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POPULAR COMMUNICATIONS

AUGUST 2002

JUPITER and BEYOND!

Listening On Your Shortwave Receiver

Landfall! Radio's Vital Role During Hurricane Season

Homeland Security—Life Beyond The Cell Phone

Sky High Scanning Page 50

Thomas B. Henchy and his amateur astronomy radio monitoring station.

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Rugged Professional Communications Receiver

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COMMUNICATIONS RECEIVER

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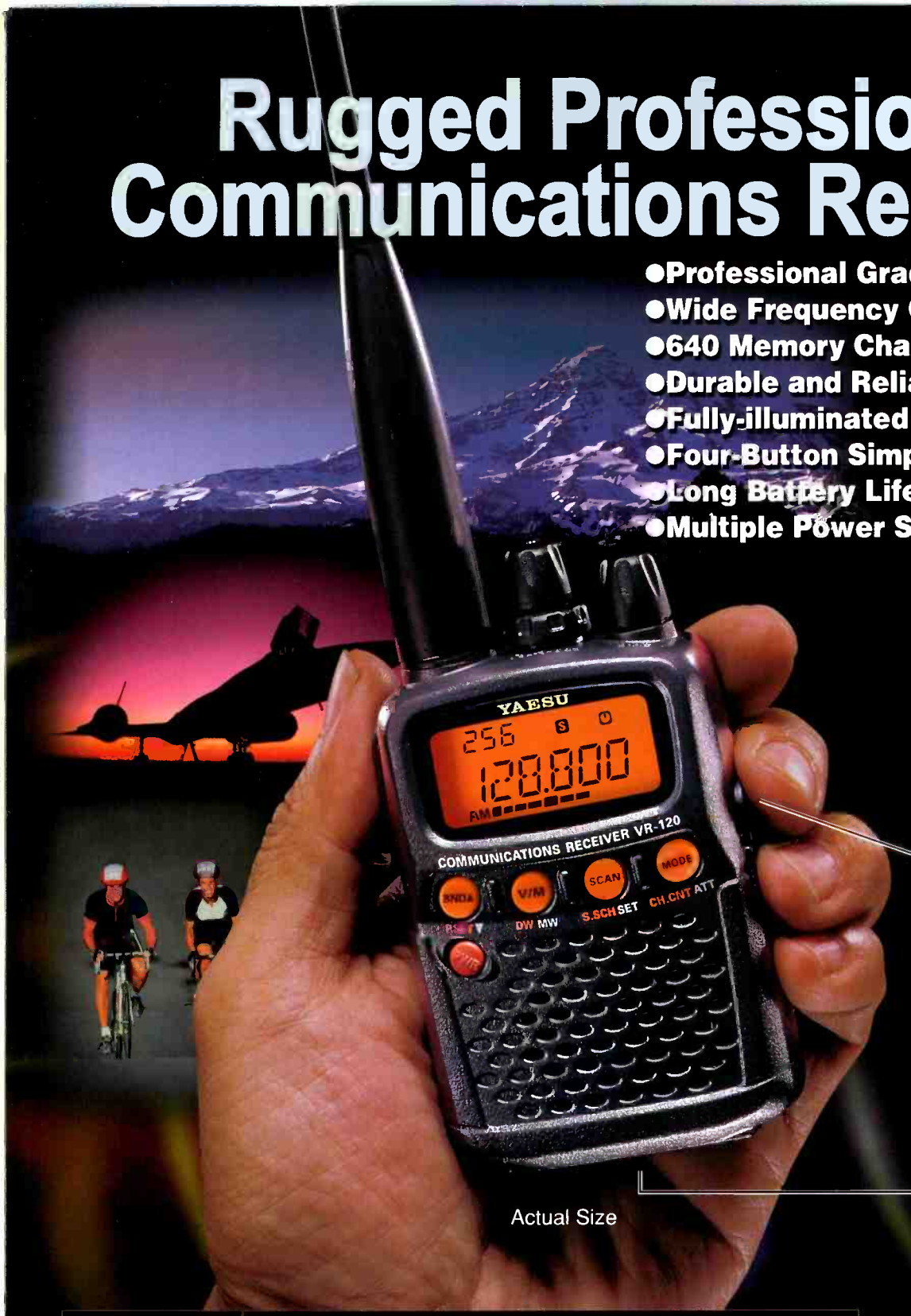

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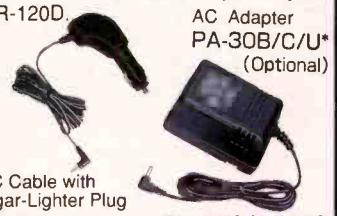

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*Cellular / image / restricted frequencies Blocked

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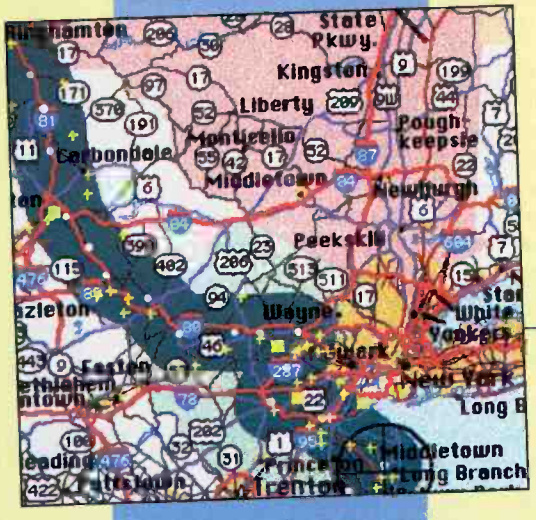

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Departments

On The Cover

You don't need expensive radios or fancy antennas to hear Jupiter on your shortwave receiver. Check out Tom Henchy's article on page 8 for details. (Photo courtesy Space and Spaceflight.)

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"The PCR1000 has something to intrigue and satisfy everyone. This is a fun product." – QST, 7/98

IC-PCR1000 The original black box

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– Passport to World Band Radio, 1998

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– QST, 2/01

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tuning in

by Harold Ort, N2RLL, SSB-596

an editorial

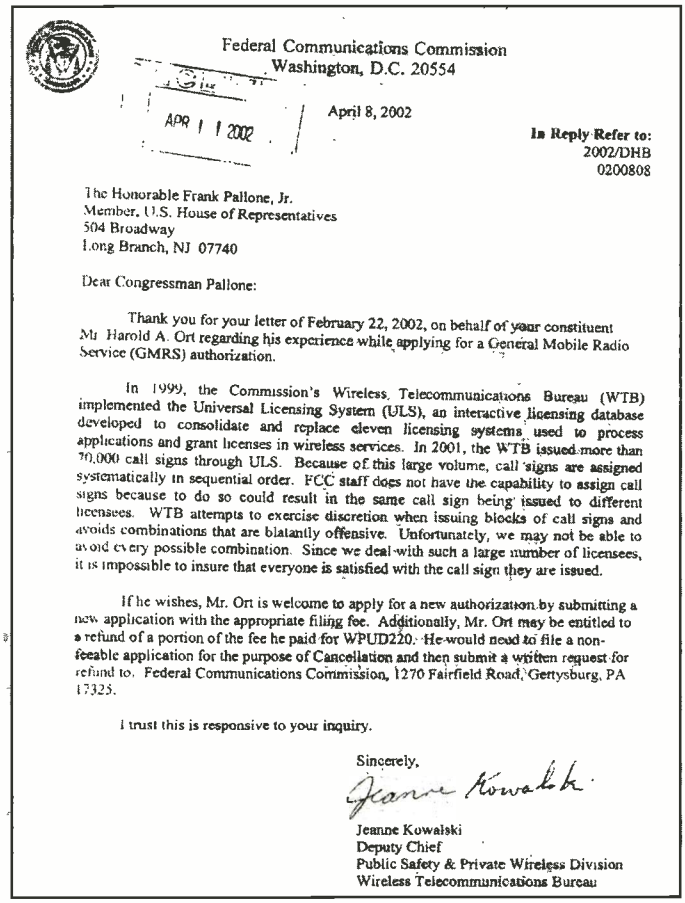
Pulling Uncle Charlie's...

Ordinarily I wouldn't say pud, but it doesn't really mean anything anyway — it's just part of my imagination, so to speak. And besides, the FCC doesn't think PUD is a problem, so I shouldn't either. Horsefeathers!

Do you ever think about what it takes to make the bungling bureaucracy we affectionately call Uncle Sam work? I do, and frankly most of the time I'm amazed that *anything* gets done. I've experienced so many government shenanigans up close and personal that I should be on some serious "forget that ever happened" medication. Trouble is, the hits just keep on coming from Uncle, and there isn't enough medicine in North America for folks like you and me who at one time or another reach for the Maalox because of Uncle Sam's blatant stupidity and idiocy.

Now for those of you who think I shouldn't be ranting about the "system" and would prefer we chat about pretty little Monarch butterflies landing on our antennas, and rainbows caressing the Capitol dome, please remember this: There's always room for disinterested, detached folks in East Gamidgakstan where criticizing the bureaucracy either doesn't matter because everyone there is subservient to the system (which was probably *originally* designed to work for the common man), or on some fictitious island nation in the South Pacific far from civilization where the only thing that might matter to you is how many Fritos are left in the bag after watching the sunset. I make no apologies for being concerned, and yes sometimes I get pretty feisty when it comes to getting the

(Continued on page 77)



Federal Communications Commission
Washington, D.C. 20554

APR 11 2002

April 8, 2002

In Reply Refer to:
2002/DHB
0200808

The Honorable Frank Pallone, Jr.
Member, U.S. House of Representatives
504 Broadway
Long Branch, NJ 07740

Dear Congressman Pallone:

Thank you for your letter of February 22, 2002, on behalf of your constituent Mr. Harold A. Ort regarding his experience while applying for a General Mobile Radio Service (GMRS) authorization.

In 1999, the Commission's Wireless Telecommunications Bureau (WTB) implemented the Universal Licensing System (ULS), an interactive licensing database developed to consolidate and replace eleven licensing systems used to process applications and grant licenses in wireless services. In 2001, the WTB issued more than 70,000 call signs through ULS. Because of this large volume, call signs are assigned systematically in sequential order. FCC staff does not have the capability to assign call signs because to do so could result in the same call sign being issued to different licensees. WTB attempts to exercise discretion when issuing blocks of call signs and avoids combinations that are blatantly offensive. Unfortunately, we may not be able to avoid every possible combination. Since we deal with such a large number of licensees, it is impossible to insure that everyone is satisfied with the call sign they are issued.

If he wishes, Mr. Ort is welcome to apply for a new authorization by submitting a new application with the appropriate filing fee. Additionally, Mr. Ort may be entitled to a refund of a portion of the fee he paid for WPUD220. He would need to file a non-feeable application for the purpose of Cancellation and then submit a written request for refund to: Federal Communications Commission, 1270 Fairfield Road, Gettysburg, PA 17325.

I trust this is responsive to your inquiry.

Sincerely,

Jeanne Kowalski

Jeanne Kowalski
Deputy Chief
Public Safety & Private Wireless Division
Wireless Telecommunications Bureau

POPULAR COMMUNICATIONS

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- Control IC PCR1000

Digital Scout / IC PCR1000
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- Super Sensitive

Xplorer / AR8200
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our readers speak out

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Phonetic Alphabet

Dear Editor:

I'm a long, long, longtime reader. This is my first time to write. Here are some new ones for you that I have heard.

B: Baker
C: Cat

G: Girl
H: Hell

M: Mary, Maggot
N: Nancy, Naked

R: Radio, Rake
S: Snake, Sex

Regards,
Allen H. Dunkin
Roswell (Atlanta), Georgia

The "Official" List From The ARRL

Dear Editor:

Have been a subscriber to *Pop'Comm* for years, and read the magazine from cover to cover every

month. I am a little disappointed in the article "Garfield And Moon Come To Radio" tuning in May 2002,

I agree with the argument Harold Ort was making in the article, but felt that the list "Actual Phonetics YOU

Can Hear" does more damage than good, without also including a list of the correct "standard phonetics".

Please, in a future *Pop'Comm* provide, the correct "standard phonetics" (Alpha, Bravo, Charlie" for us users of

radios who do not have or know the standards. Otherwise most will go on using what comes naturally

"Apple, Bozo, Candy."

Thanks, and have a very nice day!

Ken Stark, NC

Dear Allen and Ken,

Seems I did miss a few in that recent editorial. We even got several calls - from some longtime hams; here's a sampling of what others have heard: C - Carpet; D - Dirty; L - Lean; M - Misty and Q - Quadrant.

Professional radio operators - and that includes hams - should know better, but in the interest of reminding the phonetically, challenged (who should have a photocopy of the list taped to their rig or a nearby wall) here's the official ITU list from page 30.40 of the 2002 ARRL Handbook.

A - Alfa
B - Bravo
C - Charlie
D - Delta
E - Echo
F - Foxtrot
G - Golf
H - Hotel
I - India
J - Juliet
K - Kilo
L - Lima
M - Mike
N - November
O - Oscar
P - Papa
Q - Quebec
R - Romeo
S - Sierra
T - Tango
U - Uniform
V - Victor
W - Whiskey
X - X-Ray
Y - Yankee
Z - Zulu

Racing And Radio

Dear Editor:

I just looked at your editorial in the April issue and noticed the things on racing and how few were attending. I am a licensed amateur and a member of the Sports Car Club of America (SCCA). I spend a good part of my spring, summer, and fall working communications at races and rallies. We use a variety of different radios and we are always in need of people who can communicate well. Most of the people you see on the corners at those NASCAR and CART races are SCCA members as well as some of the people you don't see. We also need hams for working the performance rallies, those are the ones you see on Speedvision (or whatever they call it now), and at least in the USA we couldn't do them with out hams. I am blind and my partner and I got our start working rallies in about 1998 and now they ask us and often beg us to be there. Rallies are great practice for emergency nets since what you are doing is a lot of message passing. The nice thing is that rally nets, at least the ones I run are more relaxed. If people

are interested in race or rally we can always use more active people in the SCCA and we train our workers how to do things as safely as possible. As is the case in many events these things wouldn't happen without radio volunteers to do the communications and in the case of races a license is not required.

Tom Masterson
Bremerton, WA
kd7cyu@yahoo.com

Villians Again!

Dear Editor:

Today, when I turned on my TV/VCR to program in a show to tape, I saw part of a broadcast of a soap opera ("As The World Turns" on CBS-TV), which I don't watch. The scenario was the woman was listening to her local police on a scanner, apparently trying to "get the goods" on somebody, that the police were uncooperative with her. Her male employee protested her using a scanner, as it was "illegal and immoral" to listen to the police department, but he stopped his protest when she threatened to fire him.

I've previously mentioned a bicycling "drive-by" shooter with a scanner on "Third Watch," on NBC-TV. Are Hollywood movie and TV studios owned outright by the cellular telephone industry, that they would use such tactics to turn the general population against us scanner users? Sure, there are some not so nice people out there, who use scanners to assist in committing crimes. I also have a vague memory of someone who, when hearing the report of a death in an apartment building, ran to the scene to try to rent the now vacant apartment!

However, I still feel the majority of us simply want to know what's happening around the corner, without leaving the comfort and safety of the living room easy chair. When my house shook, and the power went off on November 12, 2002, about 9:19 A.M., and I went outside to look for what I thought was simply a car into a utility pole with a downed power line, then saw a massive fire a half mile away, it was from a scanner, on the EMS frequency, where I found out it was a jet crash in my neighborhood ("Four Seven Boy to Queens! We just saw a plane crash in Belle Harbor!"). My significant other lives a half-mile the other side of the crash from me, and she didn't know anything was wrong until at least a half hour later, when somebody stopped in to visit.

What next, outlaw easy chairs? The way things are going, who knows?

Respectfully,
Richard C. Berger,
Registered Monitor/SWL
Station KNY2SC
Belle Harbor, NY

Dear Richard,

Whew, you said a mouthful there! Some days it's hard to believe we're talking about America. There's so much bird-flipping directed at ordinary law-abiding citizens all in the name of "that's the way it is today," yet the same bureaucracies would have us all join hands fighting a common enemy - whoever that is. Trouble is, when we mention using a scanner, we're snoops, and especially today, often looked at as enemies of the state. Too bad they don't understand that the truth is quite the opposite; for the most part we're actually rooting *for* the good guys and when possible are *always* there to lend a helping hand - either as part of our day jobs or as volunteers with information. Hold on to that easy chair, Richard!

Listening To Jupiter On Your Shortwave Receiver

With Patience You Can Hear The Gas Giant!

by Tom Henchy

Jupiter showing one of its moons throwing a shadow on the planet's gas cloud surface. The turbulence of those clouds generates the radio waves that are receivable through a simple shortwave radio. (Photo courtesy Department of Astronomy, University of Florida)

Shortwave radio has a long and interesting history with outer space contacts. The very first galactic radio signal was identified by accident in 1933. Bell Telephone Laboratories in New Jersey in 1931 was picking up interference on their long-distance wires and, could not find the source. They dispatched a 25-year-old physicist by the name of Carl Jansky to find the source of the problem.

Listening on 20 MHz with a circular dipole antenna system, over two years Jansky isolated the interference as coming from the center of our galaxy. Not realizing his discovery, as there was no such field of radio astronomy at the time, Bell Labs dropped the Jansky project and the man.The father of Radio Astronomy was never recognized for his discovery until many years later.

In the mid-'50s, radio astronomers started to connect some unidentified cosmic radio signals as coming from one of our sister planets, Jupiter. It seemed the Jupiter signal was strongest between 18 and 22 MHz with a peak around 21 MHz. The signal is called "Decametric Emissions" due to the frequency range in the wavelength of tens of meters.

When Jupiter is active — which is erratic — the signal reaches our home world in a sweeping "lighthouse" effect. Jupiter

Thomas B. Henchy is shown with his amateur astronomy radio monitoring station at a "Telescope Party" in his home state of Utah. You can see his homemade Yagi antenna that he points at Jupiter when it appears in the night sky. Notice the simple camera tripod that is used because accurate tracking of the slow moving planet is not necessary to hear the radio signals that originate from the planet.

Getting Started in Amateur Radio Astronomy

When you think of radio astronomy you might envision huge dish antennas and expensive monitoring equipment. This is not the case with the amateur side of the radio exploration of space. As the article tells you, all you need to start is a good shortwave radio, an antenna and some good information.

There is no perfect antenna for monitoring Jupiter. You may be able to hear the sounds mentioned in the article with an existing dipole or longwire antenna. What is more important is to use one that is relatively quiet so that you can pick up the faint noise of Jupiter over any background radio noise and static. In a future issue of *Popular Communications,* we will offer up an easy-to-build design for you to try.

If you would like to hear what the Jupiter sounds like, check out the website of the University of Florida Astronomy department at http://www.astro.ufl.edu/ufro.

This site contains a concise history of the radio monitoring of Jupiter — http://radiojove.gsfc.nasa.gov/library/ sci_briefs/discovery.html.

In order to hear Jupiter you will need to know when it is in the sky. Here is a prediction tool that will tell you when and where to look specifically for listening to Jupiter —http://www.radiosky.com/rjwsw.html.

Here is an interesting student-run project for monitoring Jupiter: http://www.jpl.nasa.gov/jupiterflyby/documents/bolton.pdf.

Recently it has been discovered that there is a large source of X-rays emanating from Jupiter, and some people are asking if these are the source of the radio waves. Check out: http://science.nasa.gov/headlines/y2002/07mar_jupiterpuzzle.htm.

This web page is a good introduction to space radio as a hobby — http://www.hobbyspace.com/Radio.

More amateur radio astronomy info is found here: http://www.milkyweb.de/astrolinks/radio.htm.

Don't forget to check your local newspaper, which often carries information on visual astronomy that reports the appearance and location of Jupiter in the night sky. Likewise, don't forget your local public library, which has many books and magazines on visual and radio astronomy.

"The beauty of monitoring Jupiter's transmissions is that no special shortwave equipment is needed. Any good general coverage shortwave receiver and related antenna will do."

has a 10-hour rotation period and, if transmitting, its signal may sweep across Earth for a very short period. To the SWL, it sounds like breaking ocean surf in series.

The signal will only last for seconds; the best I heard was for 45 seconds, though I have been told it can last for minutes depending on how many "lighthouse style beams" are intersecting our home world. The true source of Jupiter's signals is not known.

The best theory is the interaction of one of its moons, Io, with Jupiter's unstable gas atmosphere. Io's gravitational pull disturbs Jupiter's violent atmosphere, causing the above occasional natural transmissions to occur.

The beauty of monitoring Jupiter's transmissions is that no special shortwave equipment is needed. Any good general coverage shortwave receiver and related antenna will do. If of course you would like to construct a "Jupiter antenna" for better reception, see the information at the end of this article.

"First, Jupiter has to be above the horizon. This is a "line-of-sight" contact! If you can't see Jupiter in your night sky, then there is no chance of possible reception."

First, Jupiter has to be above the horizon. This is a "line-of-sight" contact! If you can't see Jupiter in your night sky, then there is no chance of possible reception. Forget daytime as, you will have to deal with the "Super Transmitter" the Sun, which, can and does wash out all astronomical radio signals. This is why radio astronomy is done at night. To find out when Jupiter will be in your night sky, contact your local planetarium or, check your newspaper which lists planet rise and set times.

"Jupiter has to be "active" for its transmission to be picked up and, can be quiet for days on end. Remember, this is a "natural" radio signal and not caused by little green Jupiterians."

Tune to a spot in the area of 20 to 21 MHz with minimum radio interference — I usually tune around 19.995 MHz plus or minus, until I find the least interference from adjacent shortwave transmissions. Use the AM mode, not SSB, and be prepared for long "quiet" periods with no activity. Jupiter has to be "active" for its transmission to be picked up and, can be quiet for days on end. Remember, this is a "natural" radio signal and not caused by little green Jupiterians. I don't have to tell you how patience is a big part of this hobby.

Jupiter is one of several celestial objects still available to the SWL. Radio astronomy has opened up a whole new area of SWL monitoring for me over the years, and I hope you find this one area of shortwave listening as new and exciting as it has been for me over the years. ■

Landfall! Hurricane Activity Expected To Be Above Average

How Radio Plays A Vital Role During Hurricane Season

by Bob Josuweit, WA3PZO

Each spring emergency management agencies throughout the United States and the Caribbean conduct disaster exercises to make sure they are ready to respond should a hurricane come their way. At the start of the hurricane season in June, the National Hurricane Center conducted an emergency communications exercise.

Julio Ripoll, WD4JR, assistant amateur radio coordinator at the National Hurricane Center said station operators tested all of the amateur radio equipment, computers, and antennas. In addition it gave a few new operators hands-on training which is invaluable during any emergency.

Speaking at this year's National Hurricane Conference Federal Emergency Management Director Joe Allbaugh said "A slight shift in wind patterns here or there, a few miles in one direction or another can make the difference between a quiet hurricane season and a disastrous one. We can't allow the last two years to lull us into any false sense of security. To stay vigilant, we need only remember that this August will mark the 10th anniversary of Hurricane Andrew, the most expensive storm to ever hit the United States." During that storm more than two million people were evacuated, hundreds of thousands of homes were damaged or destroyed, and families were in shelters for months.

"Wind patterns . . . can make the difference."

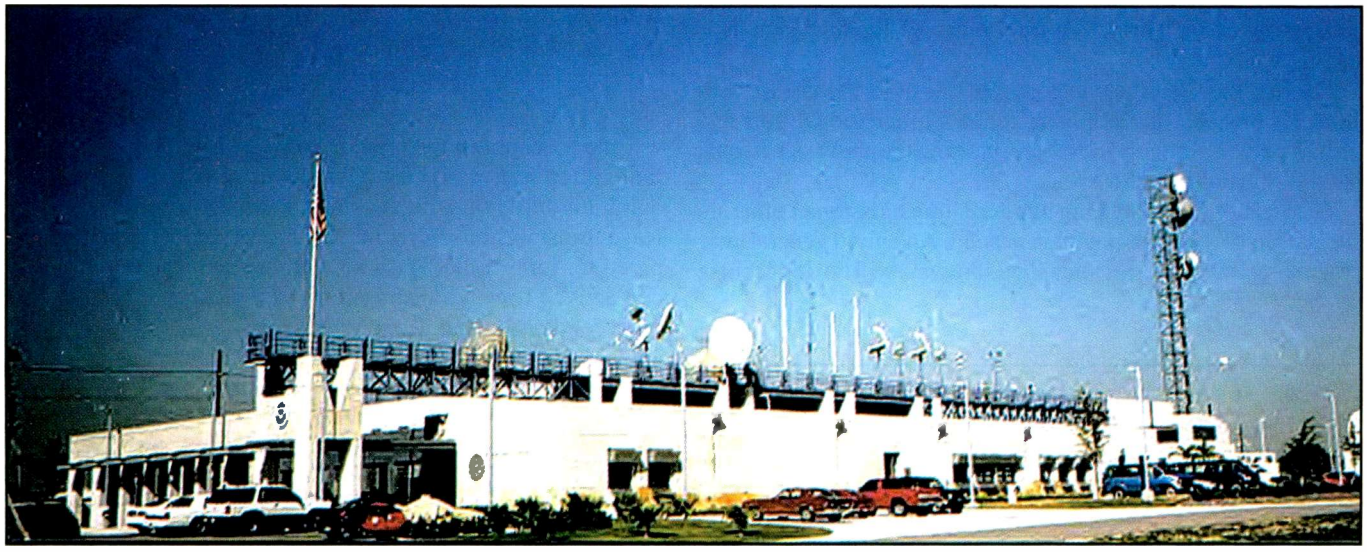
— Federal Emergency Management Director Joe Allbaugh

Allbaugh's comments are backed up by this summer's hurricane prediction by noted professor Dr. William Gray. In April, Gray estimated that there will be 12 named storms this year, 65 named storm days, seven hurricanes, 30 hurricane days, and three intense hurricanes. All of these numbers are above the average since records were kept in 1950. Gray's forecast says that U.S. landfall probability is expected to "be above the long-term average."

National Hurricane Center

Amateur Radio Station W4EHW is staffed by about 40 volunteers and is sponsored by the Dade County Amateur Radio Public Service Corp. For the past 22 years, the station has been activated whenever a hurricane is within 300 miles of land fall in the areas of the western Atlantic, the Caribbean, or the eastern Pacific. During the 1998 season, Ripoll said the station was

The National Hurricane Center collects and disseminates vital information during a storm. (Photo courtesy of Julio Ripoll, WD4JR)



"U.S. landfall probability is expected to be above the long-term average."

— Dr. William Gray

active for over 500 hours, the longest time being during hurricane "Georges" when the station was on the air for 10 days and collected over 500 reports. These volunteers, in conjunction with members of the Hurricane Watch Net (14.325 MHz), collected real time hurricane data from amateur radio operators using voice and digital modes, such as APRS and from members of the volunteer Observer Network in the affected area via either E-mail or FAX. This information is provided to the forecasters as well as amateur radio operators monitoring the net frequency. These reports provide the forecasters with supplemental data that is not available to them and it is incorporated into their forecasts. Jerry Jarrell, a past director of the National Hurricane Center said: "Despite satellites, hurricane hunter aircraft and radar there are large areas where surface weather reports are not available. Often amateur radio is the only link to remote storm locations."

Hurricane Season — A Monitor's Delight

Joe Schmidt, W4NKJ, says that W4EHW has become a leader in encouraging more amateurs to invest in weather instruments for increased accuracy in reporting conditions and has been in the forefront of using APRS to collect weather data. "We have 10 to 12 stations between Key West and Palm Beach that we can see," says Schmidt, "and they automatically update their information every five minutes."

Schmidt says hams on VHF throughout any hurricane area are very important in gathering data that is then fed into the HF hurricane nets and relayed to the hurricane center.

The VHF gear at the center, Schmidt said, is used to keep in touch with local emergency management officials. Schmidt said that if another major storm hits the Center wants to be able to talk to Emergency Operating Centers in Dade County, Naples, the Florida Keys." Noting that W4EHW is located in a very secure area of the hurricane center, Schmidt said "it's a compliment to amateur radio that they allow us to do this." He added, "I don't know of any other place in the country where amateur radio has an ongoing relationship of this nature with a government agency."

Tuning In

Several sources of frequencies to listen to during the hurricane season are available. First, check out the extensive list on the *Pop'Comm* web site. (www.popular-communications.com). It's a list of frequencies for Hurricane Hunter Aircraft communications, the United States Coast Guard, and several U.S. and Caribbean amateur radio nets.

Another good up-to-date source of amateur radio nets is found on the ARRL web site. The on-line Amateur Radio Net Directory (http://www.arrl.org/FandES/field/nets/) covers the United States, U.S. territories, and Canada. It allows you to search for wide area coverage nets, maritime, state, and local nets. You can tailor the search to be useful for the equip-

ment you have. You can also search by frequency or the day of the week.

Also if you don't have an HF receiver, but still want to listen into the Hurricane Watch Net, you can check out their Website (http://www.hwn.org/index.html) and hear the audio. The Hurricane Watch Net disseminates hurricane advisory information to marine interests, Caribbean Island nations, and emergency operating centers. It collects weather information from reporting stations and observers who are not part of the routine network for the National Weather Service, or the World Meteorological Organization, and forwards it to the National Hurricane Center. It provides backup communications when necessary and relays initial damage assessments of hurricane damage to the National Hurricane Center.

Non-hams Can Help

A Weather Volunteer Observers Network is maintained by the National Hurricane Center. This is a group of non-ham radio operators who have purchased a weather station and are interested in providing weather data to the National Hurricane Center when a hurricane is approaching their area. During Hurricane Andrew, for example, one special observer provided the highest known surface wind speed for that storm, while others observed a central pressure that was lower than what was expected from official sources including the reconnaissance aircraft! For further information visit W4EHW at the National Hurricane Center (http://www.fiu.edu/orgs/w4ehw/).

Hurricane monitoring can be interesting, but remember the excitement you hear on the radio could be tragedy and devastation for someone else. ■

"Often amateur radio is the only link to remote storm locations."

— Jerry Jarrell, past director of the National Hurricane Center

"Hurricane monitoring can be interesting, but remember the excitement you hear on the radio could be tragedy and devastation for someone else."

W4EHW coordinators meet with Hurricane Hunting Aircraft crew members. (l-r) John McHugh KU4GY / Cpt. Dave Tennesen NL7MT/ Lt. John Adler KD6CFW / Flt. Dir. Tom Shepherd WB5ELO / Julio Ripoll WD4JR. (Photo courtesy W4EHW staff) ←

Hurricane Andrew caused millions of dollars in damage. One million people were evacuated, 54 people died. (FEMA News Photo) ↓

The Signals Were Out There

Cosmic Monitoring: The Early Years

by Tom Kneitel, K2AES, Senior Editor

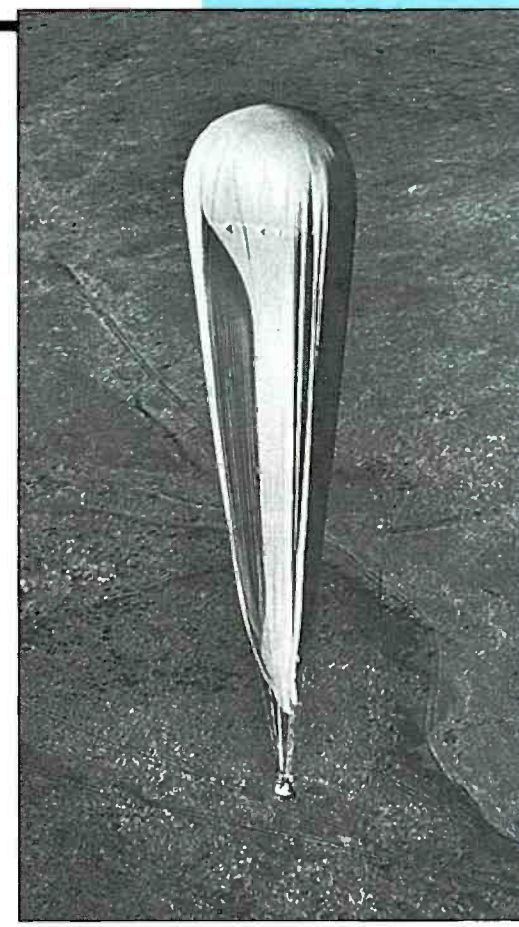
If you send signals, they will listen. That's been the creed of the monitoring hobby for more than 100 years. Each newly arrived monitoring horizon created its own unique challenges and rewards. As scientists beamed the first signals down from above and beyond the planet's surface, that's when things became more interesting than ever. Fortunately, relics of that era allow the viewing of unique rewards earned for monitoring these experiments.

In 1935, the United States Army was determined to send a manned craft higher into the stratosphere than had ever before been accomplished. Towards this end, a high-altitude balloon, named EXPLORER II, was constructed. This gas-filled balloon was 315 ft. from its top to the bottom of the gondola, making it the largest craft of its type in the world.

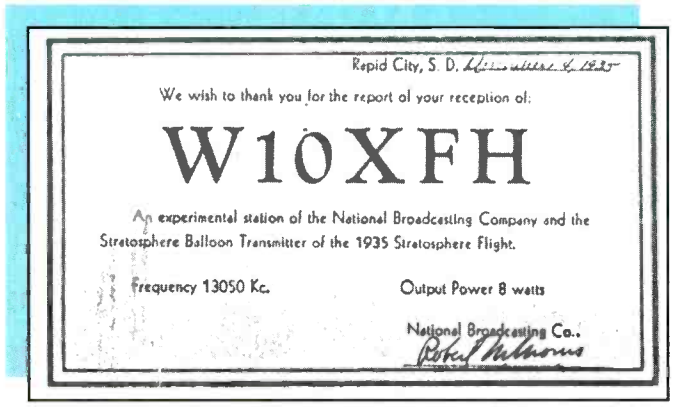
The Army Air Corps and the National Geographic Society conducted the flight of the EXPLORER II. The NBC radio network carried the event live. Engineers had outfitted the balloon with scientific gear as well as complete communications facilities. The battery powered 8-watt voice transmitter could operate on 13046, 13050, and 13055 kHz with the experimental license call letters W10XFH. The antenna was a quarter-wave wire.

In November of 1935, the balloon carried its two Air Corps passengers aloft from a location near Rapid City, S.D. During its eight hour and 13 minute stratospheric flight, the EXPLORER II attained a world record breaking-altitude (for a manned balloon) at 72,395 feet (nearly 14 miles). Most modern airliners cruise at about 35,000 ft. While the balloon was aloft, the crew was able to chat directly with the crew of Pan American Airway's China Clipper, a giant flying boat cruising at 3,500 feet above the California coast.

NBC audiences heard everything relayed over their local radio stations, but those who tuned to the shortwave channels



The huge helium-filled balloon took its U.S. Army crew nearly 14 miles above South Dakota.



Rapid City, S. D. [illegible]

We wish to thank you for the report of your reception of:

W10XFH

An experimental station of the National Broadcasting Company and the Stratosphere Balloon Transmitter of the 1935 Stratosphere Flight.

Frequency 13050 Kc. Output Power 8 watts

National Broadcasting Co.

W10XFH was the callsign used for the transmitter aboard the world record-breaking 1935 stratospheric balloon flight. This QSL card was received by DX'er Howard Kemp.

enjoyed the real treat of listening directly to the actual communications. Moreover, those monitors who sent reception reports received a rare QSL card from NBC for W10XFH. Veteran DX'er Howard Kemp, of Laconia, NH. was one of those lucky ones.

Space Age Begins

More than 20 years later, the Soviets grabbed a Cold War propaganda coup when they became the first to launch an artificial satellite into orbit around the Earth. It happened on October 4, 1957, and their 184 lb. satellite was named Sputnik (which roughly translates to "traveling companion"). It was transmitting beacon signals on 20.00 and 40.00 MHz and passed at more than 200 miles overhead every 97 minutes. It sent out a series of beeps, nothing more. Often, as it came time for an overpass,

This 1957 QSL from the Soviet's Sputnik satellite confirms reception of the first manmade object launched into Earth orbit.

my radio shack was filled with neighbors who wanted to hear the signals and speculate as to what they might mean. Fact is, all the signals meant was a message to the West stating, "Ha! Ha! We beat you into space!" Sputnik continued sending signals until January of 1958.

Certainly it was worth trying to get a QSL for reception of this historic station. My reception report brought a quick response. The Soviets had pulled out all the stops in order to brag about their lead in the space race. Sputnik sent back a beautifully custom design QSL card. This was definitely a keeper, and it remains one of my favorite QSL cards.

Shoot The Moon

America responded to the Sputnik challenge in early 1958 by launching a series of Vanguard and Explorer satellites. As soon as these objects went into orbit, our military put into operation a terrestrial network called Minitrack. This satellite tracking system was headquartered at the U.S. Army Signal Corps Laboratories, Fort Monmouth, NJ. The system was under the combined auspices of the Army Signal Corps and the U.S. Naval Research Laboratory.

At Fort Monmouth, they established a transmitter dubbed the Diana Moon Radar. This ran a cool 1.2 million watts ERP on 108.0 MHz. Its purpose was to bounce signals off the surface of the Moon, using the signal returns to calibrate the tracking equipment at various remote sites. This was a pioneering application of Earth-Moon-Earth (EME) communications technology. The Diana Moon Radar transmitted regularly, and reception reports were invited.

No way would I miss a chance to get a QSL from the Diana Moon Radar. A reception report mentioning the time and the reception characteristics brought back a beautiful QSL card from this most unusual station.

The Race Heats Up

As the East/West race into space progressed, the Soviets launched dramatically more complex vehicles, including one containing a dog. On October 4, 1959 they sent up Lunik III (translates to "Luna 3") as one in a series of space exploration vehicles. This spectacular device circled our Moon, sending back the first photographs ever taken of the Moon's far side. Lunik III remained in operation for five months.

Of course, a detailed reception report was sent. I included a request for a frequency listing for all current and future Soviet satellites. My reception report brought a vaguely worded verification letter written in Russian. An approximate translation of that letter reads, "To worthy Tom Kneitel: We thank you for your observation facts regarding USSR Soviet Cosmic Rockets. We wish you great success in your future work. A frequency guide for USSR Soviet Cosmic Rockets cannot be given out."

Winning An Oscar

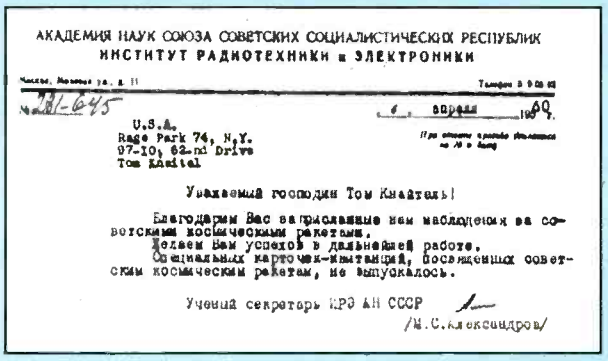
It didn't take very long for the amateur radio community to get in on the satellite bandwagon. The numerous entries in this area of space communications have been a constant reminder that hobbyists from many nations have the right stuff.

My own first monitoring encounter with one of these satellites was with Oscar II. This bird was launched into orbit on June 6, 1962 from Vandenberg AFB, Calif. Using the call letters W6EE/S, it had a 100 milliwatt transmitter operating on 144.983 MHz. It continuously transmitted the message "Hi," sent in CW. This satellite was heard around the world and remained transmitting until June 20, 1962.

Though it operated for only 18 days, more than 7,000 listeners reported hearing its signals. Those who submitted reports received a special QSL from Project Oscar.

New Oscar and other similar satellites are still being built and orbited by ham operators in several nations. The current versions are repeaters offering two-way comms in a wide variety

The Diana Moon Radar was an early EME transmitter operated for tracking satellites in the late 1950s. It was located at the U.S. Army Signal Corps Laboratory in New Jersey. This station verified reception reports with this QSL card.



АКАДЕМИЯ НАУК СОЮЗА СОВЕТСКИХ СОЦИАЛИСТИЧЕСКИХ РЕСПУБЛИК
ИНСТИТУТ РАДИОТЕХНИКИ и ЭЛЕКТРОНИКИ

№ 281-645 6 апреля 1959

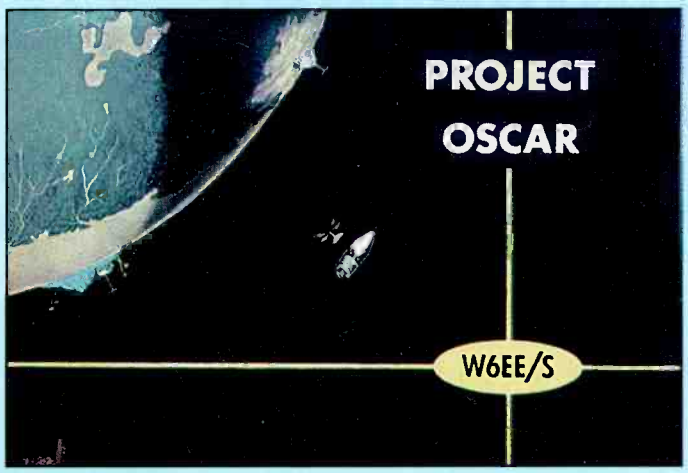
U.S.A.
Rego Park 74, N.Y.
97-10, 62-nd Drive
Tom Kandel

Уважаемый господин Том Кнайтель!

Благодарим Вас за присланные нам наблюдения за советскими космическими ракетами.
Желаем Вам успехов в дальнейшей работе.
Специальных карточек-квитанций, посвященных советским космическим ракетам, не выпускалось.

Ученый секретарь КРЭ АН СССР
/М.С.Александров/

The first photos of the far side of the Moon were taken by the Soviet Lunik III satellite in 1959. This letter confirmed reception of that space object.



One of the earliest ham radio satellites was known as Oscar II and operated in the 2-meter band. This object was launched 40 years ago!

of analog and digital modes. Everyone with a scanner has an opportunity to monitor these satellites, especially in portions of the 2-meter and 70-cm ham bands. The International Space Station (ISS) has its ham radio downlink on 145.8 MHz.

Fact is, transmissions from various space objects, including weather, scientific, military, and other satellites can readily be monitored if you have a decent rooftop antenna. Some of the potential bands lying within the range of most scanners include 137.0–138.0, 148.0–150.05, 235.0–322.0, 335.4–403.0, and 406.0–406.1 MHz. Search these bands in NFM mode at 5 kHz tuning increments.

The signals are definitely out there! ■

homeland security

Your Guide To Staying Safe — News, Communication, Power and Products

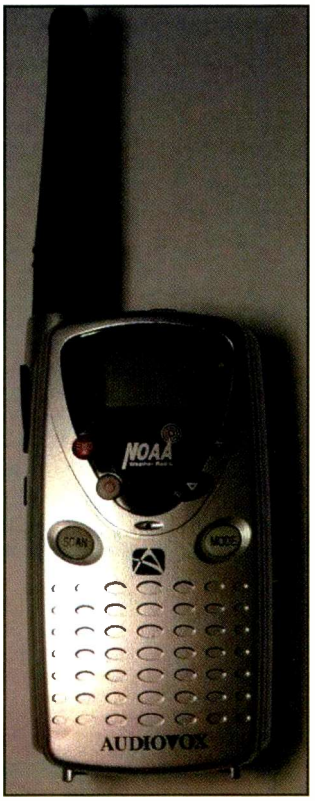
by Alan Dixon, N3HØE/WPUC720/KST8678

Life Beyond The Cell Phone: A Look At Mobile Communications You Need For Safety And Security!

August is the month that the majority of families take to the road for summer vacation. Most schools are out. And businesses typically expect, as a matter of tradition, that many of their employees will schedule one or two-week vacations in the latter part of the summer. The weather anywhere in the country is usually excellent, especially if you like it hot. Fact is that the vast majority of vacationing families travel to their summer vacation destinations by automobile. This is definitely an American tradition. It doesn't matter if the destination is a two-hour drive away, or clear across the continent. Summer vacationing Americans love to tour by car, truck, or SUV. This will be especially true this summer, with many folks feeling just a bit gun-shy about flying. Summer driving in North America usually means a lot of hot, sticky days, punctuated by frequent short, but violent thunderstorms. Add this challenging driving situation to our new sense of terrorist activity vigilance, consider a dash of wartime jitters, and you will realize a need for having your vehicle well equipped for emergency and road conditions communications. If you expect to be on the road for at least several days this summer, you can likewise expect that you *will* come across some emergency or distress situation far from land telephone assistance.

You see, homeland security means more than official organized preparedness. And it means preparing for more than assault from foreign adversaries. Homeland security means being prepared for emergencies of any sort, aggression or accident, foreign or domestic in origin, widespread or localized. Homeland security begins and ends with you and me. It comes down to vigilance and preparedness. How are you equipped for mobile communication emergencies?

Guess what? There is far more to having your car or truck "commo equipped" than simply having the ubiquitous cell phone. Wireless phones do have their limitations, as many cell phone newbies in New York City and Washington, D.C. discovered last September 11th. Long-time cell phone users and especially disaster response personnel already know that in a disaster or *widespread* emergency, wireless cells too often overload, allowing only a small *percentage* of mobile-originated calls to be processed. All other mobile call attempts then result in a *mobile reorder* (circuit busy) signal for the mobile phone user. Even a traffic gridlock within an area small enough to be encompassed within, say, a five-mile radius can overload nearby serving cells as numerous panicking motorists attempt to call ahead to report their delay. To further complicate matters, starting later this year, selected mobile phone carriers will be offering Priority Access Service to high-level government officials. This service will give top brass first dibs on getting an RF channel in an overloaded cell situation. The majority of first responders as well as persons dialing 911 may be effectively locked out of the system. For the radio communications enthusiast or for off-duty emergency responders, this is simply not acceptable.



Here is a GMRS-1535 prototype submitted for FCC testing and certification.

Alternative wireless communications means have now become essential. Whether you are emergency personnel or whether you are a serious "road warrior" spending days on the highways, you should have *some* sort of radio communications in addition to, or in place of a mobile phone. We are all aware of the availability of CB radio for highway travel. Licensed amateur radio operators

The Garmin RINO model 110.

The Garmin RINO model 120 with embedded base map.

already know of the variety of mobile communications options open to them, and most hams are well-outfitted for road trips. CB is excellent for ascertaining highway conditions from accidents ahead to weather and construction delays. Still, CB radio is of limited value in reporting emergencies. My own observations in recent years indicate that there are fewer emergency Channel 9 monitors now than in recent decades. Some police agencies monitor Channel 9 in their patrol vehicles, but if none happen to be in your vicinity when you need them, you may find yourself without assistance.

Family Radio Service And MURS

Both the UHF Family Radio Service (FRS) and the VHF MURS radio services are available to the general public without individual station or operator licensing. Both would be good for caravanning or driving in a convoy. But like CB, they may be of limited value in reporting emergencies. MURS is a newly conceived low-power handheld radio service made up primarily of existing business and industrial users, at this point in time. Users are

permitted a fairly adequate two-watts of power, but very few highway travelers are making use of MURS. And as yet, there is no recognized calling or emergency channel. This scenario may well change in future years, but right now MURS may not be the emergency-reporting communications tool of choice.

FRS has become a very popular radio service recently and there are, no doubt, hundreds of thousands of users in North America. Given this, contacting other FRS users for emergency assistance might seem simple, but likely it is not. FRS is limited to just a half-watt of power. Most units are handheld, and as such may have a useable range of only a half-mile or so. Now, FRS is evolving a common calling channel which is Channel 1, standard carrier squelch. Nonetheless, there are as yet few if any monitors on FRS Channel 1, and the existing users on that channel are often using CTCSS or DCS-defined talk groups. The problem here is that if you don't happen to be on another user's choice of 38 CTCSS tones or 83 DCS codes, then you aren't likely to make contact in an emergency.

General Mobile Radio Service — The Overlooked Radio Alternative!

There is a very interesting, effective, yet often overlooked mobile communications alternative, though. Radio enthusiasts, road warriors, and first responders alike should consider adding General Mobile Radio Service (GMRS) capability to their commo "arsenal." Users can have high-power commercial-grade FM "dispatch" style communications without commercial airtime charges, and without a qualifying examination for a radio *operator's* license. You won't be tested on operating procedures, theory, regulations, or Morse code. But make no mistake; GMRS is a licensed and disciplined radio service. After all, the FCC is not going to let folks run any serious power and access repeaters or network infrastructure without having either licensed stations, or paying a Commercial Mobile Radio Service operator access charges and airtime fees. And the existing community of GMRS operators will not tolerate undisciplined or clueless operators any more than will the licensed amateur community on their respective bands.

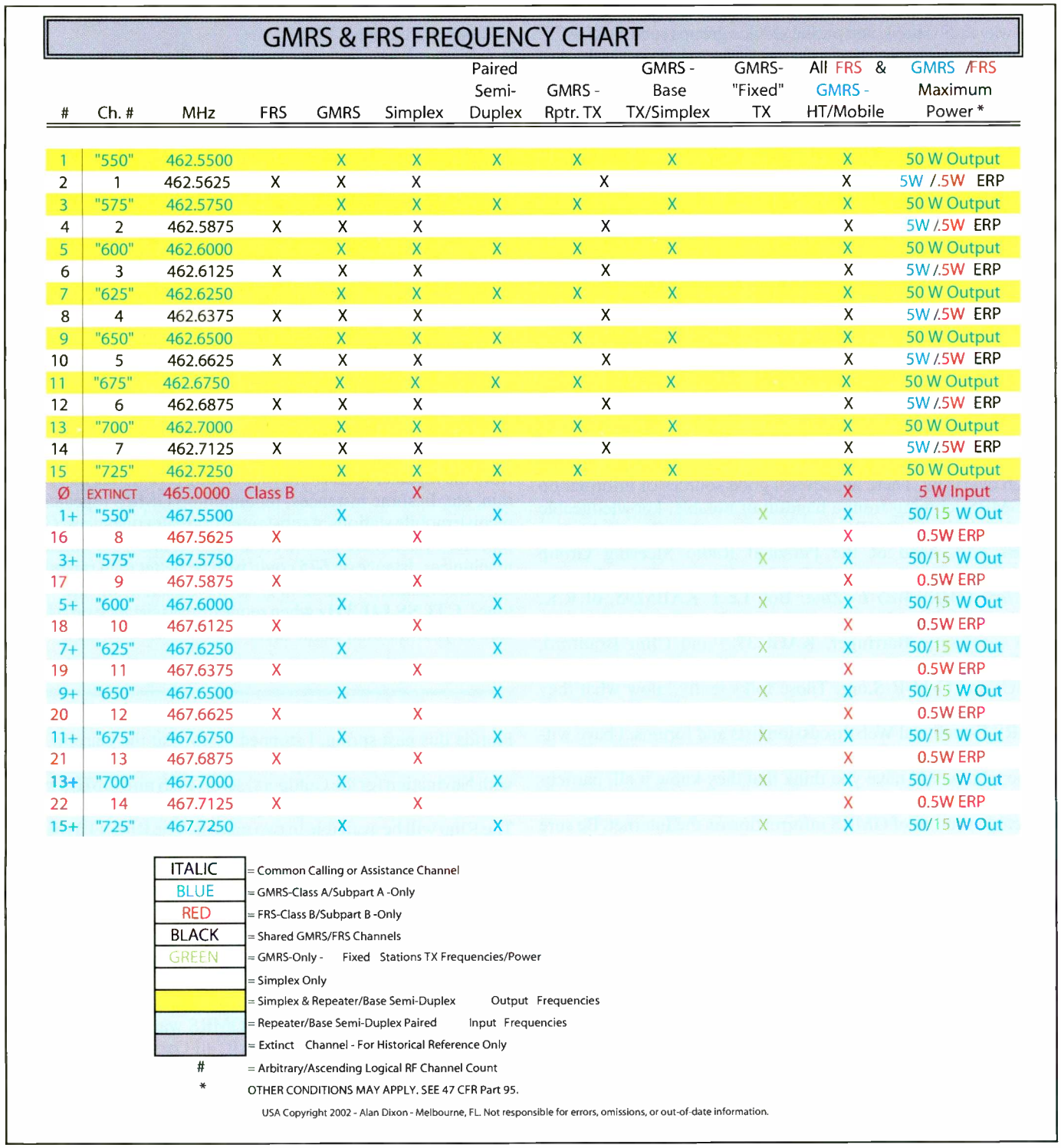
There is not another wireless service quite like GMRS. It has many of the personal user advantages of ham radio, but GMRS is the distinctively *un-ham* license! Originally conceived as the "Class A" Citizens Radio Service circa 1950, this designation was changed to "GMRS" Subpart A Personal Radio, in the mid-1970s. Nonetheless, for many years a number of folks have fondly thought of GMRS as the FM Citizens' Band, a licensed upgrade from the essentially (since the early 1980s) unlicensed 27 MHz AM CB band. Recent GMRS rule changes however, have clearly moved this radio service beyond anything that CB or FRS have become. Class A Citizens Radio once permitted both business and personal communications, generally. In the late 1980s, the FCC moved to permit no new business-type licensees on GMRS, although existing licensees have been permitted to remain on GMRS indefinitely. This sort of use is better served by Part 90 "business" licensing on a variety of VHF and UHF frequencies, of course. Today, new GMRS licenses are issued only to *individuals*, for personal and family use or to conduct any business activities of individuals. In February, 1999, the FCC authorized all individual GMRS licensees to operate any of the GMRS channels. Previously, licensees had to declare one or two repeater channels, although access to all of the low-power "interstitial" GMRS simplex channels was permitted.

GMRS operates in the 462- and 467-MHz band ranges, as does FRS. (See **Figure 1**) In fact, GMRS and FRS share *seven* channels, and units from either service may communicate with units of the other service! That's just about where the similarity between these two radio services ends, however. Where FRS is limited to a simple half-watt of transmit power, GMRS permits a whopping 50 watts of output power, and even higher ERP (Effective Radiated Power) levels by using high-gain antennas. You get crystal-clear FM speech comms, that with the use of a well-placed repeater or a diversified repeater system or network, can cover an entire major metropolitan area. Or by these same means, an entire rural or suburban county may be covered. Actually, a well-placed base station can communicate with mobile units over the same area as served by a single repeater, without necessitating the hardware of a complete repeater station.

Getting Started

Getting started in GMRS requires two things, and there is a third, highly desirable something to which you may want to have access, as well. First, you *must* have an FCC license for the General Mobile Radio Service. Second, you will need at least a couple of radios to use on this band. Handheld units are by far the most available and the most popular type. And they are usually the least expensive. Using a pair of handhelds under your individual license, you can communicate with members of your family who reside in your household. You can use GMRS in your neighborhood, on the open road, at work, or anywhere the FCC has jurisdiction — virtually the entire U.S. Handhelds typically operate at anywhere between two and five watts TX output. This results in a functional range of between one-half mile to two miles, depending of course upon terrain, buildings, and other obstructions, including your bulging waistline when the radio is clipped onto your belt. If this sort of point-to-point **simplex** operation is all you want, you can probably do with a set of inexpensive bubble-packaged miniature GMRS portables. These are widely available at major discount stores such as Walmart and KMart, as well as at sporting goods stores and department stores. You may find these GMRS handhelds for as little as $60 or $70, or less! Shop around.

Although these bubble-pack GMRS radios are usually sold right alongside FRS radios, do not confuse the two. All too often, GMRS radio packaging and advertising fail to mention the necessity of licensing your GMRS equipment. A clueless salesperson may insist that no license is needed to operate a low-power, simplex handheld GMRS radio. That clueless salesperson would be wrong. Dead wrong. Don't even *think* of transmitting on a GMRS radio without having the appropriate authorization from the FCC. A GMRS license, as of this writing, costs $75 for a five-year term. You can file for your GMRS license online at the FCC's Universal Licensing System (ULS) Web site at: <http://wireless.fcc.gov/uls/>. Click on "Online Filing," and follow the instructions. And remember that the radio service code for GMRS is "ZA." That's right, "ZA." Don't ask. While you will discover that the ULS server is painfully slow, the good news is that once you have filed your online forms, you may have your new GMRS callsign in as little as 10 hours! So you won't have to wait long at all to get on the air. If you have no Internet access, you can get started on GMRS licens-



GMRS & FRS FREQUENCY CHART

#	Ch. #	MHz	FRS	GMRS	Simplex	Paired Semi-Duplex	GMRS - Rptr. TX	GMRS - Base TX/Simplex	GMRS- "Fixed" TX	All FRS & GMRS - HT/Mobile	GMRS /FRS Maximum Power *
1	"550"	462.5500		X	X	X	X	X		X	50 W Output
2	1	462.5625	X	X	X		X			X	5W /.5W ERP
3	"575"	462.5750		X	X	X	X	X		X	50 W Output
4	2	462.5875	X	X	X		X			X	5W /.5W ERP
5	"600"	462.6000		X	X	X	X	X		X	50 W Output
6	3	462.6125	X	X	X		X			X	5W /.5W ERP
7	"625"	462.6250		X	X	X	X	X		X	50 W Output
8	4	462.6375	X	X	X		X			X	5W /.5W ERP
9	"650"	462.6500		X	X	X	X	X		X	50 W Output
10	5	462.6625	X	X	X		X			X	5W /.5W ERP
11	"675"	462.6750		X	X	X	X	X		X	50 W Output
12	6	462.6875	X	X	X		X			X	5W /.5W ERP
13	"700"	462.7000		X	X	X	X	X		X	50 W Output
14	7	462.7125	X	X	X		X			X	5W /.5W ERP
15	"725"	462.7250		X	X	X	X	X		X	50 W Output
Ø	EXTINCT	465.0000	Class B		X					X	5 W Input
1+	"550"	467.5500		X		X			X	X	50/15 W Out
16	8	467.5625	X		X					X	0.5W ERP
3+	"575"	467.5750		X		X			X	X	50/15 W Out
17	9	467.5875	X		X					X	0.5W ERP
5+	"600"	467.6000		X		X			X	X	50/15 W Out
18	10	467.6125	X		X					X	0.5W ERP
7+	"625"	467.6250		X		X			X	X	50/15 W Out
19	11	467.6375	X		X					X	0.5W ERP
9+	"650"	467.6500		X		X			X	X	50/15 W Out
20	12	467.6625	X		X					X	0.5W ERP
11+	"675"	467.6750		X		X			X	X	50/15 W Out
21	13	467.6875	X		X					X	0.5W ERP
13+	"700"	467.7000		X		X			X	X	50/15 W Out
22	14	467.7125	X		X					X	0.5W ERP
15+	"725"	467.7250		X		X			X	X	50/15 W Out

ITALIC	= Common Calling or Assistance Channel
BLUE	= GMRS-Class A/Subpart A -Only
RED	= FRS-Class B/Subpart B -Only
BLACK	= Shared GMRS/FRS Channels
GREEN	= GMRS-Only - Fixed Stations TX Frequencies/Power
	= Simplex Only
	= Simplex & Repeater/Base Semi-Duplex Output Frequencies
	= Repeater/Base Semi-Duplex Paired Input Frequencies
	= Extinct Channel - For Historical Reference Only
#	= Arbitrary/Ascending Logical RF Channel Count
*	OTHER CONDITIONS MAY APPLY. SEE 47 CFR Part 95.

Figure 1 — GMRS and FRS Frequency Chart.

ing by calling the FCC's Consumer Information Bureau at 888-CALL-FCC.

Getting More GMRS Range

Oh yes, the third thing that a newly licensed GMRS operator may want is to have repeater access. If you want good mobile operating range in your GMRS system, there are essentially two options. You can invest in a full-power base station and operate high-power mobile units. This will work fairly well for base-to-mobile and for mobile-to-mobile operation. It may even provide acceptable base-to-handheld portable coverage. But the expense of a good base station installation and two or more high-power mobiles can be substantial, and this still won't fill your need for portable-to-portable coverage across town. Being able to speak with your spouse or coworker while say, one of you is at the shopping mall while the other is at the courthouse, is a real convenience. For this level of service, you need repeater access.

Repeaters are often operated by cooperative-type associations, two-way radio shops, and public service groups such as REACT. Some of these groups charge a nominal fee to help cover the cost of operating and maintaining the repeater. Primarily for this reason, in the GMRS community it is customary to secure prior permission from a repeater owner or operator before accessing that particular repeater. Outside of emergency calls, repeater owners do have a regulatory privilege of permitting only certain GMRS users on their systems. Ask around at your local two-way radio dealer, electronics shop, or even an amateur radio club to locate repeater operators in your area to inquire about local GMRS repeater service. Unless you're looking for nothing more than higher-powered FRS-type walkie-talkies, make certain that any GMRS radio equipment you acquire is repeater-capable. Most of the inexpensive bubble-pack radios mentioned above are simplex-only units, not capable of transmitting and receiving on a split frequency pair. Remember that repeaters operate in half-duplex mode, receiving on one frequency, and simultaneously transmitting back out on another.

Our discussion here is not meant to be any sort of complete users' guide to GMRS radio, rather it is an introduction and a rough overview. There are several good sources of information on GMRS, coming from a handful of notable, knowledgeable people within the GMRS community, such as Corwin Moore, KAB∅22∅, head of the Personal Radio Steering Group (PRSG); Doug Smith, KAF983∅, Editor of the *Popular Wireless GMRS Web E-'Zine;* Bob Leef, KAB5295, of R.K. Leef Associates and board member of REACT International; as well as Wayne Barringer, KAG∅37∅ and Clint Bradford, KAF3359, of the Southern California Repeater Users Group (RUG) and G-M-R-S.org. These folks really know what they are talking about. Don't put too much credibility in the many GMRS E-mail and Web discussion lists and forums. I have witnessed a significant amount of blatant misinformation given by some who would have you think that they know it all, particularly in the area of FCC rules. Instead, go to your more knowledgeable sources of GMRS information on the Internet. Be sure to visit these sites:

PRSG — General GMRS info —
http://www.provide.net/~prsg/home.htm
***GMRS Web* E-'Zine —**
http://www.popularwireless.com/gmrs.html
GMRS Repeater —
http://www.g-m-r-s.org/index.htm
GMRS licensing —
http://www.pe.net/~atd/fcc605.htm

If you do not already hold any class of FCC license, then having a GMRS license is a simple and smart thing to do. If you are a serious radio hobbyist or a volunteer first responder tasked with providing any of your own communications, then you really need get your GMRS ticket. Even if you have no plans to operate on GMRS, you need the recognition of having an official FCC authorization. Carrying an FCC license alone may get you vital access to emergency response staging areas. Additionally, having any class of FCC station license *might* possibly preclude arbitrary enforcement of state and local CB radio statutes and ordinances, under the recently passed federal bill HR 2346. (For more on this aspect, be sure to read this month's "On-The-Go Radio" column!) As I have said, obtaining a GMRS license involves no regulatory, technical or code examinations. The only thing you need to bring to the table is a sincere desire to seriously participate in either personal or emergency radio communications and a willingness to understand and to follow FCC rules in the use of any radio service in which you may participate.

The "675" Emergency Frequency

When, (*not* "if") disaster strikes and the wireless telephone networks overload; when a CB Channel 9 monitor isn't within a few short miles of you at such a moment; when no helpful children are listening to FRS Channel 1 on the block you are traversing; where will you turn to establish emergency communications? If you are not a licensed ham, your one good alternative is GMRS radio, particularly on the distress and assistance frequency of 462.675+ MHz. The fact is that most REACT groups around the U.S. are licensed for GMRS, either as a grandfathered entity or as individual members, and this is their main operating frequency in the majority of localities. Consequently, many REACT members and other GMRS licensees monitor the "675" frequency, if only casually or incidentally. And unlike CB Channel 9 with its reliable base station AM range of about five miles, a GMRS repeater system will pick up calls on its input frequency at substantial distances, often as far as 25 miles from the repeater receive site, depending on antenna height, terrain, etc. In some instances, mountaintop GMRS repeaters can receive mobile stations at substantially greater distances. GMRS repeater systems are *commercial quality*, and your chances of reaching assistance on 675 *could* well be better than raising help on CB Channel 9. Remember to try transmitting the "travel tone," **CTCSS 141.3 Hz** when requesting assistance on 675 outside of your familiar home area.

New Garmin Products!

While at the CTIA "Wireless 2002" exposition in Orlando, Florida this past spring, I stopped by to visit the Garmin booth to check on their hot new products, the **Rino** (Radio Integrated with Navigation for the Outdoors) series **FRS and GMRS radios** with built-in Global Positioning Service receivers and display. The Rino will be available in two models. The Rino 110 will have a yellow and black case, with "simple moving graphics." The Rino 120 will be olive green, with a detailed base map, 8 MB of memory and "voice scrambler" for security. Regular *Pop'Comm* readers will recall that Garmin had to secure an FCC rules waiver in order to allow transmission of their GPS location data for their FRS Rino products. Still, I was not aware of any similar waiver to permit this type of operation for their GMRS Rino units. Garmin Business Development Associate Director N. Guy Waitley advised me that a similar GMRS waiver would be in the works soon. At the time of my visit, all Garmin had to show as yet for the Rino products was a nonfunctioning "dummy" prototype. It's a sharp looking device, and I can't wait to try one in action! As of this writing, Garmin had no suggested retail prices, but by the time this issue of *Pop'Comm* goes to press, the Garmin Rino products may have become available. First-responders will definitely want a handheld GPS unit of some sort in their Homeland Security communications toolbox.

The *Pop'Comm* editorial staff will be bringing you more news on how you can enhance your very own homeland security preparedness, each and every month. Watch for the latest on emerging technologies that will be used in the War on Terrorism, as well as what commo technologies you can use to help protect yourself, your home and family, and your community. Until then, go ahead, get your radio gear in order, and go hit the hot, dusty road! May God bless America and every good and decent person on this earth. We'll meet again right here, next month! ■

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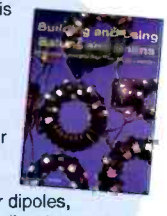

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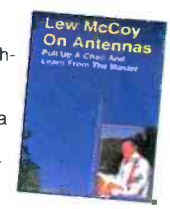

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by Gordon West, WB6NOA

Comparison Reviews — Taking FRS Radios Into The Field

Reviewing radios takes a lot more than reading over the specification sheets. Reviewing radios takes a lot more than just putting them on a spectrum analyzer, or looking to see what their sensitivity is on a SINAD meter. The good reviews actually take the equipment into the field and put them to the test under "real life" conditions.

When I was asked to review the Oregon Scientific FRS/NOAA handheld radio against equipment that was considered "the best model that the competition makes," I had to go with Motorola "Talkabout" radios simply because Motorola is such a strong force in the two-way radio field. Cobra, Audiovox, and Midland also make terrific FRS equipment, but I knew the Motorola "Talkabout" FRS radios had some unique features that many of the Motorola users simply take for granted.

Since FRS radio equipment is many times operated out on the ocean by sailors, I would judge how waterproof the equipment is, and could it take a little bit of spray? Also, on the ski slopes, if it accidentally drops in the slush, will it survive? Motorola equipment usually does!

FRS radios are popular for outdoor activities; and when you're outdoors with a lot of noise around you, you need loud audio output so you don't miss a call. Motorola has traditionally produced two-way portable radios with ear-splitting audio out — another reason for choosing Motorola.

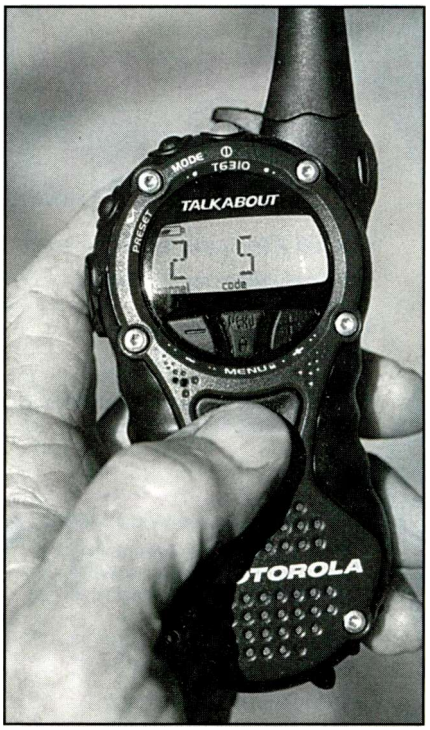
Another reason for choosing Motorola as the "best of the competition" was because Motorola and RadioShack were the first to really make FRS happen. RadioShack's Robert Miller developed the petition to create the FRS Radio Service within Part 95 Citizen's Band FCC rules, and Motorola was certainly the first to come out with a complete line of FRS equipment at the big consumer electronics show in Las Vegas.

The Motorola FRS radio was purchased at a local Fry's Electronics store, and I also received a $25 manufacturer rebate for the equipment purchase. This brought the price of their top-of-the-line FRS/NOAA weather radio including FM stereo to below $89. The Oregon Scientific radios (at $99 a pair) were shipped to me by a company called Speedtech, well-known for a line of unique marine electronics for boaters as well as outdoorsmen and women. I would borrow another Motorola Series 6000 so I would have a pair of each unit to take into the fields and waters, and give them a thorough checkout.

My Comparison Report

Both the Oregon Scientific and Motorola FRS/weather radios met FCC Standards 95.637, 95.639, and 95.647 for +/- 2.5 kHz deviation, 500 mW effective radiated power, radiated by a zero dB gain fixed integral antenna system. Both sets met the required frequency tolerance, and both sets exhibited almost identical range between same models and between one brand and another when tested over water, over land, and in the mountains.

Oregon Scientific FRS NOAA Radio
Serial No: 11002951
and
Motorola Talkabout FRS NOAA Radio
Serial No: 175TBC7426



It took a little time to get used to the Motorola push-to-talk button.

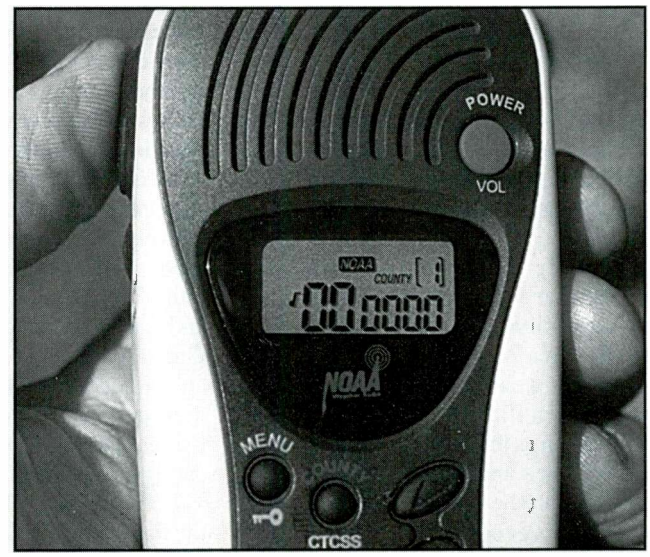
Our best range was 10 miles over water, eight miles mountain-top to mountain-top, and the "advertised" two miles along an open stretch of highway. Down at the marina, and out on the ski slopes, and deep in a local national forest, range was considerably less. This is not a fault of the units, but rather the natural attenuation of UHF radio signals attenuated by leaves, tree trunks, and vegetation. We also experienced dramatically less range when using them in shopping malls as well as at theme parks. But we are certain that the user of this type of equipment will be more than satisfied with the close-in, crystal-clear range that they may expect to get in less than a mile distance.

Audio Output

Audio output was judged adequate on both units, where the Oregon Scientific radio exhibited less bass than the Motorola radio. On transmit, the Oregon Scientific enhanced the treble, giving the other unit sparkling receive characteristics. On the Motorola, audio was much more mellow, and transmit audio also exhibited more bass. Neither unit indicated exactly where the user was to talk, but we found both microphone pick-up spots about two-thirds up from the base of the radio. Those users accustomed to cellular phones will need to re-think where to talk.

The push-to-talk button on the Oregon Scientific radio was conventionally placed on the side of the equipment, similar to the common two-way marine, air, or professional portable radio. On the Motorola, the push-to-talk button is in the center front of the radio, causing users to adopt a slightly different way

Motorola left, Oregon Scientific FRS/Weather radio on right.



Setting the SAME weather county codes on the Oregon Scientific FRS in order to receive local alerts.

of holding the equipment to transmit. If someone transmits on the Motorola by incorrectly pushing one of the side buttons, they will be greeted by a paging tone or the mode will shift into the next menu setting.

Squelch action was normal on both units with the Oregon Scientific transitioning from audio to silence with a fast "clunk," and the Motorola transitioning from audio to silence with more a "swoosh," a bit uncomfortable if wearing the optional earphone.

Motorola operates on three AA batteries, with rear contact points to accept rechargeable batteries and drop-in charter capabilities. On the Oregon Scientific, four AAA batteries are employed, and if rechargeable batteries are installed, such as Maha batteries, the batteries would be removed and installed in a Maha battery charger in order to replenish them. The Oregon Scientific radio may also recharge batteries on the inside with an accessory charging adaptor that plugs into the top of the unit.

Since both of these units are "high-end" and loaded with features; neither unit could be considered "use it straight out of the box without needing the instruction manual." Not a chance — I work with a lot of radios, and understanding all of the features and how to tune into the weather stations as well as the 14 FRS channels was just as complicated as trying to work over some of my ham radio equipment. Users MUST spend some time pouring over the instruction manual in order to go from FRS to weather, and back again, by memory. The fold-out paperwork that accompanied the Oregon Scientific FRS/weather radio was adequate, but nowhere near the professionally developed user's guide in a 69-page functional booklet with plenty of important illustrations, bold "remember this" points, nice large type font, and a fun little "character" that keeps you smiling as you are attempting to learn all of the features on your new FRS/weather radio.

One of the basic features in getting started with any two-way radio is dialing in a FRS channel, and setting volume. It took about the same amount of time to learn how to do this on both radios reading over the instruction manuals. On the Oregon Scientific, volume is raised or lowered by momentarily pushing the red power button, and then the up/down buttons. On the Motorola, you toggle through the menu items to get into the two-way radio mode, and at that point, the plus and minus keys are always active as the volume keys. Oregon Scientific offers eight levels of volume, and Motorola offers 20 levels. Motorola volume was significantly louder than the Oregon Scientific radio. This is something that Motorola has always done well with their two-way radio products — loud volume.

When actually communicating with another person, both units dialed into the medium volume level were plenty loud enough to be heard over an outboard motor. I would say the advantage of the incredibly loud Motorola radio would be wearing the equipment on your belt, and being able to hear someone calling you when wearing a heavy ski jacket that would cover the radio. Motorola also offered a vibration alert mode, too.

On the weather channels, both the Oregon Scientific and Motorola FRS/weather radios gave us almost identical sensitivity and reception. Motorola lined up the weather channels in order that would be similar to a marine VHF-weather channel 1 as 162.550, weather channel 2 as 162.400, and weather channel 3 and above (up to eight) in the common marine radio channels. The Oregon Scientific shows weather channel 1 as 162.400, depicted on the LCD screen as weather channel "A," with channel 7 indicated by "G" on the display as 162.550, showing an arrangement of weather channels in 25 kHz steps ascending order which is not the usual line-up of what NOAA calls weather channel 1, weather channel 2, etc. But this was not deemed a major problem because most folks will either scan for the loudest weather channel, or simply push the button to receive a local weather channel unknown to them in a new area of hiking or boating where that channel comes in loud and clear.

Weather Alert And More Features!

Both brands of radios offer WEATHER ALERT, the capability to "wake up" from a weather silenced mode and lock onto

a continuous tone that will be followed by a weather alert announcement. This feature is best utilized if you're not actively using the radio in the FRS mode, and it's just sitting there on the bookshelf silently guarding the weather channel for a weather alert. For the ski patrol personnel, this might mean a fast-approaching storm, or for Midwest operators, a tornado alert.

But only the Oregon Scientific FRS/weather radio takes the weather service capabilities one big step further, Specific Area Message Encoding digital smarts, the weather service coding and Oregon Scientific radio decoding of information, such as the effected localized geographical area and the expiration time of the message. The Oregon Scientific radio accepts county codes to localize your local weather service warning system, and you phone the National Weather Radio Service at 888-697-7263 and follow the voice menu to national weather radio channels and county codes. You can also look up the codes at www.nws.noaa.gov/nw/indexnw.htm. Click on the state for which information is desired.

The Oregon Scientific radio might also have receive more than one station and the alerts are subdivided into several smaller localized sections. The first digit from the left represents the smaller localized section.

Since Oregon Scientific is best known for its LCD wireless weather forecasting instruments, it's no surprise that a proprietary chip for all of these different types of weather alerts is found inside their little FRS/weather two-way radio. There is no question that weather reception on an FRS radio is a major feature, but whether or not the Oregon Scientific or Motorola radio is actively programmed for the weather alert mode is questionable to this author. It's a rather complicated programming process, and except for ski patrollers or U.S. Coast Guard Auxiliary men and women, chances are the added weather alert feature may seldom get used, especially when wearing this equipment for active FRS communicating on your belt or headset.

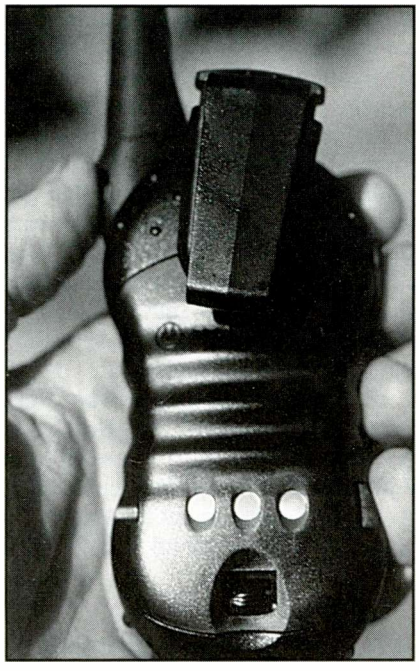
Both radios work on all 14 channels of the Family Radio Service, and both radios have capability of 38 different Continuous Tone Coded Squelch system (CTCSS) codes. (I am happy to report that almost all manufacturers of FRS equipment have adopted the same codes with numbers 1-38, so indeed the Oregon Scientific can stay in touch with the Motorola equipment when both sets have CTCSS enabled.) FRS manufacturers call these "private channels," but there is absolutely no privacy when someone else listens in with the same tone or without any CTCSS enabled. Going to full-tone decode insures a much better chance that your radio will remain absolutely silent until someone on the specific channel with the specific tone calls you. Only then will the audio come through to the speaker.

Motorola goes several steps further on selectively enabling other Motorola T600 series radios to command the Motorola LCD screen to indicate "CALLRCVD." The Motorola may actually vibrate to indicate someone is calling you, or ring the radio. The Motorola 6300 series has one additional feature to keep your radio absolutely quiet until another T6300 series calls you, called "QUIET 6000." And if you're worried about eavesdroppers, the Motorola radio we tested has a scrambled code that only other similar Motorola radios can crack. Everyone else on frequency with other radios won't be able to tell what was heard. Motorola calls it "eavesdrop reducer."

Both radios offer key locking to minimize the chance of accidentally pushing the wrong button and needing the big instruction manual to figure out how to get out of a certain mode. Most modes are indicated on the LCD display, and the Motorola display also adds incoming signal strength indication which is a terrific feature. This lets you know the relative proximity or distance to another station calling you. Both units also offer a power save mode that at times may clip the first syllable out of an incoming transmission if the radio has gone into the "sleep mode" due to channel inactivity. This is important to remember if you are calling someone else with an FRS radio and the channel has been absolutely silent for several minutes. Give them one long, long call.

I noticed on the Motorola that each channel will accept its own CTCSS code. On the Oregon Scientific, the CTCSS code selected for one channel stays with any other channel dialed up until you change the code. While this is not a big deal, it could take you a few seconds to talk on a couple of different channels using a couple of different CTCSS codes where you would need to, on the Oregon Scientific, redo the CTCSS code.

Both the Oregon Scientific and Motorola equipment feature VOX operation, and the optional headset makes operating VOX a hands-free proposition — great for safety if you are using these while driving. Each radio allows you to customize the VOX setting so that background noises don't accidentally trigger your unit to transmit. Both units may also be put into the scan mode so you may scan only the channels where you anticipate an incoming call.



Motorola drop-in charger contacts.

Oregon Scientific FRS radio on Channel 2, CTCSS No. 5, with Call Alert on.

Both units also gave me the time of day; and depending on exactly what model number from Motorola you purchase, you could also get a built-in FM stereo radio, compass, thermometer, barometer, altimeter, and like Oregon Scientific, plenty of accessories for which Motorola has absolutely THE MOST.

Finally, we get back to the two most important functions of the radio — capabilities for transmit and receive on Family Radio Service channels, plus capabilities to tune in the 24-hour weather stations. Both units did the job well; and after reading the instruction booklets and papers several times over, you can go from FRS to weather without needing to bring along any cheat sheets — of which Motorola actually has a quick reference card to go along with its delightfully illustrated user's guide.

The retail price will certainly separate the Oregon Scientific radio from the Motorola radio when it comes time to buy a pair or three, and putting them on your charge card. When I purchased the Motorola radio (Model 6310 including FM music reception), the price was around $120 with a limited time $25 manufacturer rebate coupon. If the Oregon Scientific equipment offered by Speedtech is priced around $60, the choice gets tough. But if the Oregon Scientific radio is seen selling for about the same price as the Series 6000 Motorola radio, I don't believe that the Oregon Scientific advanced weather alert capabilities will sway many buyers to purchase it over the Motorola FRS with all weather channels with its very loud audio output and "bonus features" that kids and hikers may really appreciate (FM stereo and altimeter).

The test was interesting to learn about how other FRS users work their equipment out on the water, on the ski slopes and mountain trails. Almost everyone I met rarely put their equipment into any other function than just basic Family Radio Service with tone squelch turned off. They actually enjoyed bumping into someone else over the airwaves that they could hear loud and clear on any one of the 14 channels. If they needed "privacy," they had 13 other channels to switch to. All of the other bells and whistles were generally not turned on, but the headset and VOX operation were favorites among skiers. Everyone liked all of the neat features that their radios had, but few brought along the instruction book nor had the knowledge on how to figure them all out! ■

on-the-go radio

by Alan Dixon, N3HØE/WPUC72Ø/KST8678

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

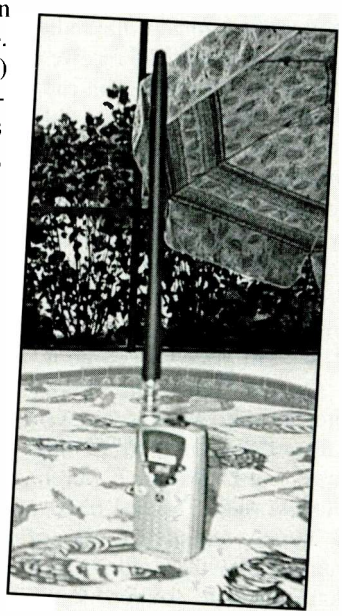
Alleged Action Against CBers By Local Authorities

There have been several media reports of alleged action by local authorities against CB radio operators under newly granted federal authority. In the fall of 2000, **H.R. 2346** amended the Communications Act (47 USC §302(a)(f), et seq.) to permit state and local enforcement of certain 11-meter CB rules violations. Here at "On-The-Go Radio," we have heard of one purported case in which a CB operator may have been relentlessly persecuted by municipal officials. Things are not always what they appear to be at first, so let us review some facts. First, H.R. 2346 permits state and local enforcement of *only two* types of violation of FCC regulations: "(A) A regulation that prohibits a use of citizens band radio equipment not authorized by the (Federal Communications) Commission." And "(B) A regulation that prohibits the unauthorized operation of citizens band radio equipment on a frequency between 24 MHz and 35 MHz." And, there are a few more principles at work here, in H.R. 2346: one is that "A station that is licensed by the (Federal Communications) Commission ... in *any* radio service ... shall not be subject to action by a State or local government..." (Emphasis added.) This *could* conceivably mean that holders of any class of FCC station license *might* possibly be exempt from local enforcement of CB equipment or operation incidental to the equipment and operation of their licensed radio station. I'll say it again this month however, "I'm no lawyer," so this is purely unqualified speculation on my part. More to the point, there is virtually no case law history upon which to more firmly speculate as yet anyway, so time will be the test of this clause of H.R. 2346. A related principle at work here is that H.R. 2346 requires that any "State or local government statute or ordinance enacted for purposes of this subsection shall identify the exemption available under this paragraph." Having an FCC station license — a very interesting exemption, indeed!

Getting Noticed In Munster, Indiana

Okay, let's look at one case of local CB enforcement in the news recently. This past April, the Munster, Indiana *Times* reported that William Bates, 38, known as "Candyman," was arrested on a "harassment" charge following neighbors' complaints about his "high-wattage" CB allegedly interfering with their cordless phones, televisions, and such (Eaken, Apr. 12, 2002). We are told that police had seized Mr. Bates' CB set, a rooftop antenna, and a "linear transmitter" rated at some 700 watts. According to the article, Munster Police Sergeant Doug Simpson stated that it was Mr. Bates' use of *profanity* that allowed the police to bring charges against Bates. Sergeant Simpson is attributed to having investigated the Bates case 18 long months, even giving the Mr. Bates the courtesy of a final warning of sorts, about a week before the bust. Simpson is said to have told Bates that his on-air comments were inappropriate, and that if this behavior continued that the police would act on it.

Although the Town of Munster has an ordinance to enforce a ban on improper operation of CB equipment (Ord. No. 1150, §26-1121(c)(22)) which is largely in compliance with H.R. 2346, it is important to note that, according to the *Times* account at least, Mr. Bates was charged with harassment instead. Frankly, regardless of which ordinance the Candyman was busted on, it hardly appears that the town government was bent on clearing out CBers. There is a really simple lesson to be learned here, even with the admittedly cursory information that we have before us: Be obnoxious enough, profane enough, for long enough, with equipment that is illegal enough, ignore enough polite warnings and you just *might* get yourself noticed! Can we say "case closed" on this one, then? After all that is said to have transpired, it appears that decent 27 MHz CB operators are safe in Munster, Indiana, at least.



The Audiovox GMRS-1535 is shown here with a 'monster' aftermarket antenna.

This is not to say that local or state authority cannot be abused in banishing CB radio operators, illegal or otherwise. But at least one well-known amateur radio audio-news outlet has stated that a recent federal law authorizes local authorities to regulate CB radio *interference*. However, H.R. 2346 does *not* grant such authority. It empowers state and local authorities to ban *only* the use of unauthorized CB radio equipment. CB operators whose equipment is unmodified, and which bear legitimate FCC certification numbers are statutorily exempt from state or local CB regulation to the extent described in H.R. 2346. Your "On-The-Go Radio" editor will be watching these events closely, for any future cases, as they may come up.

Testing Two Bubble-Pack GMRS Radios

Got GMRS? We tested two different popular bubble-pack General Mobile Radio Service handhelds, and one of these simplex radios may be right for your very own use. Either one will allow you to get started in GMRS without spending a bundle, and without having to worry about repeater permissions. You will need a GMRS license, of course. (For more information on the General Mobile Radio Service, check out *Pop'Comm's* newest column, "Homeland Security," right here in this month's

issue!) The **Audiovox GMRS-1535** handheld caught our eye first, among a number of similarly packaged units. This product had one particular feature not seen in too many other GMRS consumer radios. It has NOAA Weather Radio alert and receive functions as an integral part of the unit. This essentially palm-sized unit measures a little less than 2-1/4 inch wide, by 4 inches tall, and 1-1/4 inches deep, less antenna. The user can select high or low power on any of the unit's 15 channels. High power is 1.8 watts, with low power at 500 milliwatts, according to Audiovox. Like many GMRS handhelds in its class, the GMRS-1535 operates in simplex mode only, on any of the 15 GMRS channel configurations available for simplex operation. Channels numbered 1 through 7 are identical to FRS channels 1–7, but with this licensed GMRS radio, you can transmit at nearly four times the power of any FRS unit. Channels 8 through 15 are the eight GMRS repeater output channels where simplex operation is also permitted. For some unexplained reason, these eight channels are not arranged in order of frequency, but a handy chart included in the GMRS-1535's owner's manual tells which frequency has which channel designation. This unit is equipped with all 38 standard CTCSS talk-group codes, and is capable of scanning all its channels by frequency, as well as scanning CTCSS groups within any given channel.

Additionally, the GMRS-1535 can be placed in dual watch mode, scanning any two channels for activity. Best of this entire Audiovox unit's features, possibly, are the NOAA Weather Radio monitoring and alert functions. You may listen to your local NOAA weather station reports at any time, or you may monitor silently for regular alerts. This radio does not filter out certain weather alerts by means of NOAA's *SAME* digital encoding. After all, this radio is a portable, and using SAME codes while mobile is risky at best. Better to catch all alerts in your area of travel! We did notice that the weather alert did not function while in scan or dual watch mode on our test radio, even though the display icons indicated this function to be active. This is something of which to be aware.

By entering the GMRS-1535's FCC certification number, PDH GMRS-1535 into the FCC certification Web page at <http://www.fcc.gov/oet/fccid/>, we found lots of additional information about this radio, including an explanation of operating theory, alignment instructions, schematic and block diagrams, and internal photographs. Always remember that adjustments must remain within legal limits, and must be performed by a qualified and certified radiotelephone operator.

The GMRS-1535 also has off/on selectable key tone, transmit alert tones, and courtesy beep ("roger" beep), and a handy button for directly accessing assistance channel "675," which is Channel 10 on this Audiovox product. The easy-to-read display can be illuminated momentarily, and the stock three-inch antenna can be removed to add a beefier antenna, or a mag-mount antenna for mobile use, using a standard SMA connector. All controls are operated by means of various push-buttons on the front and side panels. Our test unit has top-mounted jacks for a VOX headset or for in-unit charging of four AAA size Nickel Hydride "NiMH" batteries, and is equipped with contacts for a desktop charger stand. We did note that charging through the provided jack with an aftermarket charger worked very well, and the GMRS-1535 can be operated while connected to this charger, also. All in all, the Audiovox GMRS-1535 is a great little simplex walkie-talkie. I found our test unit at Walmart selling for just $49.92. See what price you can find at various retailers!

Just to compare two different GMRS handhelds of this same (we feel) class, we also checked out the **Memorex MK1995**. This GMRS radio was just a bit bigger and "beefier" than the Audiovox handheld mentioned here, measuring somewhere around 5 inches high, by 2-3/8 inches wide, and 1-3/8 inches thick. The bigger case houses the larger AA size batteries which ought to give the MK1995 greater operating battery discharge time than similar models operating at similar power levels and duty cycles. It felt good in my hand — not too heavy, not too light, and its gently rounded contour just plain, well — fits! And this unit has a top-mounted standard rotary on/off/volume control knob. We really liked that feature. Like the other GMRS handheld mentioned above, the MK1995 has high and low power settings at 1.8 watts and 500 milliwatts, respectively, according to the Memorex user manual. Likewise, the MK1995 has all 38 standard CTCSS

The Memorex MK1995 GMRS handheld is sold as a bubble-pack.

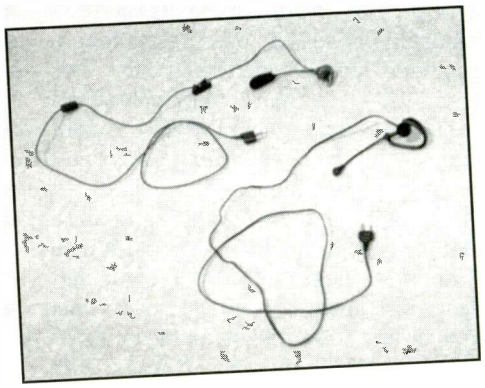
tones, channel scan, dual watch, and the same 15 simplex channels as the previously compared unit.

We found lots of additional information about this radio as well, at the FCC certification Web site, including the owner's operating manual, power output and deviation adjustments, schematics, and internal photographs. The MK1995's certification number on our test unit is PM3 MK1995. Be sure to browse this information for yourself!

Although the MK1995 has no NOAA Weather Radio receive capabilities, it is a good, easy to use radio that won't get lost in the palm of your hand. This unit also performed well with NiMH batteries during charging, discharging, and operating with an external charger plugged in. Yes, this radio includes the seemingly requisite switchable (on/off) keypad beep, courtesy beep, and selectable "ringer" alert tones. It also has a replaceable antenna mounted on a standard SMA connector. Our test unit was selling at a major retail chain marked down to an incredibly low $39.77. This particular retailer was less than totally candid in honoring their advertised sale price on some accessory items, so I will not inadvertently promote that establishment by mentioning their name. You likely wouldn't find this product at that price there by now, anyway. So there!

Using Jabra EarGels® And EarPhone® Headsets

Yes, the MK1995 also has top-mounted jacks for use with either an external charger or with a VOX headset. In fact, we tried both GMRS units with a couple of Jabra EarGels⟩ EarPhone⟩ mic boom-style headsets. These come with various colored and shaped gel-type earpieces that stay in place by plugging directly into your outer ear. I couldn't get the in-line PTT switch to function on either of these two GMRS handhelds. Perhaps this was due to "operator error," since no instructions came with our complimentary sample headsets. If you buy this product for yourself, you *will* read the instructions, right? But hey, if you're going to use a headset, you're probably going to use it in VOX mode anyway. These Jabra's are great for that! Jabra did not offer me any suggested retail prices at this time, so as always, shop around!



The Jabra EarGel, shown above, with a generic aftermarket over-the-ear headset shown for comparison, below.

Attention Over-The-Road Truckers!

Are you an over-the-road trucker? Do you use a wireless phone in the cab of your truck? Would you like the same quality performance from your cellular antenna that you get from your name-brand CB antennas? Then you really want to get the **Wilson Electronics Dual-Band Cellular Trucker Antenna**. This sharp-looking antenna has its own ground radials, so it needs no ground plane. In fact, it can be either roof-mounted or shaft-mounted on any standard 3/8"-24 antenna mount, with available mounting hardware. Because with the shaft mount, the total antenna length is still only 32 inches, it may be good for truck cab mirror-mounting, again, using a standard 3/8" mount. The Cellular Trucker Antenna puts the wireless phone RF away from your head and outside the cab where it belongs! And the manufacturer claims a whopping 10 to 15 dB gain with this antenna, in both the 800-MHz cellular band and the 1900-MHz PCS band. This antenna is visually modeled loosely on the famous Wilson Antenna CB antenna products. It makes a handsome complement to any trucker's existing Wilson CB antenna, and in fact was developed by the same engineers, according to Wilson Electronics. However, please note that Wilson Electronics, manufacturer of the Cellular Trucker Antenna, claims to be "not affiliated" with Wilson Antenna, manufacturer of the Wilson Trucker CB Antennas. Go figure. The Cellular Trucker Antenna has a suggested retail price of $59.95. Various cell phone connectors and antenna mounts are sold separately. For more information, call Wilson Electronics at 1-800-204-4104. Be sure to tell them that you read about it in *Pop'Comm*.

Hurry back next month for more news on the personal radio services, including CB radio and telematics. You may write to me at <n3hoe@juno.com>. I have always made the effort to respond to each and every E-mail, as well as to most hard copy correspondence. However, the overwhelmingly favorable response to my coming on board as "On-The-Go Radio" editor has made this difficult. Wow! Thanks for your support, but it is the *Pop'Comm* readers who make us what we are. So go ahead and send me your comments and ideas, photos and any tidbits that you would like to see published in this column. Whether or not I write back, please know that I do carefully read each and every piece of E-mail that comes my way. There's always the very good chance that if I didn't answer your message personally, that I may answer it directly right here in "O-T-G Radio!" ■

plane sense

your link to global aviation communications monitoring

By Bill Hoefer <flacap388@hotmail.com>

Getting Back To Basics

Each month as an air traffic controller we have to go through refresher training. This training may be in the form of team meetings, self-study, computer based training, etc. What it boils down to is going back to the basics. I am aware that there are new readers to *Pop'Comm* each month so there may be some who are new to aviation monitoring. As a result, this column and the next few will deal with going back to the basics. I also anticipate that starting with the next issue I'll be including more frequencies of towers, approach controls, centers and flight service stations.

In the next few columns I will also be discussing the two "bibles" for air traffic control: FAAH 7110.10 for Flight Service and FAAH 7110.65 for Towers, Approach Controls, and Centers.

The two books I will discuss here are books used by both pilots as well as controllers. The first is the AIM or "Aeronautical Information Manual." It is described on the cover as the "Official Guide to Basic Flight Information and ATC Procedures." It is described in the front of the AIM as "(a) manual is designed to provide the aviation community with basic flight information and ATC procedures for use in the National Airspace System (NAS) of the United States." An international version called the Aeronautical Information Publication contains parallel information, as well as specific information on the international airports for use by the international community.

"This manual is complemented by other operational publications which are available via separate subscriptions. These publications are:

"Notices to Airmen publication" (and) (t)he Airport/Facility Directory, the Alaska Supplement, and the Pacific Chart Supplement."

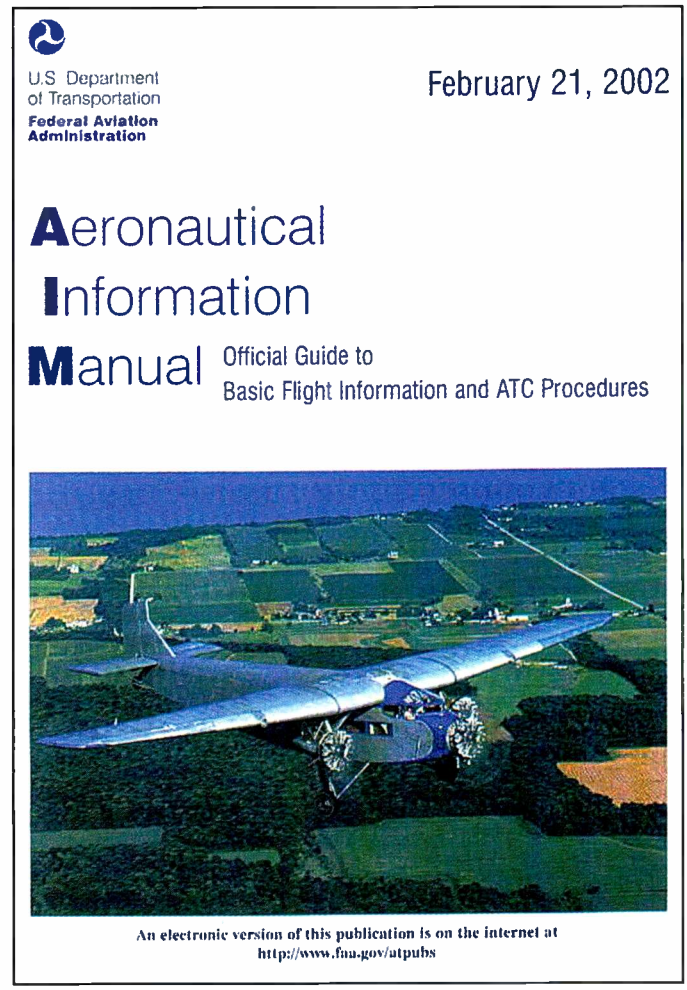
The AIM basic manual is issued every 104 weeks with changes each 26 between. The current AIM became effective on February 21 with the first change available on August 8.

And it should be also noted that the AIM "while not regulatory, provides information which reflects examples of operating techniques and procedures which may be requirements in other federal publications or regulations. It is made available solely to assist pilots in executing their responsibilities required by other publications. (It) will not contain informative items concerning everyday circumstances that pilots should, either by good practices or regulation, expect to encounter or avoid."

The main section of the AIM that concerns aviation scanners is Chapter 1, Section 1 which deals with Air Navigation Aids such as Nondirectional Radio Beacons (NDB's), VHF Omnidirectional Range (VOR's), Instrument Landing Systems (ILS's) and the Long Range Area Navigation (LORAN) system.

Chapter 3 of the AIM deals with the U.S. controlled and uncontrolled airspace, including Prohibited Areas, Restricted Areas, Warning Areas, Military Operations Areas, Alert Areas, and Controlled Firing Areas.

Chapter 4 is on Air Traffic Control. The actual regulations for controllers are found in FAA Handbooks 7110.10 and 7110.65. Section 2 of this chapter deals with radio communications phraseology.



The cover of the Airman's Information Manual (AIM).

Chapter 6 deals with emergency procedures.

And finally Chapter 9 discussed aeronautical charts and related publications.

Be advised that purchasing the AIM is not cheap. The subscription price from the Superintendent of Documents if $125. (This is NOT a typo.) For foreign orders it is $156.25. You may be able to get a non-current and used copy from local fixed base operators, though I cannot come close to saying that it would be completely up to date.

But then the AIM is available on the Internet. You can find it at: http://www.faa.gov/atpubs .

Notices To Airmen

Domestic/International is issued every 56 days. The Notices to Airmen (NOTAM) system produces aeronautical information that could affect a pilot's decision to make a flight. It includes such information as airport or primary runway closures, changes

in the status of navigational aids, ILS's, radar service availability, and other information essential to planned on en route, terminal, or landing operations. There are three categories of NOTAM's — D or distant, L or local, and Flight Data Center (FDC). The full description of these types of NOTAM's is found in Section 5 of the AIM above and is at length. The front cover of the NOTAM publication also says: "Notices to Airmen included in this publication are NOT given during pilot briefings unless specifically requested by the pilot."

The subscription price is also not cheap. It is $115 per year for the NOTAM publication. Also foreign orders are $143.75. But to make it a little more accessible to the average user you can find it on the Internet at: http://www.gov/NTAP.

Golden Knights

Before I get into the frequency/ID changes and the military demo schedules I asked for assistance in getting frequencies for the Army Golden Knights Parachute Demo teams. Gerard, from one of the Dakota's I believe, sent me a list of air to ground frequencies for the Knights. They are: **123.000, 123.400, 123.450, 123.475, and 123.500.** Thank you, Gerard.

Trivia question for the month: Which of these is/are not real airways fix(es): BLACK, WHITE, RREDD, ORANG, YELOW, GREEN, BLUUE, PURPL, BROWN. Answer at the end of the column.

Military Air Demos Scheduled For August And September

USAF Thunderbirds
August
Westover ARB, MA
17 Portland, OR
18 NAS Whidbey Is, WA
31 Cleveland, OH

September
1–2 Cleveland, OH
7–8 Lubbock, TX
14–15 NAS Willow Grove, PA
21 Grand Junction, CO
22 Holloman AFB, NM
28–29 NAS Patuxent River, MD

USN Blue Angels
August
3–4 Seattle, WA
17–18 Chicago, IL
24–25 Offutt AFB, NE
31 St. Louis, MO

September
1–2 St. Louis, MO
7–8 Toledo, OH
14–15 McConnell AFB, KS
21–22 NAS Oceana, VA
28–29 Augusta, GA

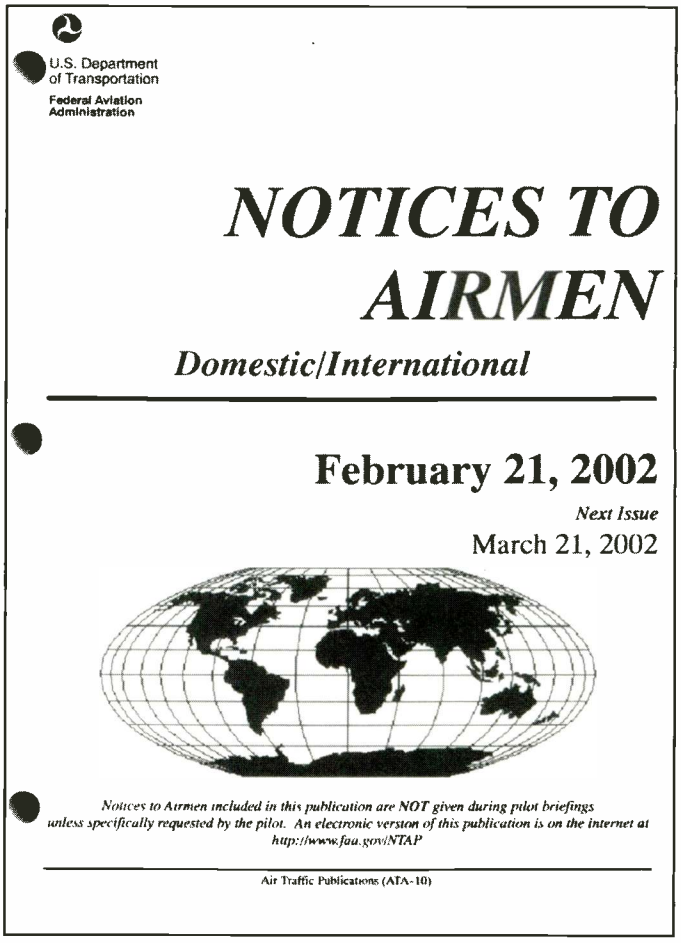
USA Golden Knights
August
3–4 Ellsworth AFB, SD
17–18 Chicago, IL
17–18 Hillsboro, OR
24–25 Offutt AFB, NE
24–25 Eau Claire, WI
31 Cleveland, OH
31 Chesterfield, MO

September
1–2 Cleveland, OH
1–2 Chesterfield, MO
7–8 Lubbock, TX
7–8 Greenfield, IN
14–15 McConnell AFB, KS
14–15 NAS Willow Grove, PA
20–22 Virginia Beach, VA
21 Grand Junction, CO
28–29 Tupelo, MS

NEW/CHANGED/DELETED FREQUENCIES

NEW

AL
Cullman — Folsom Field (3A1)
AWOS-3 124.175


U.S. Department of Transportation
Federal Aviation Administration

NOTICES TO AIRMEN

Domestic/International

February 21, 2002

Next Issue
March 21, 2002

Notices to Airmen included in this publication are NOT given during pilot briefings unless specifically requested by the pilot. An electronic version of this publication is on the internet at http://www.faa.gov/NTAP

Air Traffic Publications (ATA-10)

The cover of the NOTAM's manual.

AK
Nuiqusut (AQT)
RCO 122.5

CA
China Lake NAWS/Armitage Field (NID)
PMSV METRO 343.15

IA
Independence Municipal (IIB)
AWOS-3 118.25

Mount Pleasant Municipal (MPZ)
AWOS-3 119.8

Pella Municipal (PEA)
AWOS-3 118.0

Vinton Veterans Memorial Airpark (VTI)
AWOS-3 120.05

MD
Oakland — Garrett County (2G4)
AWOS-3 120.125

MO
Lee's Summit Municipal (LXT)
ASOS 124.175

MN
Minneapolis ARTCC (ZMP)
Lincoln RCAG 119.525/269.175

Red Wing Regional (I-RKG)
ILS Rwy 9 110.1

Waseca Municipal (ACQ)
AWOS-3 371 kHz

MT
Kalispell — Glacier Park International (FCA)
ATIS 132.625

NJ
Atlantic City International (ACY)
ATIS 316.15

Millville — Holly City Heliport (2P5)
CTAF 122.9

NY
South Bethlehem — South Albany (4B0)
Apch 118.05/263.075

NC
Sanford — Lee County Regional Airport
NDB (TT) 406 kHz

OH
Mount Vernon — Knox County (4I3)
AWOS-3 118.425

TX
Houston ARTCC (ZHU)
Kerrville, TX RCAG 124.2

VA
Chester — Wathall Channel Seaplane Base (2G6)
CTAF 122.9

WA
Cle Elum Municipal (S93)
Glider CTAF 122.3

CHANGED

AK
Anchorage — Ted Stevens Anchorage International (ANC)
ANG Ops was 292.4, now 311.0

CA
China Lake NAWS/Armitage Field (NID)
ATIS was 265.2, now 322.375

Grass Valley — Nevada County Airpark (O17)
Sacramento Apch was 327.5, now 259.1

Sacramento — McClellan Airfield (MCC)
Apch was 271.3/327.5, now 270.25

CO
Aurora — Buckley AFB (BKF)
LC was 289.6, now 291.65

CT
Windsor Locks — Bradley International (BDL)
Apch was 125.8, now 127.225

GA
Savannah International (SAV)
Apch was 354.0, now 388.8
Apch was 118.4, now 120.4

KS
Olathe — Kansas City ARTCC (ZKC)
Manhattan RCAG was 257.975, now 388.8

MA
Plymouth Municipal — (PYM)
Apch was 126.3, now 118.2

TX
Austin — Bergstrom International (AUS)
263.0 was GC, not CD

DELETED

NY
Albany International (ALB)
Apch 124.7

NEW/CHANGED/DELETED/ABANDONED AIRPORT ID'S

NEW

AK
Golvin — New Golvin N93

FL
Fort Myers — Caloosa Downtown Seaplane Base 29FA
Lake Placid — Florida Hospital Lake Placid Heliport 30FA
Oxford — S & S Avion Ranch Airport 31FA

IL
Fairfield Memorial Hospital Heliport 9IL8

IA
Carson — Volkens Field Airport 97IA
Coon Rapids — Stangl Stolport 16IA

MN
Sabin — Blue Sky Airport 3MN7

NC
Sanford — Lee County Regional Airport NDB TT

CHANGED

AK
Golovin was GLV, now N93

KS
Sublette Flying Club was 65K, now 80KS

MD
Ridgely Airpark was 1N0, now RJD

ABANDONED/CLOSED

AK
Golovin GLV

IL
Mendon — Cramm Landing Area 4LL4
Steward — Wilbur Thompson 3LL9

MN
Chisago Health Services Heliport4MN5

WA
Yelm — Elbow Lake Airpark 0WA0

Trivia Answer

Which of these is/are not real airways fix(es): BLACK, WHITE, RREDD, ORANG, YELOW, GREEN, BLUUE, PURPL, BROWN.

In actuality all are real fixes, except for RREDD, GREEN, and PURPL. In addition there is no VIOLT, either.

Until next month keep scanning, giving blood and praying.■

Pop'Comm Survey - August 2002

I buy most of my coax for my shack from:

	Circle Reader Service Number
A specialty cable manufacturer	1
RadioShack	2
Hamfests - in the flea market	3
An amateur radio dealer	4
Other	5

Most of my radio equipment is:

New within the past year	6
One to two years old	7
Two to four years old	8
More than four years old, but less than 10	9
More than 10 years old	10
They're all analog, tube-type, nothing with digital frequency readout, etc.	11

In addition to my "base" shortwave receiver, I also own:

A portable shortwave for traveling or emergencies	12
Another "base" receiver at work	13
No other shortwave receiver, but an AM/FM portable for traveling/emergencies	14

I'm a CBer, and my base antenna is:

A homebrew longwire/dipole cut for 11 meters	15
A vertical antenna from RadioShack	16
A vertical antenna from another manufacturer	17
A commercial beam of two to four elements	18
A back-of-set antenna that simply screws into the SO-239	19

Lighting is important to me in my shack - I use a special lamp or have lights independent of a ceiling or pole lamp

Yes, a tabletop lamp - incandescent	20
Yes, a tabletop lamp - fluorescent	21
No	22

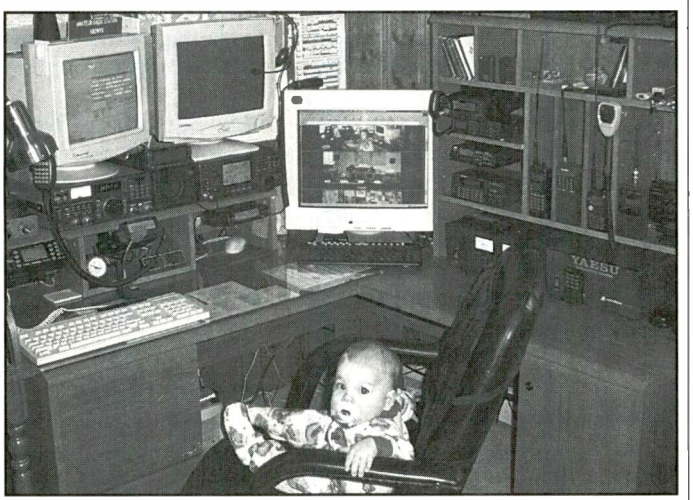
v.i.p. spotlight

Congratulations To Bryan Smith, KB3FGL Of Pennsylvania!

Popular Communications invites you to submit, in about 150 words, how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo (no Polaroids, please) should be included.

Each month, we'll select one entry and publish it here. Submit your entry only once; we'll keep it on file. All submissions become the property of *Popular Communications*, and none will be acknowledged or returned. Entries will be selected taking into consideration the story they relate, and if it is especially interesting, unusual, or even humorous. We reserve the right to edit all submitted material for length, grammar, and style.

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*. Address all entries to: "V.I.P. Spotlight," *Popular Communications*, 25 Newbridge Road, Hicksville, NY 11801 or E-mail your entry to popularcom@aol.com, letting us know if you're sending photos. Please print your return address on the envelope if using the postal mail system. Not doing so will delay your submission being processed. If you're E-mailing photos, please send them in a separate E-mail with your name in the "subject" line.



Bryan Smith's shack with "harmonic" Alexander in the driver's seat— perhaps a future radio enthusiast?

Our August Winner: Bryan Smith Of Bethlehem, Pennsylvania

Bryan says, "I started off in this hobby when I found an old analog shortwave receiver. My parents initially did not believe that I was receiving signals from Russia and Great Britain. It took a while until they realized I was hooked. As a youngster I became captivated by the signals, sounds, and intrigue that carried over the oceans to my home in Pennsylvania. I listened on weekends into the middle of the night. I sent QSL's into your magazine and was shocked to see a QSL from Radio Canada printed in *Pop'Comm*!

My father bought me another shortwave receiver. It was an analog as well, as this was in the early '80s; and it covered the airband as well as the HF bands. An inexpensive receiver that didn't have SSB capability, it still sits here in my shack. Though not heavily used, outclassed in some ways by the other rigs I have purchased, it still smiles back at me, reminding me of my father, and those cold, snowy nights listening to myriad shortwave broadcasters. I can still see my father carrying it up the pavement on a Friday afternoon. How I love this hobby! And believe it or not I routinely long for one more night in my childhood to sit up with this old analog radio and a wire thrown out my bedroom window wondering. Thanks, Dad." ■

the wireless connection

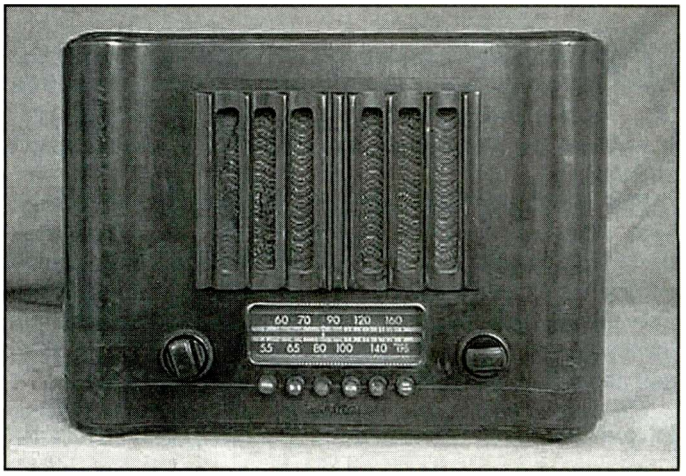
a look behind the dials

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

Tim's Antique RCA Horror Story!

"It started out innocently enough. I had just received a wooden radio in the mail. However, things started to go downhill when I unwrapped it. I was greeted with an awful odor, courtesy of Phillip Morris. An overall inspection of the chassis, which was caked in 50 years worth of tobacco, told me that it looked hopeful enough, although a small section of thick rust proved doubtful. Anyway, things really started getting worse when I put the cabinet in bright light to see it clearly. It was covered in burn marks, scratches, and God knows what. When I picked it up, the cabinet detached from the wooden base, and if it hadn't been for the fact that I disconnected the speaker and knobs there it would have been much worse. Anyway, after only being delayed for a short time because of this setback, I inspected the chassis — which was filthy — and slowly fired it up. At this point, the power transformer hummed, only one tube lit up, and a short while later it sounded like someone was frying something in the radio. A huge cloud of smoke poured out of the transformer, the one tube flashed brilliantly, and the lights went out. Needless to say, I nearly cried. Any of you have similar stories or advice for a poor guy with bad luck?"

So was Tim's plea for advice and moral support on an Internet newsgroup. Tim's missive addressed several important topics that face all new radio collectors; questions many of us have asked at one or time another. My advice to Tim was not to be so hard on himself, and to look at the restoration as several small steps, rather than as a whole. As a beginning collector Tim was overwhelmed and disappointed by the enormity of so many problems in one set, plus the disappointment of finding his treasure was less than promised on arrival.



This 96T1 is a good example of a complete unit and belongs to collector Jim Spencer. Photo by Jim Spencer.

70 Year-Old Appliances

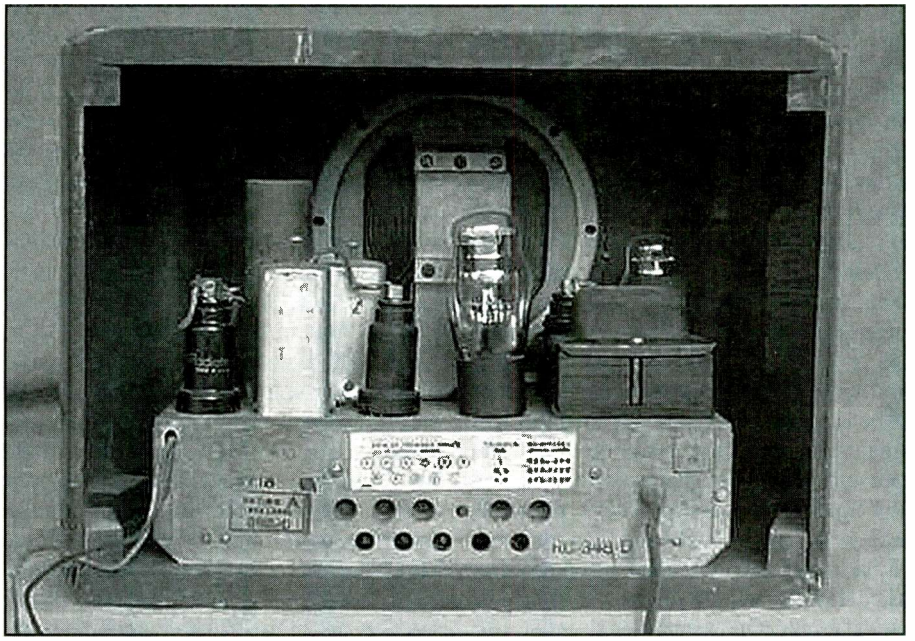
First, most collectable tube radios are now 70 year-old *appliances*. Yes, an appliance. Aunt Mildred's heirloom Atwater Kent cathedral was an appliance when it graced her parlor in the 1930s — no one dreamed it would survive decades to become a prized family treasure in the next century! Surviving old radios have wear, nicks, dings and stains on their grille cloth material. For the most part, some wear is expected on a vintage piece. It adds to the patina of the radio, and in some cases for other antiques to its value. By wear, I mean normal wear — not the damaged cases or chassis's resulting from years of improper storage. That's abuse, not normal wear. But, minor finish wear around the knobs, or a small ding or two, a small cigarette burn, remains as a connection spanning time to a previous owner — a real person who lived and experienced life and history from an different era. This is something lost to zealots who insist on refinishing every set to factory new appearances. The timeline is erased forever.

Also, remember that smoking was an acceptable and expected social practice for many years. Tobacco companies were major advertisers and revenue sources during the early days of radio and television. So, it's not surprising to find some smoke residue buildup on old cabinets. Now, I don't care how good the radio condition is, almost any original radio finish will reveal some blemishes when examined under bright light. This is also not a realistic test because most of us display radios on shelves out of direct sunlight since long term exposure to the ultraviolet rays of direct sunlight will eventually damage a radio's finish or grill cloth material. Nestling radios close together for display hides a lot of ills!

Admittedly, trying to *armchair repair* all of the ills of Tim's radio requires some assumptions on my part since I don't have the radio on hand to examine; but, let's do a possible laundry list that Tim, or others with similar problems, might consider. For those interested in RCA sets, or for alignment data, photos and schematics for many RCA radios, visit this web site: **http://oldtech.net/RCA.html**. Tim's RCA 1938 model 96T1 is covered there.

Getting The Smell Out

I've mentioned it before, but the best way to clean your old wood cabinet is with a clean cotton rag dampened with naphtha. Naphtha will remove most of the surface dirt, old wax buildup, and oxidized lacquer finish. Caution: Naphtha is extremely flammable, and this must be done outdoors with the proper precautions. Afterwards, the cabinet can be treated with a good quality antique paste wax for further protection and to restore the sheen. Don't bother using *Pledge* or other similar products on your sets. One good paste application should last for years, and the sets should just require light dusting as need. I just discovered a grungy *Pledge* buildup on my Zenith consoles, plus grill cloth damage caused by my wife's fastidious weekly wiping a *Pledge*-laden dust rag around the speaker fret-



Rear cabinet shot of the 96T1 RCA radio. Photo by Jim Spencer.

work with a dust rag. A dirty grill cloth — if in good physical condition with no dry rot — can be dry cleaned, or hand washed using *Woolite*. Again, if a grill cloth is presentable, leave it alone! The idea is to remove serious stains or odors, not to make a cloth shine unnaturally as in "new condition."

If objectionable odors still remain, there are other remedies. Always use the least invasive means first. Simply leaving the radio in bright sunlight for a few days will often do wonders. I've dealt with animal generated odors and the risks of Huntaviruses, etc., in past columns. This time around I deal with those musty attic/cellar aromas, or mildew-related problems. One caveat: there is considerable risk to pets from many common household chemicals — use caution and keep your pet away from radios under going treatment. One example is the phenol used in Lysol, it's especially deadly to felines. *Febreze* is an spray product intended to control common home odors made by Proctor and Gamble. Clorox makes a similar product — *Freshcare*. Many have sworn of the effectiveness of these deodorizers as a means to remove odors from radio cabinets and grill cloths. You may need to use two applications to remove most odors. Lightly spray the inside of the cabinet and chassis as well.

You can also place the radio in a sealed plastic bag with one of these following items: charcoal, several sheets of *Bounce* (fabric softener), kitty litter, or a dish of baking soda for several days. This treatment also works well for removing odors from Rider Manuals, or other literature that was stored in damp areas. Remember, unless the mold is removed or the remaining spores killed, the odors may return once conditions return that are suitable for the mold to reproduce and multiply. A strong soap, such as lye, *Fantastic* or *409* will help remove superficial chassis or interior cabinet odors. Some sets, such as the wooden tube Zenith Transoceanics, have a natural factory odor is that is desirable.

Dealing With Surface Rust

I've shown some rather ambitious approaches for handling severe chassis rust problems in the Philco and American Bosch restoration columns. In Tim's radio, only a few small areas have surface rust. First, a gentle brushing with sandpaper should hopefully remove most of the rust. Steel wool also works, but it also produces a lot of waste in the form of conductive steel fibers. These can cause serious shorts and intermittent problems in a radio if they aren't carefully vacuumed up! If the rust is deeper, a product called "*Bartender's Friend*" (found in supermarkets) has also been suggested. It comes in a cleanser-type shaker can — oxalic acid is the active ingredient, and it reportedly works without the mess and odor of *Naval Jelly* or other harsh products. I've never used it, but it's worth a try! Remember to coat the treated areas with a matte finish clear plastic sealer to prevent further rusting since the protective factory platting is now gone.

Tim's Cabinet

I'll need to do a column on the proper way to ship radios. It will take a full column to do so! Many cathedral and tombstones have heavy chassis, and the fact is that the animal hide glue joints in those wood cabinets have weakened. Never, never lift a large wood radio by the top of the case, or you risk having the cabinet baseboard separate from the rest of the set. Never, never ship a larger wood radio as a complete unit. The cabinet, speaker and chassis should be removed, and each double-boxed and shipped as separate units. Inertia is an important consideration. Imagine the stresses placed on the cabinet seams caused by a 30-pound chassis as a box is jostled when it falls from a conveyor belt to the loading dock. If the tubes are exposed and prone to shipping stresses, they also must be individually wrapped and boxed. Horror stories abound on the Internet on how shippers totally trash radios during transit. Alas, if those sets were properly packed in the first place, there would have been a lot less problems to read about.

Hopefully for Tim's cabinet the problem isn't that severe. The first thing Tim needs to do is remove the chassis from the baseboard, and remove the speaker from the cabinet. Any remaining hide glue on

the exposed seams should be scraped away. Once this is done, the cabinet to baseboard should be dry-fitted to ensure there is no other damage that may affect the cabinet's alignment. If everything looks good and fits, the cabinet can be reglued using white carpenters' glue. Clamp or weigh the cabinet for 24 hours to give the glue ample time to dry and setup. Excess glue oozing from the seams should be wiped away with a damp rag before it sets.

First Time Power-Up

Simply: *Don't do it*. There is no valid reason to power up an unrestored radio on a Variac to look for problems. In fact, that is a play on words; doing so is indeed looking for trouble. Big trouble! There is nothing to prove. 70 year old wax caps *must* be replaced. 70 year old filter capacitors *must* be replaced. Resistors go out of spec, vintage rubber insulated wiring is usually crumbling and possibly shorting to adjacent wires or to the chassis. Line bypass caps and antenna coupling caps are probably leaky enough to present serious shock hazards on transformer-powered or isolated chassis AC/DC sets.

Heck, I know that is a big temptation to see if it still plays after all of those years. Some folks are lucky, and report finding old radios that still play and continue to play them as found. My feeling is that they are time bombs, and will eventually fail in dramatic fashion. I'd like to do some tests on the power consumption of a radio before and after recapping; I'd bet on an appreciable difference. Given today's higher AC line voltages, the bias changes caused by leaky coupling/bypass caps, filter cap leakages, etc., I'd bet these all combine to cause increased stresses on a power transformer that are quite substantial. Most of those are consumer grade transformers, and especially in the smaller Zenith mantle radios, which were marginal to begin with. All too often I see eBay Internet auction site ads stating "plugged it in and it smoked," "Probably just needs a tube," or "Power cord cut, can't test. Selling as-is." Yeah, right. Caveat emptor.

If you absolutely must power the set up on a Variac (a brand of variable autotransformer), at least remove the rectifier tube in transformer sets. This will protect against damage from weak filter caps, and prevent damage to the rectifier tube and the transformer. In Tim's case, the radio had new caps in place and was restored. What may have happened was a rectifier tube failure which in turn shorted the transformer. Or, perhaps the audio tube went gassy and drew excessive current which rapidly lead to other cascading failures. Or, maybe there was a wiring problem when the restoration was in progress. Alas, the damage is already done; second guessing isn't going to help. Since our earliest columns, we've always strongly advocated fusing the AC line in any radio that crosses the workbench. I'll show how to properly use a Variac on the workbench in a future column. This is something that is discussed and argued over quite frequently. In brief, always monitor the AC current when using a Variac or powering up a radio for the first time and watch for abnormal power draw as the voltage is slowly brought up. The rectifier tube will not pass current until its filament reaches a certain temperature, in other words the B+ will start abruptly, not in a linear fashion as the voltage is raised! One trick is to use a substitute tube made with silicon diodes, but I am getting into future column fodder at this point.

Replacement Transformer

Even though it smoked, the transformer may still be useable. It should be checked by removing all of the tubes from the chassis, and just measuring the AC current drawn by the primary winding, with no loads on the secondary windings. The usual transformer failure mode resulting from grossly overheated windings is shorts between turns. These will cause the transformer to draw considerably more current than normal, and to continue overheating which in turn causes more shorted turns. You should also check for shorts between the primary and various secondary windings. The effect cascades until the device is totally destroyed. If no adjacent turns shorted, the transformer may still have years of life in it. Let the transformer run at idle for several hours with just the AC primary connected to the line (fused, please!) If the idling current remains constant (under several watts), and there is no smoke or overheating, try it under load in the radio again.

Luckily, I suspect that a replacement transformer should be easily, and hopefully inexpensively, available for this radio. Many sets used similar tube lineups, and if a replacement transformer from a different brand or model fits and has the correct range of voltages and current handling, it can be pressed into service. An exact replacement is seldom needed, and if the B+ voltage is 20 or 30 volts lower there should be no ill effects except for the benefit of a cooler-running set. Since these sets use cathode or self-biasing schemes, the Class A stages will automatically compensate for reasonable deviations from the designed B+ voltage.

Epilogue

Tim has a few more comments on his radio: "Before plugging it in, I replaced all the capacitors and tested the tubes, checked for shorts, etc. So, I deemed it safe to plug in. Three hours after I unplugged it the transformer was still hot. Yes, it's off eBay, and the pictures didn't do the radio justice. The seller did plug it in; there was a picture of the back in where you could see that the dial lamp glowing. Unfortunately, I think that was a bad idea — you shouldn't plug them in unless you know their condition; but I don't blame them for it. When I first started radio collecting, I just plugged it in, without checking to see that everything was in order. As for the model, it's an RCA 96T1, (1930s?) and uses 6H6, 6F5, 6K6G, 6A8, 6K7, and 5Y3. I also need some push buttons for it. In the future, I will take more cautions before plugging these suckers in. So far, this is the worst set I've ever encountered, but actually I think I'm going to enjoy completely overhauling it."

Yep, that's what it's all about! A special thanks to Peter Weick, and to other RRA+P contributors, who were the originators of many of the fine suggestions used in the preparation of this month's column. ■

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

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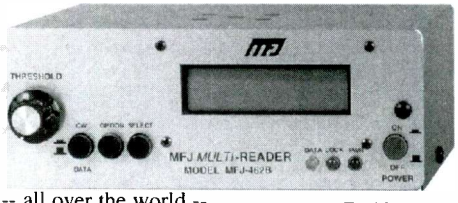

-- all over the world -- Australia, Russia, Japan, etc.

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

Easy to use, tune and read

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Copies most standard shifts and speeds. Has MFJ *AutoTrak*™ Morse code speed tracking.

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

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

MFJ-1024 **$139.95**

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

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MFJ-1020B **$79.95**

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

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

Compact Active Antenna

MFJ-1022 **$49.95**

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

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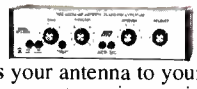
New! Completely eliminate power line noise, lightning crashes and interference *before they get into your receiver!* Works on all modes -- SSB, AM, CW, FM, data -- and on all shortwave bands. Plugs between main external antenna and receiver. Built-in active antenna picks up power line noise and cancels undesirable noise from main antenna. Also makes excellent active antenna.

MFJ Antenna Matcher

MFJ-959B **$99.95**



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

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

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

High-Gain Preselector

MFJ-1045C **$99.95**

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

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Use your computer and radio to receive and display brilliant full color FAX news photos and incredible WeFAX weather maps. Also RTTY, ASCII and Morse code. Frequency manager lists over 900 FAX stations. Auto picture saver.

Includes interface, easy-to-use menu driven software, cables, power supply, manual and *JumpStart*™ guide. Requires 286 or better computer with VGA monitor.

High-Q Passive Preselector

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High-Q passive LC preselector boosts your favorite stations while rejecting images, intermod and phantom signals. 1.5-30 MHz. Preselector bypass and receiver grounded positions. Tiny 2x3x4 inches.

Super Passive Preselector

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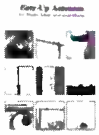
New! **Improves** any receiver! Suppresses strong out-of-band signals that cause intermod, blocking, cross modulation and phantom signals. Unique Hi-Q series tuned circuit adds super sharp front-end selectivity with excellent stopband attenuation and very low passband attenuation and very low passband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

Easy-Up Antennas



MFJ-38 **$16.95**

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

MFJ Antenna Switches

MFJ-1704 **$64.95**

MFJ-1702C **$24.95**

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

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MFJ-8100W ***wired*** **$89.95**

Build this regenerative shortwave receiver kit and listen to signals from all over the world with just a 10 foot wire antenna. Has RF stage, vernier reduction drive, smooth regeneration, five bands.

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MFJ's new 21 Band World Receiver lets you travel the world from your armchair! Listen to BBC news from London, live music from Paris, soccer matches from Germany and more! Covers 21 bands including FM, Medium Wave, Long Wave and Shortwave. *Sony*® integrated circuit from Japan, multicolored tuning dial, built-in telescopic antenna, permanent silkscreened world time zone, frequency charts on back panel. Carrying handle. Operates on four "AA"s. Super compact size!

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world band tuning tips

your monthly international radio map

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

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

UTC	Freq.	Station/Country	Notes
0000	15485	Radio Pakistan	
0000	9925	Voice of Croatia, via Germany	
0000	15285	Egyptian Radio	AA
0000	15100	China Radio Int'l	CC
0000	7400	Radio Bulgaria	
0000	5035	Radio Aparecida, Brazil	PP
0000	13730	Radio Austria Int'l	GG
0000	15060	Central Broadcasting System, Taiwan	CC
0030	11970	Voice of Islamic Republic of Iran	
0030	15425	Sri Lanka Broadcasting Corp.	
0100	4919	Radio Quito, Ecuador	SS
0100	9800	Radio Varna, Bulgaria	BB
0100	6175	Voice of Vietnam, via Canada	
0100	6536	Rdf Huancabamba, Peru	SS
0100	7420	Radio Ukraine Int'l	
0100	9440	Radio Slovakia Int'l	
0100	5637	Radio Peru	SS
0100	9400	Radio Bulgaria	BB
0130	5678	Radio Ilucan, Peru	SS
0130	5010	Radio Pueblo, Dominican Republic	SS
0130	9737	Radio Nacional, Paraguay	SS
0200	3350	Radio Exterior de Espana via Costa Rica	SS
0200	15250	Voice of America relay, Sri Lanka	
0200	6458	Armed Forces Radio, Puerto Rico	USB
0200	4832	Radio Litoral, Honduras	SS
0200	4835	Radio Tezulutlan, Guatemala	SS
0200	11990	Radio Canada Int'l	
0230	9525	Radio Medi Un, Morocco	AA
0230	11605	Far East Broadcasting Assn., Seychelles	unid
0230	17675	Radio New Zealand Int'l	
0230	4915	Radio Anhanguera, Brazil	PP
0300	4980	Ecos del Torbes, Venezuela	SS
0300	17595	Voice of Russia	
0300	15355	Radio Oman	
0300	15310	BBC relay, Oman	
0300	17825	Radio Japan	
0300	4820	Radio Botswana	
0330	7310	Voice of the People (Zimbabwe clandestine)	
0330	9780	Republic of Yemen Radio	AA
0330	9490	Radio Sweden	
0330	13675	UAE Radio, Dubai	
0330	7290	Voice of America relay, Sao tome	
0330	15560	Radio Netherlands relay, Madagascar	DD
0330	9420	Voice of Greece	GG
0330	9670	BBC relay, Cyprus	RR
0330	4950	Radio Nacional, Angola	PP
0330	9835	Radio Budapest, Hungary	
0400	4960	Voice of America relay, Sao Tome	
0400	7110	RTT Tunisienne, Tunisia	AA
0400	6020	Voice of Turkey	
0400	9700	Deutsche Welle relay, Rwanda	GG
0400	15335	Radio Romania Int'l	
0400	11765	BBC via South Africa	
0400	7465	Norwegian Radio	NN
0400	7125	Voice of Russia, via Moldova	
0400	7185	RTV Marocaine, Morocco	AA
0400	3360	La Voz de Nahuala, Guatemala	SS
0400	11910	Radio France Int'l, via Gabon	
0400	9815	Kol Israel	
0400	9745	HCJB, Ecuador	
0400	5025	Radio Rebelde, Cuba	SS
0400	9560	Radio Canada Int'l	
0400	9965	Voice of Armenia	Arm.
0415	9650	Trans World Radio, via South Africa	
0430	6265	Radio Zambia	
0430	17770	Qatar Broadcasting Service	AA
0430	7375	Radio Ukraine Int'l	
0430	15170	Broadcasting Svc of the Kingdom, Saudi Arabia	AA
0430	15340	Radio New Zealand Int'l	
0430	15205	Voice of America relay, Greece	
0430	17780	KWHR, Hawaii	
0430	9345	Kol Israel	HH
0430	13770	YLE/Radio Finland	FF
0430	7265	Sudwestrundfunk, Germany	GG
0430	12050	Radio Cairo, Egypt	AA
0430	11985	Radio Vlaanderen Int'l, Belgium	unid
0445	17735	Radio Romania Int'l	
0445	15320	Voice of Hope via Madagascar	
0500	11970	Adventist World Radio via South Africa	unid
0500	7180	Voice of Russia	
0500	7255	Voice of Nigeria	
0500	9550	Radio Havana Cuba	
0500	15240	Radio Australia	

UTC	Freq.	Station/Country	Notes
0530	6249	Radio Nacional Malabo, Equatorial Guinea	SS
0530	6120	Deutsche Welle relay, Portugal	
0530	6110	Radio Japan via Canada	
0530	7230	Radio Japan, via England	
0530	7115	RAI Int'l, Italy	
0600	4835	RTV Malienne, Mali	FF
0600	3300	Radio Cultural, Guatemala	SS
0600	7135	Radio France Int'l	FF
0600	5030	RTV Burkina, Burkina Faso	FF
0600	7210	RTV Benin	FF
0600	6135	Radio Unamsil, Sierra Leone	
0630	6100	Voice of Liberia	
0630	11625	Vatican Radio	
0630	7125	RTV Guineenne, Guinea	FF
0700	6010	Radio Mil, Mexico	SS
0700	4845	Radio Mauritanie, Mauritania	AA
0800	5010	Radio Pioneira, Brazil	PP
0830	6350	Armed Forces Network, Hawaii	USB
0900	11840	Sakhalin Radio, Russia	RR
0900	6575	Voice of Korea, North Korea	RR/KK
0900	13615	Voice of America via Northern Marianas	
0930	6135	Radio Santa Cruz, Bolivia	SS
1000	4805	Rdif. do Amazonas, Brazil	PP
1000	3310	Radio Mosoj Chaski, Bolivia	SS
1000	13685	Voice International, Australia	
1000	15175	Radio New Zealand Int'l	
1030	11860	Radio Liberty via Philippines	RR
1030	3945	Radio Tampa, Japan	JJ
1045	11900	Adventist World Radio, Guam	
1100	4725	Radio Myanmar, Myanmar (Burma)	BB
1100	15375	Voz Cristiana, Chile	SS
1100	5020	Solomon Islands Broadcasting Corp.	
1130	3205	Radio Saunduan, New Guinea	
1130	4000	RRI Kendari, Sulawesi, Indonesia	II
1130	3315	Radio Manus, Papua New Guinea	
1130	15295	Voice of Malaysia	CC
1200	3325	Radio Republik Indonesia, Palangkaraya	II
1200	4890	NBC, Papua New Guinea	
1200	9650	Radio Korea Int'l, South Korea, via Canada	
1200	9705	Radio Mexico Int'l	SS
1200	4895	Radio Malaysia, Sarawak	MM
1200	4789	Radio Republik Indonesia, Fak Fak	II
1200	3235	Radio West New Britain, Papua New Guinea	
1245	4760	All India Radio, Andaman Islands	
1300	6150	Radio Singapore	
1300	13765	Radio Free Asia, via Sri Lanka	unid
1300	15510	Voice of Russia	RR
1330	5985	Voice of America relay, Thailand	unid
1330	11635	Radio Taipei Int'l	CC
1330	17735	RTT Tunisienne, Tunisia	AA
1330	15170	Radio Exterior de Espana	SS
1330	11580	KFBS, Saipan, N. Marianas	CC
1330	11980	Adventist World Radio, Guam	
1400	9530	Radio Thailand	
1400	21745	Radio Prague, Czech Rep.	
1430	18960	Radio Sweden	
1430	17790	Voice of Turkey	TT

UTC	Freq.	Station/Country	Notes
1500	21600	Broadcasting Svc of the Kingdom, Saudi Arabia	AA
1500	17865	BBC, England	
1530	11640	Voice of Islamic Rep. of Iran	
1600	15100	Radio Pakistan	
1600	11690	Radio Jordan	
1600	17765	Deutsche Welle, Germany	GG
1630	17525	Radio Sedaye-e-Iran (clandestine)	Farsi
1630	15570	Vatican Radio	
1630	15605	Radio France Int'l	
1700	15705	Norwegian Radio	NN
1700	17485	Radio Prague, Czech Republic	
1700	9625	CBC Northern Service, Canada	
1730	15190	Radio Pilipinas, Philippines	Tagalog
1800	17760	Radio Taipei Int'l	FF
1800	17570	RTBF, Belgium, via Germany	FF
1830	17715	Radio Exterior de Espana	SS
1830	21655	RDP Int'l, Portugal	PP
1830	13700	Radio Netherlands	
1830	17640	Voice of America relay, Morocco	unid
1830	21630	RTE, Ireland, via Ascension	
1830	21500	Voz Cristiana, Chile	SS
1900	17745	RDP Int'l, Portugal	PP
1900	17705	Voice of Greece, via USA	GG
1900	13605	All India Radio	
1930	15120	Voice of Nigeria	various
2000	13610	Radio Damascus, Syria	FF/EE
2000	17695	Adventist World Radio, via South Africa	
2000	11990	Radio Kuwait	AA
2000	15650	Kol Israel	
2000	11880	RAI Int'l, Italy	
2000	15150	Voice of Indonesia	II
2015	13645	Swiss Radio International	
2030	15345	RTV Marocaine, Morocco	AA
2030	15435	Radio Jamahiriya, Libya	AA
2030	12105	Voice of Greece	GG
2030	5335	Radio Cairo, Egypt	FF
2100	21670	Radio Japan	
2100	15495	Radio Kuwait	AA
2100	11620	All India Radio	
2100	11985	YLE/Radio Finland	
2130	11905	Radio Tashkent, Uzbekistan	UU
2200	11655	Voice of America relay, Botswana	
2200	15345	Radio Nacional, Argentina	SS
2200	15475	Radio Nacional Arcangel, Antarctica	SS
2230	7200	Radio Omdurman, Sudan	AA
2230	21800	RDP Int'l, Portugal	PP
2230	11930	Radio Jordan	AA
2230	9655	Central Peoples Broadcasting Station, China	CC
2300	15175	Radio Free Asia	unid.
2300	9655	Voice of Turkey	
2300	13690	Deutsche Welle relay, Sri Lanka	
2300	9590	Radio Netherlands, via Bonaire, NWI	
2300	15125	Radio Republik Indonesia	II
2300	12110	Voice of Greece	GG
2330	15305	Voice of America relay, Sri Lanka	
2330	13800	Radio Free Asia via Northern Marianas	CC
2330	9875	Radio Vilnius, Lithuania	
2330	13605	Voice of Islamic Rep. of Iran	unid
2330	15084	Voice of Islamic Rep. of Iran	Farsi
2330	15205	Voice of America relay, Germany	

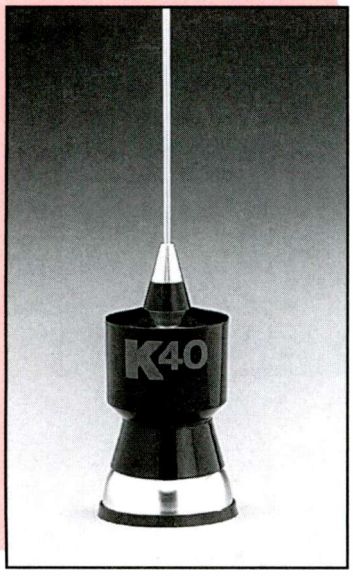
power up:
radios & high-tech gear

by Harold Ort

review of new, interesting and useful products

K40 Trucker CB Antennas With Five-Year Warranty

Professional drivers know CB performance is critical. Unfortunately, in many cases, the antenna is the most overlooked and misunderstood piece to the performance puzzle. Drivers looking for real-world, proven antenna technology proudly made in America need not look any further than K40 Electronics' line of high-performance CB antennas.



The K40 is a high-performance CB antenna.

K40 Electronics offers several different models for different application and budget requirements. The K40 Trucker center load antenna was designed specifically for the OTR driver looking for maximum performance. For drivers looking for an economical, easily co-phased fiberglass antenna solution, K40 offers the tunable Power Whip and Superflex Whip antennas.

The K40 Trucker center load CB antenna has a solid, eight-gauge, 100% silver-plated coil with a large surface area for lower resistance and less RF signal loss. With its lower resistance, the K40 Trucker antenna delivers higher efficiency and more gain on every channel for further transmission distance and reception clarity than other antennas on the market. This claim was proved in testing conducted by the U.S. Department of Commerce.

Other K40 Trucker center-load CB antenna features include: 7000 watts AM power handling capability, tunable design, frequency range of 26–30 MHz, 1.6 MHz bandwidth, wave length design, 493 stainless 17-7 ph tapered whip, radiused 180 tip, special design for weather band reception, and an ultrasonically sealed housing for durability. The K40 Trucker antenna comes backed by a five year materials and workmanship warranty. Suggested retail price is $69.95.

With up to 180 whip action capability, the principle advantage of the K40 Superflex Whip is its ability to withstand extreme shock obstructions without breakage. In fact, the four-foot model can be bent into a perfect circle with both ends touching. This top loaded, tunable coil antenna features: 1/43 Superflex fiberglass rod, frequency range of 26–30 MHz, wave length design, and a five year materials and workmanship warranty. Available in lengths from two to four foot, black or white color, and with varying power handling capabilities of up to 1,500 watts, the K40 Superflex Whip antenna has a suggested retail price range of $21.95 to $24.95.

Heavy-duty, commercial, and even OTR drivers will find something to like in the K40 Power Whip antenna. This top loaded, tunable coil antenna features: solid 16 gauge copper magnet wire, 3/83 heavy duty fiberglass rod, frequency range of 26-30 MHz, wave length design, special design for weather band reception, and a five year materials and workmanship warranty. Available in lengths from two to four foot, black or white color, and with varying power handling capabilities of up to 2,000 watts, the K40 Power Whip antenna has a suggested retail price range of $23.95 to $30.95.

Established in 1977 and headquartered in Elgin, Illinois, K40 Electronics is a manufacturer and distributor of mobile electronics products including custom remote radar detector systems, portable radar detectors, laser protection and detection systems, CB radios, antennas, and fiberglass whips. Product and dealer location information can be obtained by calling K40 at 800-323-6768 or by visiting their website at www.k40.com.

AOR's AR8600 Mark II is a full-featured multimode receiver.

New AOR AR8600 Mark II Receiver

The new AR8600 Mark II multimode mobile/base receiver by AOR reflects AOR's ongoing commitment to improving its products and maintaining its leadership in designing and building high-end receivers. The AR8600 Mark II sets several new standards that make the receiver desirable to professional users and monitoring enthusiasts.

The Mark II includes:

Expanded frequency coverage

An improved RF front end

Better receive audio response

Ability to accept a new video reception unit (currently under development)

The Mark II features 100 kHz to 3 GHz coverage (cell frequencies blocked, except to qualified users), Temperature Compensated Crystal Oscillator (TCXO) that provides an ultra-

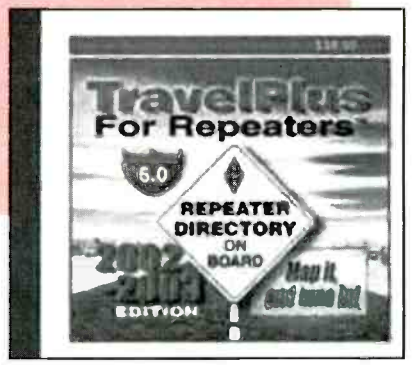
stable frequency reference, receives wide, narrow, and super-narrow FM, wide and narrow AM, upper and lower sideband and CW; video reception card currently being developed will add the ability to receive broadcast TV signals (NTSC) and allows monitoring video feeds from a variety of sources including law enforcement and news media; accommodates up to five optional cards that enhance certain functions; other choices include Collins® Mechanical Filter, CTCSS, digital recording, Tone Eliminator and additional memory, Voice Inverter module (available to qualified users); 1000 memory channels (20 banks of 50 channels each), alphanumeric channel labels, RS-232C port for computer control with free software available at the AOR website; new on/off function for the dimmer; 10.7 MHz IF output that can be used with AOR's SDU5500 Spectrum Display unit.

For more information on the AR8600 Mark II, contact AOR USA, Inc. at 20655 S. Western Avenue, Suite 112, Torrance, CA 90501, phone 310-787-8615 or FAX 310-787-8619 or visit them on the web at www.aorusa.com. Be sure to tell them *Popular Communications* sent you their way!

New TravelPlus For Repeaters™ — With AM/FM Stations

Now you can access the entire ARRL Repeater Database and much more! Whether you're on the road once a year or every weekend, the TravelPlus For Repeaters™ is something you can't do without — and you don't have to be a ham to reap the benefits. New in Version 6.0 is a database of AM/FM commercial and educational radio stations in North America, user-defined maps — import scanned or downloaded maps for any global location, GPS tracking automatic list refresh — automatic list display of all repeaters within defined range database, customized repeater data export — you can specify field width for radio programming; copy directly from repeater list to Microsoft® Excel, Microsoft® Access and other software.

ARRL's TravelPlus For Repeaters Version 6.0 is $39.95 and has lots of exciting new features.



The TravelPlus For Repeaters™ is fast, powerful, flexible and convenient with so many features we couldn't possibly list them all here, but we have a special review of this great item on page 54 in this issue of *Pop'Comm*, so be sure to check it out!

For more information on the TravelPlus For Repeaters™ 2002–2003 Edition contact the American Radio Relay League (ARRL) at 225 Main Street, Newington, CT 06111 or visit them on the web at www.arrl.org. TravelPlus For Repeaters is $39.95 and requires a Pentium computer or comparable processor and 16 MB of RAM.

broadcast technology

terrestrial AM, FM–and satellite radio news

by Bruce Conti <baconti@aol.com>

Digital TV Deadline Passes

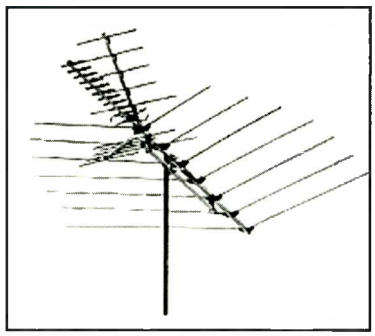
A recently released Government Accounting Office (GAO) report indicates that many television stations missed the FCC deadline for the start of digital broadcasting. All full-power commercial television stations were required to begin digital transmissions by May 1, 2002. (Low power stations are not required to broadcast in digital.) Of 1240 full power stations, only about 25 percent made the deadline. Funding is a major problem for many small market and independent stations as the cost of new facilities can run into the millions of dollars, $2 to $3 million typically. In response to funding concerns, an FCC rules change allowed stations to begin digital transmissions at less than full power from temporary facilities to soften the initial expenditure. Still many were unable to meet the deadline.

In addition to funding, technical and legal issues have caused delays. Local zoning applications and FAA approval for new antenna towers were among the legal issues encountered. Antenna delays have been caused by bad weather resulting in a backlog of work for riggers in the construction of new towers as well as reinforcement of exiting towers to support the additional digital antennas. The addition of 10 digital transmitters to San Francisco's Sutro Tower nearly doubled the demand for electricity at the site, not to mention the engineering involved to ensure the increased load on the tower would not affect the ability to sustain an earthquake. The FCC has been granting six month extensions on a case by case basis for a combination of technical, legal, and financial problems. Extensions were not granted for financial reasons alone. The FCC is considering sanctions for those that did not comply. Read the entire report online at www.gao.gov under GAO Reports.

Transmission Standards

There are two primary accepted methods of digital television broadcasting worldwide, Coded Orthogonal Frequency Division Multiplex (COFDM) and 8-level Vestigial Side Band (8-VSB). 8-VSB is the Advanced Television Systems Committee (ATSC) approved North American standard while Europe is going with a Digital Video Broadcasting (DVB) standard using COFDM. The ATSC is an interdisciplinary trade group similar to the National Television Standards Committee (NTSC) that endorsed the North American analog television system.

8-VSB uses vestigial sideband modulation transmitted over a 6 MHz channel similar to that of analog television. The digital signal is a serial bit stream with a data rate of 19.4 Mbps, using trellis coding with eight discrete levels of signal amplitude within the 6-MHz bandwidth. Rather than a single carrier, the European DVB standard uses a COFDM multi-carrier system that breaks up the data stream into several parallel low-rate streams over subcarriers orthogonal to each other. The orthogonal signals make reception less susceptible to multi-path ghosting and antenna orientation. COFDM is considered more suitable for European broadcasting where a channel is assigned to a single network nationwide similar to the so-called synchronized network radio stations familiar to transatlantic AM broadcast DXers. However COFDM requires as much as two to four times the transmitter power to cover the same area as 8-VSB and the data rate is slightly lower at 18.66 Mbps. 8-VSB has a distinct advantage in power consumption as less transmitter power is required to cover the same area as NTSC analog television, and it's less susceptible to impulse noise from light dimmers, power lines, motors and the like, thus 8-VSB was selected over COFDM by the ATSC. Multi-path problems found in early 8-VSB digital television receivers have been corrected in later models by increased equalization.



An antenna like this one from RadioShack will likely be required to receive DTV signals unavailable on most cable systems.

The Big Picture

What is HDTV? Is it the same as DTV? Out of many possibilities, the market seems to have narrowed the major types of Digital Television (DTV) to three; High Definition Television (HDTV) in the 1080i and 720p formats, and Standard Definition Television (SDTV) in the 480p format. A digital television receiver is not necessarily capable of receiving all formats as broadcast. In general, DTV provides an interference-free signal that's 10 times sharper than conventional analog television. An analog image consists of 200,000 pixels while HDTV is made up of 2 million pixels. The HDTV 1080i format provides a cinematic 16:9 aspect ratio (ratio of picture width to height) closely matching the peripheral vision of the human eye. 1080 refers to the number of horizontal lines in a video frame, and the "i" means the lines are interlaced scans of odd lines and even lines to complete a video frame. HDTV in the 720p format contains 720 horizontal lines scanned progressively meaning one after another.

Upon my inquiry to WFOR TV in Miami, Florida, the engineering department further explained how HDTV works; "Our DTV standard is 1080i. That is 1080 lines of vertical resolution verses 525 lines of resolution for standard analog definition. It takes 575 individual lines to produce one standard definition frame. To avoid flicker, lines 1,3,5,7,9,11, etc. are sent first until the bottom of the screen is reached. This is called one field. When the first field is complete the electron beam returns to the top of the tube and scans the lines 2,4,6,8,10, etc. It takes two fields to build one frame. That method of interlacing the lines is called interlaced scanning or 1080i. The other method uses progressively scanned lines 1,2,3,4,5,6,7, etc. No fields are

involved at all, the frame is sent all at once. Computer monitors scan progressively. The video quality is better with progressively scanned monitors but a large monitor capable of displaying 720p is expensive. ABC is a fan of 720p; they like the standard for sports. So far there are very few monitors that can display 720p as 720p. Most monitors up-convert to 1080i."

The SDTV 480p format is of course 480 horizontal lines scanned progressively and with the same 4:3 aspect ratio as analog television. Analog is capable of 525 lines, but some of the capability is used for services other than the television picture so the actual number of lines is around 480. Stations would choose to broadcast in SDTV when programming is only available in the conventional 4:3 aspect ratio or when simply duplicating the analog programming. Plus a SDTV transmission can carry up to four channels, allowing a station to broadcast television programming and alternative services such as data, traffic cams, weather radar, and other communications.

The Final Deadline

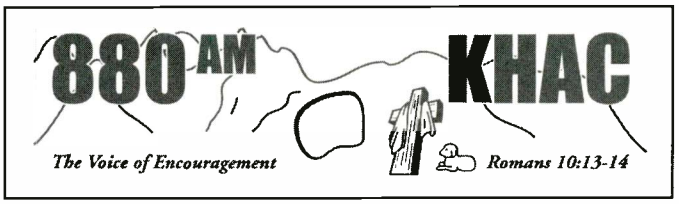
The Commission has set December 2006 as the deadline for termination of analog television with DTV stations to be reassigned to channels 2 through 51, and channels 52 to 69 to be reallocated to public safety and other commercial communications. There are differing opinions about whether or not broadcasters will meet the deadline. Right now the networks are providing up to 25 hours per week of HDTV programming, but most local and syndicated programming remains a duplicate of analog in SDTV. Cable TV companies have little interest in providing television stations with additional cable channels for duplicate programming. Note that if you subscribe to "digital cable" it does not necessarily mean HDTV broadcasts are included in the package.

It may take a mandate from the FCC to require cable TV systems to carry local digital television stations similar to the must carry rule for analog. In the meantime an old-fashioned outdoor antenna will likely be needed to receive DTV broadcasts. The GAO report indicates that some stations expect to have digital up and running within a year or two given an FCC extension, while others wouldn't go digital until after 2010 if consumer market forces were driving the switch rather than a government mandate, and there were some that would prefer to remain analog only. Broadcast pioneer WTTG TV Fox 5 in Washington, DC is among the optimistic, citing a survey that one out of four viewers will be able to receive DTV by 2003. The actual FCC deadline is qualified by the 85-percent rule. It states that the 2006 deadline will be delayed until 85 percent of viewers are capable of receiving a digital signal.

QSL Information

880 KHAC Tse Bonito, New Mexico, verification letter, program guide, bumper sticker, and receipt for $1 donation, in 40 days for report, stamp, and $1, signed LeNora A. Brown, Director of Broadcasting. Address: Western Indian Ministries, Inc., KHAC 880/KTBA 1050/KWIM 102.7, P.O. Box 9090, Window Rock, AZ 86515. KHAC was received while WCBS was off the air for transmitter maintenance. (Conti, NH)

1700 WPTZ516 Oakland, California, E-mail QSL mentioning they had just been on for a few days, received in three hours for verbal report given over the phone, signed Jack Lyness, Sr.VP, E-Agency, Inc. spokesman for Oakland International Airport. Address <jlyness@e-agency.com>. (Martin, OR)



KHAC bumper sticker.

Broadcast Loggings

Welcome to first time reporter **Norman Bauer** who writes, "My equipment is a combination of a Radio Shack DX392 and Panasonic J25, which is in my work truck, a Freightliner. The J25 has better reception than my DX392. It is perfectly grounded and isolated from any interference from the truck, I love it."

This month's selected loggings feature some unusual and unique catches, beginning with a nice scan of longwave broadcasters received on the Massachusetts coast. All times are UTC.

153 Chaine 1, Bechar, Algeria, at 2241 a man in Arabic; fair signal. (Connelly, MA)

153 DeutschlandRadio, Donebach, Germany, at 2340 parallel 756 kHz with an Enya-type vocal, and at 0019 classical music, dominant. (Connelly, MA)

162 France-Inter, Allouis, France at 2242 orchestral music with Middle East influences; loud, then at 0018 discussion in French and laughing; local-like. (Connelly, MA)

171 R. Mediterranee Internationale, Nador, Morocco, at 2243 New Age sounding instrumental; good, and at 0017 strings, flutes, and a lively Arabic vocal; loud. (Connelly, MA)

177 Deutschland Radio Berlin, Oranienburg, Germany, at 0017 a German vocal; poor. (Connelly, MA)

180 TRT Polatli, Turkey, at 0016 pop Middle Eastern music; poor to fair. (Connelly, MA)

183 Europe No. 1, Felsberg, Germany, at 2243 talk in French; poor. (Connelly, MA)

189 Rikisutvarpid, Gufuskalar, Iceland, at 2245 talk starting to fade up from its noise-threshold ground wave strength, then at 0015 a U.S. adult contemporary female vocal; excellent. (Connelly, MA)

198 BBC Radio 4, Droitwich et al., United Kingdom, at 2246 talk about Kofi Annan and a peace conference; to good peak over another station. (Connelly, MA)

207 DeutschlandRadio, Aholming, Germany, at 0023 parallel 153 kHz with classical music; now over Morocco. (Connelly, MA)

207 RTM Azilal, Morocco, at 2247 a woman in Arabic; fair. (Connelly, MA)

PENDING

New Call	Location	Freq.	Old Call
KKEA	Honolulu, HI	1420	KCCN
WLKR	Norwalk, OH	1510	WVAC
WOQL	Winchester, NH	8.7	WXOD
WDKL	Grafton, WV	95.9	WTBZ-FM

CHANGES

New Call	Location	Freq.	Old Call
KSNA	Shasta Lake City, CA	1330	New
WWIO	St. Marys, GA	1190	WECC
KORL	Honolulu, HI	690	KQMQ
WDRD	Newburg, KY	680	WJIE
WLDR	Kingsley, MI	1210	WWJR
WDDY	Albany, NY	1460	WGNA
WTWK	Plattsburgh, NY	1070	WLFE
WSMW	Walhalla, SC	1000	WSSW
WPLN	Madison, TN	1430	WQDQ
KZRK	Canyon, TX	1550	KAYD
KAJZ	El Paso, TX	920	KZMR
WRSA	St. Albans, VT	1420	WTWK
WTFX	Winchester, VA	610	WNTW
WRSA-FM	Decatur, AL	96.9	WRSA
WAYH	Harvest, AL	88.1	New
KYEL	Danville, AR	105.5	New
KNDQ	Nashville, AR	96.9	New
KARA	Laytonville, CA	91.	New
KZOL	Merced, CA	107.7	KZMR
KEMR	San Francisco, CA	98.9	KSOL
KSOL	Santa Clara, CA	105.7	KEMR
KZMR	Santa Cruz, CA	99.1	KZOL
WEGT	Lafayette, FL	99.9	WYZR
WBZY-FM	Peachtree City, GA	96.7	WXVV
KHUI	Honolulu, HI	99.5	KORL
KHJR	Gooding, ID	100.7	KIJZ
WPFX	Golconda, IL	94.3	WDXR-FM
WRLJ	White Hall, IL	88.3	New
WZUW	New Carlisle, IN	102.3	WGTC
KOJI	Okoboji, IA	90.7	New
WYKL	Clinton, KY	102.1	WCBF
WTFX-FM	Louisville, KY	100.5	WTFX
WPOR	Portland, ME	101.9	WPOR-FM
WAHL	Athol, MA	99.9	WCAT-FM
WTHN	Sault Ste. Marie, MI	102.3	New
KBPN	Brainerd, MN	88.3	New
WZFJ	Pequot Lakes, MN	100.1	New
WPAS	Pascagoula, MS	88.9	New
KQRA	Brookline, MO	102.1	New
WWPR-FM	New York, NY	105.1	WTJM
WKKJ	Chillicothe, OH	94.3	WFCB
WSMJ	Van Wert, OH	93.9	New
KQBL	Bethany, OK	104.9	WWLS-FM
KMWR	Brookings, OR	90.7	New
WCWI	Carbondale, PA	94.3	WBHD
WRKZ-FM	Carlisle, PA	102.3	WHYL-FM
WCAT-FM	Hershey, PA	106.7	WRKZ
WWLY	Huntingdon, PA	106.3	WWZB
WCWY	Tunkhannock, PA	107.7	WEMR-FM
WBZT-FM	Mauldin, SC	96.7	WPEK-FM
WGOG	Walhalla, SC	96.3	WGOG-FM
KQRQ	Rapid City, SD	92.3	New
KAYD-FM	Silsbee, TX	101.7	KLOI
WWRE	Berryville, VA	105.5	WAPP
WWRT	Strasburg, VA	104.9	WBPP

216 R. Monte Carlo, Roumoules, France, at 2250 talk in French; mixed with CLB beacon. (Connelly, MA)

234 R. Luxembourg, Junglinster, Luxembourg, at 0014 a rock female vocal; good. (Connelly, MA)

252 Teamtalk, Clarkestown, Ireland, at 2254 a sports report; good, then at 0012 an interview about golf with a U.S.-accented man; local-like signal! (Connelly, MA) Formerly "Atlantic 252" with contemporary hit music, the format is now sports talk.

830 WTRU Kernersville, North Carolina, at 0100 Harvest Ministries "New Beginnings" with Greg Laurie. Tough one to pull out. (Bauer, MD)

840 WHAS Louisville, Kentucky, at 2315 Paul Harvey's "The Rest of the Story," then Bloomberg Money News. (Bauer, MD)

940 CINW Montreal, Quebec "940 News" at 0123 weather report and PSA on Bike Safety & Highway Safety Code, followed by web URL "940news.com" and a business report. (Bauer, MD)

1030 WBZ Boston, Massachusetts, at 0145 a debate on bilingual education in Massachusetts schools with guest Dr. Silber on the David Brudnoy Show. (Bauer, MD)

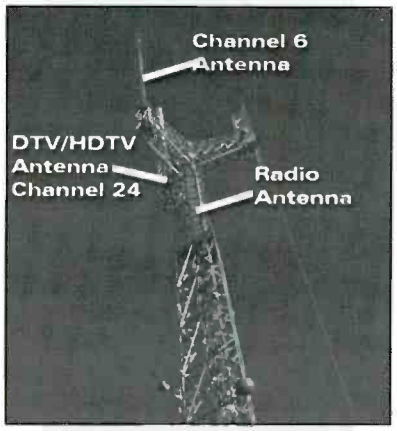
1060 KYW Philadelphia, Pennsylvania, at 0036 a weather report by Bob Larson, "KYW news time is 7:39," then a Garden Report sponsored by Round Up. (Bauer, MD)

1200 AFRTS Roosevelt Roads, Puerto Rico, is a 250 watt station using a pair of Nautel ND-1's, one standby and one on-air. The FM is on 101.5 MHz at 1 kW with a horizontally polarized two bay antenna. They are live during a.m. and p.m. drive. The closest municipality is Ceba. Many thanks to Journalist Petty Officer Second Class Jennifer Peter who gave me a station tour. (Gitschier, PR)

1510 KGA Spokane, Washington, at 0622 faded up with a surprisingly good signal in the null of local KDKO only 25 miles south of me, with mention of CBS Radio Network and ID as News/Talk 1510 KGA into a promo for a contest sponsored by Spokane Homebuilders Assoc. (Griffith, CO)

1602 Desi Radio, London, England, are a new UK station broadcasting Indian popular music. They've got a one year license as part of the "Access Radio" scheme. Location is Southall in West London, and they're running about 45 watts I believe omnidirectionally. (Hattam, UK)

1620 WDHP Frederiksted, U.S. Virgin Islands at 0117 a caller with a complaint about cable TV service to which the host said, "I'm gonna take care of it," then a cool steel drum version of "Chariots of Fire" and station ID with address 79A Castle Coakley, Christiansted, St.Croix, USVI 00820. WDND overpowering the signal. (Bauer, MD)



The new KIVI Boise, Idaho, antenna tower supports digital and analog TV plus several FM stations.

1640 Pennsylvania TIS, at 0255-0310+ with NOAA Weather Service broadcast continuous loop audio, the electronic voice of the NOAA weather service message and forecast for northwest Pennsylvania and others in the region! The other stations I usually hear on 1640 kHz also seem to be present. This NOAA service is normally on VHF around 162 MHz FM depending on where one lives. (Silvi, OH) Many Highway Advisory Radio/Traveler Information Stations (HAR/TIS) carry NOAA Weather Radio when broadcast of local construction information and road conditions aren't warranted.

1640 Ohio TIS The County Engineer in Lake County, Ohio, has a new TIS on 1640 kHz advising residents of a public hearing regarding proposed construction, so this may be on for only a short time. Given the range, I've noticed so far my guess is the transmitter might be at a higher elevation because I've heard it over most of the county, in both higher and lower elevations. If DXers combine this possibility with the transmitter being somewhat near Lake Erie and some good grayline conditions the signal might travel more than your average TIS. (Silvi, OH)

For students and teachers who enjoyed reading about AM radio lessons in the May edition, Ken Hanson, KO6RK, recommends www.midnightscience.com for crystal radio experiments. Thanks for the tip, and to Norman Bauer, Mark Connelly, Dave Game (WFOR TV), Ron Gitschier, Patrick Griffith, Mark Hattam, Patrick Martin, and Lee Silvi for their contributions this month. 73 and Good DX! ■

overheard

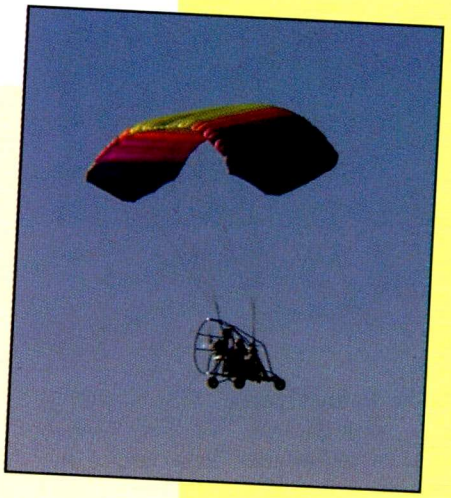
by Ken Reiss, <armadillo1@aol.com>

strategies and techniques to keep YOU informed

Sky High Scanning!

Aviation scanning, or more accurately, "Air Band" scanning, is a bit of a specialty in the hobby. Aviation enthusiasts tend to also be military enthusiasts, so you'll find a lot of crossover, but not always. You'll need a scanner that covers the band you're interested in. The aviation band for civil aircraft runs **108 to 137** (108–117 is used for navigation aids, so there isn't much traffic of interest in that range). The military uses **225–400 MHz**. All air traffic is AM mode, so your scanner will have to cover this as well if you want to listen. Only scanners toward the high end of the market will cover the military bands, unfortunately.

With the recent security concerns, the days of sitting at the airport on an observation lot or at the end of the fence are probably over, or at least must be approached with caution. If you're sitting in a parked car someplace close to the airport it's almost certain that security will be by in short order. Don't push them...they have enough to worry about. It turns out that you can hear quite a bit of what's going on without even being close to an airport, and you can hear the ground controllers several miles away too.



Sometimes pilots of these light aircraft carry handheld radios for safety. This is more common in areas of high traffic and larger airports. Even at small airports, where this was taken, the local Unicom frequency is likely to be used.

So What's To Hear?

Aviation monitoring is in many ways like public safety monitoring. Hours and hours of dull and routine interspersed with real world high drama and excitement. You might actually find more excitement in the public safety area if that's what you're after. After all, the aviation industry works very hard to keep the excitement factor down to a bare minimum, and if you're a passenger on one of those flights you'll no doubt appreciate their efforts. The aviation monitor can listen to a wide variety of enroute communications. Some listeners even go so far as to track flights on a regular basis, and if you're lucky enough to live near a major airport you can follow them all the way into or out of the airport on a trip. Many shortwave enthusiasts enjoy monitoring the overseas flights as they come across the ocean and then transition to the VHF air band as they get closer into land once again. Aviation listening on HF is one of the very few services that looks like it's going to be on HF for a long time to come. There are discussions of satellite based services replacing the HF networks, but no immediate plans that I'm aware of have been finalized.

Air traffic controllers and pilots alike are trained to make all communications routine. Sometimes when they break that training can be some of the best listening on the air band, and often it's quite humorous. As an example, pilots try to minimize time on the radio and can leave out certain key words.

On a routine training flight, a pilot called the ground control with the message "Grand Forks Ground, Golf Zulu Fox with Alpha, taxi for Fargo." What the pilot was saying was that his airplane whose tail number ended in GZF was ready to taxi and heading to Fargo. The pilot had listened to the repeating weather broadcast or ATIS and had that information coded "Alpha." So what was expected was a clearance to taxi. The reply, however, from a controller who obviously wasn't busy, was "Golf Zulu Fox, good day, you can taxi if you want, but it would be a lot faster to fly."

ATIS: Weather And Airport Information

One of the first places a pilot tunes, and you can too, is to ATIS, the Automated Terminal Information Service. This repeating broadcast includes information about what runways are active, what the current weather is and what altimeter settings (barometric pressure used to calibrate instruments for altitude) are plus any information about airport operations or things happening nearby that might be of interest or concern to all pilots operating in the area. The first broadcast of the day is called "Alpha" and then as it's updated, the ID is changed so that everyone, particularly the pilots and ground crew know that the information you have is the stuff that's current. They simply step through the ICAO phonetic alphabet each time it's changed and start over if they run out. You'll sometimes hear a pilot call "with Bravo" and the controller will reply that "Charlie is current." They'll send him back to the ATIS frequency to get the updated information. If weather is constant, it might be alpha all day. If not, it can change every few minutes.Sometimes the broadcast also includes frequency information for contacting ground or approach controllers depending on the airport. If not, this information is readily available in many publications, on the Internet, or just by searching for a few minutes. In fact, ATIS is one of the first things I go looking for when I'm in a new area because the transmitter is always on. If I can hear an ATIS broadcast, I can probably hear the tower too. It doesn't take long to

The ICAO Phonetic Alphabet

Sometimes this is also used by public safety agencies, so it might not be new to you. However, most public safety agencies use the APCO (Association of Public Safety Communications Officers) alphabet which uses different words.

You'll often hear taxiways referred to by these names when planes are given taxi instructions.

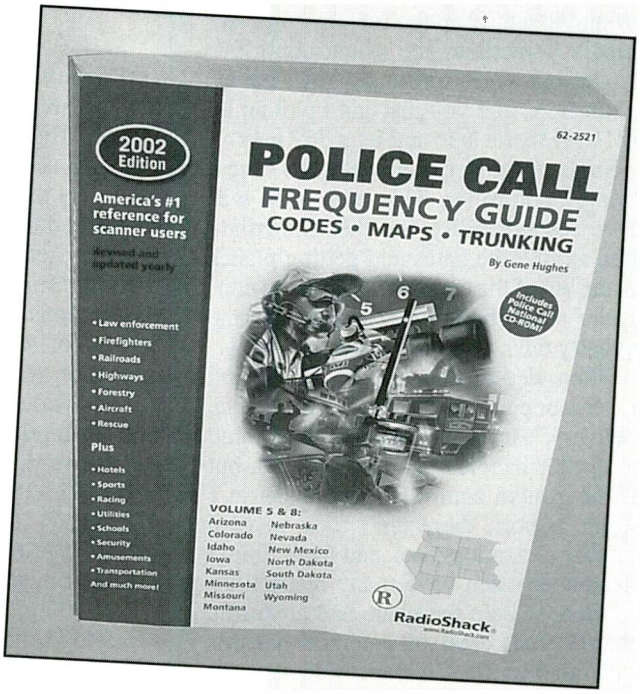
Letter	ICAO	APCOA
A	Alpha	Adam
B	Bravo	Baker
C	Charlie	Charles
D	Delta	David
E	Echo	Edward
F	Foxtrot	Frank
G	Golf	George
H	Hotel	Henry
I	India	Ida
J	Juliet	John
K	Kilo	King
L	Lima	Lincoln
M	Mike	Mary
N	November	Nora
O	Oscar	Ocean
P	Papa	Paul
Q	Quebec (pronounced Kay-bek)	Queen
R	Romeo	Robert
S	Sierra	Sam
T	Tango	Tom
U	Uniform	Union
V	Victor	Victor
W	Whiskey	William
X	X-Ray	X-Ray
Y	Yankee	Young
Z	Zulu	Zebra

find active frequencies in your area and at least get a feel for the type of activity that frequency is being used for.

One of the key differences between aviation scanning and public safety scanning is that the information is so widely available. You can simply go visit your nearest pilot supply shop and come out with charts and books of all sorts that list frequency and usage information. Much is available on the Internet, and sometimes you can even find pilots who will give you old or outdated charts. They're not legal to use for navigation any more, but they don't change frequencies that often. Visit a nearby pilot shop or flight training center and tell them what you're looking for and why. If they don't have any, I'll bet you could talk someone into holding some for you the next time they expire for the price of a cup of coffee. They're a wealth of information and you'll learn a bit about chart reading in the process.

Types Of Traffic

So let's take a quick look at the types of traffic you'll hear on a typical scan through the band. We've already covered ATIS, and mentioned Ground control. Ground control is responsible



Police Call has a nice section of aviation frequencies, including many airports state by state. Check this one out at your local RadioShack!

General Interest Aviation Frequencies

Some frequencies in the airband are nationwide. Put these in your scanner if anything interests you. **108-118** — Navigation aids. You won't hear much voice down here (except for some automated weather and "talkthrough systems" where a remote flight service station transmits through a navigation aid's transmitter. For the most part, you can leave these out of your scanner. **121.5** — The universal emergency frequency. 243.0 is the military equivalent. Not much traffic here, but what traffic is here is very important. **122.0** — Flight Watch- Enroute weather and information for mostly private aircraft. **122.8** — Unicom- Used at many smaller uncontrolled airports for pilots to talk and coordinate. **122.9** — A second Unicom frequency **123.0** — Unicom in some areas, sometimes used by helicopter operations. **123.025** — Helicopter operations **123.45** — Plane to plane (a sometimes very informal chat channel) **126.2** — Military towers- Many military installations have restricted airspace around them and need a way to communicate with civilian aircraft. This frequency is used quite often for this purpose. Air Route Traffic Control Centers (ARTCC)

ARTCC's handle planes at altitude on as they travel between airports and cris-cross the country. Don't worry if there isn't one right in your back yard, you are still likely to hear one of their remote transmitter sites in your area. Albuquerque, Atlanta, Boston, Chicago, Cleveland, Denver, Fort Worth, Houston, Indianapolis, Jacksonville, Kansas City, Los Angeles, Memphis, Miami, Minneapolis, New York, Oakland, Salt Lake, Seattle, Washington (DC).

for the movements of the aircraft on the ground to and from the runways and terminals. Sometimes, the ground controller can have a worse traffic jam than the air controllers, and you just can't pull an L-1011 off to the side and let a 767 pass.

Some of the larger airports also have a "ramp" controller. This controller will have responsibility for the immediate area around the gates and getting planes in and out of the "ramp." So the ramp controller might be the first person a plane actually talks to before it starts moving.

Often, also at larger airports, you'll find a frequency used for "Clearance Delivery." At smaller airports, the ground controller handles this function too, but as the ground controller gets busier at a larger airport, there isn't time to read lengthy clearances back and forth. Initial clearances often have many restrictions on them to help the plane and air traffic control steer clear of potential hazards with other traffic. Clearance delivery will have the official clearance for the plane from Air Traffic Control based on their expectations. You might hear something like this:

"ATC clears American 554 to Houston as filed. Climb and maintain 5000 feet, expect higher 5 minutes after departure."

American 554 has filed a flight plan to Houston (or is a regularly scheduled flight, in which case they might have gotten their clearance from flight ops before they even get into the plane if nothing's irregular). However, for some reason, usually other planes that will be in the way, this clearance has been restricted to an altitude of 5000 feet, and they are telling him to expect a higher altitude five minutes after departure. If all goes well, the new clearance will come before he hits 5000 feet and the passengers will never know it was restricted. But the pilot cannot climb above that altitude until he receives further authorization enroute to do so.

After clearance delivery, ramp and/or ground control will provide instructions to get to the runway. At a busy airport, this can be very entertaining listening if they're busy, or if weather is causing an unusual number of planes to be on the ground at the same time. Otherwise it's pretty routine stuff.

The ground controller will get the plane out to the runway, but just short. At that time they will switch to the tower frequency. Tower controls the runway and all the airspace around the airport but only out to a distance of five miles. After that, departure takes over.

Departure and approach can be on the same frequency if there isn't too much traffic in the area, or they may be segregated. There may even be more than one departure and approach frequency in use at an airport if there's lots of traffic. All traffic from the south will use one frequency; all traffic from the north will use another. If you listen to the tower, he'll tell the planes what frequency to contact departure on, and if you listen for a while, you may hear a couple of frequencies. If you listen long enough, you may also hear them give the approach frequency for some reason, so finding the frequencies shouldn't take long once you get started. Sometimes that's half the fun!

Once at a certain altitude or a certain distance from the airport, that departure controller will hand the plane off to an enroute controller. These are high altitude controllers that work in one of the 20 air route traffic control centers across the country. Don't be alarmed if there isn't an ARTCC in your neighborhood. They use remote transmitters all over the place to keep in touch with planes for a long distance. And even if you can't hear the ground, you can hear the planes for a very long way.

Additional Railroad Info

A few months back we talked about radio used in railroad operations. A reader who wished to remain anonymous sent in the following additional info. Thanks!There are frequencies that railroads might utilize outside the typical AAR band plan. Here's a few that I'm aware of: EOTD (End of Train Devices) — **457.9375** These are the boxes that are attached to the coupler of the last car in the train. We mentioned these in the article, and it's a good way to tell if a train is nearby. In Canada check 452.9375.VHF Marine Channel 16 — **156.800** What would a railroad be doing on the Marine band? There are a few places where bridges or other obstructions are in place for both trains and boats. That's an application I hadn't thought of!Advanced Train Control Systems (ATCS) — This is apparently a data collection system used to transmit information back to the dispatch centers through a nationwide network. It is unknown if there's any voice channels to listen to or not. It's a relatively new system, so I would expect to see its use expanded as we go forward. The frequency information could change also. Channel 1 896.8875/935.8875, Channel 2 896.9375/935.9375, Channel 3 896.9875/935.9875, Channel 4 897.8875/936.8875, Channel 5 897.9375/936.9375, Channel 6 897.9875/936.9875 400 MHz Frequencies — Used for all sorts of things. Check them out in your area and let me know what you hear!

452.900, 452.90625, 452.9125, 452.91875, 452.9250, 452.93125, 452.9375, 452.94375, 452.9500, 452.95625, 452.9625, 452.96875, 457.9000, 457.90625, 457.9125, 457.91875, 457.9250, 457.93125, 457.9375, 457.94375, 457.9500, 457.95625, 457.9625, 457.96875

An older scanner that you're not using for anything else might be a perfect radio to dedicate to aircraft scanning without missing any of your regular listening. You too may get hooked!

As the plane progresses on its flight, it will get passed from one controller to the next along the way. Sometimes it's even the same person monitoring both "sectors" but the frequency has to change to keep in contact with a nearby ground station. As the plane approaches its destination, the ARTCC will begin clearing the plane to lower and lower altitudes and eventually hand it off to an approach controller who will hand it off to a tower who will hand it off to ground who will hand it off to the ramp once it has landed.

In addition to all the controller traffic, you'll also find company dispatch frequencies in the air band. Here's where a pilot can talk back to the mechanic or scheduling people for information or problems in flight. There are some in-flight weather frequencies, including 122.0 the nationwide "Flight Watch" channel. On this frequency all across the country, you can hear weather reports and information passed.

There are also the Unicom frequencies. These are used at smaller airports that don't have a tower as community "advisory" frequencies. 122.8 is the most common, and a plane taking off will advise its intentions just in case someone else is landing. You'll also hear a bit of chit chat between planes. 123.025 is used nationwide for helicopter operations. There are lots of others, but those will get you started.

A Ground-Based Sport

Frequently, I get asked about listening while on the plane. The bottom line on this is don't! First of all, it is against the rules on all carriers after 9/11/2001. Some airlines used to allow it once airborne, but not any longer. There is a chance that the receiver's circuitry could generate enough of a signal to cause interference or reduced performance in aviation radios on the plane. It can happen! In most cases, other systems on the plane could be used to replace the one that was being interfered with, so it's probably unlikely that it would cause a catastrophic problem, but it would be something for the crew to worry about that they really don't need. They're busy enough without scrambling for backup plans!

Aviation twins? Thanks to Brad Runyon for sending in pictures of his twin Drake receivers, at least one of which has the VHF converter installed. The 5598 kHz frequency is a fairly common HF frequency for overseas flights.

Safety considerations aside, it really doesn't work very well. You're in a nice high spot, so the altitude of your receiver is great, but you're also in an aluminum can! Very little radio energy comes through the window, and that's about the only way it can get there. So why do the aircraft systems work so well? This is one time where the answer really is blowing in the wind! (Sorry, I just couldn't resist that one.) Remember the plane's communications systems work because all their antennas are outside "in the breeze"

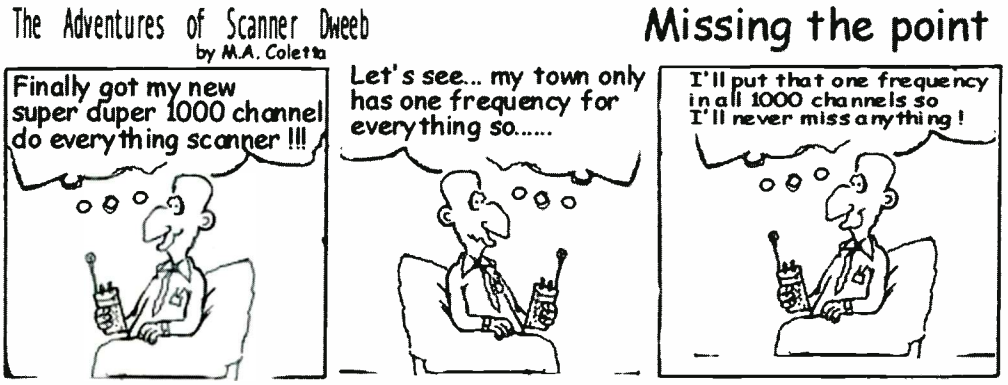
So Have A Listen!

Check out the air band in your area. You might be surprised at just how active it is, even if you're not close to a major airport. Sometimes small airports actually generate more traffic, and sometimes more excitement because the pilots are in training or don't fly as a profession. Sometimes just listening to an ARTCC relay can be interesting to see what's passing overhead. And you can hear planes for a very long way even if the ground isn't audible. Check it out! You too may become an aviation scanner enthusiast!

Frequency Of The Month!

In keeping with our aviation theme, let's give **121.9** a try. If you don't hear anything there, check out **122.8**, the Unicom frequency. You might have to leave your scanner on it for a little while, but you should hear some traffic there sooner or later. Let me know what you're hearing, and we'll enter you into the drawing for a one year subscription or extension to *Pop'Comm*.

You can reach me at armadillo1@aol.com via E-mail, or at Ken Reiss, 9051 Watson Rd. #309. St. Louis, MO 63126 via more traditional methods. Until next month, Good listening! ■



technology showcase

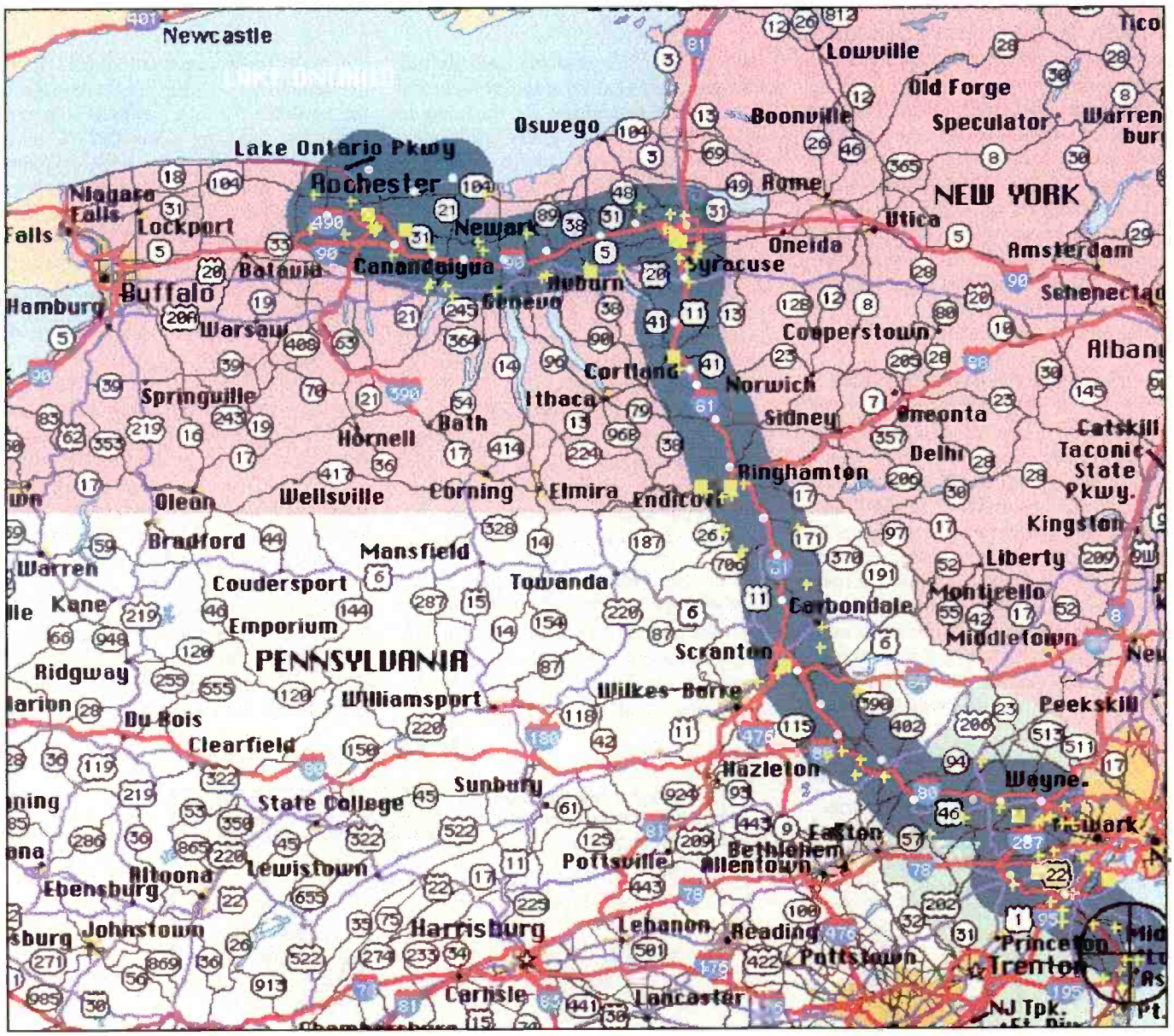
new product performance analysis

by Harold Ort, N2RLL, Editor

TravelPlus For Repeaters™ 2002-2003 Edition, Version 6.0

Let's face it, the ARRL Repeater Directory is a great little book — chock full of repeater data. And whether you're a ham or monitoring enthusiast, the directory is a superb source of information. I've talked with lots of operators who use the directory constantly — and invariably they'll forget to write down repeater information along their travel route and try fumbling with the book while driving down the road at breakneck speed — not a very good idea! You can always ask your significant other to look up repeaters as you drive, and even program the rig, but there is an easier way.

TravelPlus For Repeaters™ is everything you'd want in a repeater database and much more. And this year there are lots of superb new features — not just little improvements over past versions — that'll make that trip a whole lot easier. You can search the *entire* ARRL repeater database and plot a route (and print the route and list of repeaters) up to 500 miles of any location! Most folks will probably use the program to plot a route along the highway, telling the program to find repeaters (you can select from 10, 6, and 2 meters, as well as 1.25 cm, 33 cm, 70 cm, 1240 MHz and above, and even Amateur TV (ATV))



My New Jersey to Rochester, NY route using the major and state map of TravelPlus For Repeaters™.

within a certain distance from your travel route. I typically use 10 miles as a default range. Simply use the mouse to follow along the detailed map, clicking as you go, and a large green highlighted area is automatically overlaid on the road. Another click tells the program to create a repeater list, and from there it's a simple matter of printing the list, which can also be saved so you don't have to repeat the process the next time you trek to Aunt Millie's house.

Frankly, even *without* the repeater database, this is one fine program with maps for the entire United States (including Alaska and Hawaii) and Canada! You can also add your own user-defined maps (ideal for importing scanned or downloaded maps) for anywhere in the world, customize the colors and change the map views. These features alone make TravelPlus For Repeaters™ worth the $39.95 price, but add to that the new features that give you AM/FM commercial and educational radio stations throughout North America, GPS tracking of repeaters within range is updated at specified time interval, the ability to select repeaters by field name and criteria, ability to select repeaters based on attributes you select in a Repeater Notes field, and you've got one heck of a traveling tool, second to none!

Using TravelPlus For Repeaters™

You'll need a Pentium computer or comparable processor, Windows™ 95-XP and a CD-ROM drive, 16 MB of RAM and a hard disk with at least 4 MB free (run from CD-ROM) or 108 MB free (run from hard drive).

Installing the program on your computer is easy and takes only a couple of minutes. No special computer knowledge is required other than knowing the difference between your mouse and keyboard. First, I'd recommend changing the default map view to your home location. It will place a small circle on the map at your home QTH. It's a simple process of clicking on "Locate" and then finding a city/town near you and then clicking "OK." If you know it, you can also key in your exact latitude and longitude and the circle will be placed precisely on that location. Of course the program remembers that location each time you fire up the program.

My first trip using the program was to the Rochester hamfest, so I decided to give 2-meters a try along the way; Route 287 North to I-80 West, to I-81 North to the New York Thruway (90 West). I set the program to give me 2-meter repeaters and commercial AM stations within 10 miles of the route I designated. Take a look at the map to see how this looks. You've got a choice of two map formats; major and state or major highways. I chose the default, major and state. Frankly, the detail is *so* good you really don't need additional fold-up maps cluttering your vehicle's pockets and glove compartment!

After tracing out a route, simply tell the program to create a repeater list and in seconds, you're presented a multitude of information — not just the repeater output frequency. From that repeater list you can even see important data about that machine. Simply highlight the repeater row, select View and Find Selected Repeater on Map or the hit the F7 key. The map will scroll and a small black circle will identify the repeater icon. Pretty slick feature!

From that initial list generated by TravelPlus, you can now sort the list alphabetically, by open repeater, for certain locations or even those with autopatch capability. You're not locked in to using the software generated list as the Holy Grail — it's yours to manipulate

Sequ	Band	State	Location	Output	Input	CTCSS	Dist
1	AM Commercial	NEW JERSEY	EATONTOWN	1410			3
2	144-148 MHz (2 meters)	NEW JERSEY	Oakhurst	147.0450	+	67.0	4
3	AM Commercial	NEW JERSEY	ASBURY PARK	1310			6
4	144-148 MHz (2 meters)	NEW JERSEY	Wall Twp	146.7750	-		10
5	144-148 MHz (2 meters)	NEW JERSEY	Farmingdale	145.1100	-	127.3	10
6	144-148 MHz (2 meters)	NEW JERSEY	Middletown	145.4850	-	151.4	1
7	144-148 MHz (2 meters)	NEW JERSEY	Aberdeen Twp	146.4750	147.47	156.7	1
8	144-148 MHz (2 meters)	NEW YORK	Staten Island	146.4300	147.43	136.5	10
9	144-148 MHz (2 meters)	NEW YORK	Staten Island	146.8800	-	141.3	10
10	144-148 MHz (2 meters)	NEW YORK	Staten Island	147.3150	+	118.8	10
11	144-148 MHz (2 meters)	NEW JERSEY	Old Bridge	147.1200	+	162.2	6
12	144-148 MHz (2 meters)	NEW JERSEY	Linden	146.6550	-	151.4	8
13	144-148 MHz (2 meters)	NEW JERSEY	Sayreville	146.7600	-	156.7	3
14	144-148 MHz (2 meters)	NEW JERSEY	Fords	146.8200	-	151.4	1
15	144-148 MHz (2 meters)	NEW JERSEY	Roselle Park	146.6850	-	151.4	10
16	AM Commercial	NEW JERSEY	NEW BRUNSWICK	1450			3
17	144-148 MHz (2 meters)	NEW JERSEY	Green Brook	145.2500	-	100.0	2
18	144-148 MHz (2 meters)	NEW JERSEY	Green Brook	146.6250	-	141.3	2
19	144-148 MHz (2 meters)	NEW JERSEY	Green Brook	146.9400	-	141.3	2
20	AM Commercial	NEW JERSEY	BRIDGEWATER	1170			2
21	AM Commercial	NEW JERSEY	STIRLING	1070			4

A look at a portion of the repeater list and AM stations generated for the same trip.

however you want. For example, how about your return trip? You don't have to read the list from the bottom up, because you can even tell the program to view a repeater list in reverse sequence. Select Sort and then in the Level 1 box select Sequence and Descending Order. You can then print this list if you wish.

One of the columns in the repeater list shows the country of the repeaters. If you don't need to see that column on your printed list, simply left click at the top of the margin of that column and drag it to the next column and you'll "eliminate" it from view — and from the printer's view! I decided to eliminate a couple of the columns; country, call letters of the repeater, and bearing. This allowed me to fit the repeater info and AM stations on the page in portrait format, the same as the route map.

One feature I particularly like is TravelPlus'™ ability to allow selection of locations independent of your main travel route. For example, let's say you're flying into Dayton, Ohio, and want to know all the repeaters within 50 miles of Dayton. However, you've rented a car and you'll also be driving to Indianapolis. On the map use the mouse and, holding the Shift key, click over Dayton, then right click and change the search range to 50 miles. You can change the repeater search range for any segment of your travel by simply right clicking on that segment and changing the parameters. You may have clicked off 20 independent locations along your specified route — with TravelPlus™ you can have the program find repeaters at varying distances *anywhere* along that route. If you're out in the middle of nowhere or along the interstate, having the range set at 10 or 15 miles might not be enough at many locations; simply decide where you want to increase that distance and make it so! The software even gives you a choice of several different printed report formats which vary the font size and column widths.

I usually hesitate using the word "unlimited" when describing the possibilities of software or a radio accessory. So, let's just say the abilities and selections you have with TravelPlus For Repeaters™ are practically unlimited because I'm sure there's always a computer guru somewhere that might offer minor criticisms of the program. I'm not one of those persons because honestly TravelPlus™ is a well thought out and supremely easy-to-use radio tool that no traveling ham should be without. And that goes for radio monitors as well who want to listen to those repeaters and AM or FM stations without fumbling through tons of notes and books. While I'd certainly recommend reviewing the very well done "Help" sections of the program, it's not absolutely necessary,but there if you need it. One thing's for sure: You don't need to carry along a folder with notes to use this one — it's all very self-explanatory and intuitive. Why have computer software boasting all kinds of possibilities when you need a book to explain its ins and outs?

What else can you do with TravelPlus For Repeaters™? Whether you're a licensed ham or radio monitor, you now additionally have the entire ARRL Net Directory at your fingertips! It's great for traveling, and even at your home monitoring post or ham shack when you want to know what net is on when and where.

You can save your map to Aunt Millie's and even the generated repeater list so the next time you're ready to hit the open (or in the case of the Pennsylvania Turnpike, permanently under construction) road, your list is ready, just print it and go. What could be easier?

If you'd like to order the new TravelPlus For Repeaters™ it's available from the ARRL on the web at www.arrl.org or by writing the ARRL at 225 Main Street, Newington, CT 06111. Please tell them you read about it in *Pop'Comm.* ■

pirate & alternative radio

free radio broadcasting

by Edward Teach

It's Not Your Father's Z-100!

There's a fair amount of "stuff" on hand this time, so let's dive right into your loggings.

WPN, tentative, **6955** at 0116. Definite at 0347 tune to 0405 off. Also **6925** at 0212. (Lee Silvi, OH)

WHYP, 6925 at 0410. Another day at 0326. (Silvi, OH) 2319 with various tunes, mention of SWL Winterfest and claimed the "no pets" sign will doom it, 'fest wrap-up and lots of other bits. (Bill Finn, PA)

Psycho Radio, 6955 at 0330. Also at 0315–0352 and tentatively from 0000 to 0007. (Silvi, OH) Presumed this one on **6950** from 0413 with a song about Jimmy the Blade. (Scott Grams, IL)

Alfa Lima International, on **15070** at 0035 with music and many IDs with mentions of many listeners who had sent reports. (Silvi, OH). Another date heard at 0217. **6955 USB** in Spanish at 0300. (Linonis, PA)

KDAZE, 6925 USB at 0100 sign-on (to 0125 close) with inaugural broadcast. (Silvi, OH)

Radio Europe International, 7306 USB at 0356 with mostly music and occasional announcer to 0500. Man talking from 0500–0520. (Silvi)

Mystery Science Radio, 6925 USB at 0126 sign-on to 0147 close. (Silvi, OH)

Voice of the Tiki, 6925 USB at 0149 sign-on to past 0220. Also from 0250 sign-on. (Silvi, OH) *(See KIPM, below — Ed)* **6955** at 1417 with Mudda Maxwell claiming to be broadcasting from Hawaii.

KIPM, 6950 USB at 0230. Also at 0336 and 0442 (Silvi, OH). At 0010 with Alan Maxwell telling stories that included The Cursed Galaxy and Voice of the Tiki. They were on until 0617. (Barry Armstrong, no state) **6925** from 0405 to at least 0531. Also heard on **6955** at 1316 to 1412. (Grams, IL) **6955** USB at 0250 with mention of The Outer Limits, weird story. (Jack Linonis, PA)

"Pirate Radio" — 6951 from 0437 with techno pop and repeated "This is Pirate Radio" IDs, which sounded computer-generated. A reincarnation of WMPR? (Joe Kenneth Wood, TN)

Montana Audio Relay Service, 6951 USB at 0344 urging everyone to move to Montana. "Broadcasting from the home of the Unabomber," home school your kids. Gave the Merlin, Ontario address and requested $1 for QSLs. (Grams, IL) (Yes, $1 U.S., Scott)

UPMB, 6950 at 0140. Also at 0212 with Billy Joel, Steve Anderson clips, Jimmy the Weasel clips, mention of L.C, Moe Howard, Hash Pipe. (Finn, PA)

The James Brownyard Memorial Station, 6925 USB at 2345 with a rundown of Capt. Ganja's Top Ten Bozo Website Photos. (Linonis, PA)

Radio Free Euphoria, 6955 USB at 0300 with Capt. Ganja and song parodies (one on John T. Arthur), talk about marijuana. (Linonis, PA) **6925** at 0402. Another day at 0110 (Silvi, OH)

Z-100, 6950 USB at 0230 with lots of '70s and '80s rock. (Linonis, PA)

Oxycontin Radio, 6925 at 0400 with mentions of Bozo. (Linonis, PA)

WMOE, 6955 USB at 0315 with Three Stooges theme, song parodies and Winterfest mentions. (Linonis, PA) Tentative, **6926** at 0450 to 0500 close. (Silvi, OH)

KRMI, 6925 USB at 0204 and again at 0425. (Silvi, OH)

Melvin Malfunction, 6954.8 USB at 0055 to 0103 sign-off. (Silvi, OH)

KMUD, 6953 at 0148 with unusual music, ID'ing phonetically and with a Morse CW marker. Claiming to be in the Northern Mojave Desert of California. (Armstrong, no state)

That's a pretty good collection, folks! Now let's see if you can keep it rolling like that! I always look forward to getting your logs and whatever else it may suit your fancy to include. The state of my illustrations file continues to be anemic, so copies of all those QSLs that are pouring into your mailbox would be very helpful, as would installation photos from station operators (if you've got the guts!)■

Z-100 has been active recently on 6950 USB.

washington beat

Capitol Hill and FCC actions affecting communications

by Laura Quarantiello <lauraq@cts.com>

Cell Phone Law Updates

The state of Mississippi's House and Senate both voted to override a governor's veto of legislation that would prohibit cities and counties from adopting ordinances restricting drivers' use of cell phones. Lawmakers will study the issue and consider statewide regulations. Meanwhile, Connecticut Station Representative Richard Roy (D-Milford) is again pushing for legislation that would restrict drivers' use of handheld cell phones. And up in the frozen North, Alaska's House Judiciary Committee, citing lack of support, tabled a bill that would restrict the use of handheld cell phones by drivers.

FCC Says No To Delay Of 700-MHz Auction

The Cellular Telecommunications Industry Association (CTIA) has asked the Federal Communications Commission to delay an auction of spectrum in the 700-MHz band, which includes TV channels 60–69. The chairman of Paxson Communications, Lowell Paxson, whose company owns stations in that portion of the spectrum, has opposed any postponement of the auction, and said that if a delay is granted, voluntary efforts by broadcasters to clear the spectrum would cease. In response, the FCC decided not to delay the 700-MHz auction and scheduled it for June 19. "Going forward with a June auction severely limits the ability to develop a rational spectrum management policy. Once this valuable block of spectrum had the potential to be part of the solution to the spectrum crisis; this decision just made it part of the problem," said Tom Wheeler, president and CEO of the Cellular Telecommunications & Internet Association.

VoiceStream Gets Priority Access Waiver

The FCC has approved a petition for waiver of priority access rules. The waiver, given to VoiceStream Wireless Corporation, will allow the company to begin giving priority access to its network for calls placed by U.S. national security and emergency personnel during emergencies.

Meanwhile, the U.S. National Communications System has announced approval of a subcontract award to VoiceStream to provide Wireless Priority Access Service for the Washington, D.C. and New York City Metropolitan areas. Wireless Priority Service will allow certain emergency and national security officials access to wireless services in times of national emergency or crisis when network congestion may affect the ability to place cellular phone calls.

Amateur Asks Commission For Mitigation Of Orbital Debris

Amateur radio operator Nickolaus Leggett (N3NL) has filed a comment with the FCC regarding mitigation of orbital debris (IB Docket No. 02-54). In his document, Leggett encourages the Commission to "structure the debris mitigation rules so that they will encourage the design and construction of amateur radio satellites that reduce their own debris potential while at the same time demonstrating new satellite systems." According to Leggett, a way to do this is to allow amateur satellites operating in a storage or disposal orbit to avoid having to meet any other debris mitigation standards. "The Commission should exempt amateur radio satellites from any requirements for debris mitigation for a period of 10 years. After that period of time has expired, amateur radio satellites would be subject to debris mitigation standards. Amateur radio satellites operating within storage orbits or other safe orbits should be permanently exempt from debris mitigation standards and requirements."

APCO Asks For Interference Reports

The Association of Public Safety Communications Officers is collecting 800 MHz band interference incident reports. "Now that the FCC has issued its NPRM to address the interference to public safety, Project 39, and in particular the Technical subcommittee, has determined there is a dire need to promote the reporting and logging of both new problems and follow-up reports of problems that have been previously reported." APCO has created a questionnaire at www.apco911.org/afc/800intefere.htm. If you're an 800 MHz band user who has experienced interference, drop by the APCO website and let them know.

Florida Frequency Crunch

The State of Florida, citing frequency congestion, has asked the FCC for a waiver to use eight offset frequencies in the 800-MHz Public Safety band. The offset frequencies, located between regularly assignable channels, are 811.4500 MHz, 812.4750 MHz, 812.9750 MHz, 813.4750 MHz, 856.4500 MHz, 857.4750, 857.9750 MHz, and 858.4750 MHz at Fort Meade, Florida, and 811.9500 MHz, 812.9500 MHz, 813.9500 MHz, 814.9500 MHz, 856.9500 MHz, 857.9500, 858.9500 MHz, and 859.9500 MHz at Englewood, Florida. The frequencies would be used for Florida's 800 MHz trunked statewide law enforcement radio system.

Orbcomm Gets Satellite Mod OK

The FCC has authorized Orbital Communications Corporation (Orbcomm) to modify its low-Earth orbit non-voice, non-geostationary mobile-satellite service system in order to meet customer requirements without increasing the potential for interference with other so-called "Little Leo" systems. Orbcomm has been given the okay to decrease the number of satellites in its two highly-inclined orbital planes, operating the fourth plane of satellites at 45 degree inclination, and

increasing the altitude of the satellites in the equatorial plane of its system under certain conditions. Orbcomm shares its uplink spectrum in the 148–149.9 MHz frequency band with three other companies: Leo One, Final Analysis, and E-SAT, Inc. Downlink in the 137–138 MHz frequency band is shared with E-SAT.

"Automatic On" Radios And TVs For Emergency Warnings

The Partnership for Public Warning is asking radio and television broadcasters to consider technology that would enable government agencies to turn on consumers' televisions and radios in order to broadcast warnings in emergencies. Radio and TV broadcasters and cable companies have had equipment available since 1997 enabling them to send a signal to turn sets on, but currently, manufacturers aren't required to make sets that can respond to the signal.

Unlicensed FM Radio Operator Arrested

The Federal Communications Commission announced that an investigation by the Enforcement Bureau has led to the arrest of Paul Dorleans for operating an unlicensed FM radio station on 87.9 MHz in Brooklyn, NY. The United States Marshals Service, along with FCC agents and the Office of the United States Attorney for the Eastern District of New York made the arrest after enforcement actions failed to deter Dorleans. More than 20 unlicensed stations have been shut down so far this year.

Maritime Communications Change

The FCC has issued a Report and Order (FCC 02-102) adopting changes to Part 80 of the Commission's Rules governing maritime communications. The request for changes were made by the National GMDSS Implementation Task Force and Globe Wireless, Inc., in order to address new international maritime requirements, improve the operational ability of all users of marine radios and remove unnecessary or duplicative rule requirements. The Commission has extended the fishing vessel exemption from Global Maritime Distress and Safety System (GMDSS) requirements until one year after the United States Coast Guard establishes Sea Areas A1 and A2, established a Restricted GMDSS Radio Operator's License, and authorized the USCG or its designee to issue a Proof of Passing Certificate (PPC) that would allow operators to obtain an FCC GMDSS Radio Operator's License. Other changes include the modification of certain sections of the Rules to implement international standards, the imposition of a mandatory watch on Channel 70 for voluntary vessels, the allowance of J2B and J2D transmissions on frequencies currently reserved for Morse Code transmissions, the removal of certification for Class S emergency position indicating radio beacons (EPIRBs), and the elimination of Subpart Q and the streamlining of Subpart R of Part 80 of the Commission's Rules. ■

global information guide

listening to what your world says every day

by Gerry Dexter

UN Puts Station On The Air From Sierra Leone

Radio Tampa, the "other" shortwave broadcaster in Japan has gone into cutback mode. It has dropped weekday transmissions and now operates only on Saturdays and Sundays. What's left of the schedule is: 2300 to 0900 on **3945** and **6115** and 2300 to 0800 on **9760**. All programming is in Japanese.

As advertised previously, the United Nations has put another of those "service stations" on the air from a hot spot they're trying to help return to normalcy. Radio UNAMSIL, operated by the Public Information Section of the UN Mission in **Sierra Leone** has begun operations on the 49-meter band. The station has turned up a bit below its nominal frequency of **6140**, more like **6138**. It's being heard by some DXers in the east (though not all that well) after 0600. The address in Sierra Leone is P.O. Box 5, Freetown.

Isn't it nice when stations include the transmitter site on the QSL, as Radio Japan does? (tnx: David Weronka, NCC)

Radio Exterior de Espana has opened up a new 90-meter band channel on **3350** during our evening hours. The transmissions come from REE's Costa Rica relay at Cariari.

In news from Armed Forces Radio down under, the New Zealand Armed Forces "Canteen Council" is producing programs intended for — who else? — New Zealand's Armed Forces — these are now being aired over Radio New Zealand International. They're beamed to Asia and the Pacific on Saturdays/Sundays from 1105–1305 on **11675**; also at 1905 on **15160** and 0705 on **11675**. Katrina Batten of Radio New Zealand International hosts the programs.

World Beacon — a missionary broadcast effort of Florida-based Affiliated Media Group, has discontinued its shortwave broadcast. It began two years ago with the African Beacon — selling time to U.S. religious groups who wanted to preach to Africa and later expanded its targets to include Europe and Russia. The latter two didn't last long since enough sales couldn't be made to fill the schedule. Affiliated owned no shortwave transmitters — but rented time from the usual suspects in England, South Africa, Germany, Russia, and the UAE.

Papua New Guinea has granted permission for a new, independent shortwave broadcaster called Wantok Radio Light. The group plans to build a network of Christian FM stations throughout the country and possibly even expand to other Pacific Islands as well, though it appears the only shortwave outlet will be in Papua New Guinea. And this may not be the end of PNG activity. Word is that North Carolina shortwave broadcaster The Fundamental Broadcasting Network (WTJC) has an eye on these islands and also hopes to put a shortwave station on the air there.

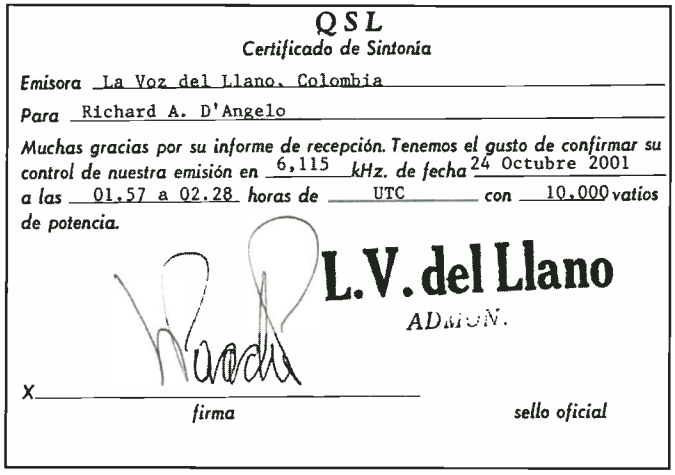
Reporter Lee Silvi (OH) sends word that former religious shortwave broadcaster WJCR in Upton, Kentucky, has returned to the air. It is now relaying the programming of local WJIE-FM (88.5) on **7490** and is noted around 2030. The IDs mention FM and shortwave frequencies, as well as their web site where, apparently, one can also hear them. (www.wjie.org).

The programming of Christian Voice, using the name Vision International for its Australian operation, is now being produced in its Australian studios. We're still trying to pick off this one and hopefully will have done so by the time you read this, as the summer brings longer, stronger signals on the higher frequencies where this one hangs out.

Not that most of us could tell the difference, but Radio Denmark's 25-minute shortwave relays via Radio Norway are now simply re-airings of domestic newscasts. This move comes as the result of a budget cut, which has also caused some of the transmissions (of which there are many) to be killed off.

Ecuadorian Oddity

An Ecuadorian oddity has shown up in the form of two non-shortwave stations being heard simultaneously on **5900 USB**. Both Radio Cosmopolita in Quito (an AMer) and Radio Sembrador in Chimborazo (FM) have been reported in the period around 0030 to 0230, usually with very distorted signals. It turns out there are two transmitters using the same frequency here, acting as some sort of a link between these two stations. Word is that eventually this duo will become a trio, with the addition of Radio Filadelfia, an AM station in Guayaquil. The 5900 transmitters run about 200 watts, so loggings in North



QSL
Certificado de Sintonía

Emisora La Voz del Llano, Colombia

Para Richard A. D'Angelo

Muchas gracias por su informe de recepción. Tenemos el gusto de confirmar su control de nuestra emisión en 6,115 kHz. de fecha 24 Octubre 2001 a las 01.57 a 02.28 horas de UTC con 10,000 vatios de potencia.

L.V. del Llano
ADMON.

X
firma

sello oficial

Rich D'Angelo (PA) found this card from La Voz del Llano in Colombia gracing his mailbox not long ago.

America are certainly not out of the question. Eventually another transmitter is to be added, operating around 4000.

For many moons now, El Salvador has been a shortwave non-entity. That remains pretty much the case today. But there has been a bit of teasing going on. Signals from an El Salvador domestic station, **Radio Capital**, have begun turning up sporadically on **17837**, variable around 2000. We're not sure if this is some kind of feeder or what but — whatever it is, it seems worth a check — assuming it hasn't vanished back into the nether world where so many of these weird things seem to originate.

Adventist World Radio has begun broadcasting from Radio Taipei International's 100 kW transmitters at Pao-Chung, Taiwan. The programs from this new AWR site are beamed to Vietnam from 0100–0200 on **15445** and 1400–1500 on **15490**.

Radio Veritas Productions is now airing programs via the Meyerton, South Africa site. They are on the air from 1000–1200 on **7240** and 1700–1900 on **3280**, that one is useless to us, of course. As far as we know this organization has no connection with Radio Veritas Asia in the Philippines.

Our book winner this month is regular contributor **Stewart MacKenzie** of Huntington Beach, CA. Stewart receives a copy of the 2002 WRTH, courtesy of CRB Books. We recommend you check out their fascinating catalog of books on radio and related subjects. You can get a copy by writing to CRB at P.O. Box 56, Commack, NY 11725 or by calling (515) 543-9169. They're also on the web at www.crbbooks.com.

And now, gentlemen (and ladies — if you're out there), we proudly present — "The Plea For Stuff!" We welcome your loggings and ask only that you list them by country (you needn't bother with alphabetical order). Please add your last name and state abbreviation after each and leave some cutting space between each log. Also much sought are photos of you in your shack, shortwave station photos, literature, schedules, and spare QSL cards we can use as illustrations. Thanks so much for your continued support!

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

Abbreviations Used In This Month's Column

//	—	Parallel frequency
ABC	—	Australian Broadcasting Corporation
AFRTS	—	Armed Forces Radio Television Service
AFN	—	Armed Forces Network
AIR	—	All India Radio
annor	—	announcer
anmt(s)	—	announcement(s)
BSKSA	—	Broadcasting Service of the Kingdom of Saudi Arabia
CNR	—	China National Radio
GOS	—	General Overseas Service
ID	—	identification
Int'l	—	international
IS	—	interval signal
Lang	—	language
LSB	—	lower sideband mode
NBC	—	National Broadcasting Corporation
OA	—	Peru, Peruvian
PBS	—	People's Broadcasting Station
Pgm	—	program
RRI	—	Radio Republick Indonesia
sked	—	schedule
SIBC	—	Solomon Islands Broadcasting Corporation
TOH	—	Top of the Hour
unid.	—	unidentified
USB	—	upper sideband mode
vern	—	vernacular (any local dialect or language)
VOA	—	Voice of America
VOIRI	—	Voice of the Islamic Republic of Iran

ALBANIA — Radio Tirana, **7160** at 0330 with ID, schedule and news. (Burrow, WA)

ANGOLA — Radio Nacional, **4950** at 0335 with pop and rap hosted by a woman in PP. ID and five time pips and 0400, then news. (D'Angelo, PA)

ANTARCTICA — Radio Nacional Arcangel San Gabriel, **15475.5** at 2140 with continuous SS romantic ballads. The only anmt was an SS ID at 2158. Off abruptly at 2210. (Alexander, PA) 2145 on late with pops. Annoying het or whining sound on their signal. (Strawman, IA)

ANGUILA — Caribbean Beacon, **11775** at 1600 with Dr. Gene Scott. (Paradis, ME)

ANTIGUA — BBC relay, **5975** at 0430. (Linonis, PA) Deutsche Welle, **9700** at 0328. (Smith, WA)

ARGENTINA — Radio Nacional, **15345** with songs and anmts in SS at 2207. (Brossell, WI) Unidentified feeder, **20276** LSB at 0210 with SS talks, brief music breaks, promos, commercials, time pips at 0230 and 0300, SS ballads. Also on **//15820 LSB**. (Alexander, PA)

ARMENIA — Voice of Armenia, **9965** in SS at 0330 with anthem, ID, schedule and vocals. (Burrow, WA) 0425 in presumed Armenian. (Brossell, WI)

ASCENSION ISLAND — BBC relay, **6005** at 0400, **7160** at 0555 and **17830** at 1912. (Smith, WA) **7160** at 0420 and **11855** at 2108. (Brossell, WI) **9825** in SS at 0050. (MacKenzie, CA) **12095** at 2205, **15400** at 2200 and 0722. (Newbury, NE) **21470** at 1822. (Jeffery, NY)

AUSTRALIA — Radio Australia, **9475** at 1255 with music until news at 1300. (Barton, AZ) **9575** at 1220 and **9580** at 1335. (Northrup, MO) **9580** at 1200. (Newbury, NE) 1300. (Paradis, ME) **15240** at 0500. (Linonis, PA) 0600. (Wood, TN) **17580** with "Pacific Beat" at 0510. (Moser, IL) 0525. (Smith, WA) **21740** at 2130. (Watts, KY) Radio Christian Voice (Vision International), **13775** in CC at 1315. (Brossell, WI) ABC Northern Territory Service, **2310** with news at 1144. (Strawman, IA)

AUSTRIA — Radio Austria Int'l, **13730** in GG at 0000 with talk, ID, and IS. (Burrow, WA) **17865** at 1550 with news documentary. (Weronka, NC)

Radio Netherlands at-a-glance programme and frequency guide

Valid from March 31st – October 26th 2002. Times are Universal Time Co-ordinated (UTC) (same as GMT)

North America

10.30 UTC = 06.30 EDT / 05.30 Central
Frequency: 5965 kHz
See programme listing for 10.30 UTC Europe

14.30 UTC = 07.30 PDT / 09.30 Central
Frequency: 15220 kHz
See programme listing for 14.30 UTC Asia

23.30 UTC = 19.30 EDT / 18.30 Central
Frequencies: 6165 and 9845 kHz

04.30 UTC = 23.30 Central / 21.30 PDT
Frequencies: 6165 and 9590 kHz

SUNDAY
23.30 News
23.35 Sincerely Yours
23.55 Week Ahead
00.00 Dutch Horizons
00.30 Aural Tapestry
01.00 News
01.05 Wide Angle

04.30 News
04.35 Sincerely Yours
04.55 Week Ahead
05.00 Dutch Horizons

MONDAY
23.30 Newsline
00.00 Research File
00.30 EuroQuest
01.00 Newsline

04.30 Newsline
05.00 Research File

TUESDAY
23.30 Newsline
00.00 Music 52-15
00.30 A Good Life
01.00 Newsline

04.30 Newsline
05.00 Music 52-15

WEDNESDAY
23.30 Newsline
00.00 Documentary
00.30 Dutch Horizons

01.00 Newsline
04.30 Newsline
05.00 Documentary

THURSDAY
23.30 Newsline
00.00 Aural Tapesrtry
00.30 Research File
01.00 Newsline

04.30 Newsline
05.00 Aural Tapestry

FRIDAY
23.30 Newsline
00.00 A Good Life
00.30 Documentary
01.00 Newsline

04.30 Newsline
05.00 A Good Life

SATURDAY
23.30 News
23.35 Europe Unzipped
23.55 Insight
00.00 Music 52-15
00.30 Roughly Speaking
01.00 News
01.05 Europe Unzipped

04.30 News
04.35 Europe Unzipped
04.55 Insight
05.00 Roughly Speaking

Africa

17.30 UTC = 19.30 in South Africa

Frequencies: 6020, 7120 and 11655 kHz (then from 18.30 UTC we add 9895, 13700, 17605 and 21590)

SUNDAY
17.30 News
17.35 Sincerely Yours
17.55 Week Ahead
18.00 Dutch Horizons
18.30 News
18.35 Wide Angle
19.00 Aural Tapestry
19.30 Dutch Horizons
20.00 News
20.05 Sincerely Yours
20.25 Ends

MONDAY
17.30 Newsline
18.00 Research File
18.30 Newsline
19.00 EuroQuest
19.30 Research File
20.00 Newsline
20.25 Ends

TUESDAY
17.30 Newsline
18.00 Music 52-15
18.30 Newsline
19.00 A Good Life
19.30 Music 52-15
20.00 Newsline
20.25 Ends

WEDNESDAY
17.30 Newsline
18.00 Documentary
18.30 Newsline
19.00 Dutch Horizons
19.30 Documentary
20.00 Newsline
20.25 Ends

THURSDAY
17.30 Newsline
18.00 Basement Sessions

Africa (continued)

18.30 Newsline
19.00 The Research File
19.30 Basement Sessions
20.00 Newsline
20.25 Ends

FRIDAY
17.30 Newsline
18.00 A Good Life
18.30 Newsline
19.00 Documentary
19.30 A Good Life
20.00 Newsline
20.25 Ends

SATURDAY
17.30 News
17.35 Europe Unzipped
17.55 Insight
18.00 Music 52-15
18.30 News
18.35 Europe Unzipped
18.55 Insight
19.00 Roughly Speaking
19.30 Music 52-15
20.00 News
20.05 Europe Unzipped

Europe

10.30 UTC = 11.30 UK / 12.30 CET
Frequencies: 6045 and 9860 kHz

20.30 UTC = 21.30 UK / 22.30 CET
Frequency: 1512 kHz (AM) / Mediumwave

SUNDAY
10.30 News
10.35 Wide Angle
10.55 Week Ahead
11.00 Aural Tapestry
11.30 Dutch Horizons
12.00 News
12.05 Sincerely Yours

20.30 News
20.35 Sincerely Yours
20.55 Week Ahead
21.00 Dutch Horizons
21.30 Aural Tapestry
22.00 News
22.05 Wide Angle
22.25 Week Ahead

MONDAY
10.30 Newsline
11.00 EuroQuest
11.30 Research File
12.00 Newsline

20.30 Newsline
21.00 Research File
21.30 Euroquest
22.00 Newsline

TUESDAY
10.30 Newsline
11.00 A Good Life
11.30 Music 52-15
12.00 Newsline

20.30 Newsline
21.00 A Good Life
21.30 Music 52-15
22.00 Newsline

WEDNESDAY
10.30 Newsline
11.00 Dutch Horizons
11.30 Documentary
12.00 Newsline
20.30 Newsline

21.00 Documentary
21.30 Dutch Horizons
22.00 Newsline
22.30 Ends

THURSDAY
10.30 Newsline
11.00 Research File
11.30 Aural Tapestry
12.00 Newsline

20.30 Newsline
21.00 Aural Tapestry
21.30 Research File
22.00 Newsline
22.30 Ends

FRIDAY
10.30 Newsline
11.00 Documentary
11.30 A Good Life
12.00 Newsline

20.30 Newsline
21.00 Roughly Speaking
21.30 Documentary
22.00 Newsline
22.30 Ends

SATURDAY
10.30 News
10.35 Europe Unzipped
10.55 Insight
11.00 Roughly Speaking
11.30 Music 52-15
12.00 News
12.05 Europe Unzipped

20.30 News
20.35 Europe Unzipped
20.55 Insight
21.00 Music 52-15
21.30 Roughly Speaking
22.00 News
22.05 Europe Unzipped
22.25 Insight

Asia, Far East, Pacific

09.30 UTC = 18.30 Japan / 17.30 Western Australia
Frequencies: 9790, 12065 and 13710 kHz

14.30 UTC = 20.00 in India
Frequencies: 9890, 11835 and 12075 kHz

SUNDAY
09.30 News
09.38 Sincerely Yours
09.55 Week Ahead
10.00 Dutch Horizons
10.30 News
10.35 Wide Angle
10.55 Week Ahead
11.00 Aural Tapestry
11.30 Ends

14.30 News
14.38 Sincerely Yours
14.55 Week Ahead
15.00 Dutch Horizons
15.30 Aural Tapestry
16.00 News
16.08 Wide Angle
16.25 Ends

MONDAY
09.30 Newsline
10.00 Research File
10.30 Newsline
11.00 EuroQuest
11.30 Ends

14.30 Newsline
15.00 Research File
15.30 EuroQuest
16.00 Newsline

TUESDAY
09.30 Newsline
10.00 Music 52-15
10.30 Newsline
11.00 A Good Life
11.30 Ends

14.30 Newsline
15.00 Music 52-15
15.30 A Good Life
16.00 Newsline

WEDNESDAY
09.30 Newsline
10.00 Documentary
10.30 Newsline

11.00 Dutch Horizons
11.30 Ends

14.30 Newsline
15.00 Documentary
15.30 Dutch Horizons
16.00 Newsline

THURSDAY
09.30 Newsline
10.00 Aural Tapestry
10.30 Newsline
11.00 Research File
11.30 Ends

14.30 Newsline
15.00 Aural Tapestry
15.30 Research File
16.00 Newsline

FRIDAY
09.30 Newsline
10.00 A Good Life
10.30 Newsline
11.00 Documentary

14.30 Newsline
15.00 A Good Life
15.30 Documentary
16.00 Newsline

SATURDAY
09.30 News
09.36 Europe Unzipped
09.55 Insight
10.00 Music 52-15
10.30 News
10.36 Europe Unzipped
10.55 Insight
11.00 Roughly Speaking

14.30 News
14.36 Europe Unzipped
14.55 Insight
15.00 Music 52-15
15.30 Roughly Speaking
16.00 News
16.06 Europe Unzipped

Tracking down which frequencies (in kHz) come from which sites – **Bonaire** 6165, 9590, 9790, 9845, 17605 and 21590 / **Flevoland** 9895, 11655 and 13700 / **Irkutsk** 13710 / **Jülich** 6045 / **Madagascar** 6020, 7120, 9890 and 11835 / **Petropavlovsk** 12065 / **Tashkent** 12075 / **Wertachtal** 9860 / **Wolvertem** 1512 AM / medium wave

Key to satellite transmission: Astra RNW1/2 = Astra 1G, 19.2° East, Transponder 109, 12.574 GHz/H, MPEG2/DVB. AsiaSat 2: 100.5° East, Transponder 108, 4.000 GHz/H, MPEG2/DVB (European Bouquet). Intelsat 707, 1° West, Transponder 23B, 3.912 GHz/RHCP, MPEG2/DVB.
Note, all satellite transmissions are 'Free to Air'
For more information: www.rnw.nl

Radio Netherlands

The current programming schedule for Radio Netherlands.

BELARUS — Radio Minsk, **5970** at 0303 with EE news, features and local music. Nice ID and sign-off anmts by man at 0328. Badly squeezed by **BBC-5975**. (D'Angelo, PA) **7210** at 0300 with news. (Linonis, PA) 0329 ending EE segment, IS, multi-lingual ID and into unid. language at 0330. (Burrow, WA)

BELGIUM — RTBF, **9490** via Germany in Flemish at 0408. (Miller, WA) **9970** in FF at 0400. (Linonis, PA) **17570** with news in seeming FF at 1802. (Jeffery, NY) Radio Vlaanderen Int'l via Bonaire, **11985** at 0450 in either Flemish or possibly Dutch. (Linonis, PA) **17525** at 1415. (Northrup, MO)

BENIN — Rdf. du Benin, **7210**, 2233 to 2301 close, man/woman in FF, then woman hosting phone calls and short music segments. ID at 2259, orchestral national anthem. (D'Angelo, PA) 2230 to 2303 close with FF talks, woman and phone calls, variety of Afro-pops, FF and US pops. Off with anthem. Also from sign-on at 0556 on UTC Sunday. I think sign-on is around 0500 on weekdays. (Alexander, PA)

BOTSWANA — Radio Botswana, **4820** at 0300 sign-on with barnyard animals IS, ID and into news. Heard well over the CODAR radar. First time heard here! (Linonis, PA) VOA relay, **9885** at 0335. (Brossell, WI) **11655** at 2200 with news. (Paradis, ME)

BRAZIL — Radio Anhanguera, Goiania, **4915** in PP at 0400 with Brazilian music. (Linonis, PA) Radio Aparecida, **5035** at 0000 with news in PP. (Brossell, WI)

BULGARIA — Radio Bulgaria, **5900** at 0445 with talks and music in presumed Bulgarian. (Brossell, WI) **7400//9400** at 0010 with ID, 'Events and Developments.' (Burrow, PA) **9400** at 0105 in Bulgarian. (MacKenzie, CA) Radio Varna, **9800** in Bulgarian at 0104 with pops hosted by a woman. Strong carrier but much reduced voice modulation. (D'Angelo, PA)

BURKINA FASO — RTV Burkina, **5030** at 2205 to 0000 close, with African folk music, talks in FF and vernacular, local drums. Off with anthem. Also from 0559 sign-on with anthem, FF anmts, Afro-pops. (Alexander, PA) 2309 with high-life music, call-ins and FF anmts. At 2357 "Merci, merci, merci,' then anthem played on an organ and off at 0000. (Brossell, WI) 2332 with man in FF hosting music program, ID and closing anmts and instrumental music (anthem?) Off at 0001. (D'Angelo, PA)

CANADA — CBC Northern Quebec Service, **9625** at 1700 with news in EE and unid. language. (Paradis, ME) 2100 in possible Inuit with NHL scores and weather. (Linonis, PA) Radio Canada Int'l, **9560** at 0416. Also **11990** at 0201. (Smith, WA) **11730** via Japan at 1207. (Foss, Philippines)

CHILE — Voz Cristiana, **15375** at 1105 with Christian Rock in SS. (Newbury, NE) **21500** in SS at 1851. (Foss, Philippines)

CHINA — China Radio Int'l, **9605** in CC at 1230, **11760** (Northrup, MO) **15100** in CC at 0019. (Jeffery, NY) **15210** at 1046. (Newbury, NE) Voice of Pujiang, **3280** in CC with YL vocals. (Foss, Philippines) CPBS/CNR, Lingshi, **9655** in CC at 2230 until covered by Voice of Turkey at 2256 (Paradis, ME)

CROATIA — Voice of Croatia, **6165** at 2235 with pop vocals in various languages and man annor in Croat. Nice ID on the hour, then news and another ID at 2307 and back into music. (D'Angelo, PA) **9925** via Germany at 0009 with news. (Jeffery, NY) 0044 with EE ID. (MacKenzie, CA) 0342 in EE. Multi-lingual ID and news. (Burrow, WA) 0400 sign-on with ID in Croatian, SS, EE and GG and then into presumed Croatian. (Linonis, PA) 0425 with news discussion in Croatian. (Miller, WA)

CUBA — Radio Rebelde, **5025** with talks and music in SS at 0412. (Brossell, WI) Radio Havana Cuba, **9550** with DX program at 0510. Also at 0340 on **9820**. (Smith, WA) **9820** in EE at 0400. (Linonis, PA)

CYPRUS — BBC relay, **9670** at 0350 in RR. (Brossell, WI)

CZECH REPUBLIC — Radio Prague Int'l, **17485** at 1700 with news, ID. (Burrow, WA) **21745** at 1400 with news, economic report. (Paradis, ME)RFE/RL, **7255** at 0425 with tape loop "This is Radio Free Europe/Radio Liberty, Praha." Continued past 0445. Site unknown. (Brossell, WI)

Radio Maranon is one of many Peruvian shortwave broadcasters and one of not-too-many that actually QSL. (D'Angelo, PA)

DOMINICAN REPUBLIC — Radio Pueblo, **5009.8** at 0140 with SS anmts, IDs, LA music. Off with anthem at 0230. (Alexander, PA)

ECUADOR — Radio Quito, **4919** at 0832 with Latin vocals, woman in SS and frequent IDs — "Radio Quito, la Voz de la capital' and commercials. (D'Angelo, PA) Man anncr in SS at 1120. (Barton, AZ) HCJB, **9475** at 0406. (Smith, WA)

EGYPT — Radio Cairo/Egyptian Radio, **9475** in AA/SS at 0059, time pips at 0100 and into SS. (MacKenzie, CA) 0240. And **12050** at 0407. (Smith, WA) **9900** in EE at 2230. (Burrow, WA) 2323 with muffled audio. (Newbury, NE) **12050** in AA at 0440. Poor with muddy modulation. (Linonis, PA) **15285** in AA at 0026. Also **15335** in FF heard at 2042. (Jeffery, NY) **15285** in AA at 0445. (Brossell, WI)

ENGLAND — BBC, **6135** via Delano at 0400. (Newbury, NE) **7325** at 0535. (Smith, WA) **9740** at 1240, **17865** at 1500 and **21490** in AA at 1405. (Northrup, MO) **12095** at 2000. (Paradis, NE)

EQUATORIAL GUINEA — Radio Nacional, Malabo, presumed, **6249.4** at 2155. Non-stop instrumental music until it went off at 2253 without the usual sign-off fanfare. (D'Angelo, PA)

FINLAND — YLE/Radio Finland, **9720//11985** at 2100 with ID and start of "Capitol Weekend.' (Burrow, WA) **13770** in FF at 0435. (Brossell, WI)

FRANCE — Radio France Int'l, **7135** at 0057; **11910** at 0410. And **11995** at 0409. (Presumed in FF, Adam?) **11955** with EE ID at 2157. (Brossell, WI) **11995** via Gabon at 2142 in FF with talk, rock. (Newbury, NE) **15605** at 1630. (Barton, AZ)

GERMANY — Sudwestfunk, **7265** with U.S. pops and GG talks at 0430. (Brossell, WI) Deutsche Welle, **6160** (via Antigua, gld) at 0915. (Barton, AZ) **17765** (via Antigua, gld) at 1600. (Weronka, NC)

GREECE — Voice of Greece, **9420** at 0330 with Greek music. (Linonis, PA) 0506. (Smith WA) **12105** with sports broadcast in Greek at 1321 and 2031. (Miller, WA) **12110** with upbeat Greek music at 2307. (Foss, Philippines) **17585** via Delano in Greek at 2149. (Newbury, NE), **17705** via Delano in EE with Greek music at 1900, (Barton, AZ) *(Believe this program is Sundays only? — Ed)* VOA relay, **15205** at 0440. (Brossell, WI)

GUAM — KSDA — Adventist World Radio, **11560** at 1042 with EE religious talk. (Newbury, NE) **11900** at 1045 with EE religious program. (Jeffery, NY) **11980** with DX program at 1340. (Brossell, WI)

GUATEMALA — Radio Tezulutlan, tentative, **4835** in SS with possible church service at 0415. (Linonis, PA) La Voz de Nahuala, **3360** at 0244 in SS with marimba music. Closed at 0420. (D'Angelo, PA) Radio Cultural, **3300** with EE sermon at 0408. (Brossell, WI) 0631 in SS. (Miller, WA)

GUINEA — RTV Guineenne, **7125** heard at 2332 with high-life music and FF talks. (Brossell, WI) 0640 with Afro-pops, local choral music, FF talks, IDs. Also to 0002 closing. (Alexander, PA)

HAWAII — Armed Forces Network, **6350 USB** at 0831 with CNN news, promos and features. (D'Angelo, PA) KWHR, **17780** at 0455 with commercial, Marie Lamb's DX program, ID at 0500. (Brossell, WI)

HONDURAS — Radio Litoral, **4832** at 0225 with continuous vocals, excited ID, choir vocals and more talk. (D'Angelo, PA)

HUNGARY — Radio Budapest, **9835** heard at 0343 with EE talks and features. Also **12040** at 2358 in unidentified language to closing at 2359. (Burrow, WA) **9835** at 0340. (Brossell, WI)

INDIA — All India Radio, **4760**, Port Blair, in Hindi at 1157. (Strawman, IA) 1245 in EE. (Miller, WA) **4970** -Shilong, at 1223 with pop/rock, man/woman singers in presumed local language. (Foss, Philippines) **11620** in EE at 2100. (Brossell, WI) **13605** at 1859. (Smith, WA)

INDONESIA — Voice of Indonesia, **15150** at 1902. (Smith, WA) News in EE at 2003. (Burrow, WA) Radio Republik Indonesia, Kendari, **4000** in II at 1141 with pop-rock a. (Foss, Philippines) RRI — Fak Fak, **4789** in II at 1253. (Miller, WA) RRI-Makassar, **4750** at 1200 in II. (Miller, WA) RRI-Jakarta, **15125** in II with IS and ID at 2258 and 2300, into II news. (Foss, Philippines)

IRAN — Voice of the Islamic Republic of Iran, **9605//11640//11870** heard at 1549 with EE news. Also on **15140** at 2009 in EE. (Burrow, WA) **11840** at 2128 AA talk on phone. (Newbury, NE) **11870** at 1555 with EE commentary. (Foss, Philippines) **11970** at 0030 sign on for EE segment, music fanfare, Holy Koran recitation, and news. Anncd 6035 and 6065 not heard. **//9610** was also very good. (D'Angelo, PA) **13605** in AA at 2330. **15084** in Farsi at 2335. (MacKenzie, CA) 0438 in Farsi.

IRELAND — Radio Telefis Eireann, **21630** via Ascension, at 1838 with news, interview, and Dublin traffic report. (Foss, Philippines)

ISRAEL — **9345** with talks in HH at 0435. (Brossell, WI) **9815**, presumed, at 0400 in HH with live reports from Ramallah and Bethleham. "Chirping' type jamming but still very audible. (Linonis, PA) **11615** in EE at 2000 with 25-minute program of news, weather and current events in Israel. (Paradis, ME) **15640** in HH at 2100. (Miller, WA) **15650** in EE at 2012. (Burrow, WA)

ITALY — RAI Int'l, **7115** at 0559. (Smith, WA) **11880** at 2024 with IS, news, music. Beamed to the Middle East. (Paradis, ME)

JAPAN — Radio Tampa, **3945** at 1134 with talks in JJ. (Foss, Philippines) Radio Japan, **6110** *(via Canada — Ed)* to close at 0600. (Barton, AZ) **9750** in JJ at 1320. (Northrup, MO) **17820** via Sri Lanka at 2110 with world pops. (Newbury, NE) **17825** at 0320. **17845** at 0330 sign-on with JJ ID, into RR. (Linonis, PA) **21670** in EE at 2120. (Watts, KY)

JORDAN — Radio Jordan, **11690** at 1555 with EE pops program, ID, news and phone in program. (Burrow, WA)

KUWAIT — Radio Kuwait, **11675** in AA at 0519. (Smith, WA) **11990** at 2027 ending pop program and into "The Beginning of Kuwait.' (Burrow, WA) **15495//15505** in AA at 2043. (Brossell, WI) **15505** in AA at 0726. (Newbury, NE)

LIBYA — Radio Jamahiriya, **15435** in AA at 2040. (Brossell, WI)

LITHUANIA — Radio Vilnius, **7325** at 0300 opening EE with IS, ID, news, and interview. (Burrow, WA) **9875** in EE at 2330. (Newbury, NE) 2335. (Smith, WA)

MADAGASCAR — Radio Netherlands relay, **15560** in DD at 0341. (Miller, WA) Voice of Hope, **15320** via RN relay, at 0445 with talk on agriculture in Uganda and Sudan. (Brossell, WI)

MALAYSIA — Radio Malaysia, **7295** at 0947 with pop/rock, EE DJ. (Foss, Philippines) 1648 with music, ID, Kuala Lumpur address, Radio 4 — RTM jingle, ID and news. (Burrow, WA) **4985**, Sarawak, at 1417 in Malay. (Foss, Philippines) Voice of Malaysia, **15295** in Mandarin at 1148. (Strawman, IA)

MALI — RTV Malienne, **4835** at 2335 in FF with highlife music, brief ID and sign-off followed by marching band national anthem. Fair on **//5995** but **//4783** was poor. (D'Angelo, PA)

MAURITANIA — Radio Mauirtanie, **4845** at 0005 with vocals and AA talks. (Brossell, WI)

MEXICO — Radio Educacion, **6185** in SS at 0408. (Miller, WA) 0702. (Newbury, NE) Radio Mexico Int'l, **9705** at 0345 in SS. QSL received in just 10 days. (Linonis, PA) 0418 in EE. (Miller, WA) 1225 in SS. (Northrup, MO) Radio Mil, **6010** with SS anmts, ID, jingles, ballads, U.S. pop. (Alexander, PA)

MOLDOVA — Voice of Russia relay, **7125** with EE talk. (Brossell, WI)

MOROCCO —RTV Marocaine, **7185** with music and AA talk. (Brossell, WI) **15345** in AA at 2052. (Jeffery, NY) VOA relay, **7295** at 0538. (Smith, WA) **15135** in EE/CC at 2340. (MacKenzie, CA) **15240** at 1900. Also **17640** at 1840 in unid. language. (Jeffery, NY)

MYANMAR — Radio Myanmar, **4725** at 1148 in presumed Burmese. (Foss, Philippines)

NETHERLANDS — Radio Netherlands, **5965** (via Canada, gld) at 1300. (Barton, AZ) **13700** at 1930 with "Newsline.' (Paradis, ME)

NETHERLANDS ANTILLES — Radio Netherlands via Bonaire, **6165** at 0435. (Smith, WA) **9590** at 2315. (Newbury, NE) **17605** at 1836. (Jeffery, NY)

NEW ZEALAND — Radio New Zealand Int'l, **11675** with a drama to 1000 close. (Barton, AZ) 1036 with discussion on impressionist painters. Also **15340** at 0717. (Newbury, NE) **15175** at 1037 with discussion. **15340** at 0401 with news. (Jeffery, NY) 0452 with importance of English in Third World countries. (Moser, IL) 0515 Cuban music groups visits. (Moser, IL) **17675** at 0243 with music. (Jeffery, NY) 0316 with DX program. (Burrow, WA)

NIGERIA — Voice of Nigeria, **7255** at 0534. (Smith, WA) 0615 minimizing problems in Zimbabwe. (Moser, IL) **15120** at 0502. (Miller, WA) 0508 with national and regional news. (Burrow, WA)

NORTHERN MARIANAS — KFBS, **11580** at 1330 with CC conversation. (Brossell, WI) VOA Tinian relay, **13615** with sports update at 0920. (Barton, AZ)

NORTH KOREA — Voice of Korea, **6575** in RR at 0820 (Barton, AZ) **11335** at 2100 with IS, EE IDD as "Radio Korea" and martial music. (Burrow, WA) Hamgyong Broadcasting Station, **3220** at 1407 with chorus in KK. (Foss, Philippines)

NORWAY — Norwegian domestic service, **7465** at 0400 in NN. (Smith, WA) **9945** in NN at 0425. (Brossell, WI) **15705** with news in NN. (Miller, WA)

OMAN — Radio Sultanate of Oman, **15310** with 0300 EE sign on. (Linonis, PA) **15355** at 0300 sign-on in EE. Koran with EE translations and commentary, U.S. pops. Off abruptly at 0358. (Alexander, PA) 0320 with pops, "Good morning, Oman." (Burrow, WA)

PAKISTAN — Radio Pakistan, (presumed) **7225** at 0549. (Smith, WA) **11570//15100** at 1602 with news starting late, ID at 1604. (Burrow, WA) **15110** at 1610. (Strawman, IA)

PAPUA NEW GUINEA — Radio Manus, presumed, **3315** at 1145 with vocals and rapid fading. (Strawman, IA) NBC, Port Moresby, **4890** at 1225 with music and news items. (Miller, WA)

PERU — Radio Peru, **5637.2** at 0100 with SS talk, ID, OA folk music. Off at 0201. (Alexander, PA) Radiodifusora Huancabamba, **6536** at 0100 with SS talks, ID, rustic OA folks, off with anthem at 0111. (Alexander, PA) Radio Ilucan, **5678** at 0130 with SS anmts, OA music, IDs. Off at 0203. (Alexander, PA)

PHILIPPINES — Radio Pilipinas, **11730//11890//15190** at 1732 in Tagalog. News and IDs. (Burrow, WA) **12015** at 0240 with excerpts of presidential speech, ID at 0243. (Foss, Philippines) **15190** with a talk show at 1730. (Miller, WA)

PORTUGAL — RDP Int'l, **9715//11655** in PP at 0019. (Burrow, WA) **17615** with live sports at 1800. (Brossell, WI) **17745** at 1914 and **21800** at 2230. (Smith, WA) **21655** at 1834 in PP. (Foss, Philippines) **21800** in PP at 2002. (Jeffery, NY)

PUERTO RICO — Armed Forces Network, **6458 USB** at 0240. (Linonis, PA)

QATAR — Qatar Broadcasting Service, **17770** in AA at 0452. (Brossell, WI)

ROMANIA — Radio Romania Int'l, **9550//11830** with EE news, comment at 0403. (Burrow, WA) **11830** at 0626. (Moser, IL) **11830** at 0401. (Smith, WA) **15335** with news headlines at 0415. (Linonis, PA) **17735// 15335** with ID and "Bucharest Uncensored' and "DX Mailbox." (Brossell, WI)

RUSSIA — Voice of Russia, **7180** at 0459 and **17595** at 0258. (Smith, WA) **11675** at 2005. (Weronka, NC) **15510** in RR at 1325. (Northrup, MO) **15735** at 2007 with news. (Jeffery, NY)

RWANDA — Deutsche Welle relay, **9700** heard at 0417 in GG. (Miller, WA) **9870** in GG at 0340. (Brossell, WI) **13780** in GG at 2326. (MacKenzie, CA) **17835** at 2117. (Newbury, NE)

SAO TOME — VOA relay, **4960** at 0420. (D'Angelo, PA) 7290 at 0330. (Brossell, WI)

SAUDI ARABIA — Broadcasting Service of the Kingdom, **15170** in EE, with some EE, at 0450 with special broadcast on "Israel's aggression against Arafat and the Palestinian people." (Linonis, PA) 0440 in AA. Also **15230** with Holy Koran at 2020. (Brossell, WI) **21600** in AA at 1500. (Paradis, ME)

SEYCHELLES — Far East Broadcasting Association, **11605** with talk in unid. language at 0230. (Paszkiewicz, WI)

SINGAPORE — Radio Singapore, **6150** at 1552 with DJ and pops, ID as "Perfect 10 — 98.7 FM." (Burrow, WA)

SLOVAKIA — Radio Slovakia, **5930// 7230//9440** at 0057 with IS, ID, schedule and news. (Burrow, WA) **7230** at 0100. (Smith, WA) **9440** at 0104. (MacKenzie, CA)

SOUTH AFRICA — BBC relay, **11765** at 0415. (Smith, WA) Trans World Radio, **9650** with a sermon at 0415 and mailing address in Nairobi. (Brossell, WI) Adventist World Radio, **11970** in unid. African dialect alt 0505. (Brossell, WI) **15295** at 2014 with religious

The Czech Republic's various broadcasters are featured on this QSL from Radio Prague.

programming. (Jeffery, NY) **17695** at 1917. (Smith, WA)

SOUTH KOREA — Radio Korea Int'l, **5975** at 1859 with IS, ID and start of EE broadcast. (Foss, Philippines) **9560** at 0255. (Northrup, MO) **9650** via Canada at 1229 close. (Barton, AZ)

SPAIN — Radio Exterior de Espana, **6055** heard at 0500. (Smith, WA) **15170** in SS at 1330. (Northrup, MO) **17715** in SS at 1846. (Jeffery, NY)

SPANISH MOROCCO — Radio Medi Un, **9525** in AA at 0242. (Paszkiewicz, WI)

SRI LANKA — Sri Lanka Broadcasting Corp., **15425** at 0027. Transmitter comes on with music, time pips, ID at 0030, schedule, local time, and commentary, ID and into "roller rink' music. (Burrow, WA) 0219 with music, ID. (Jeffery, NY) VOA relay, **15250** at 0215. (Jeffery, NY) **15305** at 2355. (MacKenzie, CA) Deutsche Welle relay, **13690** at 2318. (Foss, Philippines) **15205** in GG at 0205. (Jeffery, NY) **17810** at 1913. (Smith, WA) **21790** in GG at 1025. (Foss, Philippines)

SUDAN — Radio Omdurman, presumed, **7200** at 2248. String orchestra with jamming. (Strawman, IA)

SWEDEN — Radio Sweden, **9490** at 0330 with "60 Degrees North." (Linonis, PA) 0400 with news in Swedish. (Brossell, WI) **18960** at 1430 with news and Nordic Report. (Paradis, ME)

SWITZERLAND — Swiss Radio, **13645** with "News Net" at 2015. (Weronka, NC)

SYRIA — Radio Damascus, **13610** at 2008 going from FF to EE, ID, schedule, frequencies, ID, anthem, news. (Burrow, WA)

TAIWAN — Radio Taipei Int'l, **5950** via WYFR at 0715 with "Groove Zone." (Wood, TN) **9680** via WYFR at 0308. (Burrow, WA) **11635** in CC at 1335. (Brossell, WI) **15265** at 1405. (Barton, AZ) **15060** in CC at 0420. (Jeffery, NY) **15600** via WYFR with CC to Europe at 1900. (Watts, KY) **17760** via Florida at 1800 with anthem and into FF. (Barton, AZ)

Regular log section reporter Bob Brossell tries out the shortwave chair at GIG HQ.

THAILAND — Radio Thailand **5985** at 1338 with talks, music and ID in unid. language. (Brossell, WI) **9530** at 1410. (Foss, Philippines) **9680** at 0006. (Burrow, WA)

TUNISIA — RTV Tunisienne, **7110** at 0400 in AA. (Linonis, PA) 0533. (Smith, WA) Here and //**7275** at 0414. (Brossell, WI) **17735** at 1332 in AA. (Foss, Philippines)

TURKEY — Voice of Turkey, **6020** at 0357 with IS, pips, ID, schedule. (Burrow, WA) **9460** at 0327. (Smith, WA) **7300** at 0435. (Brossell, WI) **9655** at 2300 with news, foreign media review, letters program. (Paradis, ME) **17790** at 1432 in TT. (Foss, Philippines)

UNITED STATES — Radio Africa Int'l, **15265** at 1700 with news and very pro-Palestinian slant. Location? *(United Methodist Church, probably via Germany —Ed)*

UNITED ARAB EMIRATES — UAE Radio, Dubai, **13675** at 0330 with ID, news, weather, and Arab history. (Burrow, WA)

UKRAINE — Radio Ukraine Int'l, **7375//7420** heard at 0123. Historical and current Ukraine government programs. (Burrow, WA) **7375** at 0430 sign-on in EE. (Linonis, PA)

UZBEKISTAN — Radio Tashkent, **11905** at 2130 in presumed Uzbek. (Linonis, PA) 2130 in EE with IS, ID, schedule, news. (Burrow, WA)

VATICAN — Vatican Radio, **7250** in FF at 0546. (Smith, WA) **7305** ending SS at 0355. (Miller, WA) **9660** in EE to Africa at 0310. (Miller, WA) **11625** at 0404 "Laudator Jesus Christus — This is Vatican Radio" and into unid. African dialect. (Brossell, WI) 0630 in EE. (Moser, IL) **15570** with church news in EE. (Jeffery, NY) 1634 with IS. (Barton, AZ) 1641 in AA. (Miller, WA)

VENEZUELA — Ecos del Torbes, **4980** in SS with easy listening music at 0315. (Linonis, PA)

VIETNAM — Voice of Vietnam, **5035** at 1205 in Hmong service. (Strawman, IA) **5924** at 0937 in presumed VV. (Foss, Philippines) **6175** via Canada at 0105, 0249. (Smith, WA)

YEMEN — Republic of Yemen Radio, **7190** in AA at 0552. (Smith, WA) **9780** at 1756 with IS prior to start at 1800. (Burrow, WA) 0345 in AA. (Linonis, PA)

ZAMBIA — Radio Zambia, **6265** at 0424. (Smith, WA)

And that's it! Sound the trumpets in salute to the following who did their part this month: R.C. Watts, Louisville, KY; Adam Smith, Federal Way, WA; Rick Barton, Phoenix, AZ; Stewart MacKenzie, Huntington Beach, CA; Sheryl Paszkiewicz, Manitowoc, WI; Richard D'Angelo, Wyomissing, PA; Brian Alexander, Mechanicsburg, PA; Joe Kenneth Wood, Gray, TN; Howard Moser, Lincolnshire, IKL; Martin Foss, Guinayangan, Philippines; Robert Brossell, Pewaukee, WI; Jerry Strawman, Des Moines, IA; Mike Miller, Issaquah, WA; Dave Jeffery, Niagara Falls, NY; Ed Newbury, Kimball, NE; David Weronka, Benson, NC; Ray Paradis, Pittsford, ME; Bruce Burrow, Snoqualmie, WA and Jack Linonis, Hermitage, PA. Thanks to each one of you!

Until next month, good listening! ■

ham discoveries

connecting as a radio amateur

by Kirk Kleinschmidt, NTØZ

An All-Band HF Antenna You Can Build!

Antenna performance is what ham radio is all about. Say what you will about one aspect of the hobby or another. Or talk up one gadget or the next. But the whole shebang pretty much hangs on getting out a signal, and you can't do that unless you have a decent antenna. The problem is, most of us have budgets with rather practical limits. For a variety of reasons, most of us can't erect tall towers and populate them with a bunch of high-gain antennas.

When you get right down to it, many of us are stuck with one wire antenna, and we have to make that piece of wire work on more than one HF band. (Yes, I'm limiting this discussion to HF antennas, as most of us simply buy VHF/UHF antennas because they're inexpensive, compact, and readily available.)

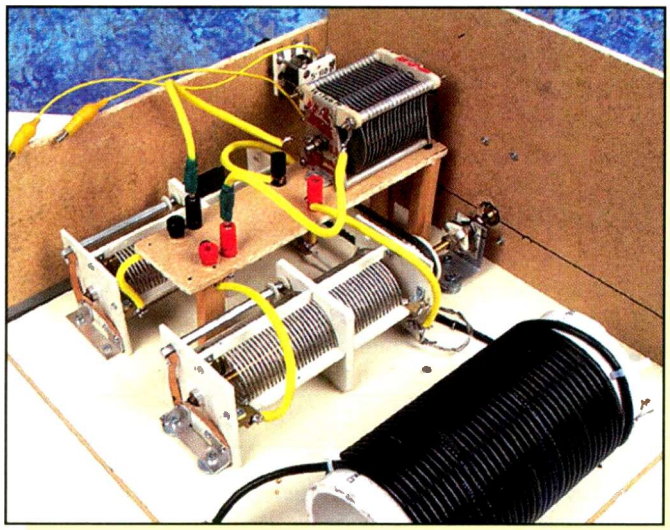
So, if you're one of the many who is limited to just one wire antenna, which one deserves your undivided attention? A dipole? An end-fed wire. A quad loop? A vertical? An inverted vee?

Each of these venerable designs is worthy of mention and can be made to perform well (especially on one or two bands), but when it comes to making a single antenna perform well over a wide frequency range, the horizontal loop is the undisputed heavyweight champion of the world.

"When you get right down to it, many of us are stuck with one wire antenna, and we have to make that piece of wire work on more than one HF band."

Huh? A horizontal loop — a quad loop laying on its side? Yep! The horizontal loop is one of ham radio's best-kept secrets. And if some Old Timer tries to convince you that a horizontal loop is a simple "cloud burner" that radiates straight up, give him a wink and run (don't walk) in the other direction.

Horizontal loops are fabulous stateside antennas and beautiful DX performers. They tune up easily on all bands at or above the fundamental frequency, and can be made to work well on frequencies below the design band in most cases. They're quiet, and they "hear" well compared to dipole-type antennas (which, by the way, are more difficult to tune on frequencies above the



Here's an experimental balanced antenna tuner I built to feed my horizontal loop (see "A Balanced, Everyday Approach to All-Band Bliss," April 2002 QST, for complete details on horizontal loops and how to feed them.) This tuner has the balun on the input side of the tuner (coil at right) and a pair of roller inductors, all designed to properly feed open-wire line. The tuner worked well and, as a bonus, eliminated my annoying RFI problems !

design frequency). They also kick the pants off of dipole-type antennas when mounted close to the ground (a real no-no for most antennas).

If you're following along, a horizontal loop is simply a full-wavelength loop that's "lying on its side," supported at various points some 15 to 60 feet above the ground. Mathematically, loops are circular, but erecting a horizontal loop that's perfectly circular is needlessly tedious. Four strategically-placed supports gives us a "square loop" (an ideal shape), while three supports provides a "triangle loop" (pretty much the limit in what you can get away with). A slightly rectangular shape is OK, but an elongated rectangular shape starts to lose its loop-like qualities.

The formula for designing a loop has been published in antenna books for years. It's 1005 divided by the frequency (in megahertz). That's 1005 / f. Here's a quick look at a few common loop sizes: 80 m, 287 feet; 40 m, 144 feet; 30 m, 100 feet; 20 m, 72 feet.

I've included these sample lengths to give you a size reference. In practical terms, when it comes to building horizontal loops, all you have to do is put up as much wire as possible and let your antenna tuner handle the impedance tweaking. When I put up my present loop I had more than enough real estate for 40 meters, but not enough for 80. So I split the difference. My loop is resonant at 5 MHz. Consequently, it works outrageously well on 40 meters and up, and very nice on 80 and 160. Not bad for a single wire. It's definitely not a compromise!

So, to make a killer multiband antenna with a single wire, put up a horizontal loop sized to match your available space, feed it with 50-ohm coax through a standard antenna tuner and operate with glee on all bands at or above the loop's resonant frequency. And feel free to feed the loop anywhere along its circumference corner or side. Read this paragraph carefully, because it's the Holy Grail of simple, awesome antennas!

You can operate the loop on frequencies below the design frequency, but because of coax losses (SWR-related), performance usually decreases the lower you go in frequency (in relation to the resonant frequency of the loop). If you're looking to enhance the operating flexibility of your horizontal loop and improve its performance on all frequencies, especially those below the design frequency, replace your conventional shack-mounted antenna tuner with an SGC autotuner mounted at the loop's feed point. This will give you lightning-fast band changes and low SWR on the coax that runs from the autotuner to your radio. These handy devices used to be rather pricey, but they're now coming into the "affordability zone." If you have the chance to pick one up, you won't regret it!

If you can't get your mitts on an autotuner, try replacing your coax with 450-ohm open-wire line fed through a conventional tuner with a tuner-output balun (okay), a balanced tuner such as an old Johnson Matchbox (great, but hard to find), or a balanced L-network tuner shown in the photo (great, but you have to build it). Switching to an open-wire feeder will essentially negate the effects of high SWR values on the feed line and help you to put out a great signal on bands below the antenna's design frequency.

However you slice it, however you feed it, a horizontal loop antenna is your best bet for an all-wire multiband HF antenna. In that light, then go out and get looped!

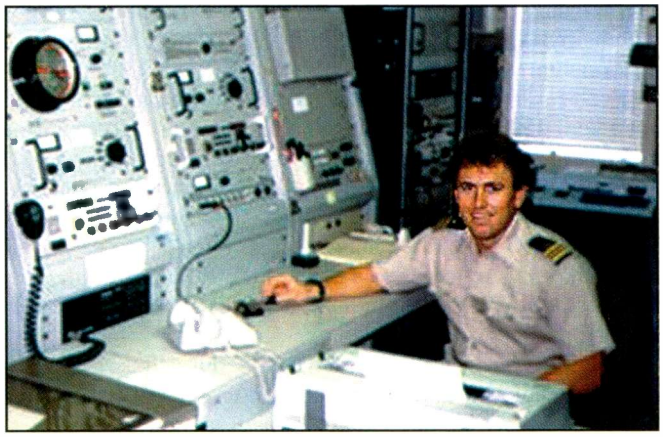
Thanks for your letters. Be sure to keep in touch. Send your photos, letters and column suggestions to "Ham Discoveries", c/o *Pop'Comm*, 25 Newbridge Road, Hicksville, NY 11801.■

utility radio review

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

news, information, and events in the utility radio service between 30 khz and 30 mhz

The Walter J. Kane III Guest Column



Radioman Walter J. Kane III manning the CW key on board U.S. Coast Guard Cutter Ingham. *The picture was taken during the mid-1970s.*

If you may remember back in the May issue I profiled the life and career of radioman Walter J. Kane III. Walter is currently vice president of sales for Globe Wireless, working out of the company's offices in Louisiana. Globe Wireless specializes in providing wireless computer connections between ships around the world and their home office. This service also includes personal E-mail that can be sent directly to an individual on board a ship that subscribes to that service practically anywhere in the world.

The reader response to Walter's story was very positive, with many people expressing admiration for his hard work and achievements in the field of radio communications. Since I've always had an interest in the people who make up the radio world work, and how they do it, I though I'd ask Walter to provide us with a personal story about his life as a radio operator. He was very happy to oblige, so this will be the first of what I hope will be a series of installments about his very interesting career.

Frankly, if anyone else out there has a story to tell of their life in the utility radio business, I'd like to hear from you. Don't worry about having to write something that is perfect — let me be the editor and put some polish on it. I know a number of you out there have had military experience, some dating back to WWII. Others have had careers with the Coast Guard or private sector, like Walter. Whatever the situation, put some words down on paper (or E-mail) and send them off to me. I'd be happy to share what you have to say with the readers.

And if you don't have a story, how about some photographs? Have you worked at a utility radio job some time in the past and have some interesting situations that you have been that a few pictures of have been taken of? We have had some interesting pictures in the past and I would really like to post some more.

This month's collection of logs is really good, with some interesting reports that are both local and global. As promised, I've included a list of abbreviations with definitions. I would like to encourage many of you who may not be familiar with them to use them to get more out of what is being reported. Next month I'm going to be providing some background on the terms used with digital modes such as RTTY, Pactor, and ARQ so that when you encounter "SITOR/B//100/E/170" you can make sense of it.

Those of you out there who think all of this is old hat should help out by sending in some small articles on these topics in order to share the wealth of your experience. Remember, my main role in editing this column is to get your information, be it logs or articles, out to the readers. A lot of you have a great deal to share concerning how to monitor ute stations and interpret what you hear once you find it. Please help out some of the new people who are still learning the ropes by giving them a hand.

Enough of the house keeping chores, and on to the important stuff: Walter's excellent adventure, reader's letters, and this month's logs.

The Assignment — by Walter J. Kane III

On final approach to Portland, Oregon's airport, I was able to view the Columbia River through the aircraft's passenger window. My interest was more than casual. I was on my way to a vessel, which would transit that river on her way to the Pacific Ocean, bound for a transoceanic voyage.

SS Ocean Wizard was berthed at Cascade General Shipyard. As I crossed the gangway and boarded her, I sensed urgency. Workers appeared to be everywhere, above and below decks. They were inside the cargo tanks and engine room spaces. They were cutting, grinding, and welding. Despite the appearance of chaotic frenzy, it was actually a well-orchestrated event. These craftsmen were tasked with restoring the vessel's cargo handling capability; and, her seaworthiness. Their mission was to prepare the vessel for her forthcoming sea trials, inspections, and voyage.

Ocean Wizard was a very large crude carrier (VLCC). She had been retired by the United States Maritime Administration several years earlier. She'd been resting easy alongside the pier where the only activity was the slow, persistent accumulation of rust. Despite her age and diminished condition, she had potential. She also had capacity — lots of it. Her cargo tanks could hold more than two million barrels of crude oil. Her new owners were anxious to complete the mandatory repair, inspection, and certification activities. They couldn't rest easy until *Ocean Wizard* was underway, headed for the Persian Gulf. The government of Kuwait had promised a full cargo. They were waiting for the vessel's arrival at Sea Island, an offshore facility five miles from Kuwait City's coastline. Sea Island's only purpose was the loading of supertankers.

I introduced myself to the Captain and informed him that I was his Radio Officer. We quickly completed the formalities and he handed me keys for my stateroom and the radio room. I found the radio station in good condition. Local radio techni-

cians had been contracted to test all equipment and correct any defects. The FCC inspector had recently completed his radio station inspection survey. He signed off on all relevant compliance documents. Nevertheless, I personally inspected all external antennae, energized and tested the radio receivers, transmitters, and automatic alarm devices. I verified that all documents, publications, and relevant clerical items were in stock. The vessel's radio station was squared away.

Several weeks later, the *Ocean Wizard* was declared seaworthy. Her officers and crew were busy with preparations for departure. The Captain had reviewed and approved the Navigation Officer's charts and sailing plan. The intention was to proceed directly to Singapore for bunkers (fuel) and fresh food supplies. We would then resume the passage to Sea Island.

After two days at sea, I was settling into my routine. I was on duty during the hours of 0800–1100, 1300–1600 and 1800–2000. During the radio watch, I monitored distress frequencies 500 KHz and 2182 KHz. I also maintained the radio log. I was also kept very busy with an extraordinary amount of message traffic, which was transmitted via Inmarsat satellite telex. I also exercised the shortwave radio systems, transmitting AMVER and weather observations to coastal radio stations via Morse code.

I was on duty, maintaining a radio watch when, suddenly, the lights went out. In fact, we lost all electrical power. I found myself sitting in the dark. The vibrations, which are typical on any ship, slowly dissipated. When the vessel's emergency lighting system did not activate, I knew we were experiencing a major catastrophe. *Ocean Wizard* was dead in the water. We were now drifting, out of control, more than 800 miles from civilization.

As you might imagine, there was immediate and frantic activity by the engineers. The vessel's large steam engine had shut down. Indeed, without electrical power, all shipboard systems stopped working. The vessel's emergency generator was designed to start automatically in the event of a primary power failure. The large, diesel engine could supply power to designated circuits, providing lighting and voltage to critical systems throughout the vessel. It would later be determined that the emergency generator had been inadvertently set for manual starting instead of automatic operation.

In any event, several engineers raced to the emergency generator room to manually start the generator. They got the diesel engine started. But, almost immediately thereafter, the engine's turbocharger failed in a rather spectacular fashion. I was told it literally exploded, separating completely from the engine. The emergency generator was severally damaged. This was a significant challenge for the engineers who were desperate to restore power to the vessel. Without emergency power to energize certain engine room circuits and systems, they would not be able to get the large steam engine started.

Meanwhile, on the bridge, the Captain and navigation officers were experiencing their own anxiety. They could only stand by helplessly and wait for reports from the Chief Engineer. The vessel was no longer under command. The only working devices in their possession were flashlights and hand held, battery-powered, VHF radio transceivers. They made repeated calls on VHF channels 16 and 13, trying to contact any ship that might be in range. Unfortunately, prior to the power failure, RADAR had not detected any ships within range of *Ocean Wizard.*

We were all alone on the high seas. We were in distress.

As you might expect, the Captain and chief engineer consulted with each other many times during that fateful day. Despite heroic efforts, the engineers were not able to repair the emergency generator. Eventually, the consensus was unanimous — we needed to make the call for assistance.

The Captain came to the radio room to determine what signaling capability, if any, I was able to exploit. I had two radio systems available to me; the battery-powered reserve receiver and transmitter, and the lifeboat radio transceiver. The Captain handed me our latitude and longitude and a telephone number for the vessel's owners. He instructed me to contact "somebody" and get a message forwarded to the owners. I was to inform them of our tragic situation and request immediate assistance.

For the moment, it appeared that the fate of *Ocean Wizard* and her crew were in my hands. If I could not establish communications with another radio station to arrange assistance; and, the engineers couldn't restore power, it was conceivable that we could drift aimlessly across the Pacific Ocean for a long time.

Of course, I was confident in my ability to communicate. New batteries for the radio room emergency equipment had been installed during the shipyard period. They were in excellent condition and fully charged. I had tested and insured that the reserve equipment functioned properly prior to our departure. It was the first time in my career that I actually had to rely on this reserve equipment to communicate. However, it was designed to be of service under these very conditions.

I energized the battery-powered radio receiver and reserve transmitter, tuning them to the international distress frequency of 500 KHz. Using the hand key; I commenced broadcasting an urgent message in Morse code:

"XXX XXX XXX CQ DE WMBZ WMBZ BT NEED ASSISTANCE AR K"

Moments later, the ARCO Fairbanks, a product tanker traveling between Valdez, Alaska, and Long Beach, California, responded to my transmission. In an exchange of Morse code signals, the Fairbanks' radio officer acknowledged our message and relayed it via Inmarsat satellite telephone to our owners. He would subsequently act as a relay station, allowing us to exchange information.

We were informed that an ocean going tug boat would be dispatched from Seattle to find us. It was their stated intention to rig a towline and tow us back to the shipyard for repairs. The tugs speed was eight knots. We calculated that it would be several days before the tug could travel more than 800 miles and then locate us.

I went on to broadcast an urgent notice to mariners on 500 KHz, informing all ships in the area that *Ocean Wizard* was not under command. We had no ability to navigate. We certainly could not comply with the maritime "rules of the road."

The radio operators U.S. Coast Guard communication station San Francisco (radio callsign NMC) had intercepted my signals. Our message was forwarded to the Coast Guard rescue coordination center at Alameda, California.

The drama was unfolding and becoming quite public. The Coast Guard wanted to know if we intended to declare a distress situation. *Ocean Wizard's* Captain understood maritime law. If we declared distress, any salvage tug that raced to our assistance and got a line attached could make certain, lucrative claims against the vessel's owner.

Since we were not in immediate danger of sinking or abandoning ship, we "calmly" informed the Coast Guard that we were not in distress and that a tow had

been requested and arranged. We would simply wait until the tugboat arrived on scene. Of course, this would mean several more days without lights, running water, cooked food, or properly functioning toilet facilities. We had no options.

Fortunately, two days later, while we were waiting for the tug's arrival, the *Ocean Wizard* engineers' continuing quest to restore power was rewarded. Through sheer determination and exhaustive effort, they eventually achieved success. They restored electrical power and brought the steam engine back on line, in a somewhat limited condition. They could only deliver three knots of propulsion. But, it was enough. We were underway again!

Many days later we arrived back in Portland. The *Ocean Wizard* would undergo another series of repairs necessary to prepare her for the voyage to Kuwait. I remained onboard during the shipyard period and we eventually got underway again. The vessel made it to Singapore and then Kuwait. We loaded our cargo of crude oil and planned for a voyage to the discharge port in Come-By-Chance, Newfoundland. The passage would take us south across the Indian Ocean, around South Africa and across the South and North Atlantic oceans.

Reader's Letters

If you remember a couple of months back in the April issue one of our readers from Russia was asking for some information on coastal stations. Here is a reply from one of our readers.

Say Joe:

My ute listings are kind of dated, but I found the following that may be of some help to Sergey in the CIS. Wonder what kind of Mom-and-Pop store sells *Pop'Comm* in Eastern Europe? Anyway . . .

Freq	C/S	Site	Operation	Install Date	
4750	RSX8	IAKUTSK	129E46/62N02	FIXED AERO	1937
5040	RID21	IRKUTSK	(15K WATTS)	FIXED COASTAL	1941
5040	RIS75	TBLISI	(15K WATTS)	FIXED COASTAL	1933
5040	RXM2	DUDINKA	86E10/69N20	FIXED COASTAL	1962
5040	REOF	KAZAN	49E08/55N47	FIXED COASTAL	1962
5040	RFXL	KIROV	49E22/58N36	FIXED COASTAL	1932
5040	UZF	SEMIPALATINSK			
			80E15/50N25		1936
5040	RHJ3	TOMBEI	71E40/71N30	FIXED COASTAL	1931

All low-powered, except for the obvious net controls, and all operate both Morse and SSB. Hope it helps. You can give him my E-mail address if he wants more.

Steve Gaylo

Thanks, Steve for providing that information. In answer to your question about how he can get **Pop'Comm** so far from the U.S.A., you would be surprised how far away the magazine gets. We have readers all over the world, on practically every continent — and I would not exclude Antarctica either.

I know for certain that we have readers in South America, the Caribbean, Africa, Middle East, certainly England and continental Europe, not to mention Australia, New Zealand, and Japan. It's a small world today, and now that the old "Iron Curtain" is long gone, we are slowly getting known in Russia.

Having said that, its time to move on to this month's reader's logs.

Reader's Logs

As I was mentioning earlier, I am going to be including more tools for interpreting the contents of the logs for those of you who may be new to the ute monitoring hobby. With the sunspot cycle being as it is, this has been an excellent time for logging distant and low-power stations. With the fall and winter monitoring season coming soon if would be good to get prepared for some great catches.

If you go to the sidebar provided, you will see a glossary of abbreviations with definitions. This is only a small list, and I will be updating this as the months go by. If there are any abbreviations that you see here that you do not understand, send me a letter or E-mail and I will get a definition posted up here.

During the upcoming months I am going to be digging deeper into these logs and providing further details on interpreting Q codes, understanding how to report digital modes like RTTY, as well as other modes. In the meantime this month's logs are a good sample of the civilian, government, and military ute activity that has been taking place recently.

Please note that all frequencies are in Kilohertz.

00000: STATION, Anytown, USA, summary of traffic heard in MODE at 0000 (Z), personal comments here. (JC)
306: 441, LIZARD POINT LTDGPS/MSK//100BPS Stn ref 681. Post freq realignment. Msg 9 corrections. Little copy. (DW)
490: G, MONSANTO SITOR/B//100/E/170 Navs/Gale warnings in Portuguese. Long slow fading. (DW)
490: G, MONSANTO SITOR/B//100/E/170 Navs in Portuguese — weak copy, fading. (DW)
518: ZSC, Capetown R 1230 FEC Navtex & Navarea V11 Wngs from Hydrosan. (RH2)
1039: CYP, UK MIL EPISKOPI MIL.STD 188-141A ALE on USB. Sounding. (DW)
2759: FUE, FN BREST RTTY//75/N/850 Marker "FAAA de FUE ry's sg's figs int zbz kkkk." (DW)
3861: UNID, French Mil 20.40 ARQ-E 72/400 Idling with betas. (PT)
4043: UNID, Location unknown 20.15 ITA2 50/400 Sends "FGTRD" pauses then sends same again on new line. This repeated for about 20 mins then shuts down. (PT)
4271: CFH, CF Halifax 0050 RTTY 75/850 WX forecasts. (RH2)
4295: FUE, FN Paris 0056 RTTY 75/850 RY/ID/QWERTY string. (RH2)
4333.7: RFVIE, FN Le Port 0100 RTTY 75/850 RY/SG Testing de FUX. (RH2)
4555: UNID, UNID 0111 Mode? 50/850 V strong sigs! S9! (RH2)
5019: HSP, UK MIL/DIPLO HANSLOPE PARK MIL.STD 188-141A ALE on USB. Sounding. (DW)
5112: UNID, Loc unknown 19.30 RS-ARQ 228/170 5-bit KG84c encrypted tfc. (PT)
5120: OWE, DANISH QF KAARUP MIL.STD 188-141A ALE on USB. Clng OWK/Vedbaek. (DW)
5219.3: CFH, CF Metoc Centre Halifax 0116 RTTY 75/850 WX data. (RH2)
5696: CAMSLANT, 0127 USB wkg 1712: HC-130H7, 2120: HU-25A, 2114: HU-25A and 6023: HH-60J. (MADX)
5696: COUGAR 1, 0137 USB clg 1712: HC-130H7. (MADX)
5776.2: UNID, French Mil? 00.20 ARQ-E 192/140 Idling with Betas. (PT)
6317: WLO, MOBILE RADIO CW Chan free marker "WLO." (DW)
6323.5: NMC, USCG PT REYES CW Chan free marker "NMC." (DW)

6327: WNU, GLOBE WIRELESS NODE SLIDELL CW Chan free marker (Globe) "WNU." (DW)
6328.5: —-, UNID FAX//120/576/R/1000 (LSB of 6330.4). QRM. Pronounced slew. Little picture. Offair 1934. (DW)
6493.5: HEC, GLOBE WIRELESS NODE BERN CW Chan free marker (Globe) "HEC". Wkng ship in Globedata. qsx 6289.5 kHz. (DW)
6496: HZN47, Jeddah Meteo 0141 RTTY 100/850 AAXX WX codes. (RH2)
6851.7: No-Call, Cairo, Egypt (??) 18.20 ARQ "URGENT" mixed number and letter group tfc from "71" to "PARIS." AA op chat and xxxx.7 frequency but format not like usual Egyptian. (PT)
6915: BU3C3, ROMANIAN MIL/MOI BUCHAREST MIL.STD 188-141A ALE on USB. Clng CNPc3/Cluj Nopoca then short msg in Mil.std 188-110a. 2232, 2236 clng VASC3/Vaslui. (DW)
6915: CNPC3, ROMANIAN MIL/MOI. CLUJ NOPOC MIL.STD 188-141A ALE on USB. Responds to BU3C3. 2241 Calls BU3C3/Bucharest. (DW)
6931.5: UNID, Loc unknown 19.22 RS-ARQ 228/170 5-bit KG84c encrypted tfc, shuts down 19.24. ALE heard under the signal, don't know if it's connected. (PT)
6933.5: —-, UNID ARQ/RS//240/E/- Tfc in online encrypt, bit mode not determined. Offair btwn msgs. Small periodic sessions then offair circa 2010.. (DW)
06961: COUGAR 1, 0036 USB/ANDVT wkg 1712/HERK12: USCG HC-130H7 #1712 "in the red." "Have you been receiving my op notes? All of the students have left for the day" HERK12 then instructs COUGAR to go "green" to try and pass some data. COUGAR ref'd switching his ANDVT back to 9600bd from 2400bd. At 0151, QSY to 8980. (MADX)
7397: HSW64, BANGKOK MET FAX//120/576/N/800 Sfc analysis. Vague outlines in noise floor. (DW)
7595.8: IEA20, Rome, Italy (?) 18.55 ITA2 50/400 Bitmask = 1 Sends "TXTXTXTX TESTO LIBERO PER MANTENIMENTO FREQUENZA PULITA RXRXRXRXRX RX" for a couple of hours then shuts down. (PT)
7644.2: RFQP, Djibouti 20.27 ARQ-E3 100/400 CdeV every 30 minutes being relayed on RUN, Reunion - Djibouti cct. (PT)
7647: UNID, Loc unknown 19.14 RS-ARQ 228/170 5-bit KG84c encrypted tfc, shuts down 19.16. (PT)
7983.7: UNID, French Mil? 19.25 ARQ-E3 48/400 Idling with Betas for a while then shuts down. (PT)
8030: BACB6, Bacau, Romania 20.00 Ale/USB MOI calling ZALB6, Zalau. Also STA3 calling STA7 and vice versa. (PT)
8074.7: RB44, loc unknown 18.10 ARQ Cryptic msg to AZ85. Op chat is in FF. (PT)
8074.7: UNID, Location unknown 20.25 ARQ Just caught end of QSO in FF. (PT)
8074.7: RFQP, Djibouti 18.15 ARQ-E3 100/400 CdeV to self on DJI cct to Reunion, also relaying tfc from RFFTA - AIR COUTIENRAVTECH VILLACOUBLAY to RFVIPP. (PT)
8075: UNID, Germany? 18.50 RS-ARQ 228/170 Encrypted tfc. Nothing clear in 5,7 or 8 bit mode. Informed source says it could be BND or BKA. (PT)
8330.3: RFHI, Noumea 19.23 ARQ-E3 100/400 CdeV to self being relayed on VII, Reunion - Noumea, cct. (PT)
13855: OXT, Copenhagen, Denmark 18.20 FAX 120/576 End of "Cape Farewell Chart". (PT)
8424: SVO, OLYMPIA RADIO SITOR/B// 100/E/170 WX forecast. (DW)
8425.5: NMC, USCG PT REYES CW Chan free marker "NMC". (DW)
8429.5: IDR4, IN ROME RTTY//75/N/850 CARB "IGJ44m02/IGJ42 /IGJ43 /IDR2 /IDR3 /IDR4 /IDR5" + occ opchat to s/whip eg "im de igj44 amico il tuo msg lo ricevo caotico da pag two in poi imi k". (DW)
8429.5: NMO, USCG HONOLULU CW Chan free marker "NMO." (DW)
8433: 8PO, GLOBE WIRELESS NODE BARBADOS CW Chan free marker (Globe) "8PO". Wkng ship in Globedata. (DW)
8434.5: XSQ, GUANGZHOU RADIO CW Channel free marker "XSQ." (DW)
8435: XSQ, GUANGZHOU RADIO CW Chan free marker "XSQ." (DW)
8475.5 FAX, FN LE PORT RTTY//75/N/850 Marker "oo FAAA de RFVIE znr uuuu zui testing de FUX ry's sg's nnnn." (DW)
8604: ZSD/ZSJ, SA Navrad 0655 MFSK 54.5. (RH2)
8630.5: 8PO, GLOBE WIRELESS NODE BARBADOS CW Chan free marker (Globe) "8PO." (DW)
8682.3: NMC, USCG San Francisco 1505 FAX 120/576 Fair chart. (RH2)
8971: BLUESTAR, TSCC Puerto Rico, Roosevelt Roads NAS 0008 USB; wkg FIGHTING TIGER 08 (P-3C, Brunswick NAS VP-8) 08 rqsts switch to green; BLUESTAR rcvs no modulation. (ALS)
8971: BLUESTAR, TSCC Puerto Rico, Roosevelt Roads NAS 0014 USB; wkg SPANGLE 07 (P-3C); 07 rqsts BLUESTAR ctct ship and have a Tiger (E-2C acft) come out to relay comms since 07 is out of range. (ALS)
8971: BLUESTAR, TSCC Puerto Rico, Roosevelt Roads NAS 0017 USB; wkg FIGHTING TIGER 08 (P-3C, Brunswick NAS VP-8) 08 rqsts kick to green; BLUESTAR rcvs no modulation. (ALS)
8971: BLUESTAR, TSCC Puerto Rico, Roosevelt Roads NAS 0020 USB; wkg SPANGLE 07 (P-3C); 07 reports unable to have comms with GP on circuit. Repeats rqst for BLUESTAR to ctct ship and rqst Tiger for relay. lairifies that rqst is for a Tiger (E-2 acft) not for a FIGHTING TIGER (P-3). BLUESTAR say coord will take 15 minutes. (ALS)
8971: V5K 0808 USB wkg 4VG; passes msg "Spare Group 4-5." (ALS)
8971: BLUESTAR, TSCC Puerto Rico, Roosevelt Roads NAS) 1311 USB; tells 502 that SHADOW 03 is up on 41 Net. 502 rqsts BLUESTAR tell SHADOW 03 to come up on 8971. (ALS)
8971: FIDDLE, TSCC-Jacksonville 1419 USB wkg CARDFILE 711 (P-3C). 711 rqsts Foxtrot Channel; FIDDLE responds "Negative." 711 rqsts Foxtrot Channel for Foxtrot-Zero-India. FIDDLE passes "60X." 711 asks "Any luck troubleshooting your Uniform?" FIDDLE response is unintelligible, but 711 says "Will be up on Uniform in 15-20 minutes. (ALS)
8980: COUGAR 1, 0153 USB wkg 1712: HC-130H7. (MADX)
8983: CG 6027 in QSO with CAMSLANT Chesapeake, reporting flight ops normal. USB at 2340. (CG).
8983: CG 2114 in QSO with CAMSLANT Chesapeake.Reported he would land in five mins and other info. USB at 2340. (CG).
8983: CG 2105 in QSO with CAMSLANT Chesapeake.Reported that he was airborne from Logan headed to Cape Cod. USB at 2343. (CG).
9025: HAW, USAF ASCENSION MIL.STD 188-141A ALE on USB. Sounding. (DW)
9025: CRO, USAF CROUGHTON MIL.STD 188-141A ALE on USB. Sounding. (DW)
9025: CRO, USAF CROUGHTON MIL.STD 188-141A ALE on USB. Sounding, also at 2205. (DW)
9025: PLA, USAF LAJES MIL.STD 188-141A ALE on USB. Sounding. (DW)
9025: PLA, USAF LAJES MIL.STD 188-141A ALE on USB. Sounding. (DW)
9025: JNR, USAF ROOSEVELT ROADS MIL.STD 188-141A ALE on USB. Sounding. (DW)
9050: PAR, ROCKWELL COLLINS PARIS MIL.STD 188-141A ALE on USB. Sounding. Also 1748. (DW)
9070: 055, E ASIA NET ? MIL.STD 188-141A ALE on USB. Sounding. (DW)
9076.7: PARIS, Paris, France 19.35 ARQ-E3 192/400 Svc msg to RFTJD, Libreville, on IAH cct. (PT)
9087.2: OEOE0333, Germany?? 20.02 Pactor Tfc in GG to UNID station. (PT)
9090: BRLCL, ROMANIAN MIL/MOI BRAILIA MIL.STD 188-141A ALE on USB. Clng BU1C1/Bucharest. (DW)
9090: RESCL, ROMANIAN MIL/MOI RESITA MIL.STD 188-141A ALE on USB. Clng BU1C1/Bucharest..(DW)
9110: NMG, USCG BOSTON FAX//120/576/N/800. M/path smearing. (DW)
9117: —-, FBI OR BRASILIAN NVY ? MIL.STD 188-141A ALE on USB, Clng CE1. (DW)
9117: PBL, FBI OR BRASILIAN NVY ? MIL.STD 188-141A ALE on USB. Clng CE1 or BR1 - decode appears confused. (DW)
9121: A25, LATVIAN MIL MIL.STD 188-141A ALE on USB. Clng PAMATS. (DW)
9126.7: RFTJD, Libreville, Gabon 19.37 ARQ-E3 192/400 CdeV on very poor HAI cct to Paris. (PT)

9157: HEC, GLOBE WIRELESS NODE BERN CW Chan free marker (Globe) "HEC". Wkng ship in Globedata. qsx 9064. (DW)
9212: —-, R+S MUNICH MIL.STD 188-141A ALE on USB. Clng SPACEMAN/ UNID. Also at 1719 1746. (DW)
9212: RSMUCH, R+S MUNICH MIL.STD 188-141A ALE on USB. Sounding. Also at 2145. (DW)
9212: NOMADE2, R+S NET MIL.STD 188-141A ALE on USB. Clng QUADRANTS/ UNID. (DW)
9212: EAGLE, R+S NET MIL.STD 188-141A ALE on USB. Sounding. (DW)
9212: EAGLE, R+S NET MIL.STD 188-141A ALE on USB. Sounding. (DW)
9964.7: FDI22, FAF NARBONNE RTTY// 50/N/400 Marker "aei~test de FDI22 voyez le brick figs RY's." (DW)
9996: RWM TS, MOSCOW CW Time signal. (DW)
10181.7: No-Call, Cairo, Egypt 18.02 ARQ MFA with 5-lg tfc to Algiers embassy (KDQIKEF). (PT)
10260: RF, GLOBE WIRELESS Paris, France 10.30 FEC-A 192/400 MFA with 5-lg tfc to H6L, Algiers emb on RGA cct. (PT)
10285: SP130P, ALG O +G ?LOC MIL.STD 188-141A ALE on LSB. Sounding. (DW)
10360: 0004444, TURKISH NET MIL.STD 188-141A ALE on USB. 0000004444. Sounding. (DW)
10392: HSP, UK MIL HANSLOPE PARK MIL.STD 188-141A ALE on USB. Sounding. Also 2123. (DW)
10392: KUW, UK MIL KUWAIT MIL.STD 188-141A ALE on USB. Sounding. Also 2055. (DW)
10392: PRI, UK MIL PRISTINA MIL.STD 188-141A ALE on USB. Sounding. (DW)
10535: UNID, CIS Navrad 1542 36-50 50/240. (RH2)
10536: CFH, CH Halifax 0215 FAX 120/576 Poor copy! (RH2)
10536: UNID, CIS Rail? 1548 81-81 81/170. (RH2)
10658: 2020, TURKISH RED CRESCENT ?LOC MIL.STD 188-141A ALE on USB. Sounding. (DW)
10778: UNID, Loc unknown 18.52 RS-ARQ 228/170 Idling with betas then shuts down. (PT)
10780: Cape Radio, 1812 USB called by "Radio Maintenance on Acft 024," no joy. (ALS)
10780: Cape Radio, 1920 USB called by RAZOR 22 (E-8C JSTARS, Robins AFB 93ACW); no joy. (ALS)
10780: Fisher (Cape Radio Mission c/s) 2025 USB called by Hotel-Zero-Bravo; then calls "Any station," no joy. (ALS)
10780: Ascension Radio 2337 USB wkg REACH JHL3 (DC-8 Air Transport Intl, Little Rock AR, USAF Contractor) for relay of arrival message to Ascension Base Ops. (ALS)
10948: —-, UNID ARQ/RS//228/E/170 [5[bit mode. On line encryption. No formal s/off. (DW)
10948: UNID, Germany? 09.45 RS-ARQ 228/170 Encrypted tfc. Nothing clear in five,seven or eight bit mode. Informed source says it could be BND or BKA. (PT)
11000: RIW, CISN KHIVA CW Wlng RMZW "qyt4 qsx 8306/6243 ok." (DW)
11036: UNID, Location unknown 13.20 ITA2 50/400 Sends continuous RYRYs then switches to fast modem. (PT)
11039: DDH9, HAMBURG MET RTTY//50/ N/440 Met tfc in GG. (DW)
11039: DDH9, HAMBURG MET RTTY//50/ N/440 Marker "CQ de DDH47 DDH9 DDH8 frequencies 147.3 kHz 11039 kHz 14467.3 kHz." 2130 WX in GG. (DW)
11080: YKP28, SANA DAMASCUS ARABIC//50/R/850 Press in AA(ATU70). (DW)
11086.5: GYA, RN NORTHWOOD FAX// 120/576/N/800 24hr sfc prog. (DW)
11086.5: GYA, RN NORTHWOOD FAX// 120/576/N/800 End of chart, weak/grainy. 2148 sig winds fcst chart, m/path. (DW)
11125: HZN, JEDDAH MET RTTY//100/ R/850 Met tfc. (DW)
11125.1: HZN, JEDDAH MET RTTY//100/ R/850 Met tfc. (DW)
11145: LFI, GLOBE WIRELESS NODE ROGALAND CW Chan free marker (Globe) "LFI." Wkng ships in Globe data. (DW)
11145: LFI, GLOBE WIRELESS NODE ROGALAND CW Chan free marker (Globe) "LFI". (DW)
11145: C03, UNID MIL.STD 188-141A ALE on USB. Clng C05. (DW)
11175: LY336 calling Mainsail for p/p, ans by Offutt and Andrews. Made p/p via Andrews to Minuteman Maintenance. LY336 reported that he was "40 minutes out," and requested and received an "informal" WX report. Was told he would be put on "VIP spot." USB from 1504-1508. (CG)
11175: Four different coded messages from Andrews directed to "all stations." Three were 28-characters each, one was 133 characters. USB from 1544-1627. (CG).
11175: Offutt with transmission: "Skyking, Skyking do not answer" followed by a three-character code, two-digit "time" and two-letter "authorization code." USB at 1555. (CG).
11175: REACH 555Y calling Mainsail for radio check, ans by Andrews in USB at 1557. (CG).
11175: REACH 1191 calling Mainsail for radio check, no joy. USB at 1607. (CG).
11175: UNID EAM from an unknown source simply said "SKYKING SKYKING DO NOT ANSWER" with the following EAM KTY938 and the authentication code of ZIJ received at 2:38 UTC on 11175 same message repeated by an unknown British voice about 10 minutes. (TOM)
11181: CRONPR, USAF CROUGHTON MIL.STD 188-141A ALE on USB. Sounding. (DW)
11184: 003, ARINC REYKJAVICK HFDL// Squitters on USB. 1415 log-on cfm svc to ICAO 20000610 as Air ID 76 (DW)
11226: GUA, USAF ANDERSEN MIL.STD 188-141A ALE on USB. Sounding. (DW)
11226: HAW, USAF ASCENSION MIL. STD 188-141A ALE on USB. Sounding. (DW)
11226: 190021, USAF C5-690021 MIL.STD 188-141A ALE on USB. Sounding. (DW)
11226: CRO, USAF CROUGHTON MIL. STD 188-141A ALE on USB. Sounding. (DW)
11226: JDG, USAF DIEGO GARCIA MIL.STD 188-141A ALE on USB. Sounding. (DW)
11226: PLA, USAF LAJES MIL.STD 188-141A ALE on USB. Sounding. Also 1624 1717 1811. (DW)
11226: 250102, USAF UNID MIL.STD 188-141A ALE on USB. Sounding. (DW)
11226: 230601, USAF UNID MIL.STD 188-141A ALE on USB. Clng Croughton/CRO. (DW)
11226: 150005, USAF UNID MIL.STD 188-141A ALE on USB. (DW)
11226: JTY, USAF YOKOTA MIL.STD 188-141A ALE on USB. Sounding. (DW)
11232: Halifax Military and Trenton Military w/comms USCG 1500 (C130). pos rpts and flt ops. 1500 enroute St. Johns. Sigs g/r this location. Assume CG1500 on international ice patrol duties as 1500 one the CG C130's equipped for this mission. (DS2 WI)
11246: PRIMROSE, Danish AF 15.25 ITA2 75/850 METARS for EKVG, Vagar, and ENZV, Stavanger airport, to DAF249 (PT)
11315: 004, ARINC NEW YORK HFDL// Squitters. (DW)
11384: 007, ARINC SHANNON HFDL// Squitters on USB. (DW)
11416.7: RFFVAY, FF SARAJEVO ? ARQ/342//200/E/400 8rc. two chan tdm. Chan A: B: betas, weak sync. (DW)
11438.6: UNID, Location UNID 18.40 ASCII(???) 150/170 15 sec burst of data repeated. (PT)
11443: S97, SWEDISH EMB ABIDJAN MIL.STD 188-141A ALE on USB. Sounding. (DW)
11466: ALG, ALG 0 + G ALGIERS MIL. STD 188-141A ALE on USB. Sounding. (DW)
11466: HMD, ALG O +G HASSI MESSAOUD MIL.STD 188-141A ALE on USB. Sounding. (DW)
11489: DG, MOROCCAN MOI MIL.STD 188-141A ALE on USB. Sounding. Also 1835. (DW)
11489: DEPT, MOROCCAN MOI ?LOC MIL.STD 188-141A ALE on USB. Sounding. (DW)
11492: 6139, UNID MIL.STD 188-141A ALE on USB. Clng 6142/UNID. (DW)
11492: 0006138, UNID MIL.STD 188-141A ALE on USB. Sounding. (DW)
11523: KUW, UK MIL KUWAIT MIL.STD 188-141A ALE on USB. Sounding. (DW)
11523: CYP, UK MIL NICOSIA MIL.STD 188-141A ALE on USB. Sounding. (DW)
11550: PAR, ROCKWELL-COLLINS PARIS MIL.STD 188-141A ALE on USB. Sounding. (DW)

11572.7: UNID, French Mil 15.00 ARQ-E3 200/400 Idles into the evening and fades away. (PT)
11637: FAAZMP, FAA MINNEAPOLIS MIL.STD 188-141A ALE on USB. Sounding. (DW)
11637: FAAZDC, FAA WASHINGTON MIL.STD 188-141A ALE on USB. Sounding. (DW)
11642: ASI, UK MIL ASCENSION MIL.STD 188-141A ALE on USB. Sounding. Also 2207. (DW)
11642: HSP, UK MIL HANSLOPE PARK MIL.STD 188-141A ALE on USB. Sounding. (DW)
11642: CYP, UK MIL NICOSIA MIL.STD 188-141A ALE on USB. Sounding. Also 1724, 1850. (DW)
12090.2: RFFKAGL, FS George Leygues 19.49 ARQ-E3 192/400 Tfc in FF to RFFKAPG - FS Primauguet on AFL, Dakar - Paris, cct. (PT)
12127.5: NNN0MDE, USCG MARS Coast Station 0002 PACTOR II 200/200 clg NNN0CVM: USCGC Thetis (WMEC-910), NNN0CTB: USCGC venturous (WMEC-625), NNN0CVQ: USCGC Forward (WMEC-911) and NNN0CSA: USCGC Seneca (WMEC-906) and wkg NNN0CEQ: USCGC Harriet Lane (WMEC-903). (MADX)
12491: UCCR TH, Mikhail Lukonin 0948 ARQ tfc to Kholmsk. (ML)
12491: UCEE TH, Sakhalin-9 1016 ARQ tfc to Kholmsk, 55755 UCEE log off. (ML)
12510: UGLB TH, Vaga 0956 ARQ msg to Vladivostok. (ML)
12510: UHHB STR, Komissarovo 1128 ARQ tfc to Vladivostok. (ML)
12569: UDSC BMRT, Sovgavanskij Komsomolets 1052 RTTY 50/170 crew msgs to unkwn. (ML)
12570: UEKN TR, Subaru 1043 ARQ tfc to Vladivostok, UEK log off. (ML)
12570: UGZL SRTM, Otkrytie 0923 ARQ tfc to Vladivostok, UGZL log off. (ML)
12570: UHGT MTR, Louchezarnyi 1030 ARQ msgs to Vladivostok. (ML)
12577: VIP, PERTH RADIO DSC//100/E/170 Clng self. Safety call for 12365 lHz (not listed on air till 2300 -?). Self test? (DW)
12577: —-, SHIP UNID DSC//100/E/170 GMDSS safety test to Jeddah. No response hrd. Ship MMSI — Thailand flag but otherwise unknown. (DW)
12579.2: UFZ, Vladivostok rdo 1000 FEC w/RY C C DE UFZ, tfc sent summary & blind tfc to ships; spurious emission of 12612.5 carrying same tfc; freq varies slightly. (ML)
12581: LSD836, GLOBE WIRELESS NODE ARGENTINA CW Chan free marker (Globe) "LSD836." (DW)
12587: LZW, VARNA RADIO SITOR/B// 100/E/170 NX bulletin for ships. In Bulgarian. (DW)
12593.5: UDB2, Kholmsk rdo 1008 ARQ tfc to UCEE TH Sakhalin-9. (ML)
12607.5: UFL, VLADIVOSTOK RADIO CW Channel free marker "UFL." (DW)
12610: XSA2, Nanjing rdo CHN 1105 FEC w/CQ DE XSA2, poss tfc summary & 4FG msg. (ML)
12645.2: UFZ, Vladivostok rdo 1000 FEC w/RY C C DE UFZ, tfc sent summary & blind tfc to ships; spurious emission of 12612.5 carrying same tfc; freq varies slightly. (ML)
12648.5: XSQ, GUANGZHOU RADIO CW Chan free marker "XSQ". 0813 switches to arq but too weak to decode. (DW)
12657.1: FUG, FN LA REGINE RTTY//150/N/1000 Spur. Badly corrupt. Marker — just identifiable. (DW)
12750: NMF, USCG BOSTON FAX//120/576/N/800 N Atlantic sfc analysis, sat pix. (DW)
12832: UNID, CIS Navrad 1545 36-50 50/200. (RH2)
12947.6: ZSD/ZSJ, SA Navrad 1545 MFSK 54.5bd Series of calls — for 15 secs every one minute, lasting 15 minutes! Sounds like Crowd36! (RH2)
12947.6: ZSD/ZSJ, SA Navy 0930 MFSK 54.5bd. (RH2)
13444: RFQP, FF Jibouti 1642 Arq-E3 100/400 CdeV on DJI cid. (RH2)
13580: HMF, KCNA Pyongyang 1238 RTTY 50/400 Nx\FF & EE. (RH2)
13901.7: DGD, Algiers, Algeria 09.30 Pactor Customs service with tfc in AA to UNID station. (PT)
13927: AFA2XW, USAF MARS (Atlanta GA) 2140 (also 2145) USB wkg BUSHMASTER (Acft over Central Louisiana). (ALS)
13927: AFA2XW, USAF MARS (Atlanta GA) 2143 (also 2148) USB wkg LONGHORN 27 (Acft over Florida) M & W pp. (ALS)
13927: AFA3BB, USAF MARS (Kansas City) 2155 USB wkg LONGHORN 27 (Acft over Florida) M & W pp. (ALS)
13927: AFA1EN, USAF MARS (Shelbyville IN) 2207 (also 2145) USB wkg BUSHMASTER (Acft over Central Louisiana) M & W pp. (ALS)
13927: REACH 871Y with several p/p from crew members to signficant others via MARS stns AFA1YV and AFA2SJ. USB at 2200. (CG).
13927: REACH 6023, over Colorado, with several p/p from crew members to significant others via MARS stn AFA1LJ in USB from 2313-2328. (CG).
13927: REACH 450Y, over Paris France, attempted p/p via MARS stn AFA1LJ to unknown party (answering machine answered). USB at 2330Z. (CG).
14373.2: SANT, Italy/Spain?? 17.15 Pactor Mailbox receiving Msg from TAKO, prob Takoradi, Ghana, then calls TAKOoeoe and sends msg in SS to TAKO. (PT)
14373.4: MNRV, SANT Monrovia 1625 Pactor 200/200 Msgs/SS to SANT Missions; "there are 10 msgs for Tako" (Takoradi, Ghana). (RH2)
14400: ALG, SOLVAKIAN EMB ALGIERS ? MIL.STD 188-141A ALE on USB. Sounding. (DW)
14481.5: RFFIC, Paris, France 19.08 ARQ-E3 48/400 Tfc in FF to RFTJF relayed on TJF, Dakar — Port Bouet, cct. (PT)
14542: H6L, Algiers, Algeria 14.59 FEC-A 192/400 5-lg tfc to RFGLOBE WIRELESS using letter substitution and cct id AGR. (PT)
14550.5: MKD, Akrotiri, Cyprus 18.45 Piccolo 6 Op chat to GEP. (PT)
14560: 116, CHINESE DIPLO MIL STD 188-141A ALE on USB. Clng 123 then into Mil.Std 188-110A psk s/tone. (DW)
14560: 123, CHINESE DIPLO MIL STD 188-141A ALE on USB. Responds to 116. (DW)
14701.8: UNID, Scandinavian?? 09.53 Pactor Calls F99HOD then sends encrypted msg, beginning with ";14700.5;" (tune-in freq). Each line ends "^TEXT" , last line ends "SLUT <cr> OPP". Also called — F99HRW, could be F99HRW sending msg to F99HOD. Faint ALE heard on same freq. (PT)
14801.5: UNID, French mil 16.00 ARQ-E 72/400 Idling with betas until fades away. (PT)
14810: BRA, MFA BRATISLAVA MIL. STD 188-141A ALE on USB. Sounding, Also 0947. (DW)
14812: BRA, MFA BRATISLAVA MIL. STD 188-141A ALE on USB. Sounding. Also 0943. (DW)
14812: BRA, MFA BRATISLAVA MIL. STD 188-141A ALE on USB. Sounding, Also 0943, 1008. 1026 Clng BGD/Baghdad. 1030 Mil.std 188-110A at 2400S/1200Shrt. Lead-in "BCDEFG." Starts/ends session with brief RT coordination. (DW)
14814: PRI, UK MIL/DIPLO PRISTINA MIL.STD 188-141A ALE on USB. Sounding. (DW)
14875: UNID, Loc unknown 20.06 ITA2 200/450 23-lg, all "pppppzzzzzzzzzzqywl-tuyq", then shuts down. (PT)
14909.7: No-Call, Rabat, Morocco 18.36 ARQ Egyptian emb with tfc in AA to Cairo. (PT)
14964: RFFAB, Paris, France 09.14 ARQ-E 184.6/400 five-lg tfc to RFFXL, Naqoura, on poor XXL cct. (PT)
15031: USCG 1500 calling Trenton Military no joy. Sigs w/r this location. Then Trenton Military calling CG1500 no joy. Sigs f/r here. (DS2 WI)
15973: SNN, Warsaw, Poland 09.20 Pol-ARQ 100/240 Tfc in PP to Baghdad embassy. (PT)
16141.7: KWFK, Egy Emb. Accra 1635 Arq Msg\AA to Cairo. (RH2)
16200: UNID, CIS Navrad 1648 36-50 50/240. (RH2)
16207: UNID, CIS Navrad 1645 36-50 50/190. (RH2)
16223.7: UNID, MFA Cairo 1700 ARQ pages of AA to unk. (RH2)
16223.7: UNID, UNID Egy Diplo 1637 ARQ Msg/AA to unk — no ID's. (RH2)
16241.7: KDAKRFR, MFA Cairo 1530 arq MFA Cairo. Long Msg\AA. This seems to be

the usual pm full strength Tx freq to ALL STATIONS! (RH2)

16256.7: KDAKRFR, MFA Cairo 1546 arq Msg\AA to unk. (RH2)

16276.7: —-, EGYPTAIN EMB ALGIERS SITOR/A//100/E/170 Tfc in offline encrypt and in AA(ATU80). (DW)

16278.8: No-Call, Cairo, Egypt 15.37 Coquelet 8 Algerian emb with "VCI OFF L CAIRE" and tfc to MAE. (PT)

16279: UNID, UNID Ambalg 1628 COQ8 13.33 Msg/AA to MAE V. slow transfer. (RH2)

16318.4: 7RQ20, Algiers, Algeria 13.06 Broadcast of msg in FF originally from Geneva embassy to MAE. Here msg headed from ALGER to DIFF800. (PT)

16386.7: UNID, UNID Parep Diplo 1531 arq Msg\EE to "FRN Ioslamabad P32." (RH2)

16706: URMA TH, Skvortsov-Stepanov 1054 ARQ tfc to Mariupol. (ML)

16710.5: UBDM TK, Fiord 0954 ARQ crew msg to Kaliningrad. (ML)

16710.5: XU7MN MV, Sofia 0808 ARQ svc msg to unkwn, XU7MN log on, ITU MARS shows c/s as XUMN7. (ML)

16713: UDNJ BATM, Nikon Karpenko 0838 ARQ svc msg to Vladivostok. (ML)

16716.5: 9HOD6 TK, Vladimir Kokkinaki 0757 ARQ KYXX SELCAL & tfc to Novorossiysk. (ML)

16716.5: UBLA TK, Mekhanik Slauta 0842 ARQ KYXX SELCAL, UBLA log on & tfc to Novorossiysk. (ML)

16716.5: UDEX TK, Geroi Sevastopolya 0913 ARQ tfc to Novorossiysk. (ML)

16716.5: UDFC TH, Sergej Lemeshev 0718 ARQ crew msgs to Novorossiysk. (ML)

16716.5: UDGF TH, Nikolaj Kantemir 0750 ARQ svc msg to Vladivosok. (ML)

16716.5: UFJB M/V, Novokubansk 0758 ARQ msg to Novorossiysk. (ML)

16801: P3XY7 RTMS, Vyturys 0713 RTTY 50/170 tfc to unkwn. (ML)

16801.5: P3ZC7 RTMS, Sakalas-1 0721 RTTY 50/170 tfc to unkwn. (ML)

16801.5: UAUF BATM, Aleksandr Ksenofontov crew msgs to Kaliningrad. (ML)

16802: UCUF RTMKS, Boris Syromyatnikov 0749 RTTY 50/170 msg to unkwn. (ML)

16802.5: UALV RTMS, Kulikovo Pole 0645 RTTY 50/170 tfc to Kaliningrad. (ML)

16802.5: UBTO RTMS, Misa 0930 RTTY 50/170 tfc to Kaliningrad. (ML)

16803.5: UTRA BMRT, Leonid Borodich 0731 RTTY 50/170 crew msg to unkwn. (ML)

16830.5: SVO, OLYMPIA RADIO SITOR/B//100/E/170 NX bulletin for ships. In Greek. (DW)

16852: UIW, KALININGRAD RADIO CW Channel free marker "de UIW KLD". F1b bursts with 340Hz b/w — 2nd harmonic of 8426. (DW)

16854: XSQ, GUANGZHOU RADIO SITOR/B//100/E/170 Blind tfc ? Tfc in 4 fig codes. 1338 reverts to chan free marker "XSQ." (DW)

16898.5: XSG, SHANGHAI RADIO CW Chan free marker "XSG." then tfc list and possible bdcast in fec. Little copy, vri weak. (DW)

16920: UVQ9, UNID UKRAINIAN CSTN CW [35wpm] Clng ship Strelets/EMPK thru at least 1454. "slv 17905/16746" ltr 22156. (DW)

16932: —-, UNID CW Continuous "6" — machine, not hand. Boufarik/7TF's marker stuck? (DW)

16976: LSD836, Buenos AiresR 1536 ARQ Marker. (RH2)

16979.9: PWZ33, BN RIO DE JANEIRO FAX//120/576/N/800 Test. 1754 sea level pres chart. Grainy then fading into noise thru 1816. (DW)

16979.9: PWZ33, BN RIO DE JANEIRO FAX//120/576/N/800 Sea sfc temp chart. (DW)

17024: SAB, GLOBE WIRELESS NODE GOETEBORG CW Chan free marker (Globe) "SAB." (DW)

17048: DAO17, KIEL RADIO CW Chan free marker with cw ID "CQ de DAO17" every three mins. (DW)

17053.3: MGJ, RN FASLANE VFT//on USB. four-chan fleet bdcst. (DW)

17055.1: MGJ, RN FASLANE RTTY//75/N/340 CARB. Chan3 in vft. (DW)

17066.5: A9M, GLOBE WIRELESS NODE BAHRAIN CW Chan free marker (Globe) "A9M." Wkng ships in Globedata. (DW)

17069.6: JJC, KYODO TOKYO FAX// 60/576/N/800 Japanese text print. Labelled Navigational warnings. (DW)

17147: URL, SEVASTOPOL RADIO CW Marker "CQ de URL ans 16669/22371 k.." (DW)

17165.6: CLA41, HAVANA RADIO CW Marker "CQ de CLA qsx c/11 8368/ 12552/16736 tx 8573/12673.5/16961 qsw/ CLA20/32/41/50 qrj c/1217 k." (DW)

17170.4: ZLA, GLOBE WIRELESS NODE AWANUI CW Chan free marker (Globe) "ZLA." Brief qso with ship in Globedata. (DW)

17175.5: A9M, BAHRAIN RADIO CW Marker "CQ de A9M." (DW)

17180: FUG, FN LA REGINE RTTY// 75/N/850 Wkng w/ship "FT." QSLs various msgs. S/off 1230 with "qru bonne mer" and rtns to marker "FFA de FUG ry's sg's figs kkkk." (DW)

17198: SAB, GLOBE WIRELESS NODE GOETEBORG CW Chan free marker (Globe) "SAB." (DW)

17206.1: IAR, ROME RADIO CW Marker "VVV de IAR K 4 8 12 16 22 MHz = we lsn 22 and reply on 17206.1 kh" (spur on 17204.4 kHz). (DW)

17224.4: A4M, MUSCAT RADIO CW Marker "de A4M." Offair 1303. (DW)

17234.5: VCS, GLOBE WIRELESS NODE HALIFAX CW Chan free marker (Globe) "VCS" Wkng ships in Globedata (DW)

17239.7: PKX, JAKARTA CW Marker "CQ de PKX qru? k". (DW)

17240.5: VIE, GLOBE WIRELESS NODE DARWIN — Chan free marker (Globe) and Wkng ship in Globedata. (DW)

17372.4: KPH, GLOBE WIRELESS NODE SAN FRANCISCO — Chan free marker (Globe) and wkng ships in Globedata. (DW)

17402.4: VCT, GLOBE WIRELESS NODE NEWFOUNDLAND CW Chan free marker (Globe) "VCT." Wkng ships in Globedata (DW)

17408.4: HEC, GLOBE WIRELESS NODE BERN CW Chan free marker (Globe) "HEC." Wkng ship in Globedata (DW)

17430: 9VF209, KYODO SINGAPORE FAX//60/576/N/800 Japanese text print — grainy. (DW)

17441.6: 5YE, NAIROBI MET RTTY// 100/N/850 METO tfc (DW)

17550.9: RFTJ, FF DAKAR ARQ/E3// 192/E/400 8rc. Cct [AFL] Tfc in off line encrypt then betas. Spurs on 17547.3 and 17554.4. (DW)

18003: GUA, USAF ANDERSON MIL.STD 188-141A ALE on USB. Sounding. Also 1700, 1730. (DW)

18003: ADW, USAF ANDREWS MIL.STD 188-141A ALE on USB. Sounding. (DW)

18003: HAW, USAF ASCENSION MIL. STD 188-141A on USB. Sounding (DW)

18003: HAW, USAF ASCENSION MIL. STD 188-141A ALE on USB. Sounding. Also 1721 (DW)

18003: CRO, USAF CROUGHTON MIL. STD 188-141A ALE on USB. Sounding. (DW)

18003: JDG, USAF DIEGO GARCIA MIL. STD 188-141A on USB. Sounding. (DW)

18003: JDG, USAF DIEGO GARCIA MIL. STD 188-141A ALE on USB. Sounding (DW)

18035: —-, UNID MIL.STD 188-141A on USB. Clng UNID/QUR. Also at 1421, 1425. (DW)

18040: HGX21, MFA BUDAPEST ARTRAC//VFT on USB. Chan test procedure thru 5 chans. Again at 0811, 0816. (DW)

18042.7: RFTJD, FF LIBREVILLE ARQ/ E3//192/E/400 8rc. Betas. 1214 cct [JDJ] C de v svc RFTJ de RFTJ. (DW)

18183.4: —-, MFA ALGIERS COQ/8 Opchat in FF. Wkng Ouagdougou (DW)

18183.4: 7RQ20, Algiers, Algeria 09.00 Coquelet 8 Relaying message from Dar-es-Salaam embassy to "DIFF800" then asks Conakry and Yaounde if they received it OK. (PT)

18183.4: No-Call, Abuja, Nigeria 09.15 Coquelet 8 AMBALG ABUJA with tfc in FF to MAE. (PT)

18183.4: 7RQ20, MAE Algiers 1610 Coq8 26.66 Long Msg\FF to Abuja, Gao, Niamey, Conakry, Luanda, Agades & Nouadhibou. (RH2)

18183.4: UNID, Ambalg Libreville 1619 Coq8 26.66 Flash Msg\FF to MAE. (RH2)

18183.4: 7RQ20, MAE Algiers 1644 Coq8 26.66 Msg\FF to Ambalg Accra. (RH2)

18183.4: 7RQ20, MAE Algiers 1648 Coq8 26.66 MAE to Ambalg Londres for Air Algerie. (RH2)

18183.4: 7RQ20, MAE Algiers 1600. (RH2)

18183.4: UNID, Ambalg Prague 1735. (RH2)

18211.5: KHF, GLOBE WIRELESS NODE GUAM CW Channel free marker (Globe)

"KHF." Wkng ships in Globedata. (DW)
18220: JMH5, TOKYO MET FAX//576/N/800 End of sfc analysis NW Pacific. (DW)
18226.7: —-, EGYPTIAN DIPLO ? SITOR/A//100/E/170 IRS mode then short op chat in AA(ATU80) (DW)
18239.7: —-, EGYPTIAN EMB ALGIERS SITOR/B//100/E/170 Clng Cairo advising qsx 18545.7 (DW)
18251.7: —-, MFA CAIRO SITOR/A//100/E/170 Tfc in AA(ATU80) then irs. 0947 loss of qso - SELCALs XBVY/London till 0950, reysnc. Opchat and s/off. (DW)
18270: BRA, MFA BRATISLAVAS MIL.STD 188-141A ALE on USB. Sounding. Also 1246 (DW)
18277: PRI, UK MIL/DIPLO MIL.STD 188-141A ALE on USB. Sounding. (DW)
18281.5: CV01, loc unknown 10.05 CW "VVV JF00 DE CV01 QSA NIL."(PT)
18295: GEC, UNID PICC//VFT 2 chan Piccolo vft on USB. (DW)
18295.5: GEC, UNID PICC// 18295.510. 6 tone. Eng chan(1) in vft. On standby. "MTS de GEC cip zub 1614." Eng opchat "we are closing down cct at this time" then offair. (DW)
18295.9: GEC, UNID PICC// 18295.510. Tfc chan, 6 tone, encrypted. (DW)
18306: ZSC, GLOBE WIRELESS NODE CAPETOWN CW Chan free marker (Globe) "ZSC." Wkng ship in Globedata. (DW)
18320: BRA, MFA BRATISLAVA MIL.STD 188-141A ALE on USB. Sounding. Also at 1155 (DW)
18320.8: RFTJ, FF DAKAR ARQ/E3//192/E/400 8rc. Betas. 1013 cct [TJD] c de v svc RFTJ de RFTJ (DW)
18415: 8BY, FRENCH INTELLIGENCE PARIS CW Marker "VVV 8BY 317/837/762/302/445." (DW)
18444.5: RFFXL, FF NAQOURA ARQ/E//184.6/I/400 8rc. Betas. No app tfc thru 1337. (DW)
18447.7: RFPTA, FF NDJAMENA ? ARQ/E3//200/E/400 8rc. Betas. Variable sync. No app tfc thru 1948. (DW)
18480: OLZ69, CZECH EMB CAIRO ? MIL.STD 188-141A ALE on USB. Clng OLZ88/Prague (DW)
18480: OLZ69, CZECH EMB CAIRO? MIL.STD 188-141A ALE on USB. Sounding. (DW)
18545.7: —-, MFA CAIRO SITOR/A//100/E/170 SELCALs TVVX (Algiers). Link up. Algiers advised go to 16276.7. (DW)
18553.7: RFTJ, FF DAKAR ARQ/E3//192/E/400 8rc. Betas. 2132 [TJI] cde de v svc RFTJ de RFTJ. 2133 cde de v svc RFLI de RFLI. (DW)
18594: TST, US CUSTOMS ALBEQUERQUE MIL.STD 188-141A ALE on USB. Sounding. Also 1835. (DW)
18594: PRL, US CUSTOMS ?LOC MIL.STD 188-141A ALE on USB. Sounding. (DW)
18594: CSL, US CUSTOMS ?LOC MIL.STD 188-141A ALE on USB. Sounding. (DW)
18594: DO7, US CUSTOMS ?LOC MIL.STD 188-141A ALE on USB. Sounding. (DW)
18646.7: JMFS-M, Egy Emb Madrid 1631 arq Msg/AA to KDKTX-KE (Cairo). (RH2)
18686: —-, SWEDISH DIPLO ? MIL.STD 188-110A on USB. 1200bps, short/long intlv. On line encrypt, leadin's ".q" (DW)
18686: S53, SWEDISH EMB AMMAM MIL.STD 188-141A ALE on USB. Sounding. (DW)
18945: S97, SWEDISH EMB ABIDJAN MIL.STD 188-141A ALE on USB. Sounding. Also 2040. 2145 clng S00/Stockholm. 2150 clng UNID. (DW)
18945: S93, SWEDISH EMB HAVANA MIL.STD 188-141A ALE on USB. Sounding. Also 2203. (DW)
18945: S84, SWEDISH EMB WASHINGTON MIL.STD 188-141A ALE on USB. Sounding. Also 2149. (DW)
18974: ASI, UK MIL/DIPLO ASCENSION MIL.STD 188-141A ALE on USB. Sounding (DW)
18974: DKL, UK MIL/DIPLO DHEKELIA MIL.STD 188-141A ALE on USB. Sounding. (DW)
19026.7: —-, EGYPTIAN DIPLO ? SITOR/A//100/E/170 in irs. Short period opchat in AA(ATU80) then s/off. (DW)
19036.5: UNID, Ambalg Ouga 1616. (RH2)
19058: MKD, Akrotiri, Cyprus 17.50 Piccolo 6 Agrees freq change with GEP44 then shuts down. (PT)
19085: FDI8, FAF NICE CW Marker "vvv de FDI8 ar". (DW)
19101.7: RFLI FF, FT DE FRANCE ARQ/E3//192/E/400 8rc. Betas. 0949 cct [BFL] c de v svc RFLI de RFLI. Also at 1026. (DW)
19212.1: 0200, UNID 16.00 MIL.STD 188-141A ALE on LSB Calling "1100" with msg "DIAL4" then fast modem tfc. (PT)
19498.7: UNID, Noumea 15.50 ARQ-E 100/400 Trying to send msg on very poor cct HIJ to Papeete. (PT)
19784.4: LZW, Varna, Bulgaria 18.32 FEC Met reports. (PT)
19862: MGJ, RN Faslane 1555 RTTY 75/850 Carbs. (RH2)
20048.1: S CISN, ARKHANGELSK CW Single letter [S] hf beacon. (DW)
20107: 055, E ASIAN NET? MIL.STD 188-141A ALE on USB. Sounding. (DW)
20455: OLZ84, CZECH EMB ?LOC MIL.STD 188-141A ALE on USB. Sounding. (DW)
20469: AXM37, Melbourne, Australia 18.00 FAX 120/576 WX chart of area east side of Aust. (PT)
20602: CYP, UK MIL EPISKOPI MIL.STD 188-141A ALE on USB. Also 1646 (DW)
20602: PRI, UK MIL PRISTINA MIL.STD 188-141A ALE on USB. Sounding. Also 1622. (DW)
20631: WRL, USAF ROBINS MIL.STD 188-141A ALE on USB. Sounding. (DW)
20631: NST USAF?, UNID MIL.STD 188-141A ALE on USB. Sounding. Also 1436. (DW)
20698: S00, MFA STOCKHOLM MIL.STD 188-141A ALE on USB. Sounding. (DW)
20698: S53, SWEDISH EMB AMMAN MIL.STD 188-141A ALE on USB. Clng S00/Stockholm. (DW)
20715: RFFXL, FF NAQOURA ARQ/E//184.6/I/400 8rc. Betas. 1210 cct [xzl]. Tfc in offline encrypt. (DW)
20813.7: RFTJD, Libreville, Gabon 15.40 ARQ-E3 192/400 COMAIR LIBREVILLE with tfc in FF to RFFUEF — AIR SERPECA TOURS on HAI cct. (PT)
20847.7: —-, FF UNID ARQ/E3//200/E/400 8rc. Betas. Little/poor sync. No app tfc thru 1733. (DW)
20863: N2G, French Emb San'a YEM 0640 FEC-A 192/400 5LG msgs. (ML)
20890: CS9, US CUSTOMS ?LOC MIL.STD 188-141A ALE on USB. Sounding. Also 1259, 1343, 1434, 1519. (DW)
20890: D07, US CUSTOMS ?LOC MIL.STD 188-141A ALE on USB. Sounding. Also at 1539. (DW)
20890: PRL, US CUSTOMS ?LOC MIL.STD 188-141A ALE on USB. Sounding. Also 1654. (DW)
20890: CS5, US CUSTOMS ?LOC MIL.STD 188-141A ALE on USB. Sounding. (DW)
20890: D07, US MIL? MIL.STD 188-141A ALE on USB. Sounding. (DW)
20900: ALG, SLOVAKIAN EMB ALGIERS MIL.STD 188-141A ALE on USB. Sounding. (DW)
20900: KAH, SLOVAKIAN EMB CAIRO MIL.STD 188-141A ALE on USB. Sounding. Also 1602. (DW)
20942: S97, SWEDISH EMB ABIDJAN MIL.STD 188-141A ALE on USB. Sounding. (DW)
20958: S94, SWEDISH EMB GUATEMALA CITY MIL.STD 188-141A ALE on USB. Clng Washington/S84 (DW)
20958: S84, SWEDISH EMB WASHINGTON MIL.STD 188-141A ALE on USB. Sounding. (DW)
20958: S84, SWEDISH EMB WASHINGTON MIL.STD 188-141A ALE on USB. Clng S94/Guatemala City, also at 1414. 1425 clng [?]. 1446 sounding. (DW)
20963.5: LCR154, POLISH MIL MIL.STD 188-141A ALE on USB. Clng ETD165. Short RT follows - language Polish? Clas at 1412, 1508, 1635. (DW)
20963.5: ETD165, POLISH MIL MIL.STD 188-141A ALE on USB. Clng LCR154 (DW)
20990: BGD, SLOVAKIAN EMB BAGHDAD MIL.STD 188-141A ALE on USB. Sounding. Also 0856. (DW)
22194: UNID, 0930 RTTY 75/850 online crypto after RY VMGTCNJBH (ML)
22298: 67FPO, UNID Spanish Nvy ? 0653 RTTY 100/850 w/67YTR DE 67FPO foxes 1-0 RYs SGs SOLICITO ENLACE TX-ARQ tape, then off-air (ML)
22315.5: UCEH TH, Sakhalin-6 0638 ARQ tfc, signed UCEH, to unkwn (ML)
22354.5: UBUA RTMS, Inzhener Yudintsev 0850 RTTY 50/170 clg Kaliningrad w/UIW DE UBUA K to tfc (ML)

22354.5: UEMP, MV Malta14.26 ITA2 50/170 Calling UIW, Kaliningrad, with RYRYs then RR tfc (PT)
22354.5: UBTO, MV Misa 09.15 ITA2 50/170 Calling UIW, Kaliningrad Radio, with RYRYs. (PT)
22387.5: SVO, OLYMPIC RADIO SITOR/B//100/E/170 NX bulletin for ships. In Greek. (DW)
22444: JNA JMSA/CG, Tokyo 0620 ARQ 2 x tuning bursts ea four secs (ML)
22523.3: JMH6, Tokyo R 1245 FAX 120/576 Splendid chart — v clear! (RH2)
22603.5: UIW, Kaliningrad R 1615 RTTY 50/170 Msg\RR for TH Kapitonas Kmd Nikifov. (RH2)
22961: HBD22, Swiss Emb New Delhi 0838 ARQ HBD22/2 s/off after 5LG msg to unkwn. (ML)
23101.7: No-Call, Cairo, Egypt 10.00 ARQ MFA with tfc in AA to Abidjan (KYSMQ-KG), SELCAL KKXO (PT)
23190: P6Z, Paris, France 08.45 FEC-A 192/400 MFA with 5-lg (no subs) to C3P, Tokyo Embassy. (PT)
23265.8: HGX21, Budapest, Hungary 09.00 DUP-ARQ 125/170 MFA with tfc in HH to HGX44, Baghdad emb (PT)
23315.6: UNID, ARQ-M2 144/single tone, idling both ch's. (ML)
23366.3: UNID, Bulgaria? 14.16 ITA2 75/500 Sends ZAL 19068 then ZAL 20325 then ZAL 19652. He then decides 19068 is

Utility Abbreviations

The following are a list of useful abbreviations that often appear in the reports provided in the logs of utility radio stations provided by our readers. This is by no means an exhaustive list, and updates will be provided in the months to come. Please forward suggestions for new abbreviations or Q codes.

ARQ: Abbreviation for Automatic Repeat Request. An ARQ is sent back to the transmitting station by the receiving station to request retransmission of missing or corrupted portions.

Calling frequency: An agreed-upon frequency where stations attempt to contact each other; once contact is made, stations move to a working frequency.

CH: Radio Channel

Chan free marker: To ensure that unauthorized radio use does not take place on a critical frequency, a ute station may place a "marker" on it. That means that a continuous signal, generally an Identifier, is transmitted to make certain that the frequency remains occupied and unusable.

CLNG: Calling a specific radio station and expecting an answer.

Crypto: The message (generally text) has been encrypted to prevent it being read by unauthorized people.

CQ: A general call sent by a station to any other station that may receive it.

CW: Abbreviation for continuous wave.

de: Morse code abbreviation meaning "From" as in "de AA123" or From station AA123

Diplo: Diplomatic — generally an embassy or diplomatic mission.

DX: Any station that is hard to hear or contact on a particular frequency, or is rarely heard or contacted on a particular frequency.

EE: English speaking person

EMB: Embassy

FAX: Radio Facsimile, generally of weather maps that are broadcast for public use, particularly by ships and aircraft.

FEC: Abbreviation for forward error correction, a FSK mode that transmits each character twice to avoid errors. If the first character is received correctly, the retransmission of it is ignored.

FF: French Speaking Person

Fixed station: A station that always operates from a constant, specified land location.

Frequency Shift Keying: A mode of text based radio transmission that shifts the station's carrier between two fixed frequencies to form characters.

FSK: Abbreviation for frequency shift keying.

HF (high frequencies): Frequencies from 3 to 30 MHz, although often used to refer to all frequencies from 1.7 to 30 MHz.

KW: Abbreviation for kilowatt.

Machine: An automated device used to create a CW signal, generally if it is constantly repeated, such as a beacon or a marker.

Maritime station: A two-way radio unit aboard a ship or a station on land that communicates with ships.

MET: Meteorological (weather maps and information)

MCW: Abbreviation for modulated CW.

Mil: Military

Mobile station: A two-way radio unit installed in a car, boat, plane, etc., and used while in motion or at various stops.

Modulated CW: Sending Morse code over an AM transmitter using an audio tone.

msg: Message, or what was said.

Navtext: Simple text based broadcast system.

OM: Man operating the radio (as in Old Man — traditional term for a radioman).

Opchat: Two or more radio operators talking to each other on the radio.

p/p: Phone patch, which allows a person on a regular telephone to be able to talk to someone at a remote location through a radio transceiver.

RTTY (radio teletype): A mode that uses FSK to form letters, numbers, and special characters for display on a printer or video monitor.

RY: A string of the characters RY are sent out to help the operator tune and to help other stations tune in to their frequency and signal.

SS: Spanish speaking person

SSB (Single Sideband): A modulation technique that suppresses one sideband and the carrier and transmits only the remaining sideband.

stn: Radio station

tfc: Traffic, which is the information being sent back and forth between stations, generally formal messages.

UNID: An unidentified radio station or the location of a radio station.

USB: Abbreviation for upper sideband.

UTC: Abbreviation for coordinated universal time.

Working frequency: once contact is made, stations move to a working frequency, where information or messages are exchanged.

wkg: Working, e.g. talking to or communicating with.

WX: Weather

OK and sends ZAR 300 and switches to IRA-ARQ. Nothing heard on any of those freqs here. (PT)
24269.7: UNID, ARQ-M2 129/single tone, idling both ch's. (ML)
24460: 8PD, loc unknown 15.25 ALE/USB Calls 4QR, OM responds in FF then into data tfc. Also calls 4AS. (PT)
26241.7: RFVI, FF LE PORT ARQ/E3// 100/E/400 8rc. Betas. 1606 cct [REI] cde de v svc Paris de Paris. 1608. (DW)

This month's contributors were:

Alan Stern (ALS)
Chris Gay (CG)
Day Watson (DW)
Dwight Smith (DS2 WI)
MidAtlantic Dxer (MADX)
Murray Lehman (ML)
Peter Thompson (PT)
Tom from PA (Tom)
Robert Hall (RH2)

Again, thank you all very much. Your work and efforts are very much appreciated, as always. Likewise I still welcome new contributions. Those of you who we have not heard from for a while, please write soon and tell us how you are doing. No one's efforts are ever forgotten.

Next Month

If all goes well, next month I will be looking at monitoring the Coast Guard during the current global situation. Many things have changed during the past few months given the increased security measures that have been taking place. All of this has been in addition to the efforts that the Coast Guard has put into extra security activity, such as the war on drugs.

What is important to understand is that the Coast Guard's main activity is the maintenance of safety and order in the coastal shipping lanes around the United States. What is important about today's Coast Guard is how modern radio communication is performed using the new technology available, particularly with the use of personal computers and wireless networking.

So until next time, may all your monitoring sessions be enjoyable and productive. Please remember as well to say a prayer for the men and women who are part of the armed forces serving over seas, as well as our security forces at home helping us to keep our communities safe and secure. ■

Tuning In *(from pagae 4)*

bureaucracy to do their jobs — at least correctly *most* of the time. That's how the system works — or is designed to work. So let's tell it like it is, OK?

Being the good citizen that I am, I recently plunked down my $75 for a five-year General Mobile Radio Service (GMRS) license. GMRS is a good thing — certainly not populated by a wild 'n crazy bunch you might find elsewhere in the radio spectrum; most folks using GMRS transceivers also did the right thing and got licensed. I even used the FCC's website. The whole process took only a few minutes, and a week or so later got my call letters: WPUD220. It's not like ham radio where there's that element of pride in testing and subsequently receiving those all-important call letters. This only involved filling out a form and giving cash freely to the Commission.

I'm not a prude, and have been known to say some pretty bad words — not on the air, mind you, but once in a while if something needs just that little bit of extra emphasis — well, you get the idea. You're probably no different. But when I got my PUD call letters I thought perhaps it was a joke. You and I know that the FCC issues callsigns from a large database made up of various letter and number combinations. I can accept that fact. But what I have a hard time understanding is the *input* process itself. Somewhere along the way perhaps the head of the Wireless Telecommunications Bureau himself, Mr. Thomas Sugruel or the Deputy Chief of the Public Safety & Private Wireless Division, Jeanne Kowalski or her assistant or her assistant's assistant's underling input the original data, but whoever did it must be on something pretty potent. Or they need corrective lenses, or both.

I'll bet if I called Mom and told her my new call letters she'd laugh thinking I made them up. So I did — call her, that is. And she laughed, as did most other folks I've talked with over the past few weeks.

"Hey, I got my GMRS call letters — WPUD220."

"What's that you say — PUD?" You're kidding me, right?"

But there's still that nagging Maalox moment I can't overcome; how could the FCC's database even include PUD? So I asked the folks that should know — the Wireless Telecommunications Bureau at the FCC. In short they made it seem like this gigantic mega-gigabyte computer is spitting out these call letter combinations is hard at work day and night, operating independently of human hands. Remember Hal in the movie? That sort of computer, but with less personality.

Interestingly I've spoken with at least one unnamed FCC rep who said point blank that it *can* be changed with a couple of key presses. Point is, they won't, and that my friends, is very sad considering they work for you and me. I even asked my Congressional Representative, Frank Pallone to intervene thinking his office might be able to talk sense into the WTB and issue me new call letters. What was I thinking? The official letter came back today through Pallone's office. Here, take a peek. Sure I can ask for a refund of the "portion of the fee" I paid for WPUD220 (because I'm not using that call letter combination in my lifetime) and jump through some hoops and do the high-wire paperwork act for Uncle Sam, or I can take the medicine the FCC dished out. I'll probably take the refund, but won't be filing for another GMRS license.

Hello, WTB, convince me that someone intelligent sat there for just a few minutes with a (here's a novel thought!) pen and notepad jotting down a handful of potentially unusable letters. No, I'm not talking about FAT, OLD, BUM, DUM, BAD, SEX, DAM, and a few select others that shouldn't be a real problem for most people. But then there are a handful of *other* letters, yes, including PUD that should have hit the trash bin, not the database.

So while my former WPUD220 isn't *supremely* offensive given what's said on the air today — it certainly is unique — but if the FCC is stupid enough to have PUD in the database, what's keeping their entrenched bureaucrats from "automatically" issuing another letter/number combination that could certainly be worse — in my opinion, anyway. And in the final analysis, it's how the public feels that really matters. In unison now, let's all pull — the FCC's plug. ■

clandestine communiqué

tuning in to anti-government radio

by Gerry L. Dexter

The Democratic Voice Of Burma Using Radio New Zealand International's Transmitters!

Colombian clandestine **La Voz de Resistencia** took a hit back in the spring when government anti-drug forces blew up the main complex of the station. The broadcaster is operated by the notorious Revolutionary Armed Forces of Colombia (FARC), which is as much involved in the illegal drug business, as it is revolution. FARC controls huge sections of Colombia and has more than one transmitter site within the area under its control. For whatever reason, it has been a year or so since we've seen reports of anyone hearing La Voz de Resistencia. Given that its time/frequency use never provided optimal reception in North America, it could at least be heard now and then around 1200 on fairly variable **6250**, but there's been nary a peep out of them in quite some time. The same thing is more or less true of the other clandestine in Colombia — Radio Patria Libre, operated by the National Liberation Front (ELN) once the main contender for power but in recent years losing out to the now much stronger and wealthier FARC.

Word is that **The Democratic Voice of Burma** — in a surprise move — has begun using the Radio New Zealand International site at Rangitaiki. It's reported to be on the air from 1430 to 1530 on **15620**, even though the Julich, Germany, site is listed for use by DVB at this time.

Radio Familiar Voice (Radio Avaye Ashena) is active via Lithuania on Sundays from 1000–1100 on **9710**. Aimed at a European audience, Radio Familiar Voice opposes the government of Iran.

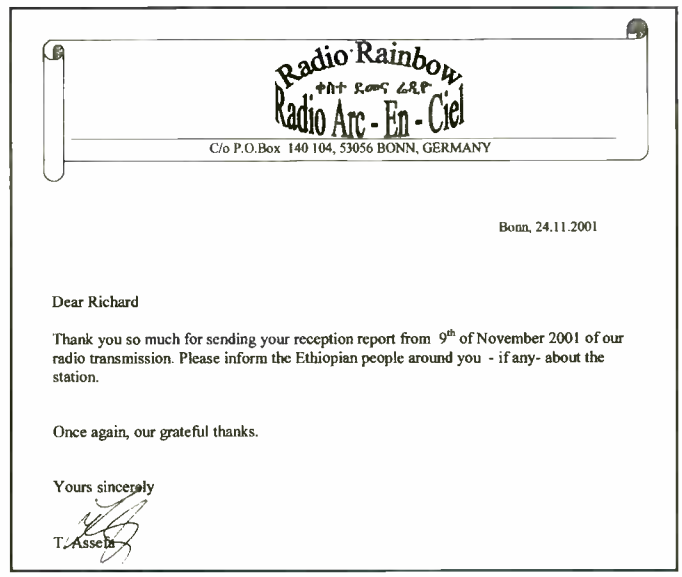
Another new one — broadcasting against Iraq — is the **Voice of Zowaa**, which speaks on behalf of the Assyrian Democratic Movement. It's using **9155** from sometime before 1700 to 1900 close. That's not going to work for reception here but, as is too often the case, we're not the intended audience. The programs are in Arabic and Assyrian and are beamed to expatriates living in various European countries.

The Zimbabwe clandestine, **Voice of the People**, has been showing up in more receivers lately, thanks to a frequency move to **7310**. There have been a number of loggings of this in the 0330 to past 0600 period, although it is squeezed by at least one powerhouse station.

The U.S. government's **Radio Free Afghanistan** has added **15480** to its line-up. Try it on this spot around 1400.

Richard D'Angelo (PA) spotted the **Voice of Iran** on **17525** from 1728 tune in, with instrumental music, a short talk segment and woman talking briefly. The program ended at 1730 but the carrier remained on until 1733. The most recent schedule we have for this one has it active from 1530 to 1630 via Issoudun, France, on **17510** and 1630–1730 on **15770** and **17510**, also via Issoudun.

Another D'Angelo log was **Radio Sedaye Iran**, also on **17525**. This one was heard at 1630 sign-on with an opening ID in Farsi, some brief music breaks but mostly talks about events in the Middle East. Rich notes that jamming could be heard in the background after 1700.



Radio Rainbow
Radio Arc - En - Ciel
C/o P.O.Box 140 104, 53056 BONN, GERMANY

Bonn, 24.11.2001

Dear Richard

Thank you so much for sending your reception report from 9th of November 2001 of our radio transmission. Please inform the Ethiopian people around you - if any- about the station.

Once again, our grateful thanks.

Yours sincerely

T. Assefa

Anti-Ethiopian clandestine Radio Rainbow sent this succinct QSL letter to Rich D'Angelo.

Denge Mesopotamiya now operates from 0400–0700 on **15675**. Also 1200–1600 on **11530**. Programming is in Kurdish.

The anti-Beijing **Voice of Tibet** carries on its word from 1215 to 1300 on **15635** and **15655**.

Another anti-China station, **World Falun Dafa Radio** uses 2100 to 2200 on **5925** and **9945**.

The **Voice of Tigre**, operated by Tigerian International Solidarity for Justice and Democracy also goes by the name Radio Fithi (Justice) and is operating Wednesdays and Saturdays from 1600 to 1630 on **15700**.

Que Huong Radio is on the air from 1300 to 1400 daily except Sundays via KWHR in Hawaii on **9930**.

Radio Free Vietnam now operates on **15235** from 1400 to 1430.

And the anti-Cambodian **Voice of Khmer Krom** is active on Tuesdays instead of Friday from 1400 to 1500 on **15690**.

Russia has complained to the United States about the Chechnyan language programming Radio Liberty, calling them propaganda and saying they "could seriously complicate efforts by (Russian) authorities to stabilize the situation in the area. This move is incompatible with the common fight against terrorism and spirit of partnership being formed between Russia and the United States."

Time to take the trench coat off for another month. Please let us know what you are hearing on the clandestine front. In addition to your logs, copies of QSLs from clandestine stations as well as schedules, addresses, and other information are always greatly appreciated!

Until next month, good hunting! ■

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loose connection

radio communications humor

by Bill Price, N3AVY

All Time Radio — All Time, All The Time

I am often reminded of things I have done — things which I shouldn't have done, but did anyway. Sometimes, gleefully. As I mellow (that is, as the pages of the calendar flip past faster) friends admit more readily the things they have done which they too, shouldn't have.

Star-69 and caller-ID have put the brakes on an entire generation of prank callers. Not that I have ever done such a thing, mind you, but if I had, I'd remember the first one vividly. It would have been when I was in sixth grade, and it astounds me to this day — or, it would have astounded me if I'd actually done it — that the woman whose number I (would have) randomly dialed could believe that a sixth grade kid with a squeaky voice could be a radio station announcer, and that any radio station in a major market would run a "Whistling-Mystery-Melody" contest and give away a fur coat to anyone who could identify Jack Benny's theme song when I (or someone sounding like me) whistled it through my neighbor's telephone.

Panic did set in, momentarily, when the woman answered immediately with *Roses In Bloom* and I had no idea if the name of the tune was *Roses In Bloom* or *Bloomin' Idiots*. Fast on my feet, I quickly awarded the prize, thanked the lady, and told her to stop by the station to pick up her new mink coat. I mean, that's what I *would have* done if it had been me.

At one point in my pitiful career-path I was appraising real estate and found that owners of the property being appraised were not always forthcoming with information which might have an adverse effect on their property. What a surprise. But years of watching the *Rockford Files* taught me how eager people were to talk about their neighbors, their neighbors' property, their neighbors' dogs, and — if I could show just enough surprise, they would keep talking until I had learned much more than I'd have ever needed — or wanted — to know. This happened early in my writing career, and led me to study people's reactions to various situations.

It seems that communications always play a major part in minor scams. Sometimes the communication is via the mail, other times by telephone, but there is always some little crumb of information in the letter or the call that gives away the caller's genuine motive.

"Mr. Preece?! Is this Mr. Wum Preece?

"No — I'm afraid you've got the..."

"Mr. Preece, I'm calling to let you know that you've won one of the following prizes:

— an all-expense trip around the world for you and 23 of your friends

— a 1982 Rolls-Canardly and a hundred thousand gallons of premium gasoline

— Or a 35mm outdoor camera made of bat guano."

"Oh, be still my heart — could it be the camera?" I would ask so convincingly that I thought a talent scout might discover me and take me right to Hollywood without ever passing GO or collecting the two-hundred dollars.

"Well, let me open the envelope, Mr. Preece — why — why — yes, you *did* win the camera. How could you have guessed?"

"Just lucky, I guess."

The scamster would then ask if I'd like to "trade up" the camera for a better one, for just a small fee to cover the promotional expenses blah blah blah. I was a quick learner, and still have a drawerful of valuable "Black Star of India" stones valued at many times the postage needed to send them to me.

So I thought it might be more fun to *make* the calls rather than just wait around to see who would call *me* with some absurd offer.

But what good is fun if you don't share?

The first mail scam I received told me that I had been chosen to receive a family-size gas grill and a lifetime supply of lava rocks, and that I'd only have to pay a small fee which included (I swear this is what they said) the *cost of the product*, and a small shipping and handling charge, along with a modest administrative charge.

I wrote back in extremely unstable handwriting, telling them that I was 97 years old and the first question I had was *whose* lifetime would they use to determine the supply of lava rocks? I then went on to say that I didn't understand what they meant by a *family-size* grill, since my family — all living in a single room, was made up of three of my sons and their wives, and 6 grandchildren and their spouses and 24 great grandchildren, and was the grill as big as my family, or was it made to feed them at a single sitting?

I asked them if they'd mind taking their $29.95 in fifty-cent installments, and would they send the thing right away, as we'd had our gas and electric shut off and had no way to heat water for gruel.

I never did get a reply, but I KNOW that letter has been photocopied into oblivion and passed around that office until even the mailroom guys are sick of seeing it.

Later, once again on the telephone, I called a pet store and asked if they had some orange cat-hair dye, because the cat's colorist, who was a women's hairdresser during the week and only did cats on Sundays when the shop was closed, was out of town, and the cat's roots were showing, and she had such low self-esteem anyway, and I thought we could get some and at least do her roots 'til her fur-dresser returned the following week. I have never heard someone so convinced that I would do our cat bodily harm, while all the time he ranted about how harmful it would be to color a cat's hair, I insisted he was just saying that because the dye was for professional use only and he didn't want to sell it to me. Poor man.

Friend John Bosak (K3IBN if those letters and numbers mean something to you) just sent me some trivia about Canada's version of our own WWV (which gives us the "time tick" among other things) and the folks in his repeater group wondered if CHU was still on the air. I told them that indeed it was, and recounted a survey I had been given over a two week period a few years back in which I was asked to account for all my radio listening during all my waking hours for a two-week period.

The word "retentive" comes into play whenever I get a new watch (usually a $10 variety) and set out to set it as accurately as can be. During the two weeks when my listening habits were being monitored, I tuned to 7335 kHz for a "time tick" to set the watch. Then I checked it several times a day to see if I'd gotten one of those "lucky guess" quartz watches which were set to almost perfection by the luck of the draw back at the factory.

Well, it turns out that in addition to my all-time favorite, WMAL-AM for the morning drive-time (Hey, Andy — You're famous again!) and a few others — a PBS and an oldies station, I had given CHU (as in "Dominion Observatory, Eastern Standard Time....") their first "rating" in one of the more serious rating polls, and somewhere in the caverns below the famous Dominion Observatory (in Ottawa, I believe) the management is wondering just how they're going to avail themselves of the profitability of selling advertising — now that they're a top-10 time station.

Meanwhile, try something crazy at a pet shop — they're the most fun. My best one was "Look at that beagle! Why, he has holes in his skin RIGHT WHERE HIS EYES ARE!" If that doesn't start you on your way to the loony bin, I'll see if I can't scare up a few questions you can ask people without risking incarceration. ■

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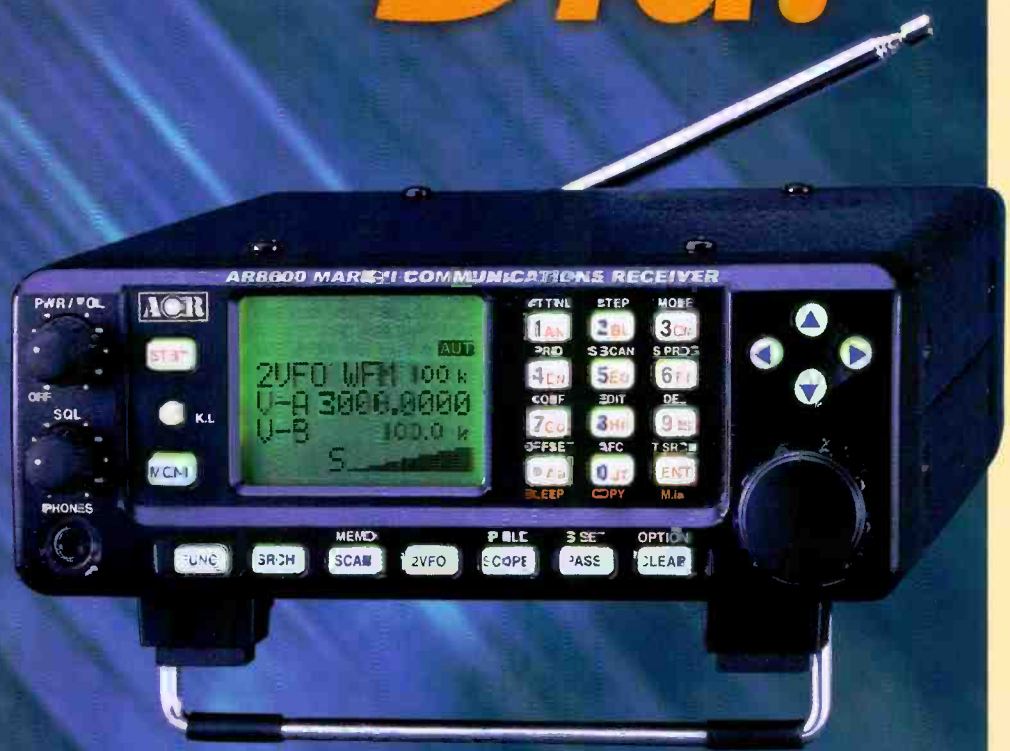

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