Had been using a Kenwood 680 Transceiver for the 200/400 kHz range with a 50 foot longwire and logged about 30 beacons over a three to four month period. Changed to a TS390 Kenwood with a Cushcraft R4 Ham antenna fed by a 30+ foot of RG8U with the shield braid 'floating.' Now have 80 beacons in the log. Picked up about 40 new listings in just a couple of weeks."

Nellis AFB in Nevada was mentioned at the beginning of the column and I wanted to point out that the base is also the home of USAF Air Demonstration Squadron known as the "Thunderbirds." Through the courtesy of Norm Pihale, MN, following is a schedule of Thunderbirds demonstrations for 1994. I regret I was unable to work this list in the column sooner, but I do try to utilize material sent in by contributors on a first received, first-used basis and thus I did not place the schedule in the column when I initially received it.

HF traffic concerning Thunderbirds activity does show up with messages relating to different support functions connected
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HAMTRONICS (PA)  800-426-2820
HARDIN ELECTRONICS (TX)  806-433-3203
JUN'S ELECTRONICS (CA)  800-832-1341
K-COMM, INC. (TX)  800-344-3144
LENTINI COMMUNICATIONS (CT)  800-646-9908
MICHIGAN RADIO (MI)  800-878-4266
MIKE'S ELECTRONICS (FL)  800-426-2810
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R & L ELECTRONICS (OH)  800-221-7735
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with the arrival/length of stay/departure of the Thunderbirds Squadron at a particular location.

An Air Force Reserve news item furnished by Richard Baker, OH, indicated the following: "The 53rd Weather Reconnaissance Squadron designation was activated and assigned to the AF Reserve's 403rd Airlift wing, Keesler AFB, MS.

While the 'Hurricane Hunters' were being activated, their old unit designation, the 815th Weather Squadron, was inactivated.

The reservists track hurricanes and tropical storms over the Atlantic and Pacific Oceans. During Hurricane Emily, they flew more than 230 hours in support of gathering hurricane data for the National Hurricane Center in Coral Gables, FL.

The 53rd WRS traces its roots to August 1944 when it was activated as the third WRS at Presque Isle AAF, ME. From there it transferred several times, including tours in Bermuda, England, and Puerto Rico, before landing at Keesler in July 1973. The former active-duty unit was inactivated June 30, 1991, when the Air Force's entire WC 130 weather reconnaissance mission was transferred to the Reserve.

UTE Intercepts. All Times in UTC.

203: Beacon WRB, u/i at 2204. (Farley, NM)
206: Beacon GLS, Galveston, TX at 1955. (Farley, NM)
216: Beacon CEL, Wilmington (Carolina Beach), NC at 1508 & 0431. (Vylasek, VA)
219: Beacon LB, Lubbock, TX at 1950. (Farley, NM)
230: Beacon REN, Richlands, VA at 1109. (Crabill, VA)
237: Beacon EBF, Frederickburg (Sharon), VA at 1511. (Vylasek, VA)
239: Beacon LHX, La Junta, CO at 1947. Beacon UBC, Bullinger, TX at 1946. (Farley, NM)
240: Beacon LE, Auburn/Lewiston, ME at 1122. (Crabill, VA)
241: Beacon PVG, Portsmouth (Hampton Roads), VA at 1511 & 0458. (Vylasek, VA)
242: Beacon CUF, Cushing, OK at 1945. (Farley, NM); Beacon YMY, Ear Falls, Ontario, Canada at 1947. (Crabill, VA)
244: Beacon DDA, Jefferson, GA at 1143. (Crabill, VA)
245: Beacon GTP, Thomasville, GA at 1139. (Crabill, VA)
248: Beacon CPY, Camp Peary, VA at 1513. (Vylasek, VA); Beacon WG, Winnipeg, Manitoba, Canada at 0948. (Baumann, CA)

251: Beacon AM, Amarillo, TX at 1942. (Farley, NM)
254: Beacon LLW, Elizabeth City (Woodville), NC at 1513. (Vylasek, VA)
257: Beacon CGE, Cambridge (Municipal-Dorchester), MD at 1502. (Vylasek, VA)
261: Beacon CPK, Chesapeake (Municipal), VA at 1500. (Vylasek, VA)
265: Beacon SXD, Springfield, VT at 1026. (Crabill, VA)
270: Beacon AM, Amarillo, TX at 1514. (Vylasek, VA)
275: Beacon ING, Philadelphia, PA at 1234. (Crabill, VA)
278: Beacon GOS, Lakeview (Lake Country), OR at 1224. (Vaage, CA)
280: Beacon LJK, Ashland, VA at 1515. (Vylasek, VA)
289: Beacon MR, Marina Del Rey Light 3, CA at 1228. (Vaage, CA)
290: Beacon YVF, Perstiction, BC, Canada at 1225. (Vaage, CA); Beacon AOP, Rock Springs, WY at 0813. (Baumann, CA); Beacon TVK, Centerville, IA at 1135. (Crabill, VA)
298: Beacon HFL, Cape Henlopen, DE at 1517. (Vylasek, VA)
302: Beacon L, Pt. Loma Light Station near San Diego, CA. Hrd at 1235. (Vaage, CA); Beacon G, Ashtabula, OH at 1117. (Crabill, VA)
307: Beacon ISM, Kitch, NE. No time given. (Baumann, CA)
322: Beacon U, Miami, FL, at 1109. (Crabill, VA)

Here are four views of the mystery installation mentioned in this month's column. Photos taken by Bruce Rossi, AZ.
This QSL letter was received by Hiroshi Saito, Japan.

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AT&T High Seas Radiotelephone Service
To reach an AT&T High Seas Operator call: 1 800 SEA-CALL

KMI
AT&T Coast Station
California

Address: AT&T Station KMI, P.O. Box 7, Inverness, California 94937.
For Technical Information Call: +1-415-446-6555 (Collect)

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Voice Broadcast Channels: 416 and 1553
UTC TPC WX

WMC
AT&T Coast Station
New Jersey

Address: AT&T Station WMC, 1440 N W 4th Avenue, Miami, Florida 33136.
For Technical Information Call: +1-305-989-0910 (Collect)

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Voice Broadcast Channels: 492, 1206, 901, and 2215
UTC TPC WX

WOO
AT&T Coast Station
Florida

Address: AT&T Station WOO, P.O. Box 150, End of Beach Avenue, Manasota Key, New Jersey 08221.
For Technical Information Call: +1-609-597-2201 (Collect)

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Voice Broadcast Channels: 411 and 811
UTC TPC WX

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Chester J. Howarth, WA, provided these frequency lists for AT&T High Seas transmissions.

6224: VIT, Townsville, Australia in USB w/ax at H+35 during Stateside late night hours. None of my files show any station for w/x beats on this freq. VIT was the only non-US SSB sta. using this freq. EE lang had either Australian or British accent. (Margolis, IL)

6230: WFL, Southern Towing, Memphis, TN at 2104 w/ax various river boats incl. Frank Temple, Fred B. Weaver, and Tom Petty. Robert Laurel, Eliz. and Scott Sweetbrier in USB. (Baker, OH)

6227: WZ, Tidewater Marine Towing Inc., Morgan City, LA in USB at 0008 w/ax towboats. AAEH, USA Vessel Macon (LCO-2003) clg AAC2, the only non-US SSB sta. using this freq. EE lang had H+35 during Stateside late night hours. None of my files show any station for wx bests on this freq. VIT was the only non-US SSB sta. using this freq. EE lang had either Australian or British accent. (Margolis, IL)

7535: Norfolk SESEF at 1254, NWS, US Kalamazoo (AOE-6) w/ax SESEF for test. (Baker, OH)

8764: VL/SS in AM at 0705 w/ax grps. Ends at 0712/0000. Final, Final. (Margolis, IL)

9476: FIC in CW in 2030 to S5 on JRY on 7907 kHz. JVR sends SL grps to FIC beginning at 2113. (Margolis, IL)

9909: LCPM2 w/NUKO NUKO NUKO in CW at 0105. USN AWS freq. (Baker, OH)

10123: VL/EJ in CW from El Salvador at 2125 w/ax WLO, Mobile, AL for RT TFC, was refueled entry at Mexican port. Passengers are upset. USB mode (Baker, OH)

10294: WC, Curite Tugboat. San Juan, PR w/ax vessel Sea Gulf at 1425. WTE, Tug Communications, Inc., Jacksonville, FL w/ax Century at 1245. All in USB. (Margolis, IL)

10297: CM/EJ talking to "Subbase." Later stage was a VL/EE op. The OM asked Subbase if there sked in. (Baker, OH)

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7535: Norfolk SESEF at 1254, NWS, US Kalamazoo (AOE-6) w/ax SESEF for test. (Baker, OH)
Steve McDonald, Canada, indicated he had only logged 6YX once, but was fortunate to get enough info to obtain a QSL. At the time of intercept 6YX was getting a radio 12317:

924-8874-5

SIGNATURE:

JAMAICAN COAST GUARD RADIO

you notifying us.

Wishing you good “QSOs” in the future.

If you hear this station again we would greatly appreciate your assistance in advising us on how far our signals are being received.

This QSL letter accompanied the return of the PFC also sent by Steve McDonald.
Jim Navary, VA, designed this PFC for his reception verification by the U.S. Coast Guard Cutter Morro Bay.

13264: Shannon Volmet in USB at 1402. (Mike, Germany)
13285: Hong Kong Volmet at 0250 in USB. (Shelley, CA)
13374.6: YL/EE in USB at 1529 w/5F grps. S/off w/”Vive la Compagnie” tune. Tune returns at 1659, foll by rpts of 06635 & another 5F msg at 1710. (Margolis, IL)
14452.5: VXE9, CFARS sta El Gorah, Egypt wkg CIW801, CFARS Fredericton, New Brunswick for pp (Margolis, IL) 14681: P7S tells T1C “We’ll call you via 23 secure FREE insured UPS return

Handi-Chat
(from page 69)

Handi-Chat
(from page 69)

508-768-7486

SHIP TO: Cellular Security Group
106 Western Avenue, Essex, MA 01929

Note: Certain modifications may be in violation of F.C.C. rules and regulations. Cellular Security Group assumes no further responsibilities beyond those stated in this ad. See our other ad on page 51

I hope the preceding has whetted your appetite. In the time and space allotted, one can hardly begin to scratch the surface of the opportunities and resources available. But no amount of special material or adaptive technology can begin to replace contact with a real live, experienced ham—someone who can offer advice, and encouragement, someone who can, perhaps, help assemble a qualified exam team when the time is right. You probably already know at least one person who would be proud to help. If you don’t, the ARRL and/or Handi-Hams would be glad to direct you to someone in your area. So what are you waiting for?

Well, time flies when you’re having fun, and the guy in the booth is signaling me that mine is almost up. Keep those questions, suggestions, and critiques coming. This is your column, and it is your input that helps create it. I hope to have the pleasured of your company in August; after all, isn’t this better than watching reruns? Takecare.
credit to the scanner owner, who was not named, for having made tapes of the sales pitches and other conversations.

The US Attorney’s office said a court order was not needed to make the tapes inasmuch as cordless phones aren’t covered by federal privacy laws.

Jay S. Albanese, of Niagara University, is a criminal-justice professor. Albanese is an expert in the legal issues relating to wire-tapping. He agreed that the US Attorney did not need a court order in this instance, although he felt the felt the issue was “at the cutting edge of criminal law.”

Albanese felt it was commendable for a private citizen to contact the FBI about criminal activity. On the other hand, he was quoted in the press as having said he found it “a bit disturbing that a ham radio operator is out there conducting his own investigation. The guy who did this must not have had much to do.”

Maybe so, but I wonder how many people hung onto their life savings, thanks to this fellow with a scanner and nothing much to do. Personally, I have always found that having nothing much to do is a good opportunity to turn on a scanner and see what’s going on. In this instance, it worked out just fine.

This public spirited scanner owner brought suspected neighborhood criminal activity to the attention of the authorities. I don’t find this one bit disturbing. Furthermore, I fail to see why anybody would seek to taint the act with an implication intended to demean the person who blew the whistle on the crooks. Isn’t alerting the authorities to suspected criminal activity essentially the same thing that the much-praised Neighborhood Watch program does?

But compare this with what happened in Palm Beach County, Fla. A clipping from the Palm Beach Post submitted by Larry Seabury tells how the Plantation (Fla.) Police purchased a scanner to randomly search for illegal activity. They intercepted a suspicious cordless phone call in which a drug deal was discussed. Police obtained a search warrant based upon the phone call. The owners of the phone pleaded no contest and were given three year’s probation for cocaine possession.

Last January, an appeals court overturned the Florida convictions, saying that police cannot intercept cordless phone conversations. Police claimed that they know of about a dozen instances in the last decade when citizens have reported suspected criminal activity to police after monitoring it on cordless phone frequencies.

The Florida Attorney General’s office is expected to appeal this case in the Florida Supreme Court.

Those are several sides of cordless phone monitoring. To round things off, here’s an ugly little cordless phone story you may not have heard about. Did you know that some cordless phones caused hearing loss? More than 600 people in 35 states had complained that their hearing had been permanently impaired because of dangerously loud ringers in the earpieces of their cordless handsets.

The units had been assembled in Hong Kong and Taiwan, then imported here until 1986. The phones were sold nationally under several different makes and model numbers. As the result of damage claims filed by persons claiming hearing loss, the importer’s product liability insurer had paid out more than $9.5-million in claims through October, 1990.

In 1991, the product liability insurer brought suit against the importer to reimburse it for its losses. At that time, the Food and Drug Administration (FDA), and the Consumer Product Safety Commission (CPSC) pointed out that in 1983 and 1984 they had issued warnings on older model cordless phone ringer, but had not demanded a recall because no official federal standards had been established. In 1983, the Electronics Industry Association warned cordless phone owners that handset ringers in 1993 caused permanent hearing loss in the earpieces of their cordless handsets.

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Passport to World Band Radio 1993 calls the Sangean ATS-803A "outstanding buy. ... a dollar cigar for 75 cents. The famous "803A" through October, 1990.

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ers were so loud that they might cause hearing loss.

By the time 44 complaints had been received (late '83), the industry agreed to change the ringer design to reduce the ringer 120 dB sound level, equal to amplified rock music.

Hearing loss is possible when noise reaches 120 dB. Neither the the FDA or the CPSC seemed to be aware of this when decided to merely issue warnings rather than demand recalls. Obviously they were more interested in the existence or non-existence of federal standards than in using basic common sense in protecting the public. Bunch of totally inept boobs.

The FCC had originally tested the cordless phones to ascertain that they met the agency's standards. They do this with all equipment utilizing RF. Primarily, the tests check possible spurious radiation, harmonics and interference, also RF power output and modulation levels, frequency tolerance and stability. The cordless phone units met the standards, and were approved.

In 1991, the FCC, in retrospect, clarified things by announcing that cordless phones having excessively loud cordless handsets weren’t their problem. They didn’t want to get involved in the controversy. The FCC pointed out that establishing maximum sound levels of cordless phone handsets was a matter beyond their authority. The agency admitted it had received complaints from the public about excessive ringer loudness.

Dangerous ringer loudness had been placed on new cordless phones by the importers after the complaints began arriving. The importer claimed that subsequent hearing losses alleged to have occurred were because people failed to operate the phones properly. The users, he said, had forgotten to heed the warning label, and also to utilize the switch on the handset put there to shut off the ringer after it had been activated by an incoming call. The switch needed to be shifted from "standby" to "talk."

The company complained that users put the handset against their ear before moving the switch to the proper position. Thankfully, cordless phones being sold don’t have this problem. I brought up this story because it was a murky incident that received very little public exposure when it took place. The attitude of the importer was curious. What’s worse, there was too little concern shown by governmental agencies. Wouldn’t you have thought they would have been busting a gut over this?

You could speculate that such dangerous cordless phones should have never been allowed to have been imported, or approved for sale here. A real screw-up, right down the line. No wonder those agencies that let such equipment slip through wanted to distance themselves from the problem, or had so little to say after the damage was done. The final score: at least 600 people with hearing loss, and nearly $10 million in insurance claims caused by misplaced priorities and a lack of common sense.

Is there a bright side to all of this? Yes! The ability to snoop on cordless phones will probably always be with us. That’s because the public still doesn’t get it about what scanners are. Richard Statfield, K2KDO, Brooklyn, N.Y., sent me a copy of a recent Ann Landers column. Ann advised her readers that, “Most scanners can pick up only one side of a conversation on a cordless or cellular phone, regardless of what kind of phone the other phone is using.”

And the beat goes on.

---

**Ham Column**

(from page 40)

that an antenna tuner can sometimes reduce the level of harmonic radiation (signals your radio generates in addition to the ones you want). If the interference is being caused by harmonics, a tuner may help. However, most interference is caused by RF energy that’s picked up indirectly by cables or wires, or directly by the device itself. By using an antenna tuner, you’ll probably radiate more energy at the antenna than you did before. That may make your interference problem worse!

Looking for Mr. Goodtuner

So, you’ve decided that you need an antenna tuner after all. Antenna tuners come in all shapes and sizes. What features should you consider?

• A built-in SWR meter. An SWR meter of some type is a must if you want to use an antenna tuner. When adjusting your tuner, you need to keep your eye in the reflected power indicator. Your goal is to reduce the reflected power to zero—or at least as close to zero as you can get. When the reflected power is zero, the SWR is 1:1 at your transceiver.

Many tuners feature a built-in balun. If you ever intend to use an open-wire feed line, buy a tuner with a built-in 4:1 balun. These baluns often dissipate quite a bit of heat, so always choose a large balun over a small one.

• Multiple antenna capability and dummy loads. Some tuners offer the ability to connect more than one antenna. This is handy in all sorts of applications. Built-in dummy loads are convenient, but not necessary. A dummy load is a resistor (or group of resistors) that absorbs the output of your transceiver while allowing very little energy to radiate. It’s used for making transmitter adjustments and other tests. If your tuner lacks a dummy load, you can purchase one separately.

• Automatic operation. Most transceiver manufacturers offer automatic antenna tuners. These tuners are usually built inside the radios themselves, or they’re offered separately. Automatic tuners are convenient when you need to change bands or frequencies quickly. You simply push a button and your tuner adjusts its coils and capacitors to achieve the lowest SWR. Some automatic tuners sense when you’ve changed frequency and will readjust immediately! (You don’t have to lift a finger.) Automatic tuners are often expensive, so choose wisely and determine whether you really need this option!

You can send your cards, letters and photos to me at Department PCN, 225 Main Street, Newington, CT 06111. Happy tuning!
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