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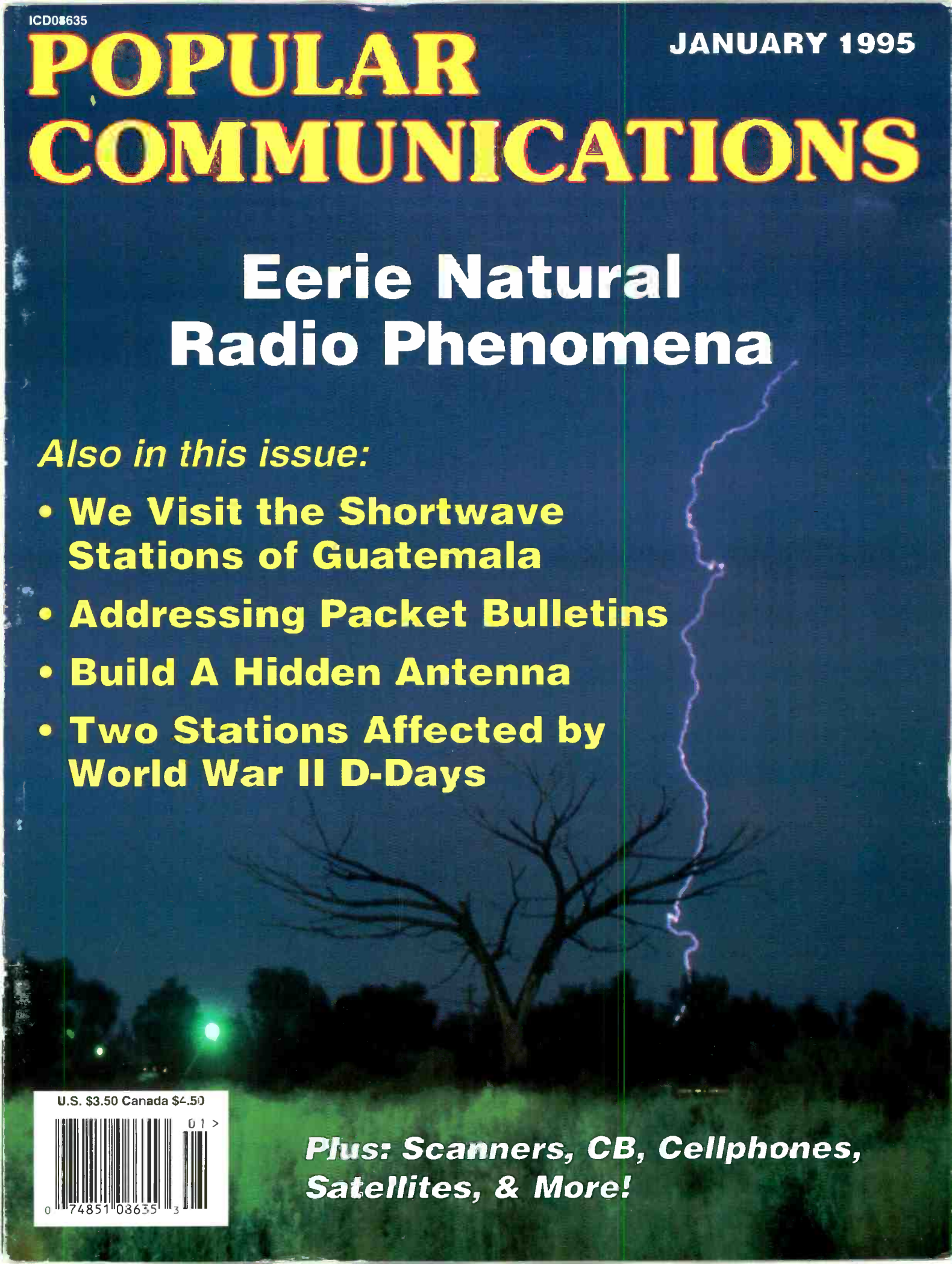
POPULAR COMMUNICATIONS

JANUARY 1995

Eerie Natural Radio Phenomena

Also in this issue:

- **We Visit the Shortwave Stations of Guatemala**
- **Addressing Packet Bulletins**
- **Build A Hidden Antenna**
- **Two Stations Affected by World War II D-Days**



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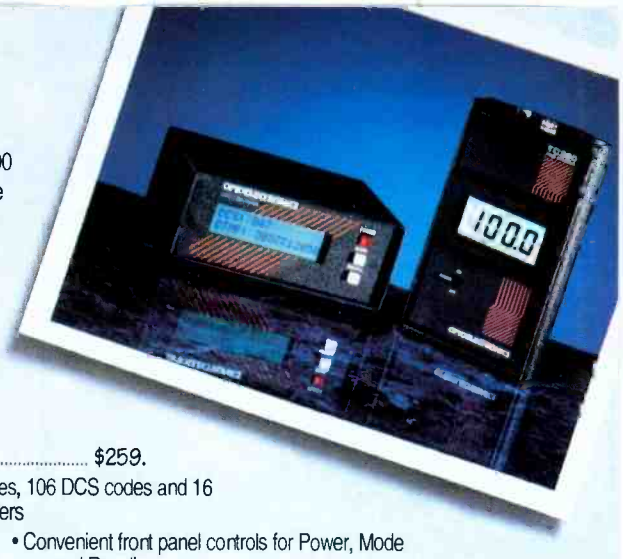

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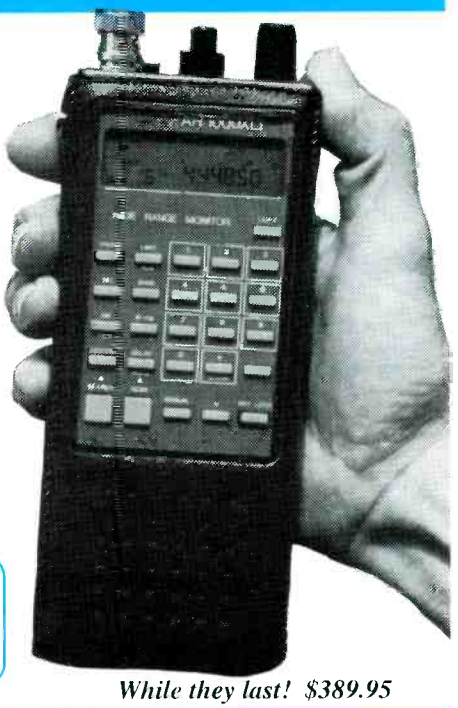

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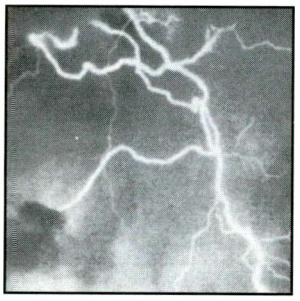

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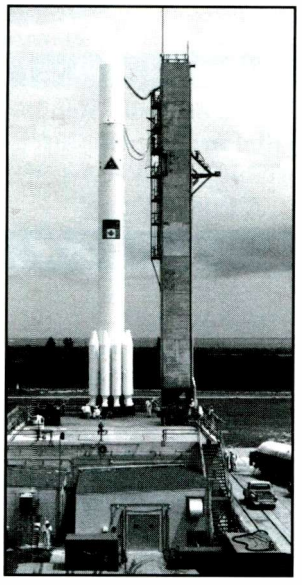

32

FEATURES

COLUMNS

DEPARTMENTS

This month's cover: *Zap! There is no escape from the intriguing pops and crashes of sferics caused by lightning! The storm featured occurred recently in Colorado. Photo by Larry Mulvehill, WP2ZPI.*

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BY TOM KNEITEL, K2AES

AN EDITORIAL

A New Years' Eve Broadcast

In 1951, my long-range career plans were to enter broadcasting. In the fall, I enrolled as a freshman at the University of Miami, majoring in Radio and TV. The professor who headed the department recommended that I look for an after class internship or beginner's spot at the popular and successful local station WVCG, which was near our campus in Coral Gables, Fla.

WVCG didn't have any immediate openings, but the staff suggested that I check out WTTT, the other station in town. I wasn't aware of that one, but the WVCG people insisted it did exist. They even provided an address, 350 Aragon Avenue.

That location proved to be a drab little building hidden away in a run-down part of the downtown area. The call letters out front read "WBAY." This lent a further air of mystery about things.

Walking in, I was cautiously welcomed by the station manager, Mr. Daley. When he learned I wasn't a bill collector, he became much friendlier. When I said I was from the University and was looking for a job, he became downright gracious.

He said the WTTT music library consisted of many hundreds of unsorted 78 RPM records. The worst part of it, he said, was that the discs were all over the place in precarious stacks, and each time people attempted to use them as makeshift chairs, WTTT would lose a portion of its available music. This was evident from the thousands of oddly-shaped shards from decimated 78 RPM shellac records strewn over the floors.

For starters, Daley was appointing me Chief Record Librarian, with the hope that I could get the discs up on to the shelves and in some sort of order where specific ones might be located. I was also put in charge of using a broom to round-up and remove all smashed disc pieces scattered on the floors throughout the station.

I was pleased with this instant responsibility bestowed upon me by a man who hadn't even bothered to ask my name. However I explained that I mostly wanted to learn how to be an announcer or studio engineer, and was hoping for that type of staff position. He promptly also named me to those positions, and asked if there were any other jobs I wanted, with the exception of Station Manager and Chief Engineer. No, I felt satisfied that my career had advanced far enough for one afternoon.

When I asked about the pay scale, the reply was that the main payment was the knowledge, plus minimum wage. He added that WTTT had recently declared bankruptcy, so there was actually little reason to expect any hard cash would change hands. Daley's point was that my efforts would have to be strictly for experience and the love of radio. Sounded good to me.

I later learned that the station's regular DJ's worked there part time, receiving only commissions for the commercial air time they sold for their own shows. This was their sole WTTT income. All had other on-mic jobs under their real names at larger Miami-area stations. They worked at WTTT mostly for the freedom of being at an informal little station where there were few rules, and the idea was "anything goes."

WTTT, indeed, had fallen upon hard times. Mr. Daley wasn't kidding, the station was flat broke. The 250-watt station started out in 1946 on 1490 kHz as WBAY. After several ownership changes, the studios were moved in 1949. Later that year, the call letters were changed to WTTT, but cash was tight and they never had enough money to update the sign on the building. In 1951, WTTT was still using the old WBAY letterheads.

In 1951, WTTT was using a Collins 300-G transmitter, with its original Gates 250-C transmitter on stand-by. The antenna was a 180-foot tower. The transmitter was located at the home of WBAY/ WTTT's Chief Engineer, Walt Kinney, W4GJ. This was on a five acre plot at 1505 S.W. 32nd Avenue, in Miami, a few miles from the studio. In the early summer of 1951, a storm bent the tower in half, knocking WTTT off the air. That's the event that forced the station over the edge into bankruptcy.

Walt Kinney was a cantankerous and colorful character. He loved radio, especially this particular station. After the storm, Walt and a couple of cronies strung a makeshift longwire antenna from the highest point of the remains of the bent tower. The other end of the wire went to a tree.

The sloping antenna allowed WTTT to be reactivated with a highly directional and bizarre signal pattern. Though an economical arrangement, the station didn't have the best of signals. Under the circumstances of total poverty, it was the only way the station could have gotten going at all. A credit to Walt Kinney's ingenuity. The FCC wasn't amused, and their authority for WTTT to continue broadcasting existed in the form of a series of continuing temporary extensions.

The Aragon Avenue studios were a shambles, having bare walls, and badly worn carpeting. The sparse furniture consisted of a few bridge tables and some folding wooden chairs. There was a decrepit upright piano and a row of six old movie theater seats. A large walk-in closet formerly used as a news room had three metal stands where once stood Teletype machines from news services. The machines had been retrieved for non-payment.

The booth had a Western Electric board, a couple of turntables, and a piano stool.

The WTTT longwire signal pattern had greatly limited the station's abilities to reach out to the general public. Mr. Daley decided that some programs might be tried to be aimed towards particular ethnic groups. I recall that there was one called, *Memories of Poland*, with plenty of polkas, and commercials from a wonderful Polish deli that kept the WTTT staff well supplied with enormous amounts of kielbasa, golaski, and Polish Ham. There were also Greek, Spanish language, R&B, and other programs directed towards specific listening groups, in addition to our regular programs. The station did manage to scratch up sponsors, though with rates that were pitifully low.

What was high about WTTT? The staff enthusiasm, and the feeling of camaraderie between everyone there. The loyal staff absolutely loved WTTT, even though it had to have been one of the most pathetic and broken down radio stations in North America. In some unexplainable way, the people there were proud to be associated with such a unique station. There were no playlists, and you could say practically anything you wanted over the air.

No question about it, I truly enjoyed working at this wacky station, and learned a lot there. I gladly swept the floors, filed the records, made the coffee, and did anything else they wanted. There was as much pride as if I was interning at a 50 kW station in Los Angeles, or New York.

It helped that at WTTT, they also let me announce, write weird copy for the commercials, write copy for and read the news, run the board, and fill in as DJ on weekends. Every minute of my spare time was spent there, either working or playing checkers at the transmitter with feisty Walt Kinney. Salary? I'd gladly have paid tuition for the privilege of working at WTTT. Several times, I even chipped in a few bucks to the kitty along with other staff members to help pay the station's phone bill so our service wasn't cut off.

One WTTT experience I especially remember was New Years Eve, 1952. The Station Manager asked if I'd mind working that night. Certainly, I didn't. Informing my date of our last minute change in plans, I was ready for anything.

The WTTT New Years Eve broadcast

(Continued on page 82)

MAILBAG

LETTERS TO THE EDITOR

Each month we select representative reader letters for our Mailbag column. We reserve the right to condense lengthy letters for space reasons. All letters submitted must be signed and show a return address. Upon request, we will withhold sender's name should the letter be used in Mailbag. Address letters to Tom Kneitel, Editor, Popular Communications Magazine, 76 N. Broadway, Hicksville NY 11801.

Ham Radio Clarification

Regarding the letter from "Ghostrider," in the August issue. Perhaps the only true facts in his letter related to his having received a "pink slip" for his admittedly illegal CB operations. The rest is myth. His vision of hams being more interested in form than function or proper operation couldn't be more distant from the truth. Hams are well known for the practical application of technical, and are overwhelmingly courteous.

Chuck Scott, N8DNX,
Petoskey, MI

The letter from "Ghostrider" contained several popular misconceptions concerning Amateur radio. First, the code requirement stems from international regulations governing communication below 30 MHz. It is not decided by Amateurs or the FCC. In fact, code-free licenses have been available for several years and allow generous operating privileges above 30 MHz.

Secondly, the 10 Meter band is not dead, even with the sunspot cycle in decline. Beacons, data, CW, SSB, and FM can be heard from early in the morning until late at night. The Ten-Ten club has more than 65,000 members.

Amateurs and the FCC are actively pursuing bootlegger stations above 28 MHz. DF stations and operator skills have increased greatly in recent years. Upon being found, illegal operators are invited to become legal by obtaining a license, and many have accepted the challenge. Continued bootlegger activity by the same activity generally results in confiscated equipment and fines averaging $2,000.

Paul Folmsbee, K5PF,
Apex, NC

The letter in the August issue from "Ghostrider" concerned "freebanders." While I'm aware that there have always been bootleg ham stations—which are unlicensed operators on ham bands who use fraudulent ham callsigns in an effort to pass themselves off as hams—such persons aren't "freebanders." "Freeband" stations don't operate above 28 MHz, they don't use ID's that even vaguely resemble amateur radio callsigns, nor do they seek contact with amateur stations. "Freeband" stations don't operate on CB channels, and most use ham transceivers, so they can't realistically be considered "illegal CB operations." Their activities, although unlicensed and unau- thorized, which are all below 27.995 MHz, and are completely unrelated to bootlegger activities in ham bands. "Freebanders" seek only to communicate with others of their own ilk, and (so far as I'm aware) they haven't caused deliberate interference to any other communications service or activity. I'm not attempting to justify their unauthorized activities, but to note that there are obviously just as many popular misconceptions about "freebanders" by outsiders as there are about Amateur radio by outsiders.—Editor.

From Ukraine

I am a Russian radio hobbyist living in the Ukraine's Black Sea. My son, Sasha and I listen to the world on shortwave broadcast and ham bands. An American friend sends us *Popular Communications* sometimes, which we read with pleasure.

For years we have listened using a SONY ICF-2001 receiver, and a large Soviet military (tube type) set, along with several different antennas. Many QSL cards have been collected from all over the world.

Sorry to say that there aren't any magazines for listeners in Ukraine or Russia. We ask American readers to write to us to exchange different ideas about our countries. Also, I would like to ask any readers to offer some advice on cleaning the contacts on the buttons of my SONY ICF-2001, as it is now impossible to tune some of the frequencies on this set. All letters will be answered.

All the best to your wonderful magazine from Sasha and I.

Boris Chuistov,
P.O. Box 20,
Yalta, Crimea, 334200
Ukraine (Europe)

Keep on Truckin'

Here's information to supplement the story on Interstate trucker radio in the August issue. I'm a *Yellow* driver.

If less truckers are being monitored on CB Channel 19, it's for reasons like not wanting to have to talk through the weirdos, goofs, and noise toys.

J.L.,
Mountville, PA

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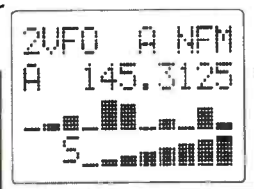

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* *Les cellular/Pending FCC approval*

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Frequency: 100kHz-2036MHz Continuous*
Mode: USB, LSB, CW, AM, FMN, FMW
Circuitry: Triple (USB/LSB/CW/AM/FMN) and Quadruple (FMW) conversion superheterodyne **Memories:** 400 (4 banks/100 channels)
Scan Rate: 50 ch/sec. **Search Rate:** 50 steps/sec
Sensitivity(μV): 2.5-1800MHz CW, SSB .25/AM1.0/FMN .35/FMW 3.0
Selectivity: SSB,CW 2.4kHz/ AM,FMN 12kHz FMW 180kHz
Power: 13.8VDC, <.5A max audio, AC adapt. incl.
Size: 5.5"W x 3.5"H x 7.9"D; 2.6 lbs.
* *Less cellular*

AOR SEARCHLIGHT WINDOWS SOFTWARE for the AR3000A

The latest AOR software for IBM and compatible control of the AR3000A, using the computer's RS232 serial port. DEMO disk available at your dealer for $10.00 (Save towards the purchase of the full program.)

FEATURES: •**Microsoft Windows Program** -foreground and background •**On-line help** -*Windows* hypertext provides info you need, also dialogues have "help" function •**Fully supported** *Windows* **Sound Recording** -Correctly configured compatible sound card allows recording from your receiver while scanning or analyzing frequencies. A log contains all the recordings for replay. •**Unlimited number of disk based memory banks** -Each memory banks contains 400 memory channels and can be uploaded or downloaded to and from the receiver. Up to 10 banks may be viewed on-screen at once and an unlimited number may be stored to disk (restricted by your space). •**Copy date to & from clipboard** - Bulk editing and export data base (not supplied) or other *Windows* applications. •**Memory scan and Programmable Band Scan** -Provides a histogram display showing the activity of each channel. Full control is provided including a cursor indicator and sound recording (optional).

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•Direct Digital Synthesizer with Numeric Controlled OSC improves carrier to noise ratio drastically •10Hz tuning accuracy; RIT control CW/SSB •Synchro detector improves AM signals under severe fading conditions •Tuning via keyboard or knob •Carrier Operated Relay for remote start/stop of recorder when signal is present •TCXO ; not an option 5PPM (-5°F+130°F) Wide dynamic range, Double Balance Mixer in 1st mixer, over 100dB, with higher intercept point than other receivers in this class • AGC control w/off position • Large backlit LCD • Analog S meter •Dual VFO increases flexibility •RS-232C serial interface for opt. comp control • 3 way power source: AC adpt., 13.8VDC, internal 8AA NiCad or dry cell required • Processed aluminum case and chassis • 2 year factory authorized U.S. warranty.

Frequency: 30kHz-30MHz opt. int. VHF conv. 108-174MHz
Memories: 100 programmable w/ scan
Modes: AM, LSB, USB,CW, FAX, FMN

Tuning Accuracy: 10Hz
Power:12VDC -800mA(max.); 8AA Nicad or Alk (not incl.)
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CIRCLE 162 ON READER SERVICE CARD

Chorus, Sferics, Tweaks, and Whistlers

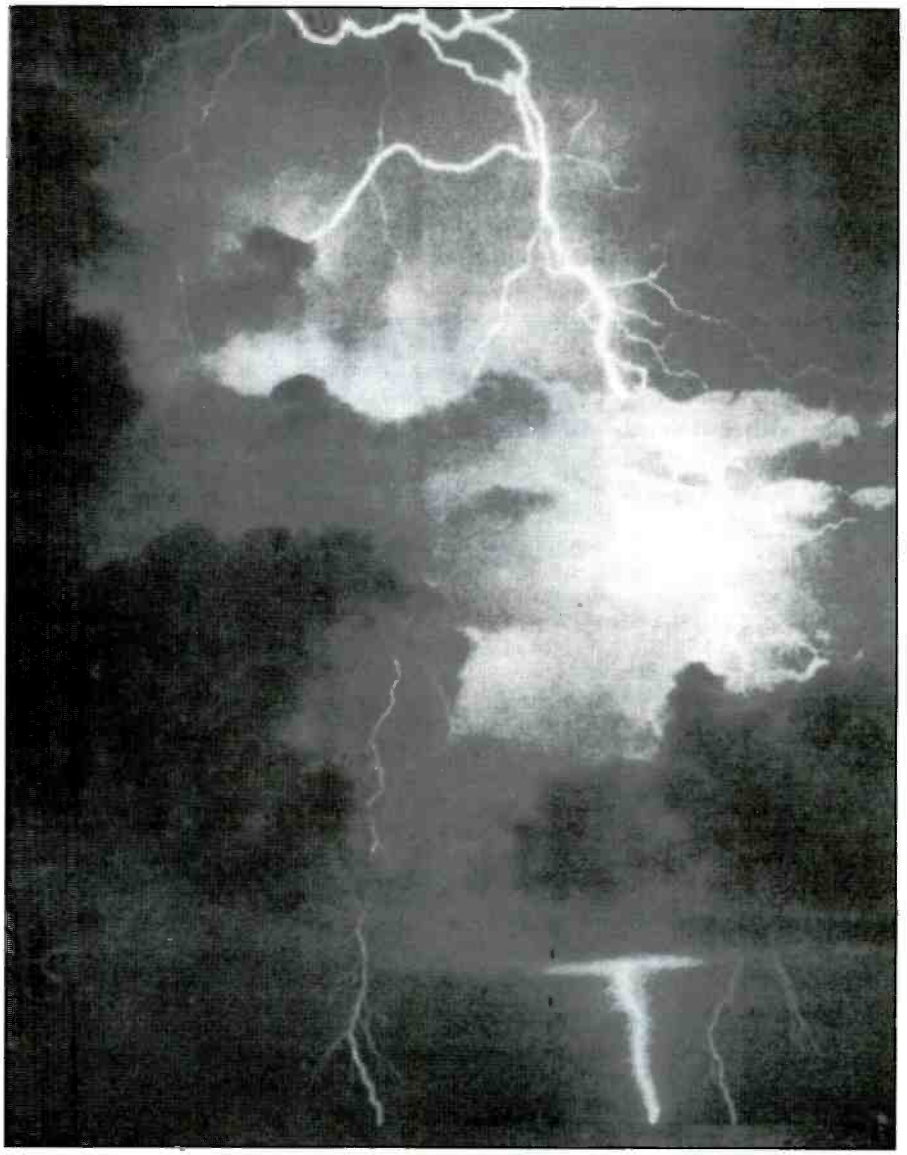
Strange VLF Natural Radio Phenomena Continues to Fascinate

BY STEVE McGREEVY, N6NKS

Welcome to the realm of very-low-frequency (VLF) "Natural Radio!" A rapidly growing group of people are interested in monitoring the Earth's huge variety of naturally-occurring VLF phenomena, whether for casual curiosity and aesthetic appeal or for serious research purposes. Naturally occurring VLF radio emissions of Earth will occur in the 0.2 to 11 kHz (audio frequency) VLF electromagnetic spectrum.

Planet Earth—along with several other planets in the Solar System including Venus, Jupiter, Saturn, Uranus, and Neptune—produces a variety of naturally occurring radio emissions at the lowest end of the radio spectrum. These emissions are primarily in the form of electromagnetic (radio) impulses generated by the planets' ongoing lightning storms, and from the Sun's solar wind interacting with the magnetic envelope surrounding the Earth, call the "Magnetosphere." These VLF naturally-occurring radio emissions are the subjects of ongoing scientific research by both amateur and professional groups, and are being monitored both on the ground by specialized VLF receivers such as the WR-3 and by unmanned space probes and satellites.

It is at these lowest frequencies of the radio spectrum (0.2 to 10 kHz) in which no man-made signals are assigned, that planet Earth's own mysterious radio emissions have been happening for eons. These fascinating "sounds" are "primal radio"—indifferent to the affairs of humankind—and insight into the causes of these ancient phenomena has only begun to be unraveled in the past four decades.



A lightning flash originates a burst of VLF radio energy that can be heard thousands of miles away.

Lightning Storm Atmospherics and Tweaks—Not Just Static

Besides 50 or 60 kHz (and harmonics) alternating-current power line "hum" from electric-utility power grids, the most noticeable sounds are going to be the snap, crackle, and pop of lightning-stroke electromagnetic impulses (called "atmospherics" and "sferics" for short) from lightning storms within a couple thousand miles of the receiver—the more powerful the lightning stroke or the closer it is to the VLF receiver's location, the louder the pops and crashes of sferics will sound in the headphones. Several million lightning strokes occur daily from an estimated 2000 storms worldwide, and the Earth is struck 100 times a second by lightning. At times the receiver's output is a cacophony of crackling and popping sferics from lightning strokes originating in storms near and far.

These huge sparks of lightning strokes are powerful sources of electromagnetic

(radio) emission throughout the radio-frequency spectrum—from the very lowest of radio frequencies up to the microwave frequency ranges and the visible light spectrum. However, most of the emitted electromagnetic energy from lightning is in the very lowest part of the radio spectrum, from 0.1 to 10 kHz. The radio pulses produced by lightning strokes travel enormous distances at these very-low radio frequencies, following the surface of the Earth as "ground waves." It is interesting how generally quiet and lightning sferic-free the hours are from just after sunrise to mid-morning, when thunderstorms tend to be at their minimum. Later, the crackling and popping of lightning sferic activity picks up as afternoon thunderstorms build in numbers and intensity. This is due to thermal heating and convection, especially in the summer and autumn months, when, by sunset, the sferics (snap, crackles, and pops) are roaring in a varied and ever-changing texture as lightning storms rage on into the evening. Weather monitoring agencies employ special receivers and direction-finding lightning sferics in order to determine where lightning strikes are occurring and the potential for wildfire ignition, hazards, to aviation, and damage to electric power utilities from those lightning strikes.

While to some, the popping and crackling of lightning sferics may sound like "static," keep in mind that each click or pop is a lightning stroke flashing somewhere, and note just how much lightning is going on even though your local weather may be cloudless. Additionally, distinct seasonal variations in the density of moderate to strong lightning sferics are very noticeable. During the winter months in the mid-latitudes, when the electrical storm density is generally at its lowest, the amount of strong sferics are also at a minimum. Mid-winter, especially in the higher latitudes north of 40°, can be quiet with little lightning sferic activity. However, a weak but continuous background level of lightning sferics may be audible between the few strong sferics—these are from the higher amounts of lightning storms occurring in the tropics and from the opposite hemispheres' summer lightning storms. Contrast that to local summer evenings, when there is a continuous "roar" of lightning sferics heard. The Earth is "awash" with lightning storm activity!

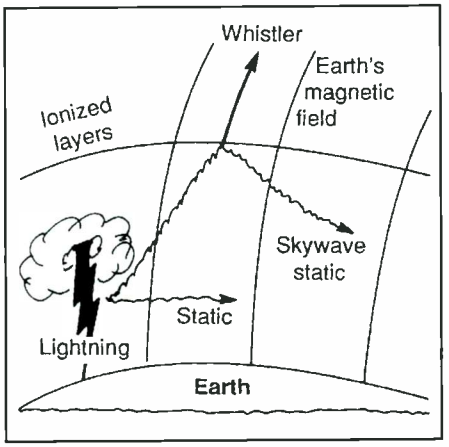
At night, many of the popping and crackling sounds of sferics take on a pinging/dripping sound, called "tweaks," and can be quite musical. Tweaks are a result of the impulse path from the lightning stroke to the receiver being influenced by the Earth surface-to-ionosphere (D and E layers) region, which is about 45 to 75 miles in height, measured vertically during the nighttime hours. This region between the lower ionosphere and surface of the Earth acts as a "duct" or "wave guide" at these VLF radio frequencies, which have wavelengths ranging from 10 miles/29 km. at 10 kHz to over 186 miles/289 km. at 1 kHz, allowing lightning stroke impulse energy to travel considerably farther than during the daytime. As the energy travels and is reflected within this Earth-ionosphere wave guide, the energy undergoes a "dispersion" effect whereby the higher frequencies of the lightning impulse arrive before the lower ones within a fraction of a second. The wave guide dispersion effect abruptly cuts off below about 1.5 to 2 kHz (1,500 to 2,000 Hz) in frequency, resulting in the ringing/pinging "tweak" sound which is also centered around 1.5 to 2 kHz. This "tweak" sound is the lowest resonance frequency of the ionosphere-Earth surface wave guide. This is similar to what sound waves experience in a pipeline.

If you have your hands inside a pipeline between one to three feet in diameter, you will notice a sound similar to the radio sound of tweaks. Because the Earth surface to ionosphere wave guide cannot support radio energy below about 1.5 kHz, the dispersion effect is cut off below the frequency, creating the resonance-like pinging and ringing sound.

The sounds of tweaks can change on an hourly basis from night to night, with the ringing and pinging effect intense and musical at times, especially at night in summer and autumn when there is a higher density of relatively strong sferics. Only a few pops and crackles of sferics may be "tweaking," or all of them can be, and the tweaks may sound "crusty" or be very clean pings and rings. Tweaks can be indicators of the condition and height of the lower layers of the ionosphere to researchers.

In addition to the sounds of lightning sferics and tweaks, you may be hearing downward falling musical notes ranging from nearly pure to "swishy" or "breathy" sounding tones from 1/2- to over four seconds in duration. These are "whistlers," which sometimes happen a couple of seconds after the static crashes and pops of sferics from lightning strokes. Whistlers generally sweep downward in frequency from about 6 kHz to around 0.5 kHz, but the lower cut off frequency does vary remarkably as conditions change, and the upper frequency of whistlers can start higher than 10 kHz. Whistlers sounds quite fascinating. Like "science fiction" sound effects, they are one of the more common Natural Radio sounds you can hear.

The Earth's magnetic field (the magnetosphere) envelops the planet in an elongated doughnut shape with its "hole" at the north and south magnetic poles. The magnetosphere is compressed on the side facing the Sun and trails into a comet-like "tail" on the side away from the Sun because of the "Solar Wind," which consists of energy and particles (plasma) emitted from the Sun and "blown" toward Earth and the other planets via the Solar Wind. Among the charged solar particles caught in the magnetosphere are ions (electronically charged particles), which collect and align along the magnetic field "lines" stretching between the north and south magnetic poles.



The path of a whistler follows our planet's magnetic field as it loops out of our atmosphere, then returns to the surface at a distant point.

These magnetic-field aligned ions bombarding Earth's magnetosphere form "ducts" which can channel lightning-stroke electromagnetic impulse energy. Whistlers sound the way they do because the higher frequencies of the lightning-stroke trade energy travel faster in the duct and arrive before the lower frequencies in a process researchers call "dispersion." A person listening with a VLF receiver in the opposite hemisphere to the lightning-stroke (at the far end of the magnetospheric duct path) will hear this "one-hop" falling note whistler. One-hop whistlers are about 1/3 of a second in duration.

If the energy of the initial one-hop whistler gets reflected back into the magneto-ionic duct to return near the point of the originating lightning impulse, a listener there with a VLF receiver will hear a "pop" from the lightning-stroke impulse, then roughly on to two seconds later, the falling note sound of a whistler, now called a two-hop whistler. Two-hop whistlers are about one to four seconds in duration depending on the distance the whistler energy has traveled within the magnetosphere. One-hop whistlers are usually higher pitched than two-hop whistlers.

The energy of the originating lightning stroke may make several "hops" back and forth between the northern and southern hemispheres during its travel along the Earth's magnetic field lines-of-force. Researchers have observed that the magnetosphere seems to amplify and sustain the initial lightning impulse energy, enabling "multi-hop" whistlers to occur, creating long "echo-trains" in the receiver output which sound spectacular! Each echo is proportionally longer and slower in its downward seeping pitch and is also progressively weaker. Conditions in the magnetosphere must be favorable for multi-hop whistler

echoes to be heard. Using special receiving equipment and spectrographs, researchers have documented over 100 echoes from particularly strong whistlers—imagine how much distance the energy from the 100th echo has traveled—certainly millions of miles/Km! Generally, only one to two echoes are heard if they are occurring, but under exceptional conditions, several echoes will blend into a collage of slowly descending notes and can merge into coherent tones on a single frequency quite unlike any sounds heard outside of a science-fiction movie!

It should be reiterated that strong two-hops (and echoes) can occur from lightning that is within a couple of hundred miles from the listener location, but perhaps from lightning over 100 miles distant. You may notice that "louder" sferics (i.e. closer lightning strokes) often do not trigger the loudest whistlers, of they so at all, but then a loud whistler may come howling through from a relatively weak sferic from quite distant lightning. This is because the lightning impulse sferic energy may propagate within the earth-ionosphere region for considerable distance before entering a magnetospheric "duct." A majority of whistlers are heard ULC during periods of locally fair weather. In fact, Many extremely loud "big whistlers" are heard without any preceding lightning sferic audible whatsoever, indicating the initiating lightning strokes of those strong whistlers are far away—possibly over 3000 miles!

Whistlers are best heard in 30° and 55° north latitude in North America, the prime latitude being 40° and 50° north.

Magnetic Storms, Aurora, and the Beautiful "Chorus"

Occasionally, shortly after sunrise and even extending into the mid-morning, a phenomenon called "Dawn Chorus" may occur. Dawn chorus can resemble the sound of a flock of birds singing and squawking, dogs barking, or sound like whistlers raining down by the hundreds-per-minute (called a "whistler storm"). Dawn Chorus results from hundreds of overlapping, rapidly upward rising tones that can be continuous or appear in bursts, called chorus trains. Chorus trains sound fascinating—the bursts of chirps and squawks (risers) seem to suddenly commence, and over the course of two to five seconds, weaken and fade away, then repeat over again, often in different pitches. During a chorus train, the sounds sometimes seem to be echoing or reverberating back and forth until fewer risers happen, then there may be a brief pause before the next chorus train commences. Chorus trains seem to be harmonically related—a chorus train's center audio frequency may alternate randomly, first centered on about 1 kHz, then another chorus train will suddenly start up one octave higher at around 2 kHz, or maybe 4 kHz. Bursts of chorus trains happening at different octaves can overlap in a beautiful cacophony.

Dawn chorus occurred several times a month during years of high sunspot activity (1989-1993) after solar flares and/or coronal mass ejections on the Sun send a barrage of charged particles into the Earth's magnetic field, causing a geo-magnetic storm and also producing Aurora (the Northern and Southern Lights). In years of low-sunspot counts and few solar flares (1994-1997), coronal mass ejections from the Sun can still cause magnetic storms once or twice a month.

Chorus doesn't always only occur at dawn, especially for listeners located at higher latitudes, particularly in southern and central Canada (50 to 55° north latitude), Alaska, and in northern Europe. This auroral zone is source to a vast amount of natural VLF phenomena. When a solar disturbance on the Sun (such as the solar flare or coronal hole mass ejection) sends highly charged and high-speed particles and ions towards Earth via the Solar Wind, Auroral displays often occur, and are visible to people near the auroral zone oval. Earth's magnetic field also undergoes a "storming" process as well, called a "magnetic storm." During auroral displays, chorus is often heard, as well as "hiss" of various pitches, "sliding-tone emission" which eerily and weirdly rise in pitch slowly over one to several seconds' duration. The chorus which occurs during displays of Aurora is called "Auroral Chorus."

Both Auroral chorus and dawn chorus are related in that they occur during magnetic storms. The more severe the magnetic storm, the farther south away from the auroral zone and the louder the chorus will be heard. The Auroral Zone "oval" surrounding the magnetic poles expands during magnetic storms and reaches farther southward (and the southern Auroral Zone "oval" in the southern hemisphere expands farther northward). Aurora is a daytime phenomenon, but it is not visible to the naked eye due to daylight illumination of the sky. Particularly intense events of nighttime and dawn chorus can get loud even for listeners below 40° north latitude (in the U.S.), and point to the evidence that aurora can reach southward into the middle latitudes despite it not being visible.

The maximum intensity region of chorus emissions, like aurora, can spread southward during magnetically disturbed periods. Daytime aurora can be more intense than nighttime aurora, and events of auroral and dawn chorus reveals quite a bit about the nature of aurora.

Even if geo-magnetic conditions seem "quiet" and chorus events seem likely, conditions may still be very good for whistlers to occur. However, determining when whistlers are going to happen is still a rather unpredictable affair.

The time between local midnight and an hour after sunrise is when the greatest amounts of whistlers are heard, although dusk to midnight may reveal substantial whistler activity, and even (though not very often) loud whistlers may be heard a couple of hours before sunset. Over the long term, the period from two hours before sunrise until an hour after sunrise is the optimum time to listen for natural VLF phenomena of all sorts, as the amount of sferics (lightning stroke pops and crackling) are less—natural VLF phenomena are not as "buried" under the sferics as in the evening when lightning storms are more numerous. Also, magnetospheric conditions are optimum around morning twilight time.

Intense whistler events of short duration can occur at any time between just before local sunset through one to two hours after sunrise. A good whistler event that is happening at 10 p.m., or even at sunset may not be occurring later on that night at the usual optimal sunrise period, so don't rule out the evening hours to listen, especially during geo-magnetic storms.

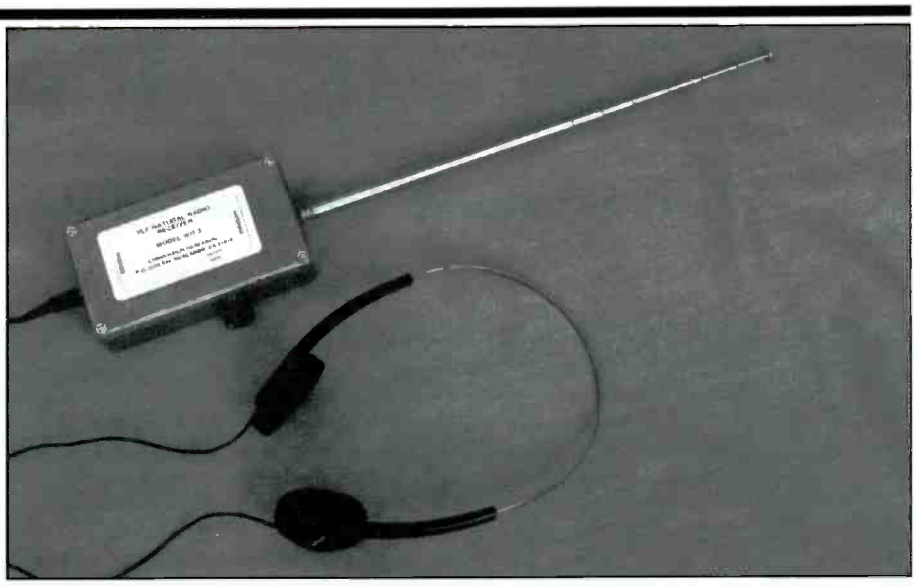
On several mornings a month, one whistler a minute may be heard on average, but as is often the case, whistlers will not be heard at all. Occasionally during a geo-magnetic storm caused by a solar flare, over 100 whistlers a minute or more may be heard—called a "whistler storm!" Whistlers may or may not have echoes may be few and far between but occur loud, or may

occur often but quite weak. The sound characteristics, intensity, and number of whistlers can change rapidly hour to hour. Everything depends upon the sensitivity and conditions of Earth's magnetosphere and location of lightning storms and magnetospheric ducts in relation to the listener.

Whistlers are seldom heard mid-day, except during unusual conditions occurring with a geo-magnetic storm and when lightning is within a few hundred miles of the listener. Unfortunately, on a good number of days during the year, there will not be any whistlers audible even though there is plenty of lightning activity and sferics within a few hundred miles of the receiver. Often elusive, whistlers may not be heard for days or weeks at a time. Again, it is hard to predict when whistlers are going to occur based on the geo-magnetic indices, but they are generally more common in the spring and fall, surrounding the equinoxes.

Auroral chorus, like whistlers, is best heard between midnight and sunrise. Dawn chorus tends to peak in intensity between sunrise and one hour later.

Listeners to natural VLF radio phenomena shouldn't be discouraged after several listening sessions, whistlers, chorus, or other VLF phenomena sounds are not heard. Soon, you will be rewarded with a myriad of fascinating sounds from whatever VLF phenomena is occurring at the time you listen. Remember, weather and outside temperature permitting, the period around local sunrise will be the most rewarding time to listen. Natural Radio sounds can sound eerie and awe-inspiring, especially when one realizes it is all naturally occurring—not man-made and that these radio emissions have been occurring for millennia. ■



The McGreevy WR-3 is a specialized portable receiver designed for natural VLF phenomena reception.

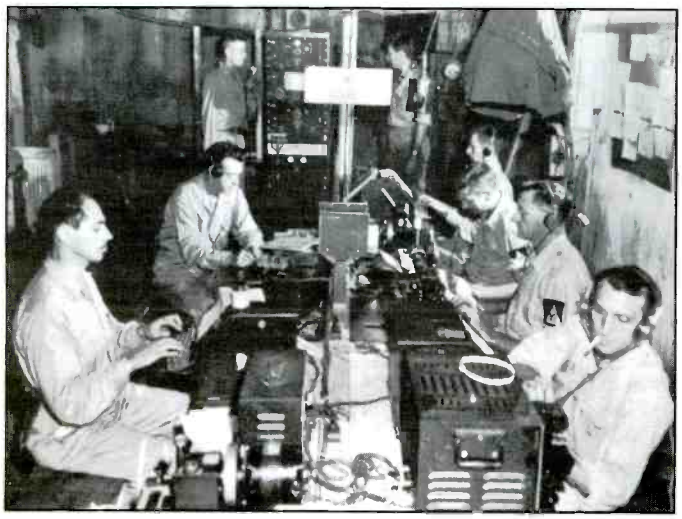
About the Author: Steve McGreevy is a VLF enthusiast and researcher. He operates S.P. McGreevy Productions, 45 Elda Drive, San Rafael, CA 94903-3723. His company manufactures the popular WR-3 and deluxe WR-3E specialized natural VLF phenomena receivers, also accessories, as well as recordings of VLF phenomena. Check with him for information on these items. His address is S.MCGREEVY@ GENIE.GEIS.COM in the event you communicate by E-mail.

Editor's Note: Readers interested in further exploration of VLF should also consider membership in the Longwave Club of America, 45 Wildflower Road, Levittown, PA 19057. This organization has an excellent monthly publication covering radio activities below 500 kHz, including VLF.

Let's Recall Radio

Two Stations Affected by WWII "D-Days"

BY ALICE BRANNINGAN



The PZ operations center at Tacloban, Leyte, 1944. (Courtesy Forrest Bartlett, W6OWP)

At station PZ, operator Robert Christian feeds tape to the high-speed Boehme keying unit. The stack of tape on the floor indicates the volume of daily Press Wireless traffic. (Courtesy Forrest Bartlett, W6OWP)

Last month in these pages we saw the U.S. Navy's radio towers located at Cavite, Philippines. The towers were destroyed by enemy action in the early days of the Pacific war zone during World War II, as the Philippines emerged as a very strategic area.

Japanese forces struck the Philippines on December 8, 1941. Filipino and American forces were outnumbered. After heroic resistance at battles that have since become legend—including Bataan and Corregidor—American forces, under the command of Gen. Douglas MacArthur, were forced out in April and May, 1942. MacArthur promised the Philippine people he would return.

One of our readers, Forrest A. Bartlett, W6OWP, now of Paradise, California (last July we mentioned his career as a radio operator with the Transradio press service in the 1930's) has a story to share with us about that return.

In 1944, Forrest Bartlett signed on as a radio technician with a little-known *Press Wireless* ("PREWI") operation in the Pacific that contributed greatly to media coverage of the Philippines campaign and events leading up to Japan's surrender.

Fifty years ago there were no satellites, no TV from the war zone, no cable facilities. Shortwave radio was the only link. In our January 1989 issue, *POP'COMM* discussed the Army communications ship, *USAT Apache*. But her facilities were for voice transmission. When not being used for network and other broadcast feeds, dispatches from newspaper and agency correspondents needed to be dictated to a receiving operator located on the U.S. mainland. This was a slow process that greatly limited the wordage that could be sent. At Seattle, a replacement vessel, the *Spindle Eye* was being outfitted for communications that would have extensive radiotelegraph facilities. But completion was many months away.

The basic long-distance message system of choice at that time was high-speed radio

The "Project Z" transmitter site, protected by sandbags. Note the call letters on the sign at the right. (Courtest Forrest Bartlett, W6OWP)

In Manila, Station PY had its transmitters here. (Courtesy Forrest Bartlett, W6OWP)

"The R8 is a highly sophisticated receiver. We'd call it professional grade, or about as close to it as receivers get these days."

Staff review
Popular Communications

"The R8 is like a breath of fresh air, with its ground-up engineering and up-to-date digital control from the front panel. I am very pleased to see a quality HF receiver of American manufacture that should successfully compete on the world market."

Bill Clarke
73 Amateur Radio Today

"Overall, the Drake R8 is simply the best radio we have ever tested for quality listening to programs... There's nothing else quite like it."

Lawrence Magne
Monitoring Times

"The best of the best for high-quality listening to news, music and entertainment from afar. Superb for reception of faint, tough signals, too."

Editor's Choice
Passport to World Band Radio
Tabletop Receivers for 1992

The ears have it!

When we introduced the American-made R8 Worldband Communications Receiver, we knew it would be judged by some very discerning ears, experts accustomed to the finest in short-wave listening equipment from around the world. After listening to the world on the Drake R8 loud and clear, they have delivered a decisive verdict.

They appreciated the R8's sensitivity, clarity, simplicity, and all-around versatility so much that many of them declared the R8 simply the best of its class. High praise, indeed, from very well-traveled ears.

But why take the word of mere experts? Put the Drake R8 to the test yourself with a 15-day money-back trial period on factory direct purchases, and let your ears be the judge. If you're not impressed by Drake's quality, performance and ease of operation, all in a receiver costing less than $1,000.00, return the R8 Receiver within 15 days, and we'll refund your money in full, less our original shipping charge. To order your R8 factory direct, for more information, or for the dealer nearest you, call **1-800-937-2538** today. We're confident that once you've listened to the R8, your ears will hear of nothing else.

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Bearcat 200XLT

200 Channel Portable Scanner With 800 MHz!

$237

The 200XLT sets a new standard for handheld scanners in performance and dependability. This full featured unit has 200 programmable channels with 10 scanning banks and 12 bands of coverage including aircraft and 800 MHz. It also includes Weather Search, 10 Priority channels, squelch, lockout and delay. It features automatic and manual band search to find new active frequencies and 30 minute internal capacitor memory backup. Includes Rechargeable NiCad Battery Pack and 120 VAC Adapter. Can also operate from an external 13.8 VDC source.

Band Coverage:	12 Bands + Weather
Frequency Range:	29.0 to 54 MHz; 118 to 174 MHz; 406 to 512 MHz; 806 to 954 MHz*
Sensitivity:	29-54 & 136-174 MHz (Nominal) = 0.4 µV
(12 dB SINAD):	118-136 MHz = 0.8 µV (60%); 406-512 MHz = 0.5 µV; 806-956 MHz* = 1.0 µV
Selectivity:	-55 dB @ ±25 kHz
Size:	2 11/16"W x 1 3/8"D x 7 1/2"H
Weight:	1 lb 4 oz

* Cellular Blocked Modifiable.

800 MHz Continuous Coverage!

AOR AR1000XLT

1000 Channel Continuous Coverage Receiver

$419

The latest version of the famous AR1000 series scanners, one of the most popular scanners on the market. This top quality, feature packed portable allows the user to tune into all the action with continuous coverage of .5 to 1300 MHz (no gaps).

Features include: lock-out search and scan, cigarette lighter plug cord, belt clip, case, flex antenna, and earplug. Covers AM and W/N FM. Operates from 12 VDC (AC adapter included) or included NiCad pack. VFO knob or keypad tuning and 1000 channels. 6.7" x 1.4" x 2.6", 10 oz.

JIM M75

GaAs FET VHF/UHF Scanner Pre-Amp

$90

State of the art surface-mount technology coupled with features not found on other pre-amps makes the M75 simply the best. Wide band (24 to 2150 MHz), variable gain -10 dB (attenuation) to +20 dB gain. Bandwidth selector switch covers 3 bands: a) 225 to 1500 MHz-reduces TV, FM and Hi Power VHF pagers for clear UHF Airband, PSB, Cellular etc.; b) 108 to 185 MHz- for optimum reception of VHF Airband, 2m Amateur Radio, and other VHF communication eliminating VHF TV and FM bands; c) wide open 24 to 2150 MHz, low noise figure 2 dB gain. Comes with a BNC connector. Requires 12 VDC or 9 V battery.

Bearcat BC 890XLT

200 Channel Scanner-With 800 MHz!

$275

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

Frequency Range:	29-54 MHz; 108-174 MHz; 216-512 MHz; 806-956 MHz (Public Service Except Cellular Band)*
Sensitivity:	12 dB SINAD; 0.5 µV 29-54 MHz; 0.7 µV 137-174 MHz; 0.8 µv 216-244 MHz; 0.8 µV 406-512 MHz; 1.0 µV 108-136.9875 MHz; 1.2 µV 225-399.9875 MHz; 0.8 µV 806-956 MHz
Power Requirements:	13.8 VDC
Size (mm):	267 x 189.5 x 85
Weight:	1.75 kg.
Accessories:	Owner's Manual, AC Adapter, Telescopic Antenna
Size (mm):	267 x 189.5 x 85
Weight:	1.75 kg.

* Cellular Blocked Modifiable

Listen to These Great Stocking Stuffers!

Grundig YB-400

Shortwave Receiver

With FREE AC Adapter!

$109

The new Yacht Boy 400 was hailed as "the best compact shortwave portable tested" by the 1994 Passport to World Band Radio. It covers AM, FM stereo, and shortwave from 1.6 to 30 MHz continuously. 40 randomly programmable memory presets allow for quick access to favorite stations. The multi-function LCD display shows simultaneous display of time, frequency, band, automatic turn-on and sleep timer. A full feature clock, alarm and timer shows time in 24 hour format and even has a sleep timer programmable in 15 minute increments. Receiver performance is where this one really shines however. It features sensitivity and selectivity that no other receiver in this price range can match. Get what everyone's been talking about- the new YB-400! Frequency: 144-353 kHz, 520-1710 kHz, 1.711-30 MHz, 87.5-108 MHz; Output Power: 600 mW (via built-in loudspeaker); Input Power: 6 "AA" batteries; Size: 180 x 120 x 37 mm; Weight: approx. 1.3 lbs.

Sony ICF-SW7600G

World Band Receiver

$189

Sony brings together some of their most innovative features in this outstanding, low cost receiver. Now, for the first time, the remarkable synchronous detection feature is available in a receiver for less than $200! Not only do you get fade-free shortwave reception, but also SSB and FM stereo! Covers 150 kHz to 30 MHz continuously as well as AM and FM broadcast. You can tune via direct entry from the keypad or the up-down control. The receiver performance is typical Sony quality with dual conversion superheterodyne circuitry. Tuning is in 1 kHz steps with a large LCD display. Includes 22 station presets, a built-in clock with sleep timer and a large 3" speaker. Comes complete with compact antenna and guide book. One of the most exciting new receivers in years! Signal Circuitry: LW/MW/SW/FM: Superheterodyne; Frequency Range: FM: 87.6 -108 MHz, MW: 530-1610 kHz, LW: 150-528 kHz, SW: 1.615-29.995 MHz; Power Requirements: 4 "AA" Batteries, 120 VAC /60 Hz (with optional AC adapter); Size: 7 1/2" x 4 3/4" x 1 1/4"; Wt: 21 3/4 oz; Supplied Accessories: Compact Antenna, Short Wave Guide Book.

Sony ACE 60 HG AC Adapter $19.95

Sony ICF-SW10

World Band Receiver

$405

For the first time in shortwave history, a shortwave radio is available for under $50 that actually works! When we first received this radio for evaluation, we assumed it would be like every other radio in its class and offer mediocre at best performance. We were pleasantly shocked when we discovered it offered outstanding selectivity and sensitivity. This radio is great as a travel radio, a starter radio, gift, or just for people that prefer an analog dial. Covers 9 shortwave bands, FM STEREO, and AM broadcast. Requires 2 "AA" batteries. Frequency Range: FM: 87.6-108 MHz, MW: 530-1602 kHz, SW1 4.750-5.060 MHz, SW2 5.900-6.200 MHz, SW3 7.100-7.350 MHz, SW4 9.400-9.990 MHz, SW5 11.600-12.100 MHz, SW6 13.570-13.870 MHz, SW7 15.100-15.800 MHz, SW 87.480 17.900 MHz, SW9 21.450-21.750 MHz, LW 153-279 kHz; Power Output: 140 mW; Power Requirements: 2 "AA" Batteries (not incl.); Dimensions: 6 3/8" x 3 5/8" x 1 3/8"; Weight: 12 oz (incl. batteries); Supplied Accessories: Shortwave Guide Book.

Sangean ATS-202

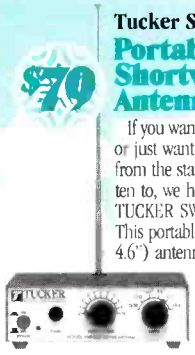
Ultra Compact Shortwave Receiver

$89

This ultra compact PLL synthesized digital shortwave receiver fits easily in the palm of your hand yet offers more performance and features than many full sized receivers. Unique switch allows user to choose continuous tuning across entire SW band or continuous scanning within the selected SW band. Covers all shortwave bands from 120 to 11M as well as AM/FM/FM stereo. Includes 20 memories, auto and manual tuning, a sleep timer and an alarm clock. Measures only 5 1/4" x 3" x 1" and weighs only 10 oz. Comes complete with earphones and a carrying case. Specifications: Frequency Ranges: Standard AM, Standard FM, SW1: 2.3-7.3 MHz (continuous), SW2: 9.5-26.1 MHz (continuous); Output Power: 100 mW; External Power: 3 VDC; Batteries: 2 "AA" Batteries; Accessories: Carry pouch, earphones; Size: 5 1/4" x 3" x 1"

These Under Your Tree?

Don't Forget These Favorites From Tucker!



Tucker SW-500

$70 Portable Shortwave Active Antenna/Tuner

If you want to expand your range or just want to get better reception from the stations you currently listen to, we have developed the new TUCKER SW-500 Active Antenna. This portable (only 1.75" x 5.5" x 4.6") antenna is perfect for indoor use by itself, in conjunction with an outside antenna or both!

Our Best Seller!

Tucker Shortwave Antenna

A complete ready to install simple shortwave outdoor antenna. 40 feet long w/50 feet of coax lead-in. Specify connector, your choice of 3.5", RCA, PL-259 or BNC connector. **$20.95**

Tucker TSA-600

$30.95 Glass-Mount Scanner Antenna

This glass-mount antenna is perfect for those of you that do not want to drill a hole or place a magnet mount on your vehicle. It installs on both sides of your window glass with no need to drill any holes. The signal is transferred through the glass, making installation a snap. It covers the entire scanner spectrum of 30 to 1200 MHz and is only 22" high. Comes complete with 17' of RG-58 coax and BNC connector. Of course, it comes with our 1 year warranty behind it and our SatisfactionPlus guarantee- You'll love this antenna!

Tucker Big 'un

$30.95 Monopole SWL Receiving Antenna

If you think this antenna is going to work as well as a 100' long dipole, forget it! However, most of us don't have room to put up a 100' long antenna. The Big 'un takes up only 6 feet of space and that's all vertical (only about 1 1/2" diameter). What we can promise is much better performance than the antenna that came with your radio. The Big'un can be installed easily anywhere, because it comes complete with 50' of coax and the connector of your choice (specify your radio when ordering). Covers 3 to 30 MHz, DC grounded (for static damage protection). Mounting Bracket Shown Not Included.

Tucker SatisfactionPlus
30-Days - No Questions Asked
Guarantee

Tucker TSA-75

$10.95 Magnetic Mount Mobile Scanner Antenna

The TSA-75 is an outstanding magnet-mount scanner antenna for 25 to 1300 MHz. The 19" whip is stainless steel for rust-proof performance for years to come. Our super-strong magnet is better than anything we've ever carried before. 12' of RG-58 coax comes complete with a BNC connector for easy connection to your scanner. We warranty this antenna for one year and as with our other Tucker Brand products, it comes with our 30 day SatisfactionPlus guarantee.

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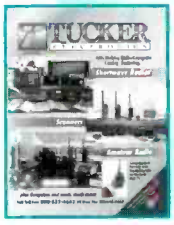

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PRESS TRIBUNE CHICAGO

TAKE ONE WIRELESS BY SIMMONS LEYTE NOV 14 THIS IS THE FIRST TRIBUNE NEWS STORY TO BE TRANSMITTED FROM THE PHILIPPINES BY PRESS WIRELESS INC OF CHICAGO A COOPERATIVE ENTERPRISE OWNED JOINTLY BY SEVEN LARGE AMERICAN NEASPAPERS INCLUDING THE TRIBUNE AND FOUR PRESS ASSOCIATIONS STOP BEGINNING TODAY

P2/50

PRESS WIRELESS WILL BRING AMERICAN READERS FASTER AND FULLER ACCOUNTS OF THE BATTLE FOR THE PHILIPPINES STOP OPERATING AT THE INCREDIBLE SPEED OF 400 WORDS A MINUTE THE STATION IS BEAMED DIRECTLY ON LOSANGELES STOP THERE ITS CODE SIGNALS ARE PICKED UP AND AUTOMATICALLY TRANSCRIBED AS CLEAR PRESS COPY STOP

P3/50

SIMULTANEOUSLY A RELAY TRANSMITS THE COPY TO NEWYORK FOR DISTRIBUTION TO THE EASTERN HALF OF THE NATION STOP ASIDE FROM THE LOSANGELES AND NEWYORK OUTLETS WESTERNUNION WILL PICK UP ALL COPY AND RETRANSMIT IT STOP PRESS WIRELESS PLANS A PERMANENT STATION IN MANILA STOP THE LOCATION OF THE PRESENT STATION

18 SECRET STOP HEADED BY H. STOVALL GARDENA CALIF THE NINE MAN CREW ARRIVED IN THE PHILIPPINES NOV 5 IT INCLUDES GEORGE R LUCKEY ENGINEER LOSANGELES FORREST BARTLETT GARDENA CALFIXXX CALIF ROBERT H CHRISTIAN AND JOSEPH PETTA BROOKLYN E F BRANCH PASADENA CALIF W K WATSON ARCADIA CALIF C E FORD

5/

NEWYORKCITY AND E J CYCKEWICK VALLEYSTREAM LONGISLAND STOP PRESS WIRELESS OFFERS THE ONLY DIRECT CODE TRANSMISSION BETWEEN THE PHILIPPINES AND THE UNITEDSTATES STOP PREVIOUSLY THE ARMY SIGNAL CORPS HAD VALIANTLY SERVED AS A TRANSMISSION AGENCY VIA VOICE BROADCAST TO SANFRANCISCO STOP THE ONLY OTHER FACILITY IS BEAM WIRELESS AT HOLLANDIA NEWGUINEA CONTROLLED

6/

BY THE AUSTRALIAN GOVERNMENT AND PART ON THE WORLDWIDE BRITISH COMMUNICATIONS COMBINE STOP ENDIT

30/622AM

One of the first messages filed by station PZ after it was established in the Philippines. It's dated 14 November 1944, and was sent by Chicago Tribune correspondent Simmons. (Courtesy Forrest Bartlett, W6OWP)

telegraphy. Priority needs of the military prevented the assignment of an army unit to augment the *Apache's* voice service. It was at that point PREWI was asked to provide a station capable of filling this communications gap. Military and FCC authorization was given, and arrangements made for the transfer of a unit made up of civilian specialists and equipment to Gen. MacArthur's staging area in New Guinea.

PREWI personnel were assigned assimilated military rank. The forthcoming operations of the unit, which was known as *Project Z*, were coordinated through Army Public Relations, and also Col. Akin, who was Gen. MacArthur's signal officer.

MacArthur's return (then called "D-Day") for the Philippines was October 20, 1944, with landings on the island of Leyte. When the occupation of the town of Taclo-

Field view of the Manila PY transmitter site in 1944. (Courtesy Forrest Bartlett, W6OWP).

Station PY had a broadcast studio located in the Soriano Building., located in downtown Manila. (Courtesy Forrest Bartlett, W6OWP)

ban was complete, the PREWI unit moved ashore. On November 14, 1944, *Project Z* made its initial contact with the PREWI station in Los Angeles, and message traffic immediately began moving over the high-speed link. They used the call letters PZ1 through PZ9 to identify the station on

Though equipped for voice transmission, the immediate goal of the Leyte station was to handle telegraphic dispatches for the many news correspondents assigned to the Philippines operation. In addition, incoming traffic was handled. It was directed to correspondents, and there was om the Office of War Information he Red Cross, and a daily war sum- r the military at Tacloban. anuary 1, 1945, PZ member Ches- was transferred to the US Army -47 moving northward with forces ıg for landings on Luzon. The *FP-47* was outfitted with special radiotelegraph facilities for handling press from news correspondents accompanying that campaign. By relaying traffic through the station at Leyte, the short-range transmitter on the *FP-47* was overcome and the news stories covering the landings at Lingauyen, and the advance on Manila were quickly reaching the U.S.

Coincident with the advance towards Manila, a second PREWI project, known as PY, was close behind. This brought equipment and personnel for a land-based station to operate from this strategic city.

Weeks before Manila was completely secure, this station went on the air. It boasted a 10 kW transmitter, an excellent directional antenna array, and it utilized a full complement of frequencies. It used call letters between PY1 through PY19. Its high power and voice capabilities enabled station PY to begin supplementing the busy schedule of the *Apache*.

An impressive array of network and broadcast station war correspondents transmitted their stories from the PY facility. Merrill "Red" Mueller of NBC. James Dunn and John Adams of CBS were among a long list that included such familiar voices of WWII broadcast coverage as Pat Flaherty, Cedric Foster, William Pyle, and Bill Costello, to name a few.

Having completed its mission, station PZ on Leyte closed down its operations on February 28, 1945. It's equipment and personnel were transferred to Manila. Chester Ford, however, remained temporarily assigned to the *FP-47*. He was to handle transmission of press dispatches from landings at Brunei, Lutong, Tawi, and Balikpapan on Borneo, and from Okinawa. On September 13, 1945, he rejoined the rest of the PREWI crew.

On March 25, 1946, eight members of the Press Wireless *Project Z* group were awarded the Asiatic-Pacific ribbon by command of Gen. Douglas MacArthur.

Although much has been written about WWII, this is an aspect of that conflict that has been passed over. There are still many interesting stories to tell, and we appreciate Forrest Bartlett's bringing this interesting piece communications history to light for *POP'COMM* readers.

Meanwhile, in Europe

In 1925, radio listeners in England trying to pick up foreign stations might have been lucky enough to hear the first commercial broadcast directed to Great Britain. It was a fashion talk from the station in the Eiffel Tower, and was sponsored by Selfridges, a British store. This was quite a novelty to listeners in England inasmuch as the BBC is commercial-free.

One of those listeners was Capt. Leonard F. Plugge, who felt this was a concept with a future. He founded the International Broadcasting Company Ltd., which began sending out weekly half-hour commercial English language programming for British audiences. IBC used the facilities of France's *Radio Toulouse*. A phonograph record company happily sponsored these programs.

In 1930, competitors caught on and began buying commercial time for English language programs for British listeners on powerful *Radio Paris*. IBC then expanded its own programming to include that station, and also *Radio Normandy* which was on the French side of the English Channel. Eventually, IBC was to be additionally heard over *Radio Athlone, Radio Luxembourg* (which replaced Radio Paris when that station was nationalized), *Radio Cote d'Azur* (later called *Radio Mediterranean*), and various stations in Spain, including a shortwave transmitter. In all, IBC was tried out on more than 20 stations.

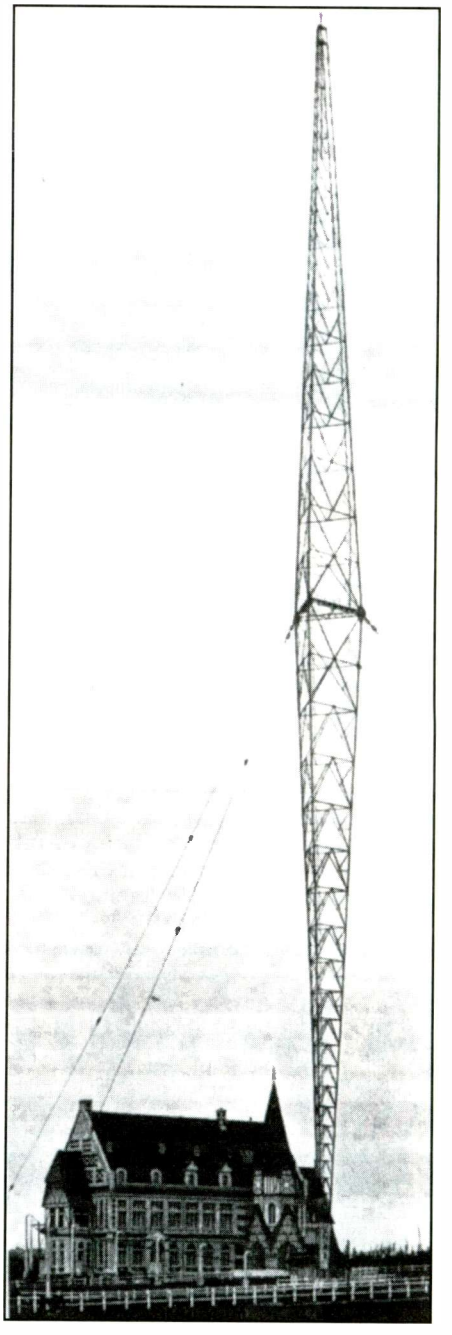
In 1935, Capt. Plugge decided to consolidate the diverse outlets of IBC and concentrate the broadcasts over one facility, that of *Radio Normandy*. The station's 15 kW transmitter in Fecamp operated on 1415 kHz. Plugge felt it needed a stronger signal into England.

British-owned IBC had made enough enough money to purchase the station with the intention of establishing studios in France. IBC immediately embarked on a major expansion program to rebuild the station, increase its power, and put up a better antenna. The plan was to offer original programming and sell commercial time to other companies wishing to reach the large British radio audience.

On December 12, 1938, the expanded *Radio Normandy* facilities went into operation with 20 kW on the new and better frequency of 1095 kHz. This was a truly magnificent station in every respect, with a new 565-foot tower erected in the village of Louvetot, the highest point in Normandy. The transmitter could be operated from its own electric generators in the event commercial power failed.

The studios were lavish, and situated at the beautiful Chateau de Caudebec-en-Caux. This was a fully-equipped broadcast facility, with offices, studios, auditoriums, 20,000 phonograph records, and recording equipment. Located several miles from the transmitter, the two facilities were linked by telephone lines.

Radio Normandy was located about 130 miles SSE of London. The station's daytime coverage reached that city, the whole of the South of England, and the Home Counties. It could be reliably heard during daytime beyond 200 miles, which meant there was a good level signal going



This is the magnificent Radio Normandy transmitting facility opened in December of 1938 for the benefit of British listeners. That's a 565-foot tower. (Courtesy of H. Scott Killgore, Calif.)

The Radio Normandy studios were located in a lovely old chateau that had been extensively rebuilt to house a complete and modern broadcast facility. (Courtesy H. Scott Killgore, Calif.)

into an area bounded by Birmingham, Worcester, Hereford, Plymouth, and Coventry.

This was a great idea, but *Radio Normandy* was a victim of bad timing. In March, 1938, German forces marched into Austria, and on September 1, 1939, Germany declared war on Poland. On September 3, 1939, Great Britain and France, as allies of Poland, declared war on Germany. The new *Radio Normandy*, which started up on December 12, 1938, was in trouble. It was British owned, and located in France. IBC kept it going.

In May, 1940, Nazi forces marched into France, and by the end of June, the Vichy government had been established there. Vichy was a puppet government, hated by the French people, but imposed upon them and supported by the German forces occupying the nation.

After only a year and a half, *Radio Normandy* suddenly found itself out of the commercial radio business. The Germans were delighted to evict IBC and take over this powerful modern broadcast facility so close to England. They changed its frequency to 1110 kHz, retained the name *Radio Normandy*, then freely used the station for sending Axis war propaganda to England.

D-Day in Europe, June 6, 1944, saw Allied forces storming the beaches of Normandy. That was the last day *Radio Normandy* was operated as an Axis propaganda outlet. The station promptly went dark. By August, Paris had been liberated, and in September, a provisional Free French government was established.

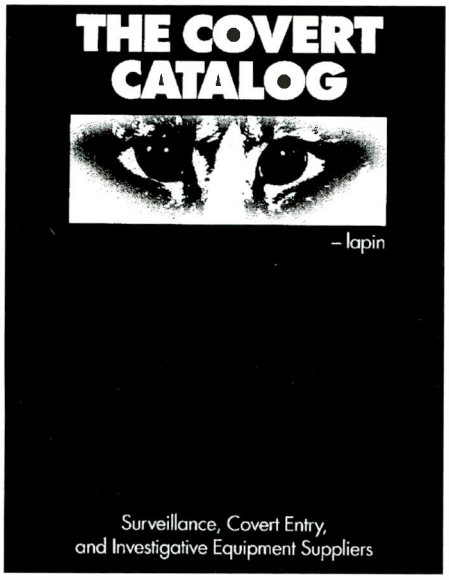
Reader H. Scott Killgore, owner of Station KMPG, Hollister, Calif., brought us this interesting story. Mr. Killgore is one of our regulars, here. He told me that after WWII, Leonard Plugge advised him that he was trying to regain possession of *Radio Normandy* in order to get it going again as a commercial station. Unfortunately, *Radio Normandy* never did return to the air.

The two D-Days affected two stations, one going into operation, the other heading into oblivion. Still, both remain a part of radio history that enrich the knowledge of our heritage.

We always appreciate hearing from readers sharing their personal anecdotes and memories, news clippings, old QSL's, photos, picture postcards, station rosters, and anything else relating to old time wireless and radio. Best wishes for the coming year to all! ■

BOOKS YOU'LL LIKE

BY R.L. SLATTERY



Where to Get it

Here's a profusely illustrated 182-page master directory showing the sources and suppliers of the latest and most amazing surveillance, counter surveillance, audio, and video surveillance devices. It's called *The Covert Catalog*, by Lee Lapin.

You could look it up! The best sources for through-wall listeners, encryption devices, scramblers, micro transmitters, bugs, tiny video cameras, hidden mics, body mics, cellular tracking radios, electronic countermeasures gear, call ID defeaters, secret antennas, fiber optics, eavesdropping equipment, pager and FAX interceptors, recorders, software encryption items, phone voice changers, tactical radios, surveillance radios, spy satellite photos, bumper beepers, telephone lineman's equipment, and more.

Lapin offers a list of the best information suppliers, spy shops, specialized newsletters, and book publishers for those interested in electronic and other surveillance.

There's much more to this book. Lapin covers sources of bullet proof vests, escape and evasion schools, lock picks, reverse engineers, alternate ID's, non-lethal weapons, and more.

This is not merely a directory of barebones listings, like a telephone book. In most cases, photos illustrate the listings, supplemented by a description of the company's services and products, general price range, along with the author's personal opinions. There are many sample pages from actual catalogs shown. Addresses are given so that readers may directly contact the individual suppliers for specific availability, prices, and ordering information regarding specific items, or to receive a complete catalog. Hundreds of suppliers are listed, and cross-indexed by product-type.

Lapin's sources are places where the professionals (like PI's, cops, and security folk) shop. As such, they are where products and services usually cost far less than those sold to the general public. The items covered in the include the latest technologies. Every page of this book is a fascinating eye-opener, even if you're only window-shopping, or simply curious.

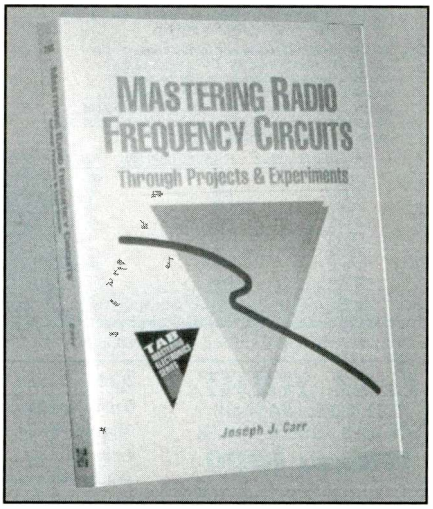
The Covert Catalog is $34.95, plus $4 s/h ($5 to Canada). NYS residents please add $3.31 tax. Order from CRB Research Books, Inc., P.O. Box 56, Commack, NY 11725. VISA/MC welcomed. Toll-free phone orders: 1-800-656-0056. Canada/AK/HI orders: (516) 543-9169. 24-hr. FAX order line: (516) 543-7486.

Those Tricky RF Circuits Made Clear

In his 411-page illustrated (150 photos, diagrams, schematics, charts) book, *Mastering Radio Frequency Circuits*, Joseph Carr takes away the mystery from the radio frequency portion of the electromagnetic spectrum. Here's a book aimed squarely at communications hobbyists, students, SWL's and ham operators.

Taking a thoroughly practical approach, Joe carefully leads his readers through RF theory with hands-on bench experiments and projects. You'll be shown how to design microwave IC's, and receiver preselectors, how to wind your own coils and transformers, repair several types of capacitors, construct receiver circuits and RF bridges. Two especially interesting and useful projects involve spectrum analyzers and time domain reflectors.

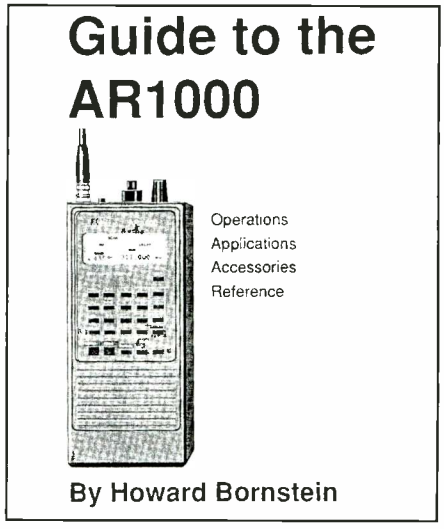
Joe Carr, who writes the *Antennas & Things* column for *POP'COMM*, is an electrical engineer, an active ham operator, and the author of numerous handbooks. His latest book offers a well-written, comprehensive, and common sense guide to a topic that will be useful to students, beginners, and intermediate-level persons interested in electronic communications.



Mastering Radio Frequency Circuits, by Joseph Carr, is available from many bookstores for $19.95 in softcover. Or, it may be ordered directly from TAB Books, Blue Ridge Summit, PA 17294-0850. Phone 1-800-822-8158.

Own an AR1000 Scanner?

The AOR Model AR1000 handheld scanner is known by a variety of different names and model numbers. In the USA, it was originally offered under the name AR1000. The frequency range was 8 MHz to 600 MHz, and 805 MHz to 1300 MHz. Later units extended the low frequency end down to 500 kHz. Still later models filled the 600 to 805 MHz gap. These variants were known as AR1000X, AR1000XC, and AR1000XLT.



A mobile/desktop scanner known as the AR2800 is, functionally, almost identical to the AR1000. Sold under England, the AR1000 is known as the AR2000. In Europe it's called the HP200, HP200E, HP-200 Mk II, and HP2000.

The AR1000, by whatever name, is a popular 1,000-channel scanner, that has evolved a worldwide cult status of its own.

The 81-page *Guide to the AR1000*, by Howard Bornstein, is a complete operating guide to this piece of equipment, showing, as it claims, "operations, applications, accessories, and reference." In other words, it was written by an experienced AR1000 owner for others who use and love this scanner. It is an AR1000-lover's dream come true, with every possible smidgen of relevant data included. Admittedly, some of the information was picked up on the CompuServe HAMNET, but, so what?

There are all sorts of hints and short cuts, good ideas, and clever tricks, in addition to solid operating information.

We received a copy of the book, which we liked a lot, but no pricing information. Check with the publisher for more information. Contact Design Equilibrium, P.O. Box 1245, Menlo Park, CA 94025.

You Could Look it Up

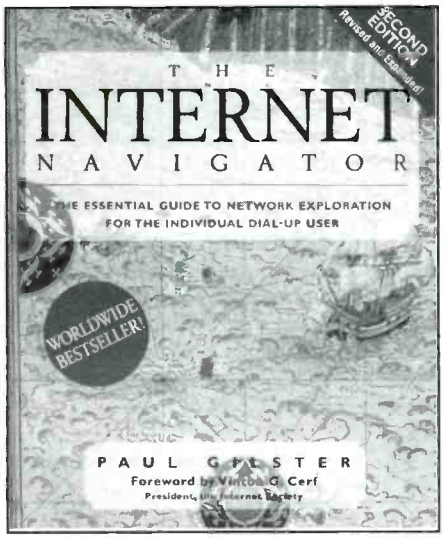
It's common that knowledge is the Internet's greatest asset. Its immense resources can also be viewed as its greatest liability. Unlike commercially developed on-line services, Internet has no central administrator to organize the Net's contents or direct its users. Without a definitive "table of contents" to sift through information, Internet users are confronted with an overwhelming, staggering mass of data, a bewildering array of search and find mechanisms.

Finding It On The Internet, by Paul Gilster, carries the subtitle, *The Essential Guide to archie, veronica, gopher, WAIS, WWW (Including Mosaic, and other Search & Browsing Tools)*. This 288-page reference book shows dial-up users how to bring some order out of chaos.

Unlike directories that simply list addresses, Gilster teaches users how to design realistic, practical searches to locate and access information quickly and cost-efficiently by utilizing the Internet's own search and browse tools.

In this step-by-step guide, the author shows the crucial differences between major search engines (such as WAIS, archie, and veronica), and browsing tools including gopher, World Wide Web, and (for users with high-speed access), Mosaic. He covers lesser-known tools, such as jughead, HYTELNET, LIBTEL, and LIBS, as well as finding people using X.500, netfind, and whois. He shows how to search using various tools via E-mail. The book features actual sample searches that walks readers through the search process, covering each tool's quirks and glitches.

Here's a useful text for anyone who's on-line with Internet. The book is $19.95, from John Wiley and Sons, Inc., 605 Third Ave., New York, NY 10158. Phone (212) 850-6630.



The Most Commonly Asked Questions and Responses About...

FCC Regulatory Fees

The Federal Communications Commission has been receiving several questions concerning procedures established in its Report and Order in MD Docket 94-19 released June 8, 1994, for the filing of various regulatory fees. Listed below are some commonly asked questions and responses concerning these procedures.

Q. What was the effective date of the FCC's new fee schedule?
A. July 18, 1994.

Q. Where do I send my regulatory fee payments?
A. If you are sending your fee via U.S Postal Service, it should be mailed to Federal Communications Commission, Regulatory Fees, P.O. Box 358835, Pittsburgh, PA 15251-5835. However, if your regulatory fee is being delivered via courier service or hand carried, it must be directed to Federal Communications Commission, c/o Mellon Bank, Three Mellon Bank Center, 525 William Penn Way, 27th Floor, Room 153-2713, Pittsburgh, PA 15259-0001; Attention: Wholesale Lockbox Shift Supervisor. The inside envelope must be addressed to Box 358835.

Q. May I make payments for my regulatory fees by wire transfer?
A. Yes. Payments by wire transfer are accepted for regulatory and processing fees. No prior approval is required. The payor is responsible for working out the arrangements with his/her bank. Payor must fax a completed FCC Form 159 to Mellon Bank (412-236-5702) at least one hour prior to the wire transfer. In making the arrangements with his/her bank, the payor must provide the following information:

Receiving Bank:	Mellon Pittsburgh
ABA Routing:	043-000-261
Beneficiary:	FCC/AC 9116106
OBI:	Reg. Pay FCC Account Number, Payment Type, Type of Service Code, or a Telephone Number. Process Pay (if paying processing fee)
ORG:	Applicant's Name

Q. If I am paying for several licenses that have different filing due dates, when is my regulatory fee due?
A. The latter of the due date is when all of your regulatory fee payments are due.

Q. Who is responsible for payment of regulatory fees if a license has been transferred or assigned?
A. The current license holder is responsible for paying the fees.

Q. What is an "FCC Account Number?"
A. The payor tax identification number or telephone number including area code.

Q. Is there a listing of the payment type codes for regulatory fees?
A. Yes. The Public Notices, issued on June 20, 1994, specify all regulatory fee payment type codes along with complete remittance instructions and information.

Q. Will Mellon Bank accept multiple checks?
A. Yes, but the FCC discourages this practice.

Q. Is the receipt date determined by when the fee is received by the FCC, or postmarked by the U.S. Post Office?
A. The receipt date is when the filing is received at Mellon Bank, not the postmarked date.

Q. Is there a fee for a conditional MMDS license?
A. No.

Q. Some of the backup data submitted by licensees may be confidential. How will the FCC handle this?
A. Confidentiality may be requested by any payor. Refer to FCC Report and Order adopted June 3, 1994, released June 8, 1994, (MD Docket 94-19, FCC 94-140), entitled, "Implementation of Section 9 of the Communications Act" (Page 39, Paragraph 110).

Q. Can a law firm submit one filing for all of its clients?
A. Yes, but it is necessary for the law firm to itemize each client on FCC Form 159. The only exception is for Private Radio Bureau filings, which are mailed to different locations.

Q. How are modifications handled under the regulatory fee program?
A. No regulatory fee is required for modification(s) of a license. In the Private Radio Bureau, the regulatory fee must be filed with the application.

Q. If a Common Carrier licensee is a competitive access provider or local exchange carrier, or inter-exchange carrier and holds a Part 21 microwave license, is it necessary for that licensee to pay for both of its services?
A. Yes.

Q. Are public, pay telephone owners required to remit payment for regulatory fees?
A. No, because they are not covered by the FCC regulations.

Q. As of what date does an inter-exchange carrier count how many pre-subscribed access lines they have?
A. As of the date they submitted their report to the National Exchange Carrier Association (NECA), which should have been filed during the last week in December, 1993.

Q. Do Governmental entities operating commercial stations pay regulatory fees?
A. No.

Q. Must resellers of cellular services pay regulatory fees?
A. No, because resellers are not covered by the FCC regulations.

Q. Must cellular subscribers pay regulatory fees?
A. No, because they are not covered by the FCC regulations.

Q. Should cable companies list each community unit number for all the community units in their system?
A. Yes.

Q. When a municipality owns a non-profit and/or non-commercial cable company, are fees required to be paid?
A. No. Governments and non-profit entities (exempt under 501 of the Internal Revenue Code) are exempt from paying regulatory fees.

Q. Are translators for an educational station exempt?
A. Yes. All translator stations are exempt from paying FY 94 regulatory fees.

Q. Can Cable TV companies pay their regulatory fees for CARS in installments?

A. No. The cable companies may only make installment payments if their total subscriber fee exceeds $18,500. CARS licenses cannot be counted toward this $18,500 installment threshold.

Q. If one holds a CARS license, but is not a cable company, is a regulatory fee required?

A. Yes.

Q. Is a regulatory fee paid by low power television permitees?

A. No, only licensees in the low power services pay a regulatory fee. However, if the permitee became a licensee on or prior to October 1, 1993, a fee must be paid.

Q. Must broadcast stations pay a fee for auxiliary back-up antennas (licenses under Part 73 of FCC's Rules)?

A. No.

Q. If the regulatory fee for my TV satellite is greater than the fee for my TV station, can I request a reduction? How is this done, and what is the payment type code I would use?

A. A petition requesting a reduction of the fee must submitted to the FCC along with the appropriate fee payment. A copy of that petition should also be filed with the Office Secretary. You would use the same payment type code as the station.

Q. Are earth station facilities paid for by separate license or antenna?

A. Payments are made per antenna for every license.

Q. Are uplinks considered mobile or earth stations?

A. Uplinks are fixed earth stations and are required to pay 6¢ per antenna per call sign (fee type code is CAAN).

Q. If a television station is destroyed by a natural disaster (i.e., Hurricane Hugo in 1989) and all equipment is lost, is a regulatory fee due to after the accident?

A. If a licensee held a license on October 1, 1993, a regulatory fee is due. However, the license may request a waiver at the time payment is made.

Q. When filing an FCC Form 756 for a General Radio Operator's lifetime license, must a regulatory fee be paid?

A. No, there is no fee required.

Q. Must FM translator or booster licensees pay a regulatory fee?

A. No. FM translator and booster licensees are not subject to paying FY 94 regulatory fees.

Q. If a radio station is bought/sold, who is responsible for the fee if the seller was the owner/operator at the "as of" date, but not at the "payment due" date?

A. Whomever is holding the license on the date the regulatory fee is due to the FCC, is responsible for payment. However, the buyer and seller can negotiate this issue. Reference can be made to the FCC's Report and Order adopted June 3, 1994, released June 8, 1994 (MD Docket 94-19, FCC 94-140), entitled, "Implementation of Section 9 of the Communications At" (Footnote 14, Page 14).

Q. What is the payment structure for radio stations which have separate call signs and also use the same remote?

A. There is a one-time payment for each call sign. However, for reporting purposes to the FCC, all remotes should be identified with the same main broadcast station which is currently on file with the Mass Media Bureau.

Q. What are the new classifications for AM stations?

A.

Old Class	New Class
Class I	Class A
Class II & III	Class B
Class II.D , II.S	Class D
Class III.D, Class III.S	Class D
Class IV	Class C

Q. If one provides a call sign for an AM radio station, can the FCC tell what class the station is?

A. Yes. The FCC Fees Hotline, telephone (202) 418-0220 can provide the necessary information.

Q. Do experimental radio users (other than broadcast, under Part 5 of the rules) pay regulatory fees?

A. No.

Clarification

Reporting Public Mobile Subscribers: Public mobile providers must account for all of the call signs in their systems as well as the total number of subscribers. Accordingly, public mobile providers must list all the call signs for their systems on the 159/159-C, and may distribute the total number of subscribers to these call signs in one of the following ways: 1) allocate one subscriber to every call sign, except one, and allocate the remainder of subscribers to the remaining call sign, or 2) determine the average number of subscribers per call sign and use this number of subscribers for each call. The filer is ultimately responsible for documenting their fee payment. *(Note:* Whole numbers must be used in the quantity block.)

For further information, call the Fees Hotline at (202) 418-0220. The Internet address for this information is ftp.fcc.gov.

Central American Adventure

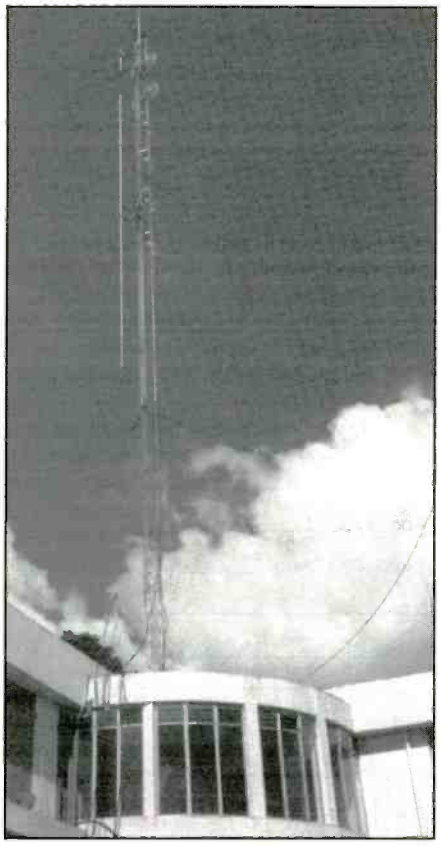
Visiting Shortwave Stations in Guatemala

BY DR. ADRIAN M. PETERSON, N9GWY

It was on Inauguration Day, 1993, that I flew out from the Miami International Airport on the first leg of my journey—my "Central American Adventure." With me was Spanish speaking Mr. David Gregory, the manager of one of the large international shortwave stations in Latin America. Also along was a new Grundig 700, the latest edition of the "World Radio Handbook," and the 1993 edition of Larry Magne's "Passport to World Band Radio." All was set for a ten-day DX adventure in Central America!

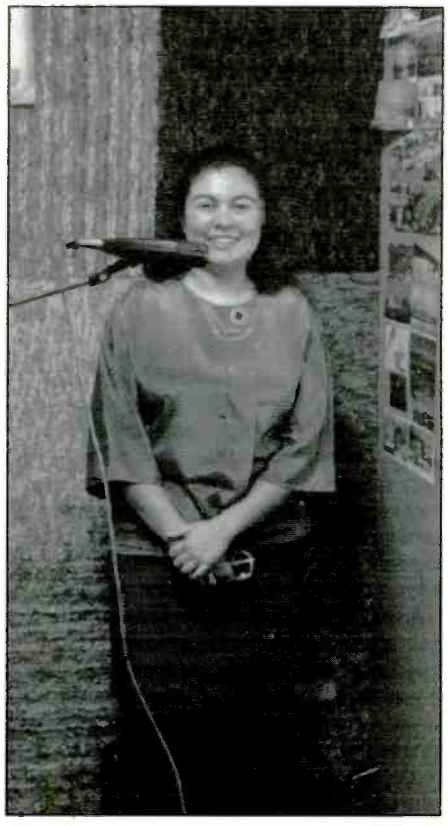
Our plane flew from Miami, across the Caribbean, over a large slab of Cuba, on the edge of Grand Cayman, down the Mexican sun-drenched holiday peninsula, across Belize, and into Guatemala City. And actually, with a touch of nostalgia, the cultural scene in Guatemala City reminded me so much of what I had observed so often in parts of Southern Asia. Such places as Goa on the coast of India, and the resplen-

Radio Cultural, TGN, broadcasts from this unmarked building.



Union Radio's FM antenna.

Welcome to Union Radio, Guatemala City!



Live from Guatemala City, it's Union Radio's office secretary!

Location	Call	kHz	kW	Transmitter
Canto las Pilas	TGMU	1330	10	Converted MacMartin running @ 5 kW.
	TGMUA	5980	10	Converted Sintronic running @ 3 kW.
	TGMUB	6090		Currently inactive.
	TGMUC	25m	5	Under transfer from Costa Rica.
	TGMU-FM	105.7	7	Being installed.
Guatemala	TGMU-FM	105.7	.25	Temporary transmitter.

AWR-Guatemala's shortwave transmitter building antennas, in Cantos los Pilas.

dent island of Sri Lanka had been touched also by Spanish and Portuguese culture.

DX'ing Observations

A two-night stay in a good hotel is a pleasant location for weary travelers, yet not an ideal location for DX'ing, so at first I turned to cable television. Many of the American satellite TV programs were available, such as CNN, ABC, CBS, MBS, and several others. In addition, two networks in Spanish originating in Spain and Latin America were also available, as well as a couple of local TV channels.

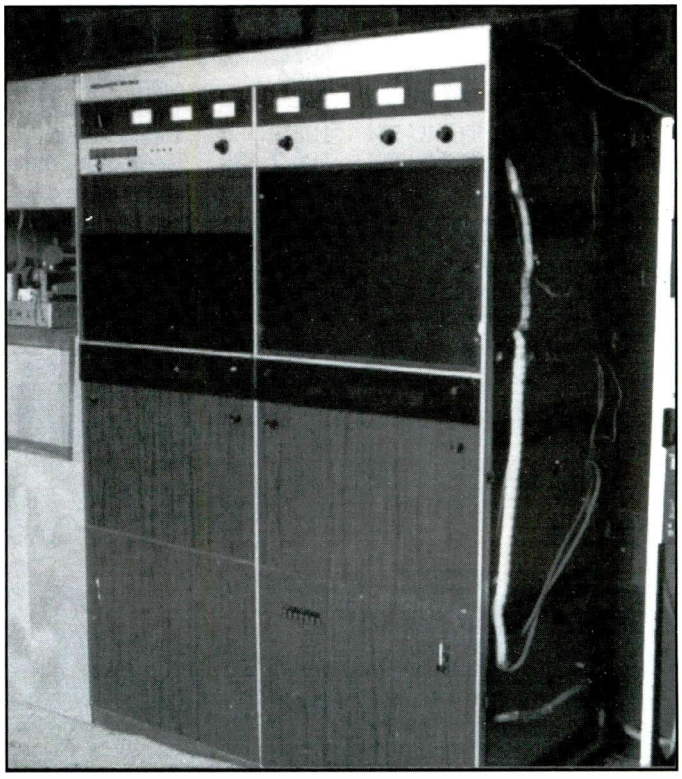
During the night, a commercial airliner flew so low over the hotel, that I do declare, if the wheels had been down, they would have scooped off the top floor to the hotel! And there was a volcanic eruption in Guatemala while I was there, and two earthquakes in nearby Costa Rica.

Interestingly, there are 16 shortwave outlets operating in Guatemala, mainly in the tropical bands, 2 to 5 MHz. According to listings in the WRTVHB, and my own monitoring observations, 12 of these stations operate only on shortwave, with no local AM or FM outlet.

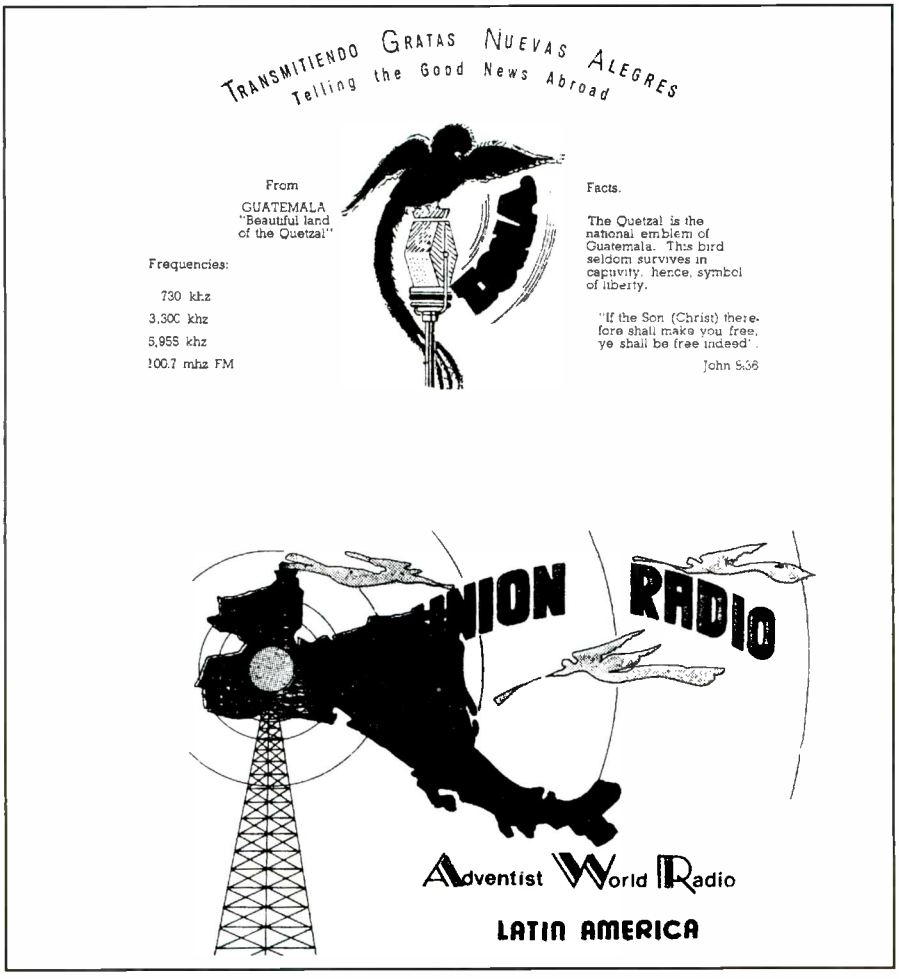
Radio Cultural

One of the best known radio stations in Guatemala is Radio Cultural. This station is now located in what we would call a sub-

The technical staff of AWR-Guatemala.



Union Radio's AM transmitter, converted from shortwave.



Front and rear views of the TGNA QSL card.

urban area of Guatemala City, in a compact well-designed, unmarked, multi-storied, red brick building. Inside the foyer is a restored old transmitter which is a copy of their original 1 kW unit from 1950.

Historically, Radio Cultural began as Radio Evangelica, though the slogan was changed about a year later to the ever-familiar "Radio Cultural." The station came on the air August 6, 1950, with the AM outlet TGN on 1180 kHz and three shortwave outlets listed as TGNA, TGNB, and TGNC. The first listing of this station in the WRTVHB series is for the year 1952, and all transmitters were listed then as emitting 5 kW, though the original transmitter was actually rated at just 1 kW.

The first location for Radio Cultural was downtown Guatemala City. However, back in about 1960, the Guatemalan government required all radio stations to leave the downtown area, and Radio Cultural acquired their current property. The station operated for the first 15 years at this location from temporary premises which are now behind the current building. Then in 1975, the current very functional building was assumed.

This radio facility presently contains offices and studios for the TGN radio complex, with two control rooms—AM and FM—and two production studios. The transmitter base is 12 miles away on a hill top at San Miguel Petapa. The current AM transmitter, 10 kW in 730 kHz, is due to be replaced quite soon by a new unit. The old AM transmitter will then be modified for use on shortwave, and it is probable that

Scanners/CB/Ham/Shortwave

COMMUNICATIONS ELECTRONICS INC.
Emergency Operations Center

26th Anniversary Special
Save $30.00
on Bearcat® 8500XLT scanner or RELM WHS150 VHF transceiver.

Celebrate our 26th anniversary with special savings on your choice of a new Bearcat 8500XLT scanner or RELM WHS150 VHF five watt transceiver. This coupon must be included with your prepaid order. Offer valid only on orders mailed directly to Communications Electronics Inc., P.O. Box 1045 - Dept. PC1294, Ann Arbor, Michigan 48106 U.S.A. Coupon expires January 31, 1995. Limit one coupon per item. Coupon may be photocopied. Coupon may not be used in conjunction with any other offer. Credit cards are excluded from this offer. Void where prohibited.

Bearcat Scanners

Bearcat 200XLT-K Radio Scanner

Mfg. suggested list price $509.95/**CE price $198.95**
200 Channels · 10 Banks · Cellular Modifiable
Heavy duty carry case · Illuminated LCD · Search
Size: 2-3/4" Wide x 1-1/4" Deep x 7-1/2" High

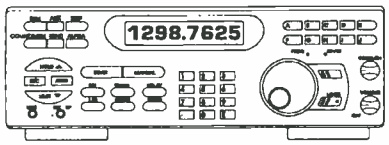
Frequency Coverage: 29.000 - 54.000, 118.000-174.00, 406.000-512.000, 806.000 - 823.9875, 849.0125 - 868.9875, 894.0125 - 956.0000 MHz.

Recently, the FCC amended Parts 2 and 15 of its rules to prohibit the manufacture and importation of scanning radios capable of intercepting the 800 MHz. cellular telephone service. The Electronics Communications Privacy Act prohibits the intentional interception of cellular telephone transmissions. Supplies of scanners that are capable of being easily modified to receive full 800 MHz. coverage such as the Bearcat 200XLT are in *critically* short supply. Today could be your last chance to buy your Bearcat 200XLT scanner. Signal intelligence experts, public safety agencies and people with inquiring minds that want to know, depend on the Bearcat 200XLT *handheld* scanner to intercept just about any radio transmission. You can also program frequencies such as police, fire, emergency, race cars, marine, weather, and other broadcasts into 10 banks of 20 channels each.

A modification sheet with instructions to restore full 800 MHz. coverage for our Bearcat 200XLT or Bearcat 2500XLT may be ordered for $8.00. To order your Bearcat scanner, call 1-800-USA-SCAN.

Other Bearcat Scanners

Bearcat 8500XLT-K base/mobile $368.95
NEW Bearcat 3000XLT-K handheld* $379.95
Bearcat 890XLT-K base/mobile $228.95
Bearcat 855XLT-K base $148.95
Bearcat 760XLT-K base/mobile $198.95
Bearcat 700A-K info mobile $148.95
Bearcat 560XLA-K base/mobile $83.95
Bearcat 220XLT-K handheld $228.95
Bearcat 200XLT-K handheld $198.95
Bearcat 178XLT-K base/WX alert $133.95
Sportcat 150-K handheld $178.95
Bearcat 148XLT-K base/WX alert $88.95
Bearcat 120XLT-K handheld $148.95
Bearcat BCT2-K info mobile $138.95



Bearcat 8500XLT-K Radio Scanner

Mfg. suggested list price $689.95/**CE price $368.95**
500 Channels · 20 banks · Alphanumeric display
Turbo Scan · VFO Control · Priority channels
Auto Store · Auto Recording · Reception counter
Frequency step resolution 5, 12.5, 25 & 50 KHz.
Size: 10-1/2" Wide x 7-1/2" Deep x 3-3/8" High

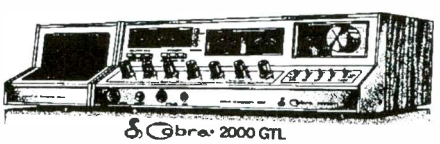
Frequency Coverage:
25.000 - 28.995 MHz. (AM), 29.000 - 54.000 MHz. (NFM), 54.000 - 71.995 MHz. (WFM), 72.000 - 75.995 MHz. (NFM), 76.000 - 107.995 MHz. (WFM), 108.000 - 136.995 MHz. (AM) 137.000 - 173.995 MHz. (NFM), 174.000 - 215.995 MHz. (WFM), 216.000 - 224.995 MHz. (NFM), 225.000 - 399.995 MHz. (AM) 400.000 - 511.995 MHz. (NFM), 512.000 - 549.995 MHz. (WFM) 760.000 - 823.9875 MHz (NFM), 849.0125 - 868.9875 MHz (NFM) 894.0125 - 1,300.000 MHz. (NFM).

The new Bearcat 8500XLT gives you pure scanning satisfaction with amazing features like Turbo Scan. This lightning-fast technology featuring a triple conversion RF system, enables Uniden's best scanner to scan and search up to 100 channels per second. Because the frequency coverage is so large, a very fast scanning system is essential to keep up with the action. Other features include ***VFO Control*** - (Variable Frequency Oscillator) which allows you to adjust the large rotary tuner to select the desired frequency or channel. ***Counter Display*** - Lets you count and record each channel while scanning. ***Auto Store*** - Automatically stores all active frequencies within the specified bank(s). ***Auto Recording*** - This feature lets you record channel activity from the scanner onto a tape recorder. You can even get an optional ***CTCSS Tone Board*** (Continuous Tone Control Squelch System) which allows the squelch to be broken during scanning only when a correct CTCSS tone is received. ***20 banks*** - Each bank contains 25 channels, useful for storing similar frequencies in order to maintain faster scanning cycles. For maximum scanning enjoyment, order the following optional accessories: **PS001** Cigarette lighter power cord for temporary operation from your vehicle's cigarette lighter $14.95; **PS002** DC power cord - enables permanent operation from your vehicle's fuse box $14.95; **MB001** Mobile mounting bracket $14.95; **BC005** CTCSS Tone Board $54.95; **EX711** External speaker with mounting bracket & 10 feet of cable with plug attached $19.95. The BC8500XLT comes with AC adapter, telescopic antenna, owner's manual and one year limited warranty from Uniden. Order your BC8500XLT from Communications Electronics Inc. today.

CB/GMRS Radios

A National Weather Service (NWS) receiver with automatic emergency broadcast activation has been added to the legendary Cobra 29 CB radio. The integrated NWS receiver in the Cobra 29LTDWX will *automatically* activate to receive emergency announcements about severe weather and travel conditions. A special tone-alert signal broadcast by the NWS activates the weather receiver and overrides any CB radio reception for monitoring the warning message.

Cobra 29LTDWX-K CB/Weather Alert.. $129.95
Cobra 2000GTL-K SSB Deluxe CB Base $389.95
Cobra HH40-K CB 40 ch. Handheld $99.95
Uniden GMR100-K GMRS Handheld $159.95
Uniden WASHINGTON-K SSB CB Base . $189.95
Uniden GRANTXL-K SSB CB Mobile $139.95
Uniden PRO538W-K CB & Weather $59.95



Weather Stations

Now you can be your own weather reporter with the Davis Weather Monitor II. Our top-of-the-line weather station combines the most advanced weather monitoring technologies available into one incredible package. Glance at the display, and see wind direction and wind speed on the compass rose. Check the barometric trend arrow to see if the pressure is rising or falling. Push a button, and read indoor and outdoor temperature, wind chill, humidity and barometric pressure. Our package deal includes the ultra high resolution 1/100 inch rain collector part #7852-K, and the external temperature/humidity sensor, part #7859-K. The package deal is order #DAV1-K for $479.95 plus $15.00 shipping. If you have a personal computer, when you order the optional Weatherlink computer software for $139.95, you'll have a powerful computerized weather station at an incredible price. For the IBM PC or equivalent order part #7862-K. Apple Mac Plus or higher including PowerBook, order part number 7866-K.

The Weather Monitor II (7440-K) comes complete with anemometer with 40 feet of cable, external temperature sensor with 25 feet of cable, junction box with 8 feet of cable, AC-power adapter, detailed instruction booklet and one year limited factory warranty.

Davis Weather Monitor II **7440-K** $334.95
Davis Weather Wizard III **7425-K** $154.95
Davis Remote Display Unit **7815-K** $84.95
Davis Rain Collector II 0.01" **7852-K** $59.95
Davis Rain Collector II 0.2 mm **7852M-K** $59.95
External Temperature/Humidity Sensor **7859-K** $99.95
Davis Anemometer Mast Mount **7890-K** $15.95
Weatherlink Software for IBM PC-Version 3.0 **7862-K** $139.95
Weatherlink Software for Apple-Version 3.0 **7866-K** $139.95
4-Conductor 40' (12.2 m) extension cable **7876-K** $17.95
6-Conductor 40' (12.2 m) extension cable **7878-K** $21.95
8-Conductor 25' (7.6 m) junction box cable **7880-K** $14.95
8-Conductor 50' (15.2 m) junction box cable **7881-K** $24.95
8-Conductor 100' (30.5 m) junction box cable **7882-K** $44.95
Modem Adaptor 25-pin for communications port **7870-K** $9.95
Car/Boat/RV Lighter Cord **7873-K** $9.95
2400 baud modem for Weatherlink **MEXT-K** $39.95
Weatherlink language disks: Française, Deutsche, Italiana, Española **7863-K** $24.95

Other neat stuff

Grundig Satellit 700-K portable shortwave receiver with 512 memory & AC adapter $389.95
Grundig Yacht Boy 400-K digital portable shortwave receiver - 40 memory presets $199.95
Grundig Yacht Boy 230-K portable shortwave receiver $139.95
Sangean ATS800-K portable 20 memory shortwave receiver $69.95
Sangean ATS803A-K portable shortwave receiver w/AC adapter - 9 memory presets $148.95
Sangean ATS808-K portable 45 memory shortwave receiver $159.95
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ANTK-K VHF scanner/VHF transmitting antenna PL259 connector $29.95
ANTMMBNC-K magnet mount scanner antenna w/ BNC connector $29.95
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Como una entidad cultural, no-comercial y no-lucrativa, Radio Cultural no tiene anuncios ni cobra por sus servicios. Se sostiene por fe, con las contribuciones voluntarias de sus oyentes, de iglesias y de otros amigos de la emisora.

¿SABIA USTED QUE?

* Radio Cultural tiene un alcance importante al sur de México, país que no permite ningún programa evangélico en sus emisoras? También cubrimos una gran parte de Centro América.
* Ofrecemos cursos bíblicos por correspondencia para complementar la enseñanza radial?
* Mandamos un boletín mensual de oración e información a las personas que lo solicitan?
* Diariamente hay un promedio de 10 personas que piden consejería durante nuestra programación nocturna?

RADIO CULTURAL
existe para proclamar:

A un solo Dios, justo y santo, creador y sustentador del universo, quien existe eternamente en tres personas distintas. Mt. 28:19.

Que el hombre está separado de Dios por su naturaleza y acciones, merece el castigo eterno y no puede por sus propios medios cambiar su situación. Ro. 3:23.

Que Jesucristo, siendo verdadero Dios y verdadero hombre, murió en lugar del hombre. 1 P. 3:18.

Que quien cree en Jesucristo como su único y suficiente Salvador, sin obras de ninguna clase, es declarado justo delante de Dios, hecho completo en Cristo, y bautizado y capacitado por el Espíritu Santo para andar en obras de justicia para agradar a Dios. Tit. 3:5-8.

Que los que confían en Jesucristo disfrutarán eternamente la presencia de Dios y habrá un lugar de tormento eterno, separado de Dios para los demás. Jn. 4:24, 29.

Dirección de los Estudios:
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Dirección Postal:
Apdo. Postal 601 - 01901, Ciudad de Guatemala
Teléfonos: 72 17 46 - 71 43 78

LA FE ES POR EL OIR... LA PALABRA DE DIOS.

NUESTRA HISTORIA

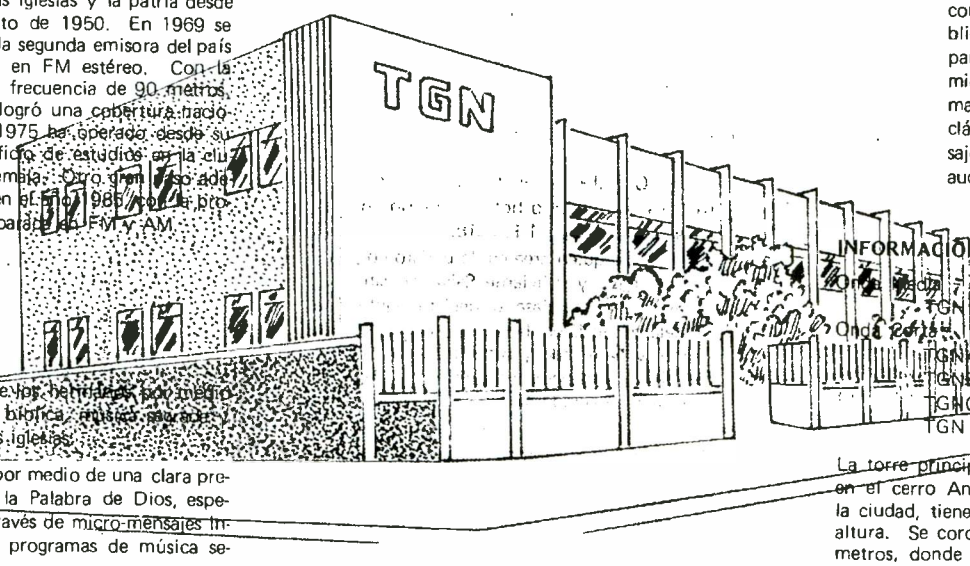
Fundada por el Lic. Haroldo van Broekhoven, de la Misión Centroamericana, Radio Cultural TGN ha estado al servicio de las iglesias y la patria desde el 6 de agosto de 1950. En 1969 se convirtió en la segunda emisora del país en transmitir en FM estéreo. Con la adición de la frecuencia de 90 metros, en 1970, se logró una cobertura nacional. Desde 1975 ha operado desde su moderno edificio de estudios en la ciudad de Guatemala. Otro gran paso adelante se dio en el año 1985 con la programación separada de FM y AM.

OBJETIVOS:

Edificación de los hermanos por medio de enseñanza bíblica, música sacra y noticias de las iglesias.

Evangelismo por medio de una clara presentación de la Palabra de Dios, especialmente a través de micro-mensajes intercalados en programas de música secular.

Educación por medio de programas culturales e informativos, música clásica y noticias nacionales e internacionales.



La fe es por el oir y el oir por la Palabra de Dios
Rom. 10:17.

PROGRAMACION:

Radio Cultural transmite todo el día en AM y onda corta, himnos, estudios bíblicos y otros programas para la población evangélica, mientras en FM su programación de música suave y clásica acompaña un mensaje evangelístico para el auditorio secular.

INFORMACION TECNICA:

Onda Media
TGN - 730 Khz.
Onda Corta
TGNA - 6.155 MHz. 49 metros
TGNB - 9.505 MHz. 31 metros
TGNC - 11.800 MHz. 90 metros
TGN - FM Estéreo 100.7 Mhz.

La torre principal de FM, localizada en en el cerro Anacoche, al lado oeste de la ciudad, tiene más de 100 metros de altura. Se corona con un mástil de 17 metros, donde está colocada la antena de FM. Además, hay dos torres más pequeñas para las antenas de onda corta. Radio Cultural transmite con una potencia de 10,000 vatios en AM y onda corta, y 5,000 vatios en FM Estéreo.

If information on Radio Cultural TGN is desired, be rest assured the station will send this brochure.

AWR/Union Radio sends this QSL card.

Flashes from T.G.N.A.

1. 10 KW transmitter on 730 khz.
2. 10 KW transmitter on 5,955 khz.
3. 10 KW transmitter on 3,300 khz.
4. 5 KW transmitter on 100.7 mhz FM stereo
5. Half-wave folded dipoles on Short wave frequencies.

1. Spanish Programming from 1100 to 0300 and 0430 to 0830 GMT.
   Non commercial, cultural, educational and religious.
2. English programming from 0300 to 0430 GMT.

PRIMARY PURPOSE – "Telling the Good News Abroad".
Financed -- By voluntary contributions of interested friends.

TNX-4-UR report on 3,300 Khz dated 2/27/82 73s

Engineer

BOX 601
GUATAMALA CITY, C. A.

We Are Pleased to verify your Reception of our station.

On 8 de Octubre de 1986. (date)

at 10.56 - 11.26 GMT

On 5980 KHz. mhz

Adventist World Radio (station)

We

Thank You for intrest in A.W.R. and wish you continued good listening.

Programming Dept.
Adventist World Radio
Apartado 35—C
Guatamala City
Guatemala, C. A.

SISTEMA DE EMISORAS UNION RADIO GUATEMALA, CENTROAMERICA

it will be tuned to their allotted, but presently unused frequency, 9505 kHz.

The current program schedule for Radio Cultural in Guatemala is as follows:

Call	kHz	kW	UTC
TGN	730	10	0955-0630
TGNC	3300	10	0955-0630
TGNA	5955	.25	1000-0630
TGNB	9505		Not currently in use.
TGN-FM	100.7	5	0955-0630

Most programming is in Spanish with a daily half hour in local languages. In addition, there is a daily 90-minute program running from 0300-0430 UTC.

"Radio Cultural" issues QSL cards for correct reception reports addressed to Apartado 601, 01901 Guatemala City, Guatemala. Return postage or IRC's are appreciated.

AWR—Guatemala

Station manager David Gregory also took me to his own station, Union Radio, also located in Guatemala City. The offices and studios are situated on the ground floor in the head office for the Seventh-day Adventist Church, in Guatemala. Three small studios produce programs for the AM and FM outlets of Union Radio and for the shortwave outlet, registered as Adventist World Radio (AWR), all with the collective callsign TGMU.

Actually, Union Radio also has quite a historic background. In 1954, it first came on the air as low powered 200-watt AM station TGMU on 1300 kHz with the slogan, "La Voz de la Buena Musica." Three slogans ("Radio Mil Trescientos" and "Radio Novedades" and "Union Radio") and 24 years later, (in 1978), this station was procured as the Central American unit of Adventist World Radio.

At this stage, the 10 kW Sintronic AM transmitter was converted for use on shortwave and the 5 kW MacMartin shortwave transmitter was converted for use on AM. Currently, the SW transmitter is radiating about 3 kW through a dipole antenna with north/south lobes, and the AM transmitter is radiating about 5 kW through a vertical omni-directional radiator. Interestingly, the AM lattice mast is suspended above ground level by tensioned cables rather than resting upon a large insulator. A 2.5 kW FM transmitter was also installed at the same location, on the top of the hill Canto las Pilas, near the village Canalitos Son, some 12 miles from the studios.

Currently, AWR/Union Radio is broadcasting from a temporary 250-watt FM transmitter located at the studio complex because the hill top transmitter was struck by lightning. The current 5 kW Elcor transmitter located at the AWR facilities in Alajuela Costa Rica soon will be removed, and replaced at the Guatemala hill top location, where it will be used on an additional shortwave channel.

The current schedule for AWR/Union Radio in Guatemala is 1100—1500 UTC, and 2300—0230 UTC.

Likewise, AWR-Guatemala issues QSLs for correct reports addressed to Apartado 51C, Guatemala City, Guatemala. Again, return postage is greatly appreciated. ■

SATELLITE VIEW

BY DONALD E. DICKERSON, N9CUE

INSIDE THE WORLD OF SATELLITE COMMUNICATIONS

Mail Call

This month we must take a break from our series on weather satellites to catch up on reader mail. Many of you have been patiently waiting on answers to your questions while I have been concentrating on wesats. Well, it's your turn now, so here goes!

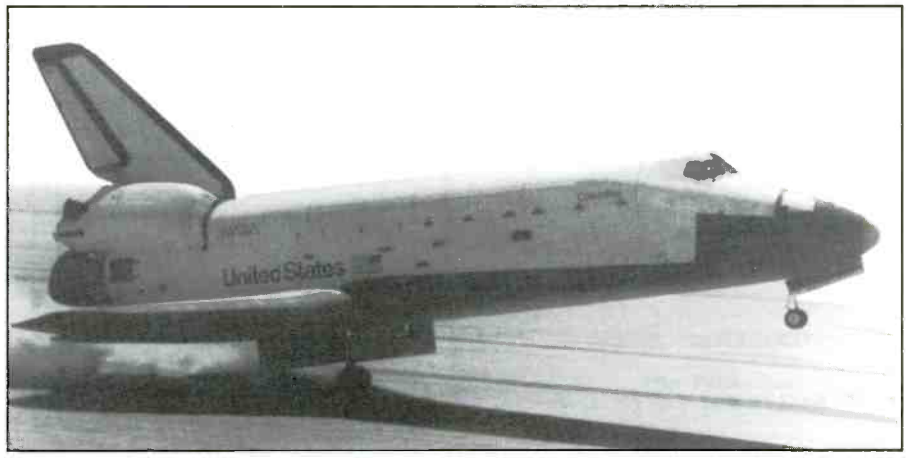
Our first letter is from Dr. Arthur R. Tilford, a senior scientist for Hughers Aircraft Company. His primary function is the operation of HACNET-TV, a Hughes satellite television network, which he designed. Dr. Tilford says the November, 1993 Satellite View column published a reader's question asking if I knew of any specialized training in satellites and earth stations. As luck would have it, Dr. Tilford could help with this! Dr. Tilford teaches two short, high-intensity courses, either one week long or eight Saturdays, at the Fullerton and Long Beach campuses at California State University. The training sounds very good, as each student learns to assemble and take home a Ku-band station.

For more information on these specialized courses preparing you for careers in earth station operation, installation, and repair, call Fullerton State University at 1-714-773-2611, 1-714-773-3080, or FAX 1-714-773-2088. Tell them *POP'COMM* sent you.

Our next letter is from George Brennect (W2CUA), of Jensen Beach, FL. George asks if I have (or know) any plans for building a 2-meter CW transmitter for use as an uplink for satellite communications. I am afraid I don't know of any schematics for such a project, George. Perhaps one of our readers will have some information for you. If so, I will pass it along. I will also try to put you in contact with other Amateurs I know are using such a set-up for satellites.

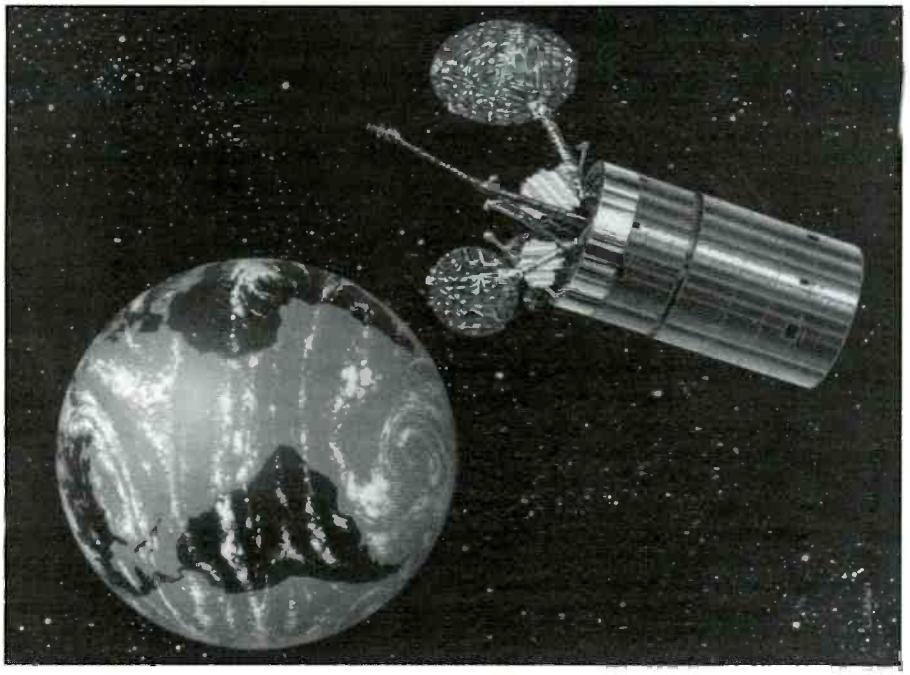
Next, we hear from Bill Pasternak (WA6ITF), of Saugus, CA. Bill writes to mention that the aircraft photos in our July 1994 column were the Boeing 757 and the 1011 (they were labeled 602 and 718 respectively). Thanks for that reminder, Bill —I hope most of our readers weren't fooled. Bill goes on to state the 1011 aircraft are 'gas hogs' and going to be replaced by the Boeing 777, which has a two-man crew and is fuel efficient. The 1011, according to Bill, has the best safety record of any aircraft ever built. Again, thanks for the info, Bill.

Tina Rademaker, Manistee, MI, writes to say she loved Hank Brandli's hurricane photos in the May, 1994 issue. She also wants to know how she might get similar photos and how to set up a station to receive them. Hopefully Tina, you have been with us during the last few months. I will



NASA's Columbia during its "touchdown" on Runway 23 at Edwards Air Force Base. (Courtesy of NASA.)

This Canadian communications satellite is the second in a series of Canadian domestic communications satellites. (Courtesy of NASA.)



INTELSAT VI can relay television channels and 120,000 telephone calls.

pass along your comments to Hank.

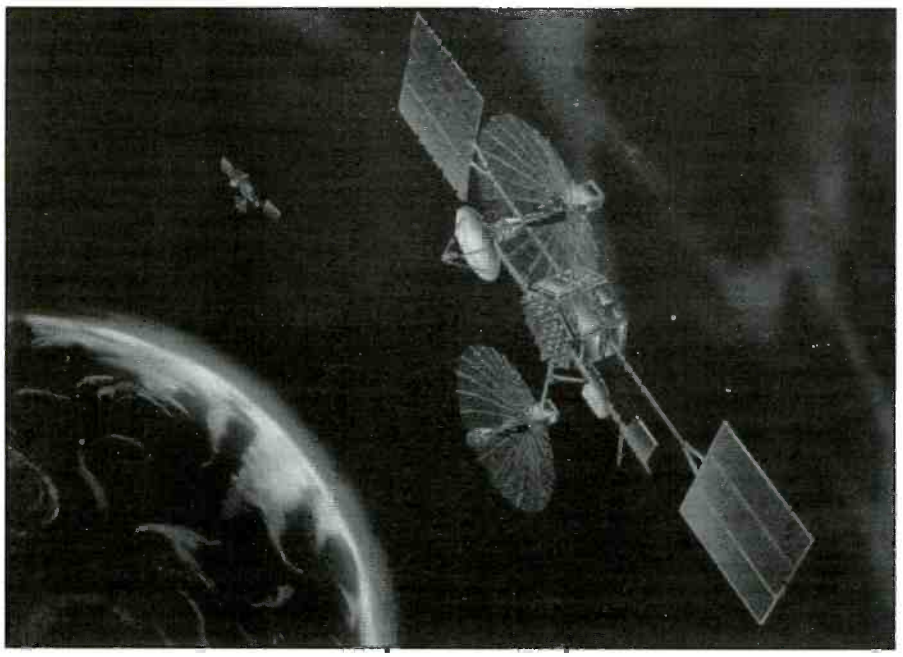
Our next letter is from D'Arcy Brownrigg, of Chelsea, Quebec. D'Arcy is also interested in weather pictures and how it's done. He was interested in receiving more information from Don Henry of Alberta, Canada, who was mentioned in an earlier column. I'll pass your interest along.

Another weather satellite fan, Gregory King, of Mokena, IL, is looking for more information on the reception of weather maps. He has been a weather advisor for the police department and a hobbyist for over 20 years. The subject can be confusing. Here are a few basics. You can receive weather maps from HF stations through the use of a shortwave receiver that receives between 3 and 30 MHz. Feed the audio from this receiver into an interface or converter (which will be covered next month) and then to a printer for display. Sneak a peek at the last three issues of *POP'COMM* Gregory, you will get a quick course on receiving weather maps via satellite. Let us know if there is anything else we can help you with.

Gary Bloomfield, of Margate, FL, sends along some timely information. According to an article in the *Miami Herald*, written by E.M. Campillo, even hunger and poverty have not slowed the upwardly mobile Cubans' desire for satellite television. Havana transmits six hours of programming between 6 p.m. and midnight. This is not enough for some. If viewed from the air, thousands of homemade satellite dishes can be seen hanging from rooftops, windows, and balconies. For $100, or more accurately, the Cuban equivalent, enough screen wire, aluminum and electronic parts will allow the upper class Cuban (in a classless society no less) to tune into CNN, ESPN, or TNT 24 hours a day. Thanks for the update, Gary.

Finally, Robert Salzman, of Moneta, VA, sends an article from BBC Worldwide, which states several shortwave broadcasters, including the BBC, will begin broadcasting in digital formats. This should improve signal quality when we move to digital receivers. I suspect that they will begin digital broadcasting similar to the way it is expected to take place domestically. Local broadcasters will simultaneously broadcast both an analog (AM or FM like they use now) and digital signal. They don't interfere with each other, they don't take up any more frequency space, and it will allow a smooth transition to digital formats in the future. Inmarsat and the European Space Agency are said to be trying to find their spot in this hot new market.

See ya' next month. ■



TDRS: NASA's switchboard in the sky!

ANTENNAS & THINGS

BY JOE CARR, K4IPV

SIMPLE ANTENNAS AND ACCESSORIES FOR SIGNAL IMPROVEMENT

Build the Room Loop: An H.F. Antenna for All-Bands (Sort-of)

A perennial problem for receiver operators is the need for hidden or limited space antennas. Apartment and townhouse dwellers often have very serious problems in this regard. Apartment landlords typically don't want antennas hanging out the window, or on the roof. And even owners of townhouses run into terrible homeowners associations who publish anti-radio rules about outdoor antennas. These people are at a serious disadvantage for shortwave (high frequency) antennas.

One alternative is the room or attic loop. These antennas are either square or rectangular, and fit the dimensions of the available space in either the attic or a room. For example, in a bedroom one might find that the dimensions are 12 x 14 feet, so a rectangular antenna loop of 52 feet total length can be erected.

Figure 1 shows the basic configuration of the simplest loop. It consists of a square or rectangular loop of #14 through #24 insulated wire (your choice), with #22 PVC insulated hook-up wire probably being the most commonly used. Either stranded or solid wire is suitable, although the stranded tends to take more abuse over time than the solid (metal fatigue is less of an issue on stranded wire).

The loop can be fed with 300 ohm twin-lead or, if a suitable 1:1 BALUN transformer is provided, 75-ohm coaxial cable can be used for the transmission line. However, the impedances are matched only at a few spots (unless an antenna tuner is used), so its almost irrelevant which configuration is used. The mismatch is tolerated in order to get any performance at all, never mind optimum performance, in an otherwise impossible situation.

A somewhat better design is shown in Figure 2. Here the 1:1 BALUN is shown, although it (and the coax) could be replaced with 300 ohm twin-lead if desired. The difference between this antenna and the first is that a relay is used to break the circuit in the middle of the side opposite the feedpoint. This relay can be just about any 5 VDC, 6VDC or 12 VDC relay that you choose. Because the relay coil draws only 30-40 mA, and the relay would not be turned on all the time, the circuit can be remotely powered from a 6 VDC lantern battery (see Figure 3). Alternatively, you can use a DC power supply that matches the relay coil voltage, although given the life of batteries in this application that might be expensive overkill.

So, how large should the antenna be? "Well," says the smart-aleck guru, "It should be big enough." In other words, scale the size of the antenna to fit the room or attic space available, rather than to a wavelength. This type of antenna is essentially similar to a random length wire antenna. When Desert Storm broke, I was caught temporarily, one of the few times in my adult life (since the age of 15) that didn't have an antenna up. Actually, I usually have several at a time. So I rigged a square loop of the sort shown in Fig. 2, but with the switch that opened and closed the loop being an ordinary 110 volt toggle switch rather than a relay.

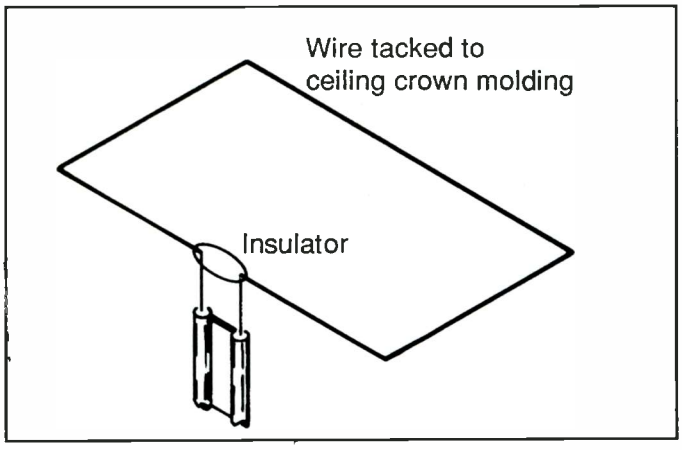


Fig. 1. Simple room loop antenna.

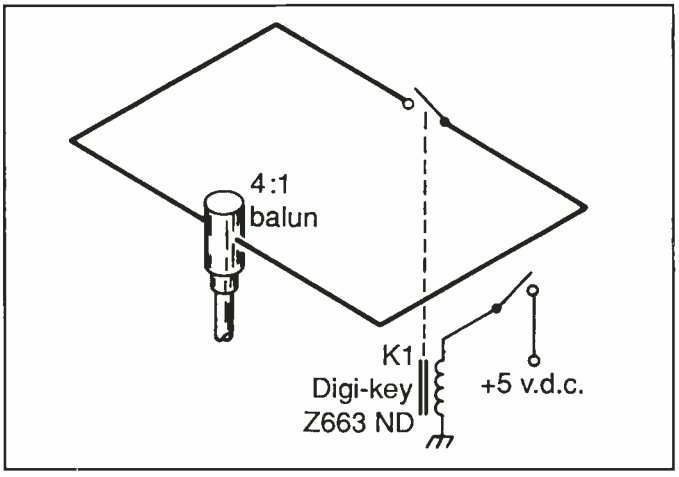


Fig. 2. Room loop antenna with relay to open or close the circuit.

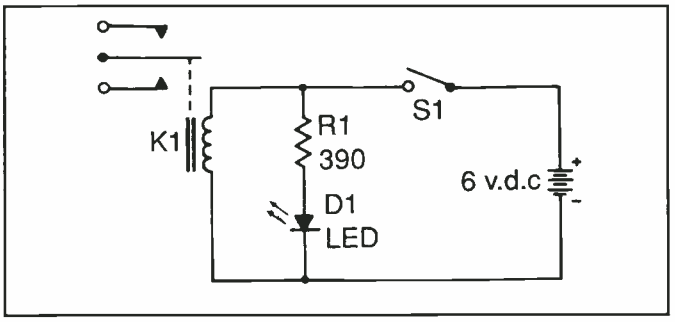


Fig. 3. Battery circuit for operating relay.

Opening the loop has the effect of changing its optimum frequency band as well as changing whatever directivity the antenna has on any particular frequency. Play with adjusting the operation of the loop for various frequencies and settings of the switch.

An alternative antenna that I saw a long time ago used three relays with switching the allowed only one to operate at a time. In that case, a 365 pF variable capacitor or a 12 µH inductance could be switched in or out of the circuit at the same point at the open. With the loop opened, insert a capacitor or inductor into the break will alter look characteristics. The inductor in that room loop was fixed, but the capacitor was a variable "AM BCB" type ...I always wondered how the guy climbed up into the attic to tune the thing. It seems like a good trick electrically to shorten the electrical length of the antenna (which means increase its resonant point), but seemed impractical except for one fixed frequency that was preset.

Antlers for Windows 2.00

The response to my software package, *Antlers*, is quite satisfying. This software is an antenna length calculator. The MS-DOS version sells for $20, while the *Windows* version sells for $30. If you are interesting in trying this software, then contact me at P.O. Box 1099, Falls Church, VA, 22041

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THE HAM COLUMN

BY BRIAN BATTLES, WS1O
AMERICAN RADIO RELAY LEAGUE HQ

GETTING STARTED AS A RADIO AMATEUR

Addressing Packet Bulletins

Anyone who has visited the Never Land of written electronic communication knows that the open forum provided by telephone bulletin boards (BBSs), the Internet, and other similar media have long offered users exciting, effective means of discussing, debating, and announcing diverse opinions, issues, and emotions. These environments have traditionally relied on two basic means of controlling the content of messages posted and behavior of those who choose to participate: (1) a "gatekeeper" and (2) peer pressure. The gatekeeper (SysOp) can decide who may post material, what may be posted and if it will be forwarded. Peer pressure provides a vocal, but officially impotent form of obligation to conformity. It does this through friendly advice, admonishment, chastisement, and outright insult. In amateur packet radio, a third entity wields a measure of control: The FCC determines what is legally acceptable.

Traditional networks, such as the seminal Fidonet, maintain an accepted level of decorum through a voluntary standard of cooperation and a hierarchy of people who have definite levels of enforcement authority. Specific areas, also known as "conferences" or "forums" (or Echoes, in the case of Fidonet), are designated where users may write messages pertaining to that area's usually narrowly defined topic. A volunteer, often selected by conference participants, acts as a moderator. This person's job is to regularly post a set of conference rules and to monitor posted messages. Theoretically, the moderator's presence is to serve as a referee, to inform users of transgressions, and to reduce the amount of peer-to-peer bickering over each others' perceived misbehavior.

Users who repeatedly violate the rules after sufficient warnings from the moderator are reported to the SysOp of the site where the user logs in to post messages. It's the SysOp's responsibility to counsel, rehabilitate, educate or bar the user's access to the conference. The SysOp is motivated by the po- tential consequence of having his BBS excommunicated from the network if he fails to exercise the proper control over his users' behavior.

In the world of amateur packet radio bulletin boards (PBBSs), however, there are differences that make control and adherence to standards difficult to implement. The spirit of democratic, uncensored participation that offers many advantages to radio amateurs precludes most SysOps from refusing access to uncooperative users, induces them to make undesirable messages available to all of their local users, and even to forward such messages to other PBBSs in the network. SysOps have been roundly and publicly criticized for refusing to forward bulletins they deemed to be inappropriate, even if only for purely technical reasons. In raging discussions, misinformed or selfish users maintain that a SysOp is obligated to accept and forward their message without question, as long as it doesn't expressly violate any FCC rules. (This is, by the way, entirely untrue. No SysOp is under any obligation to do anything whatsoever with any radio amateur's messages and the FCC rules state that a PBBS is its SysOp's privately operated radio station, for which the SysOp is permitted—in fact, expected—to monitor and control the material that it transmits.)

Educating Users

To turn to a more basic, pragmatic issue, many packet operators have spent many hours discussing the frustration of having these PBBSs, supposedly designed and built for the purpose of carrying person-to-person mail traffic and occasional bulletins of general interest, into electronic "classified ad pages." Notices that carry announcements of items for sale, swap or wanted, noticeably outnumber other single types of bulletins. Because of its convenience, low cost and apparent effectiveness, PBBS users inundate the airwaves with a nationwide swapfest day and night. Most messages in this category are individually harmless, but when viewed as a class, are the greatest consumers of computer storage space, message-forwarding time and bandwidth.

Many SysOps and PBBS users complain that all you ever see listed on a PBBS today are screenfuls of SALE@USBBS messages and so on. It's an understandable lament: There's a lot of stuff in there, but a majority of it is "junk mail" most users never read. For example, a ham in Boston isn't likely to care about a personal computer or handheld transceiver being sold by an amateur in Seattle. But there are hundreds, maybe thousands of amateurs in Washington or perhaps the Pacific Northwest region who will read and respond to such a notice. So why waste the time and bandwidth to send this bulletin ping-ponging all over the U.S. by addressing it so it's forwarded to @USBBS?

In a sadly ironic way, most packet traffic isn't nearly as efficient as the non-SysOp packet operator believes. Notices of items too insignificant or unwieldy to be easily sold to amateurs hundreds of miles away are routinely sent out addressed to SALE@USBBS. This is a lazy, or perhaps misunderstood, format that causes thousands of hams in a state like Alabama, for example, to have their local PBBSs spew forth several screens' worth of listings for hand-held transceivers, parts, batteries and other such items being offered by hams in Oregon or Alaska, which are likely to be sold by the time they reach most out-of-state PBBSs, anyway.

SysOps: Can You Do it?

Perhaps there needs to be a system implemented by which SysOps would be asked to voluntarily help educate users. Each user could be compelled to read an educational message about the most appropriate way to address bulletins before he'd be given the privilege to post a message intended to be forwarded to other PBBSs. This would require at least two things: (1) The PBBS software would have to support a method of doing so, and (2) The SysOp would have to be willing to invest whatever additional time it might take to grant access to potential users who acknowledge that they've read and understand the proper procedure.

Is it reasonable to suggest that PBBS SysOps route incoming messages addressed to @USBBS to some kind of holding bin, unless they meet certain criteria (eg, ARL, KEPS, AMSAT, FCC, SYSOP, DX, etc)? For example, do we really need so many SALE, WANTED, HELP, FEST and EXAM bulletins addressed to, and circulated over the airwaves to @USBBS? Does it offer any real advantage to the user who posts it? Isn't it more efficient, timely and appropriate to post most bulletins to a local, state or regional circulation? Could PBBS SysOps do this, and would they want to? How much extra time and effort would it take? Can any of this be automated? Will an investment in the time and energy now pay off later with less "junk mail" coming through each PBBS in the near future, if users can be taught to cut down the unnecessary @USBBS traffic? And how much actual improvement would that offer all

amateurs, regarding the possible decrease in traffic transmitted via VHF/UHF backbone and HF forwarding?

This could certainly be implemented in a friendly manner, with errant users gently instructed in a friendly, helpful manner. Each PBBS SysOp could prepare a "boilerplate" text he could use to inform a user whose postings were held or rerouted that would explain what was done, why it was done and how to avoid such faux pas in the future. A standard one-page (one screen?) message from the SysOp could simply inform the user that @USBBS is, by conventional agreement, reserved for messages that, by their inherent nature, lend themselves most advantageously to distribution to the entire nation's amateurs. It could advise the user that buying, selling, swapping, or evaluating almost any Amateur Radio item could be quite effectively accomplished via a local or regional bulletin, and that he should seriously consider if the hams in a distant state will care or be able to take advantage of the information in certain types of messages.

The Alternative

This primarily concerns standard AX.25 PBBS users and SysOps because more advanced software, such as that used for TCP/IP networking, doesn't even involve PBBSs as most hams have come to know them. A TCP/IP user finds his incoming mail neatly stored in his own private mail area on his own computer's disk drive. Bulletins can be forwarded only to TCP/IP operators who specifically request them, by category, from individuals or from stations that act as "gateways" to collect useful messages from local AX.25 PBBSs and mail them directly only to those who want to see them. Ideally, if all U.S. packet stations operated TCP/IP software, rather than just plain, "built-in" AX.25 TNC firmware, the traditional PBBS could be eliminated and amateur packet radio would function more like the Internet. Each station would be accessible directly by every other station, and each amateur could choose to "subscribe" to "newsgroups" that encompass particular topics.

Let's hear what you think, as a packet operator, and especially as a PBBS SysOp. Poke holes in my suggestion or offer ideas on how to improve it. Be constructive and thoughtful, and perhaps we'll be able to slowly educate our fellow packet operators so that we can all help each other maintain, expand and speed up the powerful, impressive amateur packet radio network.

Send your photos, cards, comments and so on to me at ARRL, Department PCN, 225 Main St, Newington, CT 06111; Internet bbattles@arrl.org. And think before you send those packet bulletins!

CB SCENE

BY BILL SANDERS, SSB-295

27 MHz COMMUNICATIONS ACTIVITIES

Digital signal processing, you say? Yes, that technology has now come to CB radio, thanks to the new Radio Shack TRC-493. They call it the radio's DSP feature. Whatz-it? Radio Shack says the "state-of-the-art Digital Signal Processing Circuit virtually eliminates static, hash, whistles, and whine noises so you hear clearer, crisper received audio quality on crowded CB frequencies."

The DSP circuit operates (turns on/off) by means of a front panel push-switch under the control of the operator, as required. How's that? The switch is, itself, a lit indicator, that also provides a visual indication that the circuit has been activated.

Keep in mind that DSP is a separate feature from the unit's Automatic Noise Limiter (ANL) circuit. The ANL reduces impulse-type noises entering the receiver.

Additional receiving enhancements include the use of two ceramic filters, plus variable RF gain and audio tone controls. DSP noise reduction stats include tone attenuation for 400 to 2500 Hz being 20 to 25 dB. Receiver sensitivity for 10 dB S/N is 0.5 uV.

The transmitter employs an Automatic Modulation Control (AMC) to prevent overmodulation and distortion.

General features include instant access to Channel 9, a red LED channel display, PA system, four-step receive signal indicator and combo transmit power meter. There's also a modulation indicator to let you know if you're speaking or softly while transmitting. Although designed primarily for mobile operation, when used with an optional AC power supply, the Radio Shack TRC-493 becomes a full-featured AM base station CB radio.

The TRC-493 is a good performer, with an attractive black case showing white lettering and red indicator lights. Operation is straightforward. The DSP circuit provides a noticeable improvement to the proceedings on noisy cluttered channels. You can bet things get better as soon as the button is pressed to activate that circuit. This rig's got good ears, and there's a definite future for this DSP circuit.

Look up the TRC-493 at a Radio Shack store in your area.

Radio Shack's TRC-493 features Digital Signal Processing.

This 'n That

Channel 19 is the channel of choice on the No. 1 Highway between Revelstoke and Golden, B.C., Canada. Park crews monitor that channel, as evidenced by English/French road signs posted along the scenic route. A photo was taken and supplied by one of our regular correspondents, Trevor Fletcher, also known as *The Cornbinder*, of Edmonton, Alberta, Canada.

Derek Sealy, of Poulan, Georgia, has written in asking which areas of the USA, Canada, and Mexico are "open for SSB DX activity." He would like us to send him a map of same. This question wasn't stated very clearly.

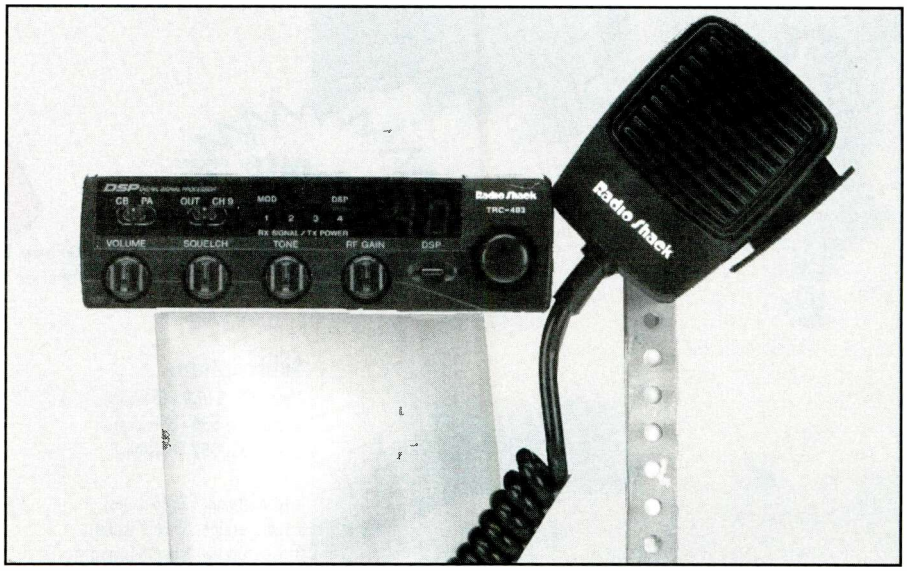
If it means to ask us to name which areas where it's allowed to shoot skip on CB frequencies using SSB mode, then the answer is simple. The CB rules in Canada and the USA prohibit skip working in AM or SSB mode in from all areas.

Is the question intended to ask where distant stations are normally able to be worked on CB channels? If so, the answer is that at various times of the year and day, all regions of North America have periods of different lengths when this communication is possible, although a clear violation of government radio regulations for the CB service.

Enforcement efforts of the FCC (at least), have primarily been focused on hobby skip communicators operating above and below the CB channels, particularly those using high power. It's our own personal observation that, for the most part, recent FCC enforcement efforts have not been overly concerned with skip shooters who have stayed on the authorized channels and used legal CB radios. If someone has a better perception of the situation than this, we are open to additional information from readers.

Keeping in Line

George M. Kupraszewicz, of Detroit, Michigan, has two questions. First, he noticed that a friend has two 50-foot sections to RG-58/U coax cable spliced together in



Another view of the Radio Shack TRC-493 CB radio.

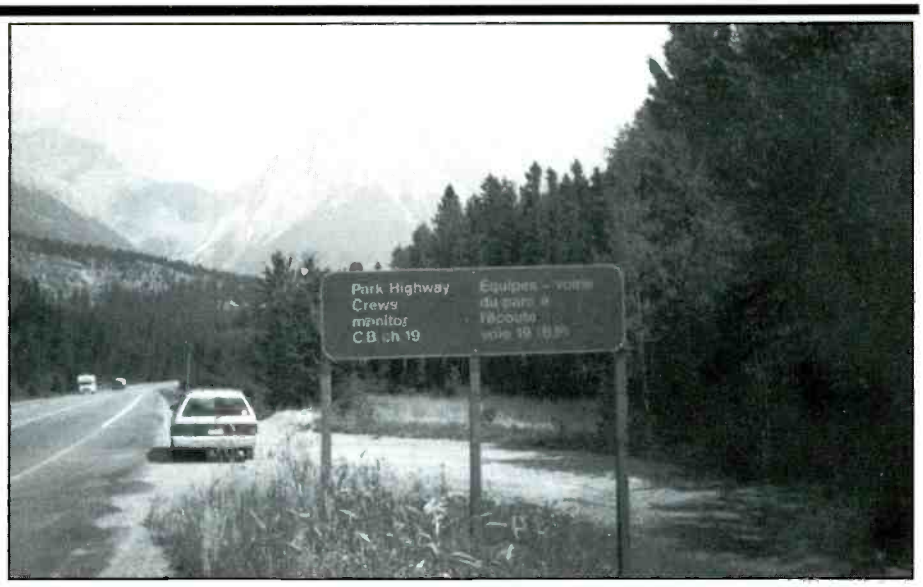
use between his radio and the antenna. He asks what affect the RG-58/U has on the transmitter finals.

Although George used the word "spliced," the hope is that the sections are actually joined via connectors through a "barrel." It definitely isn't recommended that coaxial cable be spliced together, as you would a power cord for a desk lamp.

The best set up for a transmission line, is none at all. Ideally, a CB rig should be connected directly to its antenna. This would eliminate the inevitable signal loss, both during reception and transmission. It would also reduce the likelihood of an impedance mismatch that can raise the SWR. In a way, a handheld CB radio is a more efficient system than a base station because the built-in antenna is planted right on top of the transmitter.

For practical purposes, a base station or mobile station does require a transmission line. The next best transmission line to none at all, is the shortest, least impeded and complicated one that will do the job. That means an uninterrupted length of coaxial cable linking the antenna and transceiver to one another.

Low-loss coaxial cable minimized the loss of signal strength, both transmitted and received, that occurs as a signal travels along the transmission line. You could liken this line to a long, slender capacitor. Like a capacitor, it can suffer from *dielectric losses* as part of the signal is "absorbed" by the white insulation material that separates the copper center conductor from the braided copper outer tube.



Can't mistake what channel is monitored along this scenic Canadian route. It's in English and French, and advises motorists to use Channel 19 to summon help. (Photo by Trevor Fletcher, Edmonton, Alta., Canada.)

The commonly used "thin" CB coaxial cable (RG-58/U) introduces a loss (at 27 MHz) of about 0.02 dB per foot. Thus, a 50-ft. run of this stuff has a total loss of about 1.0 dB (0.02 dB x 50=1.0). What 1 dB means is nearly a 25 percent loss.

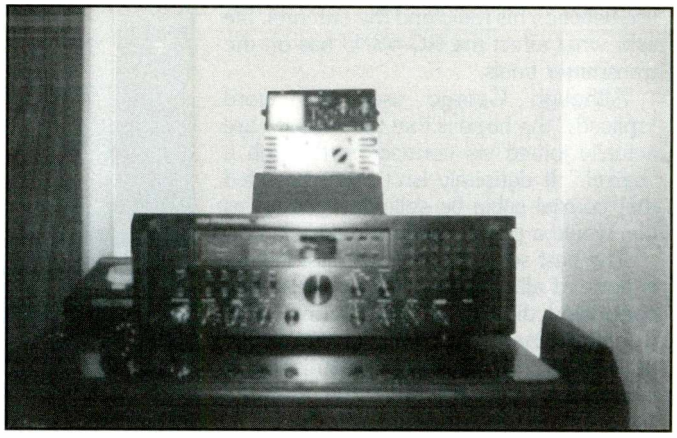
For example, if we assume that the CB radio feeding the 50-foot length of RG-58/U at a base station has a 4-watt output, the actual wattage coming out of the antenna end of the line is 3.1 watts. The rest of it is lost in the coaxial cable!

In a mobile installation, we are working

SIERRA TANGO X RAY
127 Division: Virgin Islands
Dx Group

127 STX 158
Qra: Pedro Juan
Box 2305, St. Croix
V.I. 00851

STX Club QSL from Pedro, in the US Virgin Islands. Pedro uses a Cobra 142-GTL. (Submitted by Trevor Fletcher, Alta.)



This snapshot of a beautiful Tram SSB base station (from the 1970's) arrived in the mail with a Christmas card, but no further information from Jolanda, WO-1819, Columbus, Ohio.

with shorter lengths. Runs that are shorter than 50 feet in length don't lose as much. Only 10 percent of the available power is lost in a 25-foot run of RG-58/U.

For long cable runs, such as a roof mounted antenna on an apartment house, or on a tower, the cable should be the "thick" low-loss RG-8/U, or other low-loss, type.

With base station installations, I'd suggest RG-8/U, or other heavier low-loss type. Heavier cables last longer under severe weather conditions, and they offer significantly less signal loss than longer runs of RG-58/U cable (especially those over 50 feet). Furthermore, joining together even two sections of cable through a "barrel" adds a minute to the losses.

It's hard to estimate the effect of the long run of RG-58/U on the transmitter finals. However, at least the amount of signals getting to and from the antenna with that cable could best be improved with a single, unspliced, run of RG-8/U, or some other low-loss heavier 52 ohm coaxial cable. If a single run isn't possible, then two sections are still better than RG-58/U.

Low-loss cable isn't standard equipment on all CB installations. If you look in a catalog, you'll see why. RG-8/U costs at least twice as much as RG-58/U. Not only that, it's heavier, thicker, and more difficult with which to work. Therefore, it's generally been used only as needed.

Some experts advise that the cut-off point for RG-58/U is 50 feet, others say 100 feet. What the heck, if you're looking for a good signal, be a sport and spring for the good stuff when you have to reach out more than 50 ft. to get to the antenna. And, at least consider using RG-8/U if you are fussy about trying to squeeze that last iota of maximum performance out of your rig, even if the transmission line is short. It's only a one-time expense, anyway. Life is short. CB is fun. Enjoy.

George also was told that leaving the SWR meter connected between the radio and antenna too long will eventually cause the radio's finals to pop. The answers to such questions are always to be found in the manufacturer's literature supplied with this type of equipment. That advice should always be followed, without exception.

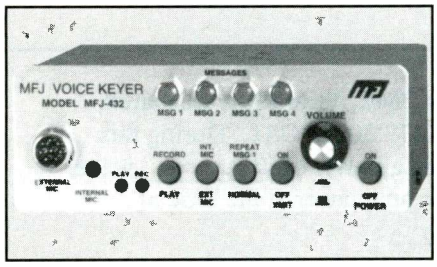
Keep in mind that many CB radios have built-in SWR meters that are always left in-line, and no harm seems to result from this practice. There is possibly be some small signal insertion loss due to the continuing use of an SWR meter, but not enough to cause the finals to blow. The big question is if there is any purpose served by having a constant and continuing reading of your SWR, in the first place.

Check your SWR once a month, after a storm, or if people start telling you that your signal suddenly sounds rotten. Otherwise, it really seems like one of those vital stats you don't need to be constantly reminded about unless something goes awry, like your household line voltage, your blood pressure, or the number of ohms in your CB radio's loudspeaker.

So, that's it for now, and we are off on our way into 1995. I'm finally taking time out to devote to several special writing projects that I have long been promising *POP'COMM* to tackle. You'll still see my by-line here in *POP'COMM* from time-to-time. Beginning next issue, *CB Scene* will be conducted each month by my good friend and fellow *SSB Network* member, Jock Elliott, SSB-734. Please pass along to him your shack photos, CB QSL's, local channel info, questions, and comments. Have a Happy New Year! ■

NEW PRODUCTS

REVIEW OF NEW AND INTERESTING PRODUCTS



The MFJ-432 Voice Keyer

Ever wondered what kind of tricks you could pull if you had a clone? Now you *can* have a cloned voice with the new MFJ-432 Voice Keyer. Let this new MFJ Voice Memory Keyer call CQ, send your call and do your contest exchanges for you in your own natural voice.

With your voice cloned, you can operate most of a contest without ever using your own voice. You can store four natural sounding messages for a total of 20 seconds. EEPRROM technology will keep messages stored for up to ten years without any backup battery needed.

With the MFJ-432, store frequency used phrases like "CQ Contest, this is AA5MT" ..."You're 59"...and "QTH is Mississippi." You can also repeat a message continuously. It makes it a lot easier when you're calling long CQs during poor band conditions.

The Voice Keyer is so easy to use—just plug your eight-pin microphone cable into the MFJ-432, and then plug the Voice Keyer's pre-wired cable into your transceiver's eight-pin connector. Internal jumpers let you customize it to your rig (Kenwood, Yaesu, or Icom).

The MFJ-432 has a built-in speaker that lets you monitor stored messages. It also has a jack for remote control operation. The Voice Keyer uses a 9-volt battery (not included) or 110 VAC with MFJ-1312B, ($12.95) and measures 6 1/2 x 2 1/2 x 6 1/2 inches.

The MFJ-432 Voice Keyer comes with the company's full one year unconditional guarantee.

For more information or to order, contact any MFJ dealer or MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS, 39762, or call (601) 323-5869, FAX (601) 323-6551. Order toll free 1-800-647-1800, or circle 101 on our Readers' Service.

Radar/Laser Detector Adds "Sunglass" Lens for "QuietPlus" Anti-Falsing Performance

The number one complaint of detector owners—constant, annoying, noisy false alerts—has been answered by Fox Electronics with the optical equivalent of wrap-around sunglass combined with digital signal processing for a breakthrough in anti-falsing technology.

The new Fox® Vixen Pro with "QuietPlus" performance significantly reduces false alerts and also offers enhanced radar and laser sensitivity. The new unit (Model FXL-440) is a state-of-the-art, fully featured integrated radar/laser detector that will retail for less than $150.

Fox's Laser LockOn System employs a chromatically enhanced "sunglass" lens to cover the unit's laser-reception diode antenna. The green-tinted lens filters out light waves of non-laser sources of infrared energy, particularly sunlight reflections, that can cause laser-detector falsing. This optical system is coupled with Pulse Width Discriminator signal-processing circuitry for optimum laser selectivity.

The Vixen Pro also features Fox DigiScan™ signal processing, a separate advanced signal-discrimination system that enhances radar sensitivity. By filtering reception of off-band and non-police microwave radar sources. DigiScan also offers superior anti-falsing performance, eliminating most of the noisy "beeps" and "braps" that plague most detector owners.

The premium Vixen Pro incorporates an ECM System with electronic counter-measure circuitry to substantially reduce signal emissions that trigger radar detectors.

Included with the unit is the new Fox EasySlide windshield mounting bracket that slides directly into a slot at the rear of the detector. This enables secure mounting as well as easy-off removal for theft-prevention and storage or to move the detector between vehicles.

Also featured is a Laser Priority Override circuit to supersede all radar warnings to give preference to laser alerts in areas where false alarms may be likely.

The Fox Vixen Pro has a five-segment LED signal-strength meter; distinct audible alerts and separate color-coded alerts LEDs for all four bands; three-way (on/off/dim) illumination control; highway/city selector; and mute with auto reset.

For product information and dealer locations—and for direct purchase of Fox Vixen detection products—call the Fox Electronics & Technology, Inc., toll-free consumer assistance number at 1-800-229-7892. Or circle 102 on our Readers' Service.

YOU SHOULD KNOW

BY HARRY HELMS, AA6FW

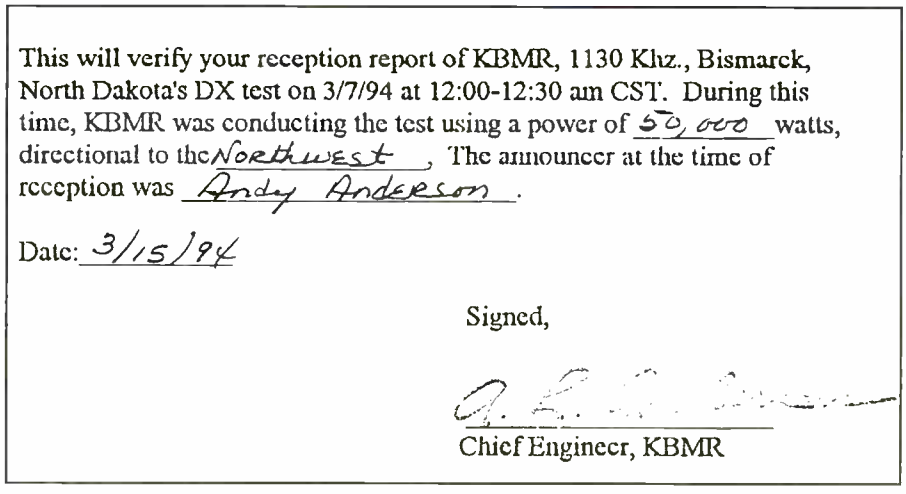
INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

DX Tests

One of my biggest DX blockers on the AM broadcast band is KSDO on 1130 kHz. This powerful station operates 24-hours per day, and the transmitter is only a few miles from my home. At night, I can normally hear nothing else on the frequency, even with two phased loop antennas, and using every DXing trick I've ever learned. Yet I recently managed to hear and QSL KBMR in Bismarck, North Dakota, also on 1130 kHz. This was the first station I've heard on the AM band from North Dakota since moving to California a few years ago.

I wish I could claim that my QSL was the result of my exceptional DX abilities, but actually I had a lot of help in snagging KBMR. When I heard the station, it wasn't on the air for its normal broadcasting schedule. Instead, it was conducting a test using its daytime facilities at night. I had advance warning about this test, since it was done in cooperation with the International Radio Club of America (IRCA), a club of AM broadcast band DXers. Finally, the programming was different than their usual fare. KBMR was using Morse code (formed by audio tones) for special identification announcements. I heard very little in the way of voice or music from KBMR, but the Morse code messages were copyable through KSDO and I was able to submit a reception report for my QSL.

If you're interesting in chasing DX on the AM broadcast band and don't know about DX tests, you're missing out on some great receptions!



This will verify your reception report of KBMR, 1130 Khz., Bismarck, North Dakota's DX test on 3/7/94 at 12:00-12:30 am CST. During this time, KBMR was conducting the test using a power of 50,000 watts, directional to the Northwest, The announcer at the time of reception was Andy Anderson.

Date: 3/15/94

Signed,

Chief Engineer, KBMR

Thanks to advance warning from the International Radio Club of America (IRCA), a club of AM broadcast band DXers, I was able to snag a KMBR QSL.

The Experimental Period

How can stations like KBMR get away with using their daytime transmitting facilities at night? It's all perfectly legal thanks to the "experimental period."

Many stations have two different sets of transmitting facilities for day and night operation, involving different transmitter powers and/or antennas. Daytime transmitting powers are usually higher and antennas are either non-directional or with broad radiation patterns. At night, signals from AM band stations can propagate over hundreds or thousands of miles. In attempt to avoid interference, these stations reduce their transmitter power, and use more restrictive antenna patterns. But there is one big exception to this permitted by FCC rules. Stations can use their daytime powers and antennas from midnight to 5 a.m., their local time, on a limited basis to test those facilities. This midnight to 5 a.m. segment is the experimental period.

If you've done any DXing on the AM broadcast band at all, you've run into tests conducted during the experimental period. These transmissions consist of audio tones (often ascending or descending in sequence), lots of dead air, and announcements like, "This is WNFQ on the air for equipment adjustment purposes only." Most stations, even those that operate with the same facillities at night, will run a couple of tests each year during the experimental period. A common test is the "proof of performance test," which measures how well such factors as the antenna pattern, frequency accuracy, and effective radiated power are within specified limits. Other tests are often run after repairs or upgrades to station equipment and facilities.

Since stations have to run tests anyway, AM band DXers years ago got the bright idea to contact rarely-heard stations and ask them if they could schedule tests at times when odds for distant reception was best. Since the engineering personnel at many stations are curious as to just how far away their station could be heard, a surprisingly high number of stations agreed to conduct tests at such times. Thus, the DX test was born.

Contemporary DX Tests

Like AM broadcasting itself, DX tests have changed over the years. Two decades ago, most DX tests involved stations that normally operated only during daytime and were aired early Monday mornings after midnight since many stations which operated on a 24-hour schedule would go off the air then for tests and maintenance. Programming during such tests were voice announcements, tones, and music. But as AM broadcasting has changed, so have DX tests. Few stations leave the air on Monday mornings anymore, so increasingly tests are being scheduled for Saturday and Sunday mornings so more DXers can stay up to hear them. Since the AM channels are more crowded than before, Morse code identifications and messages are being included in tests. These identifications are prepared by members of the two major AM band DX clubs, the previously mentioned IRCA and the National Radio Club (NRC). Committees of NRC and IRCA members contact stations that might be good prospects for a DX test and prepare tapes of the station's call letters (and sometimes location) which can be aired during the test.

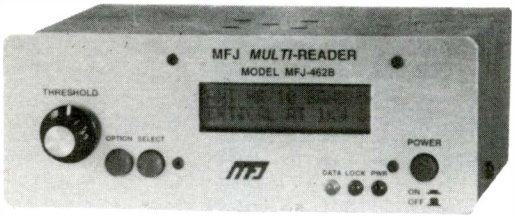
Besides Morse code identifications, distinctive music is also used on many tests. A favorite is marching band music, the kind you hear at halftime of football games or during Thanksgiving Day parades. Since no stations use a "marching band" format for their regular programming, such music really stands out on a channel.

A recent variation of the DX test really isn't a test at all. This involves preparing Morse code identification tapes for a station to air during its normal programming. This is often done if the station normally uses the same transmitting facilities night and day.

The ability of Morse code to get through under heavy interference is remarkable. The code identifications can be heard and positively identified in situations where a voice identification would be lost in the crud. For example, I could hear the code identifications from KBMR in the background of KSDO's normal "talk radio" programming, while the voice announcements were not heard until some KSDO dead air.

Tap into *secret* Shortwave Signals

Turn mysterious signals into exciting text messages with this new MFJ MultiReader™



MFJ-462B **$159.95**

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

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

You'll *read* interesting commerical, military, diplomatic, weather, aeronautical, maritime and amateur traffic . . . traffic your friends can't read -- unless they have a decoder.

Eavesdrop on the World

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

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

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

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

Printer Monitors 24 Hours a Day

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

Printer cable, **MFJ-5412**, $9.95.

MFJ *MessageSaver*™

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

High Performance Modem

MFJ's high performance *phaselock loop* 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

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

It's easy to tune -- a precision tuning indicator makes tuning your receiver easy for best copy.

It's easy to read -- the 2 line 16 character LCD display with contrast adjustment is mounted on a sloped front panel for easy reading.

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

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, $12.95. 5¼x2½x5¼ inches.

No Matter What Guarantee

You get MFJ's famous one year *No Matter What*™ *unconditional* guarantee. That means we will repair or replace your *MFJ MultiReader*™ (at our option) *no matter what* for a full year.

Try it for 30 Days

Order an *MFJ-462B MultiReader*™ *from* MFJ and try it in your own setup -- compare it to any other product on the market regardless of price.

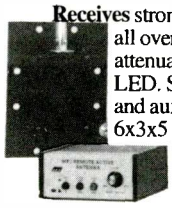
Then if you're not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping).

Order today and try it -- you'll be glad you did.

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a "first rate easy-to-operte 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 to 30 MHz.



Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna. 6x3x5 in. remote has 54 inch whip, 50 ft. coax. 3x2x4 in. 12 VDC or 110 VAC with MFJ-1312, $12.95.

MFJ-1024 **$129.95**

Indoor Active Antenna

MFJ-1020A **$79.95**

Rival outside long wires with this *tuned* indoor active antenna. *"World Radio TV Handbook"* says MFJ-1020 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 preselector with external antenna. Covers 0.3-30 MHz. Has 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, $12.95.

Compact Active Antenna

MFJ-1022 **$39.95**

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

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

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, $12.95. 3⅛x1¼x4 in.

MFJ Antenna Matcher

MFJ-959B **$89.95**

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

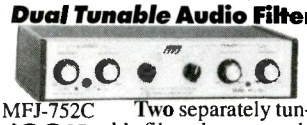
Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Pushbuttons let you select 2 antennas and 2 receivers. Cover 1.6-30 MHz. 9x2x6 inches. Use 9-18 VDC or 110 VAC with MFJ-1312, $12.95.

High-Gain Preselector

MFJ-1045B **$69.95**

High-gain, high-Q receiver preselector 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. Pushbuttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18VDC or 110 VAC with MFJ-1312, $12.95.

Dual Tunable Audio Filter



MFJ-752C **$99.95**

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.

Easy Up Antennas Book

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.

Covers receiving antennas from 100 KHz to almost 1000 KHz. Includes antennas for long, medium and shortwave, utility, marine and VHF/UHF services.

Receive *Color* News Photos, Weather Maps, RTTY, ASCII, Morse Code

MFJ-1214PC **$149.95**

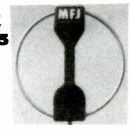
Use your computer and radio to receive and display *brilliant full color* FAX news photos and incredible WeFAX weather maps with all 16 gray levels. Also RTTY, ASCII and Morse code.

Animate weather maps. Display 10 global pictures simultaneously. Zoom any part of picture or map. Frequency manager lists over 900 FAX stations. Automatic picture capture and save.

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

Super Hi-Q Loop™ Antenna

MFJ-1782 **$219.95**



The *Super Hi-Q Loop*™ is a professional quality remotely tuned 10-30 MHz high-Q antenna. It's very quiet and has a very narrow bandwidth that reduces receiver overloading and out-of-band interference.

High-Q Passive Preselector

MFJ-956 **$39.95**

The MFJ-956 is a *high-Q* passive LC preselector that lets you boost your favorite stations while rejecting images, intermod and other phantom signals. Covers 1.5-30 MHz. Has preselector bypass and receiver grounded position. 2x3x4 in.

Mobile Scanner Ant.

Cellular look-a-like. Covers 25-1300 MHz. High - est gain on 406-512 and 108-174 MHz, 19 in. Magnet mount. MFJ-1824BB has BNC/UHF plug; MFJ-1824BM has Motorola plug.

MFJ-1824BB/BM **$19.95**

MFJ 12/24 Hour LCD Clocks

MFJ-107B **$9.95**

MFJ-108B **$19.95**

MFJ-105B **$19.95**

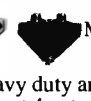
MFJ-108B, dual clock displays 24 UTC and 12 hour local time *simultaneously*. **MFJ-107B**, single clock shows you 24 hour UTC time. *3 star rated* by *Passport to World Band Radio*!

MFJ-105B, accurate 24 hour UTC quartz *wall clock* with large 10 inch face.

MFJ Antenna Switches

MFJ-1704 **$59.95**

MFJ-1702B **$21.95**



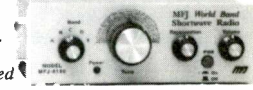
MFJ-1704 heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection device. Good to 500 MHz. 60 dB isolation at 30 MHz.

MFJ-1702B for 2 antennas.

World Band Radio Kit

MFJ-8100K **$59.95** *kit*

MFJ-8100W **$59.95** *wired*



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Has RF stage, vernier reduction drive, smooth regeneration, five bands.

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POP'COMM'S World Band Tuning Tips

January—1995

Freq.	Station/Country	UTC	Notes
2310	VL8A, Australia	1100	
2460	R. Alvorada, Brazil	0900	PP
3200	TWR, Swaziland	0430	
3205	R. Ribeirao Preto, Brazil	1000	PP
3220	HCJB, Ecuador	0430	
3240	TWR, Swaziland	0300	
3250	R. Luz y Vida, Honduras	0230	SS
3280	La Voz del Napo, Ecuador	1000	SS
3290	R. Centro, Ecuador	1000	SS
3300	R. Cultural, Guatemala	0300	
3300	CHU, Canada (time station)	0200	
3310	Channel Africa, S. Africa	0357	
3356	R. Botswana	0400	
3360	La Voz de Nahuala, Guatemala	0300	SS
3366	GBC, Ghana	0600	
3366	R. Rebelde, Cuba	0200	SS
3380	R. Chortis, Guatemala	1130	SS
3985	Swiss R. Int'l	0600	
3995	Deutsche Welle, Germany	0400	GG
4409	R. Eco, Bolivia	0100	SS
4472	R. Movima, Bolivia	0030	SS
4712	R. Ayaviri, Peru	1100	SS
4725	V of Myanmar	1100	Burmese
4755V	Rdf. Maranhao, Brazil	0200	PP
4760	TWR, Swaziland	0300	vern.
4765	RTVC, Congo	0355	s/on, FF
4770	R. Nigeria, Kaduna	0500	
4777	R. Gabon	0500	FF
4780	Onda Musical, Dominican Rep.	0200	SS
4790	R. Atlantida, Peru	0200	SS
4800	R. Lesotho	0400	vernacular
4805	Rdf. do Amazonas, Brazil	0100	PP
4810	R. 2000, S.Africa	0230	EE/Afk
4830	R. Tachira, Venezuela	0200	SS
4832	R. Reloj, Costa Rica	0100	SS
4835	RTV Malienne, Mali	0600	FF
4840	R. Valera, Venezuela	0300	SS
4865	La Voz del Cinaruco, Colombia	0100	SS
4870	ORTB, Benin	0500	FF
4886	R. Villa Rica, Peru	0950	s/on, SS
4890	R. France Int'l, via Gabon	0445	FF
4895	La Voz del Rio Arauca, Colombia	0200	SS
4904	RN Tchadienne, Chad	0500	FF
4915	R. Cora, Peru	1100	SS
4920	R. Quito, Ecuador	0300	SS
4930	R. Internacional, Honduras	0300	SS
4950	R. Nacional, Angola	0300	PP
4960	R. HRET, Honduras	0100	SS/vern
4975	R. Timbira, Brazil	0600	PP
4990	Hunan PBS, China	1300	CC
5010	Escules Radiofonicas Pop., Ecuador	0200	SS
5025	R. Rebelde, Cuba	0300	SS
5030	AWR, Costa Rica	0330	SS
5040	La Voz de Yopal, Colombia	0100	SS
5045	R. Clube do Para, Brazil	0100	PP
5055	TIFC, Costa Rica	0400	
5056	RFO, Fr. Guiana	0400	FF
5060	R. Nac. Progresso, Ecuador	0300	SS
5075	Caracol, Colombia	0300	SS
5268	R. Moundou, Chad	0500	FF
5955	Caracol, Colombia	0900	SS
5955	R. Netherlands	0800	
5960	R. Japan, via Canada	0130	
5975	BBC via Antigua	0100	
6005	CFCX, Canada	1100	
6010	R. Havana Cuba	0030	
6015	R. Vlaanderen Int'l, Belgium	0630	
6015	R. Austria Int'l, via Canada	0530	
6030	R. Globo, Brazil	0900	PP
6030	R. Marti, USA	0600	SS
6050	R. Liberty via Portugal	0100	RR
6060	RAI, Italy	0300	II
6085	Deutsche Welle, Germany, via Canada	0300	
6095	Vatican Radio	0250	
6105	R. Universidad de Costa Rica	0300	SS
6115	R. Union, Peru	0900	SS
6120	R. Globo, Brazil	0900	PP
6125	Spanish National Radio	0230	
6150	AWR, Costa Rica	0600	
6155	R. Austria Int'l	0700	
6155	R. Sweden	0230	
6165	R. Netherlands, Bonaire relay	0100	
6165	Swiss Radio Int'l	0530	
6185	R. Educacion, Mexico	0600	SS
6190	BBC, Lesotho relay	0300	
6203	R. Cusco, Peru	0100	SS
6245	Vatican Radio	0640	
6250	R. Nac. Malabo, Eq. Guinea	0500	SS
6280	King of Hope, Lebanon	0400	AA
6305	La Voz del Cid, anti-Cuba	0600	SS
6724	R. Satellite, Peru	0300	SS
7100	VOIRI, Iran	0028	s/on
7125	Italian R. Relay Service	0500	
7125	RTV Guineenne, Guinea	0530	FF
7180	AWR via Slovakia	0830	s/on, GG
7200	Rep. of Sudan Radio	0300	AA
7215	TWR, Swaziland	0430	
7250	Vatican Radio	0600	
7255	V of Nigeria	0500	
7265	Sudwestfunk, Germany	2200	GG
7280	RTT, Tunisia	2200	AA
7305	Vatican Radio	0250	
7305	R. France Int'l	0230	FF
7345	R. Prague, Czech Rep.	0700	
7365	KNLS, Alaska	1200	
7385	RFPI, Costa Rica	0400	
7385	TWR, Monaco	0700	
7475	RTT, Tunisia	0500	AA
9200	R. Omdurman, Sudan	1800	
9370	KSDA, Guam	1500	
9388	Kol Israel	0330	HH
9420	Voice of Greece	0130	GG/EE
9435	Kol Israel	0500	
9445	Voice of Turkey	2330	TT
9475	R. Cairo, Egypt	0200	
9480	TWR, Monaco	0730	
9485	R. Prague, Czech Republic	2100	
9505	R. Record, Brazil	2300	PP
9510	Deutsche Welle, Germany	0540	
9520	Channel Africa, S. Africa	0430	
9530	R. Vilnius, Lithuania	2300	
9535	R. Japan	1400	
9535	Swiss R. Int'l	1000	
9540	R. Nacional Espana, Spain	0100	
9560	R. Jordan	1600	
9570	R. Portugal	0230	
9570	R. Romania Int'l	0230	
9575	Radio Medi Un, Morocco	0730	FF
9580	R. Tirana, Albania	0330	
9580	Africa No. One, Gabon	2200	FF
9580	R. Yugoslavia	0000	
9590	R. Norway	1300	
9600	HCJB, Ecuador	0730	
9605	Vatican Radio	0330	SS
9625	R. Marti, USA	2300	SS
9645	Vatican Radio	0640	
9650	R. Korea, S. Korea, via Canada	1130	
9660	R. Rumbos, Venezuela	2200	SS
9680	R. Japan	0100	
9690	China Radio Int'l, via Spain	0300	
9695	R. Rio Mar, Brazil	1100	PP
9700	R. Bulgaria	2130	
9700	R. New Zealand Int'l	0800	
9705	Voice of Ethiopia	0329	s/on, Amharic
9725	RAI, Italy	0050	
9725	R. Japan, via Canada	0500	
9745	HCJB, Ecuador	0730	
9750	R. Korea, S. Korea	1200	

Freq.	Station/Country	UTC	Notes
9755	Radio Canada Int'l	0000	
9770	R. Australia	1400	
9770	V of UAE, Abu Dhabi	2300	
9779	Rep. of Yemen Radio	2100	AA
9780	China Radio Int'l, via Mali	0300	
9810	R. Slovakia Int'l	0100	
9810	KHBN, Palau	1500	
9810	R. Sweden	0030	
9820	Radio Havana Cuba	0200	USB
9830	R. Jordan	2100	AA
9835	R. Budapest, Hungary	0100	
9840	R. Kuwait	2100	AA
9860	R. Netherlands	1700	DD
9870	Monitor Radio, USA	0600	
9880	R. Austria Int'l	0130	
9885	Swiss R. Int'l	0100	
9900	R. Cairo, Egypt	2230	
9910	All India Radio	1530	
9925	R. Vlandeeren Int'l, Belgium	2000	SS
9955	WRMI, Miami	0100	
9965	KHBN, Palau	1200	
9977	R. Pyongyang, N. Korea	1100	
10060	V of Vietnam	0000	VV
10990	USB BSKSA, Saudi Arabia	0255	s/on, AA
11550	RTV Tunisienne, Tunisia	1600	AA
11570	R. Pakistan	1700	
11605	Kol Israel	0400	
11615	R. France Int'l	1600	
11620	SRI, Switzerland, via Fr. Guiana	0330	
11655	R. Netherlands	1730	
11665	R. Cairo, Egypt	1800	AA
11680	China Radio Int'l via Fr. Guiana	0400	
11690	FEBC, Philippines	1200	VV
11700	R. France Int'l	1600	
11705	R. Japan, via Canada	1400	
11710	RAE, Argentina	0200	
11715	China R. Int'l, via Mali	0300	
11715	R. Korea, S. Korea, via Canada	1030	
11720	R. Bulgaria	2100	
11745	R. Tirana, Albania	0200	
11755	R. Finland Int'l	0130	
11765	RAI, Italy, via Ascension Is.	0130	II
11780	R. Nacional Amazonia, Brazil	2200	PP
11785	Rdf. Nacional, Colombia	1900	SS
11785	R. Guaiba, Brazil	2330	PP
11800	R. Australia	1300	
11805	R. Moscow, Russia	2230	
11810	R. Romania Int'l	1400	
11815	Spanish Ntl Radio, via Costa Rica	0100	SS
11825	R. Tirana, Albania	2200	
11830	Vatican Radio	2250	
11830	R. Romania Int'l	0400	
11845	R. Canada Int'l	2200	
11855	KSDA, Guam	1300	
11860	R. Liberty, via Philippines	1000	RR
11870	Bosnian-Serb Radio, va R. Yugoslavia	0100	
11880	R. Japan via Fr. Guiana	0300	
11885	UAE Radio, Abu Dhabi	2300	
11900	R. Finland Int'l	1230	
11905	R. Universo, Brazil	2330	PP
11915	R. Gaucha, Brazil	0000	PP
11925	HCJB, Ecuador	0600	
11940	R. Romania Int'l	0400	
11945	R. Canada Int'l	2100	
11990	R. Kuwait	1800	
11995	FEBC, Philippines	1400	
12000	R. Jordan	0500	AA
12025	R. Natherlands via Tajikistan	0030	
12050	R. Cairo, Egypt	2100	AA
12085	R. Damascus, Syria	2030	
12095	BBC, England	1300	
13590	R. Pakistan	1600	
13615	R. Bangladesh	1230	
13620	R. Kuwait	2000	
13625	R. France Int'l	1200	
13635	Swiss R. Int'l, via Fr. Guiana	0030	
13660	R. Havana Cuba	0200	USB, EE
13670V	R. Iraq Int'l	2130	AA
13675	UAE Radio, Dubai	1630	
13680	VOA via Bulgaria	1830	
13715	R. Havana Cuba	2200	SS, USB
13730	R. Austria Int'l	2100	
13750	AWR, Costa Rica	1200	s/on
13760	R. Pyongyang, N. Korea	0000	s/on
13770	Monitor Radio	2000	
13860	INBS, Iceland	1215	Icelandic
15020	All India Radio	1400	
15030	RFPI, Costa Rica	2300	
15084	VOIRI, Iran	0100	Farsi
15095	R. Damascus, Syria	2030	
15105	R. Moscow, Russia	1500	
15140	R. Nacional, Chile	2200	SS
15155	HCJB, Ecuador	0130	
15160	VOA, Philippines	1400	
15168	R. Tahiti	0300	FF/TT
15175	FEBA, Seychelles	1100	AA
15195	R. Ukraine	0030	
15200	R. Nacional Amazonas, Brazil	2300	PP
15200	RFI, France via Fr. Guiana	2300	SS
15235	V of Great Homeland, Libya	2000	AA
15240	Channel Africa, S. Africa	1600	
15240	R. Sweden	1330	
15265	Radiobras, Brazil	1800	
15270	HCJB, Ecuador	1930	
15290	R. Dniester Int'l, Pridnestrovye	2030	
15310	BBC via Oman	1500	
15325	R. Japan via Fr. Guiana	0300	
15325	R. Canada Int'	2100	
15345	RTV Morocaine, Morocco	1800	AA
15345	RAE, Argentina	0200	SS
15395	VOA via Sri Lanka	1400	
15400	R. Finland Int'l	1330	
15415	Libyan Jamahiriya Broadcasting	1430	AA
15420	R. Tashkent, Uzbekistan	1200	
15430	Radio Japan	2300	
15445	Radiobras, Brazil	1200	
15445	R. Vlanderen Int'l	1300	
15475	Africa Number One, Gabon	2100	FF
15515	R. Portugal	1900	
15530	R. Australia	2200	II
15550	R. Vlaanderen Int'l	1800	
15565	R. Australia	1200	
15575	R. Korea, S. Korea	0030	
15610	KTWR, Guam	1500	
15615	Reshet Bet, Israel	2300	HH
15630	V of Greece	1430	GG/EE
15635	VOA via Morocco	1700	
15675	R. Pakistan	1430	Urdu
15675	R. Copan Int'l, Honduras	2300	SS
15770	ISBS, Iceland	1230	Icelandic
17490	HCJB, Ecuador	1000	
17500	RTT, Tunisia	1330	AA
17510	KWHR, Hawaii	2300	
17520	V of Greece	1430	GG/EE
17590	R. Finland	1430	
17595	RTM, Morocco	1430	AA
17620	R. France Int'l	1600	
17625	R. Bulgaria	1230	
17630	Africa No. One, Gabon	1430	FF
17655	R. Netherlands via Bonaire	1830	
17670	Swiss Radio Int'l	1500	
17740	R. Finland Int'l	1430	
17745	R. Algiers, Algeria	1930	
17745	R. Tashkent, Uzbekistan	1200	
17755	R. Nacional Espana, Spain	1900	SS
17775	R. Romania Int'l	1300	
17790	HCJB, Ecuador	2130	
17805	R. Romania Int'l	1730	
17810	R. Japan	2300	
17815	R. Cultura, Brazil	2200	PP
17820	R. Canada Int'l	1300	
17845	Spanish National Radio	1500	SS
17870	R. Sweden	1500	
17875	R. Canada Int'l	2030	
17880	R. Finland Int'l	1300	
17890	Spanish National R., via Costa Rica	2130	SS
17900	R. Portugal	2000	PP
21455	R. Canada Int'l	1330	
21455	HCJB, Ecuador	1330	
21515	R. Portugal	1500	PP
21520	R. Pakistan	1100	
21590	R. Netherlands, Bonaire	1800	
21605	UAE Radio, Dubai	1430	AA
21605	R. Yugoslavia	1230	

You can also use a narrow receiver bandpass, like 1.8 kHz, to receive Morse code sent via audio tones. This bandwidth is narrow enough to reduce QRM from voice or music stations on the channel.

By timing exactly when the Morse identifications were sent and copying them letter for letter, you can get a verifiable reception report even if you don't hear a single voice announcement from the station! In the case of KBMR, the Morse code identifications let the station be heard everywhere from California to North Carolina, giving many DXers their first North Dakota station on the AM band. A similar test in 1993 from WAGL, a South Carolina station on 1560 kHz, was heard as far away as the state of Washington.

If you want to keep up with such DX tests, you need to join either IRCA or NRC (or both), Both clubs publish bulletins weekly during the fall and winter AM band DX "season." You can get sample copies of their bulletins and membership information by sending $1 to International Radio CLub of America, P.O. Box 1831, Perris, CA, 92572-1831 or National Radio Club, P. O. Box 118, Poquonock, CT, 06064-0118.

What About Other Bands?

In the 1960s, there were some attempts to schedule DX tests from FM broadcast stations during annual meteor showers. Due to the sporadic unpredictable nature of propagation during meteor showers, these tests were not very successful.

Meanwhile, rare, DX tests over shortwave have been quite successful. The first I recall happened over two decades ago, involving a special test from Radio Cook Islands. Another took place in the late 1970s from the Turks and Caicos Islands. This one-shot test by the local government of those islands was something of a publicity stunt to promote tourism (don't ask me; I can't understand the logic either!) allowed many DXers to add a new country to their logbooks. More recently, Radio St. Helena on the tiny south Atlantic island of St. Helena (best known as the site of Napoleon's final exile) activated a SSB transmitter for a special "Radio St. Helena Day" transmission for just one day in 1990, 1992, and 1993. In the latest test, over 700 reception reports were received.

A recent innovation has been DX tests from foreign AM band stations. A test from HCJB's outlet on 690 kHz last May let listeners in eastern North America add Ecuador to their AM band logs.

A Big, Crazy Idea

One obvious idea would be for shortwave listening clubs to follow the lead of their AM band DXing colleagues like the IRCA and NRC, and start arranging DX tests from rarely-heard shortwave broadcasters. But this wouldn't be as simple as it sounds. For one thing, such stations aren't difficult to hear because they operate on interference-ridden frequencies, or with reduced power at night. They're hard to hear because their operating frequencies don't support good propagation to North America. DX tests from such facilities would yield little, if any, improvement in reception compared to their normal broadcasting hours. Moreover, the limited funds and staff at such stations make requests for special DX tests impractical to honor.

A slightly better idea is to try to arrange for special broadcasts over better-heard utility station SSB transmitters, as was done with the Turks and Caicos, and St. Helena tests. However, this approach can usually only work if all communications—utility and broadcasting—are under one authority. If that test is met, the next hurdle would be to convince the communications authority in the host country that to participate in such a broadcast would be well worth the effort for anyone other than DXers. That's a tough one!

But here's a crazy idea that might work. Our sister publication, *CQ*, is famed for its extensive coverage of ham radio "DXpeditions." In these, a group of hams go to enormous effort and expense to put that new ham radio "country," which is usually nothing more than a chunk of rock in the middle of the ocean, on the air so hams can work and QSL a new country. Such DXpeditions involve a lot of paperwork to

DX News

Serving DX'ers since 1933

Volume 61, No. 17- January 31, 1994 (ISSN 0737-1659)

Inside...

CPC Test Calendar

WFRM	600	Jan. 31, 1994	0030-0100
WTRN	1340	Jan. 31, 1994	0030-0100
WFRB	560	Jan. 31, 1994	0100-0130
WFAW	940	Jan. 31, 1994	0200-0300
KBLG	910	Jan. 31, 1994	0200-0230
WYNI	930	Feb. 1, 1994	0200-0230
WRDB	1400	Feb. 3, 1994	0300-0330
WHVW	950	Feb. 7, 1994	0000-0030
WDMJ	1320	Feb. 7, 1994	0100-0200
WIAN	1260	Feb. 7, 1994	0100-0200
WGTO	540	Feb. 14, 1994	0200-0300
KIEZ	540	Feb. 14, 1994	0330-0400
KLER	1300	Feb. 20, 1994	0201-0230
WDLB	1450	Feb. 21, 1994	0230-0300
WHND	560	Feb. 28, 1994	0000-0030
WIXN	1460	Feb. 28, 1994	0130-0200
KOVO	960	Feb. 28, 1994	0200-0300

WHVW-950 - 507 Violet Avenue - Hyde Park, NY 12538 will conduct a DX test between 12:00 and 12:30 am EST Monday, February 7. The test will include country music, test tones, and Morse code ID's. During the test, WHVW will switch between powers of 500 watts and 57 watts. Reception reports may be sent to Mr. Al Weiner, General Manager. Arranged by J. D. Stephens for the IRCA CPC.

WDMJ-1320 - Marquette, MI will conduct a DX test between 1:00 and 2:00 am EST Monday, February 7; this test will be simulcast on WIAN-1260, Ishpeming, MI. The test will include voice ID's and dual Morse code ID's for both stations. Reception reports may be sent to Mr. Clifford J. Groth, Director of Engineering, c/o WFAW radio - P. O. Box 94 - Fort Atkinson, WI 53538-0094. Arranged by J. D. Stephens for the IRCA CPC.

WGTO-540 - 821 Marshall Farms Road - Ocoee, FL 34761 will conduct a DX test between 2:00 and 3:00 am EST Monday, February 14. The test will include Morse code ID's and will be at 50 kW, day pattern. Reception reports may be sent to Mr. Dave Edwards KD4OLZ, Technical Assistant. Arranged by J. D. Stephens for the IRCA CPC.

KIEZ-540 - 1188 Padre Drive, Suite 202 - Salinas, CA 93901 will conduct a DX test between 3:30 and 4:00 am EST Monday, February 14. The test will include Morse code, telephone tones, and Latin music. Reception reports may be sent to: Chief Engineer. Arranged by J. D. Stephens for the IRCA CPC.

From the Publisher ... Another issue packed with DX and DX tips! Musings hadn't made it into my mailbox by Saturday, so look for double coverage next issue.

Eric Bueneman has resigned as "Bandscans" editor to devote more time to other interests, so that editorship is now open; any bandscans should be sent to the publisher temporarily. Of course, with the crush of excellent DX reports, that column (and others) have had to be put on hold, unfortunately, so it may be some time before we have enough room for it.

Another DX GTG: February 18-20, in a "warm" cabin west of Fairbault, MN, hosted by MDXC. For more information, send an SASE to Randall Trapp - RR 3, Box 124 - Dodge Center, MN 55927.

Further north, Shaun Axelrod in "Winterped" says that Canada Post has announced that, effective March 1, it will cost 50¢ to mail a letter from Canada to the U. S. and 88¢ to overseas, for verie collectors who send SASE's to Canada.

DX Time Machine

From the pages of DX News:

50 years ago ... from the Jan. 22, 1944 DXN: The Jan. 15 DX program from KINY-1460 was not heard in the East because of poor reception conditions. It was reported that there are now three all-nighters on 1340: WEXL, WEMP, and KCKN.

25 years ago ... from the February 1, 1969 DXN: The computerized NRC log (to be recorded on punch cards) was to be coordinated by Lon Berman.

10 years ago ... from the January 30, 1984 DXN: Leading the NRC contests was George Sherman, followed by Jim Refrew, Paul Stephan, Arnim Littek, Bill Hardy, Nancy Hardy, Karl Forth, Bruce Conti, Mike Hogan, and Nolan Stephany.

The front page of "DX News," from the National Radio Club, presents the upcoming scheduled DX tests.

not only obtain the necessary license and call sign but frequently involves special permission to even go to the island in the first place! In fact, some DXpeditions have even invited scientists along to do some sort of research on the native plants and animals in order to get permission to go to the island. As hams keep trying, eventually they are able to put a new country on the air.

Suppose this approach was tried: a group of SWL'ers approach a country without a shortwave broadcasting station. They ask for permission to do a special "international radio reception" test transmission from that country which would also help promote the country...say a special one hour broadcast, perhaps with information about the country's culture, history, and tourist attractions. Rather than use existing transmitter facilities, the SWL'ers take along their own transmitting gear, such as one of those ham transceivers that can operate outside the ham radio bands.

How well would such a station be heard? Surprisingly well, if the right frequency range was selected. During the last sunspot cycle peak, I worked the world with ease on the 10-meter (28 to 29.7 MHz) ham band using only 70 watts and a vertical antenna. Stations running only 20 or 30 watts into dipoles from Europe would pound into southern California with S9+ signals, and in the evenings the band would be filled with 10 watt stations from Japan. With the right frequency and propagation, a relatively simple station could do just fine.

It so happens there is one band that's available and almost completely unpopulated. It's the old 11-meter international broadcasting band from 25.67 to 26.1 MHz. Even during the last sunspot cycle peak, it was largely empty. Yet the pirate station "The Voice Of Bob" used 26 MHz for a transmission, and was heard coast to coast at a good level with its 15 watts.

There are several interesting spots without any shortwave broadcasters, such as Bermuda, Jamaica, the Bahamas, and the Cayman Islands. All would be good candidates for a "DX test DXpedition" when the sunspot cycle perks up in 1997 or so. For daytime worldwide coverage, 26 MHz could be used, and a frequency like 7415 kHz could be used at night for reception in nearby countries that would be in the daytime skip zone for 26 MHz. The required gear would essentially be a modified ham transceiver, an antenna (like a simple dipole or vertical), a tape recorder, and some cords and cables. Everything could fit into a single suitcase. DXers get a new shortwave broadcast country; the host nation gets some free publicity. Everyone wins.

Call me crazy, but stranger things have happened. Besides, you know of a better way to get a shortwave broadcast out of such countries? ■

LISTENING POST

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

You've heard of that ancient Chinese curse—"May you live in interesting times." We certainly are, and it applies to shortwave as much as anything else. We'd wager that most SWLs who've been active for a number of years couldn't name a period that's seen more change, even upheaval on the shortwave bands than has taken place over the last couple of years.

A prime example of this is the extensive changes the bureaucrats are threatening to make at the Voice of America. Word leaked out late in the summer about a plan that would permanently close the VOA installation at Bethany, Ohio. If that weren't serious enough, the plan also envisions cutting the Greenville, North Carolina, transmitting plant—the main U.S.-based facility—by about half. These transmitters (and Bethany's) would then be shipped to VOA relay sites overseas, where they could be operated at less expense. One VOA employee wonders what will happen when the next revolution closes a relay—as happened with VOA Liberia and has happened to Deutsche Welle in Rwanda and Sri Lanka. Whether any or all of this restructuring would take place, was up in the air when this was written. You can write your congressman/woman/person about all this, if you think they might listen...or care!

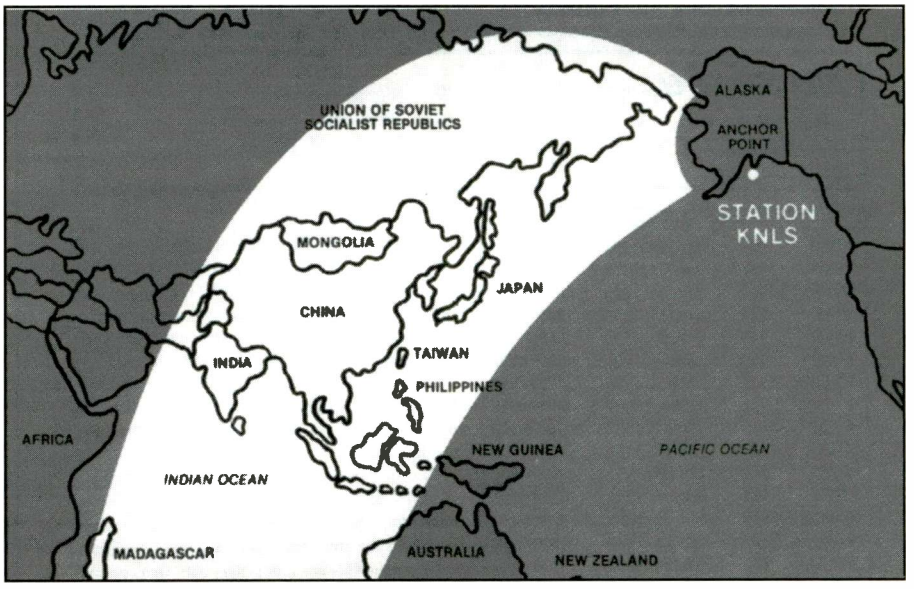
You could hardly describe things as quiet elsewhere on the world's radio waves. Here are some highlights:

The antennas of KGEI—which was closed down in mid-summer, have reportedly been bought by Gene Scott, who'll install them at his Anguilla shortwave station, which is still in the building stage. KGEI's 50 kW transmitter may be headed for ELWA in Liberia while the 100 kW unit may end up at FEBC's station in the Philippines.

Marie Lamb sends word that Radio Orion, one of the South African domestic services, has returned to shortwave. Check 3230 around 0100 (in English).

Radio Thailand is now operational via the Voice of America relay station there. English to North America airs at 0030-0100 and 0300-0330 on 15370—not a good frequency for reception during winter evenings in North America. You might have better luck on 11805 from 1200-1230 or 11845 between 1300-1400, though these transmissions are in various Asian languages.

Radio Miami International—WRMI—has already expanded its schedule, on the air Tuesday through Sunday evenings (UTC days) from 0100 to 0500, and mornings 1100-1400. Most of this time is taken by the anti-Castro "La Voz de Fundacion" program. The 1100-1400 Sunday slot is filled with paid religious programs.



Looks like KNLS has a new QSL card. It shows their signal coverage in yellow, land masses in green, ocean in (no kidding!) blue. (Thanks Sheldon Crook)

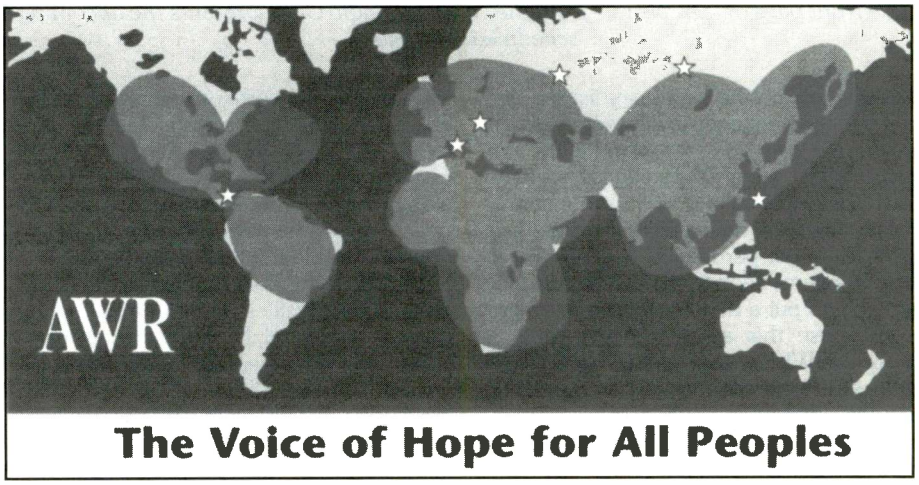
Radio Free Europe/Radio Liberty are moving their headquarters in Europe to Prague, in the Czech Republic. If that weren't enough of an eye opener, would you believe the actual location will be in the former Czechoslovakian parliament building!

Speaking of the Czech Republic, a new station is supposed to be coming on the air there. Radio Metropolis plans to broadcast to both Europe and North America in English and several other languages. The station's purpose would be to promote the Czech Republic and its businesses.

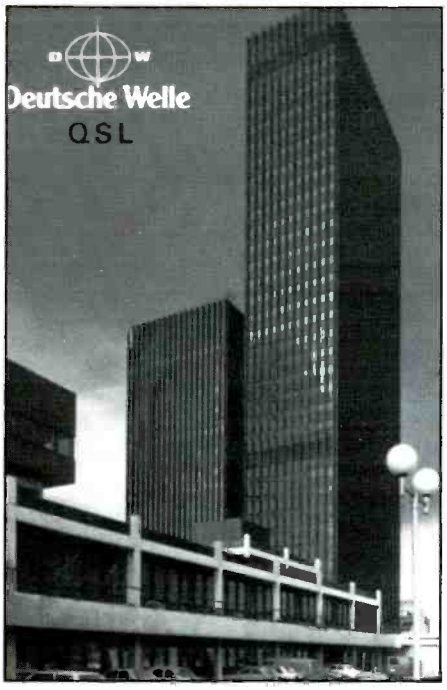
Christian Voice is the name of a new station due to come on the air from Zambia by the end of the year. The station, located 35 km from Lusaka, will run 100 kW. The owner is Christian Vision, a British religious group. No frequencies or schedule are available yet.

Deutschland Radio, Berlin, the station which took over RIAS when it was turned over to Germany a year or so ago, now says it plans to discontinue its shortwave broadcasts (on 6005).

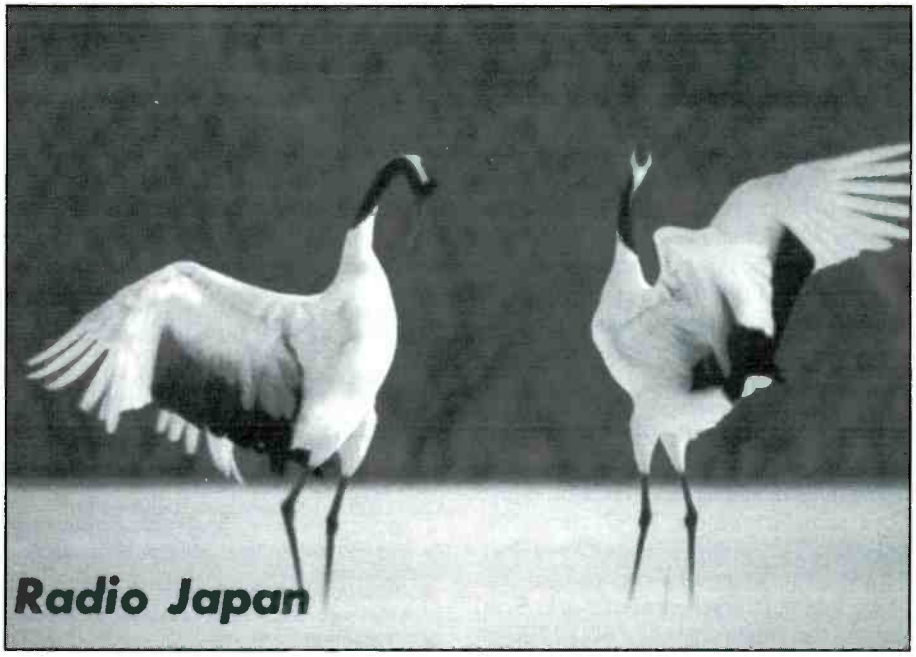
Don't be surprised if you are finding it difficult to pick up Radio Moscow or any of the other Russian shortwave stations. Rus-



Here's the world, as covered by Adventist World Radio's signals.



In another three years Deutsche Welle won't live here anymore. The station will move its headquarters to Bonn.



Radio Japan, and its endless variety of beautiful QSL cards, is one reason QSL collecting is such an enjoyable part of the SWL hobby.

sian stations are cutting back their broadcasting hours because the cost of electricity is becoming unaffordable. To make things even worse, the Russian government is less inclined to spend money to support any kind of state-financed broadcasting.

The Voice of Nigeria is reported to have only one functioning shortwave transmitter (the one on 7255, we suppose).

The other ten units have deteriorated to the point where they are inoperable. Some years back the Voice of Nigeria was easily

audible with English in the afternoons up on 19 meters.

Radio Korea International is the new name for Radio Korea, adopted as the station celebrated its 41st anniversary.

The Radio France International relay station in French Guiana is now also being used by Swiss Radio International. English to North America via this facility is at 0030 on 13635 and 0330 on 11620.

Deutsche Welle is now being relayed by the Meyerton transmitters of Channel Africa (South Africa), which are being used because the Rwanda relay is off the air. One of the English feeds (to Africa) is on 17800 at 1100. Deutsche Welle, by the way, plans to move its headquarters from Cologne to Bonn sometime around 1997, after a new radio and TV building are completed. Incidentally, the Voice of America also uses Meyerton, but the schedule makes U.S. reception extremely unlikely: 1600-1700 on 3970 and 1800-1900 on 4985.

The BBC is carrying a special program in cooperation with the International Red Cross, intended for families separated by the civil war in the former Yugoslavia. It airs Sundays at 1930 on 5875, 6125, 9825, 9915 and 11680.

It seems pretty definite now that Radio Noumea, New Caledonia, which has been off shortwave for more than a year, is gone for good. The 7170 transmitter is in bad shape and there's no money for repairs, much less for a new unit.

Some Comments on QSLs

For some reason "The Listening Post" has never focused very much on covering news of station verifications. We'd like to start changing that. We'd like to begin including information about QSLs—in particular such things as station addresses and address changes, the names of verification signers (the people who actually issue or sign these things), QSLs issued as a series, special, commemorative QSLs being sent, and any special requirements for issuing QSLs which a station may announce from time to time. We encourage you to start including QSL information with your log reports. We'll include the info with the regular log listings each month.

Before we get to the logs, remember we do welcome and appreciate your reports very much! Please list your loggings by country, leave some cutting room between items, and add your last name and state abbreviation after each item. That makes the compiling and editing job much easier! We're also looking for photos of you and your equipment (don't be shy!) as well as spare QSLs for use as illustrations. Also send any shortwave news items, station schedules or other information you may run across. We hope to hear from you soon —and regularly. Thanks!

Here are this month's loggings. All times are UTC, which is five hours behind Eastern Standard Time, i.e. 0000 UTC equals 7 p.m. EST, 6 p.m. CST, etc. Language broadcast is assumed to be English (EE) unless indicated otherwise; FF=French, SS=Spanish, AA=Arabic, etc.

ALASKA—KNLS with religious programming on 7355 at 1352. (Crock, CA) 9615 at 0945. (Harrison, Japan)

ANGOLA—Radio Nacional, 4950.2 at 0433 in PP with talk, music bridges, mentions of Angola, organ music. ID at 0452, "bom dia" and news. (Paszkiewicz, WI)

AUSTRALIA—Radio Australia at 0800 on 5995, 6020, 6080, 9580 and 9660. Also at 0520 on 17715 with sports. (Harrison, Japan) 9710 at 1400. (Crook, CA) 11800 at 1302 with news. (Jeffery, NY)

ABC/CAAMA Radio, Alice Springs, 2310 (that's the frequency not the time! editor) at 1225 with local news. (Flemmer, WA)

ABC/CAAMA Radio, Tennant Creek, on 2335 at 1438 with pop/rock and talk of children's death caused by auto accidents. (Foss, AK)

AUSTRIA—Radio Austria International, 0630 on 6015. (Crook, CA) (via Canada, editor)

BOSNIA-HERCEGOVINA—Radio Bosnia-Hercegovina, 7650 at 0414 but overpowered by a VOA feeder on 7651. (Flemmer, WA)

BOTSWANA—Radio Botswana. 3356//4830 at 0433 with soul, EE announcments and mention of news upcoming. (Paszkiewicz, WI)

VOA Botswana relay on 7265 at 0450 with "Daybreak Africa." (Lamb, NY)

BRAZIL—Radio Cultura Sao Paulo, 17815 at 2240 in PP with talk, ID, piano music, commercial, instrumental music. (Paszkiewicz, WI)

Radio Rio Mar, 9695 at 1102 in PP with jingle IDs, instrumentals, commercials, piano music bridges, Happy Birthday songand "For He's a Jolly good Fellow." (Paszkiewicz, WI)

Radio Nacional Amazonia, 6180 in PP at 0935 with news, weather, ID. (Flemmer, WA)

Radio Marumby, 9665 at 2232 with two men in PP talking about the Brazilian economy, announcements, 2300 ID, news. (Paszkiewicz, WI)

Radio Educacao Rural, presumed, 4755 at 0833 in PP with talks, comedy record, laughter, references to Maranhao, the station location. (Paszkiewicz, WI)

Radio Nacional (Radiobras), 15445 at 1314 with pops ID and address in EE. Off at 1320. (Flemmer, WA)

Radio Club, Dourados, presumed, 3375 at 0159 in PP with reggae, talk, mentions of Brazilian cities. (Lamb, NY)

CHINA—China Radio International, 7405 at 1315 and 1400. (Crook, CA) 15440 at 1000 with news. (Harrison, Japan)

COLOMBIA—La Voz de Yopal, 5040 at 0140 with futbol, mentions of Yopal, Colombia, Caracol, sound effects, mention of player's name. (Paszkiewicz, WI)

COSTA RICA—Radio Reloj, 4832/6006, reactivated, at 0120 in SS with news, thanks to listeners, frequencies, ID. (Lamb, NY)

Adventist World Radio, 5030 with religious programming at 1005. (Flemmer, WA) 9725 in SS at 1336. (Low, TX)

Radio For Peace International, 7375 with close at 0200. (Wilden, IN)

CUBA—Radio Havana Cuba, 6010 at 0030 with news, DX program, music. Also 17760 at 2130. (Jeffery, NY) 9550 in SS at 1239. (Low, TX) 9820 at 0630. (Crook, CA)—Radio Centinela del Sur, 4770 at 0251 in SS with folk music, Latin ballads, closing announcement with ID and location. (Lamb, NY)

La Voz del Napo, 3280 at 0143 with disco, IDs, mentions of Tena. (Lamb, NY)

HCJB, 9745 with "DX Party Line" at 0100. (Low, TX) In JJ at 0429. (Vaage, CA)

EGYPT—Radio Cairo, 9900 at 2235. (Low, TX)

ENGLAND—BBC at 1250 on 9515//11750. (Northrup, MO) 9740 at 1430. (Crook, CA)

ETHIOPIA—Voice of Ethiopia, 7110//9705 in local languages with talk, kid's music, local groups. (Lamb, NY)

FRANCE—Radio France International, 13625 at 1228 in EE, into FF at 1256. (Wilden, IN)

FRENCH GUIANA—China Radio Int'l relay, 11680 at 0411 with news. (Flemmer, WA)

GERMANY—Voice of America via Wertachtal on 9770 and //9760 Portugal and 15205 Morocco relays at 2018 with Willis Conover jazz show. (Lamb, NY)

Bayerischer Rundfunk, 6085 at 0151 in GG with pops, ID, news, traffic report. (Lamb, NY)

Sudwestfunk, 7265 at 0317 in GG with talks, pops, ID "hier ist Baden-Baden." (Lamb, NY)

Deutsche Welle, 6085 (via Sackville) at 0333 with "Insight." (Jeffery, NY) 17715 at 1230. (Northrup, MO) 21640 at 1000 in GG. (Harrison, Japan)

GREECE—Voice of Greece, 11645 at 0115 in Greek, into EE news at 0130. (Wilden, IN) 0330 with Greek news. (Flemmer, WA)

GUATEMALA—Radio Chortis, 3380 at 0310 in SS and local language with talks, IDs, pops, marimba and Christmas music. (Lamb, NY)

HAWAII—KWHR, 17780 at 0500-0600 with religious music. Switched to 9930 at 0800. (Harrison, Japan)

HONDURAS—Radio Copan International, 15675 in EE/SS at 2324 with vocals in SS. (Low, TX)

Radio HRET, 4961 at 0020 in SS and local language with ID, religious talk, possibly a mailbag feature. (Lamb, NY)

HUNGARY—Radio Budapest, 9835 at 0254 in EE with DX program. (Jeffery, NY)

ISRAEL—Kol Israel, 15615 at 1057 in Hebrew. (Foss, AK)

JAPAN—Radio Japan, 5960 (via Canada) at 0127 with DX program. (Wilden, IN) 9535 at 1400. (Crook, CA) 11705 at 1425 with "Media Roundup." (Jeffery, NY) 11815 in JJ at 1021. (Foss, AK)

KUWAIT—Radio Kuwait at 1830 on 11990. (Low, TX)

LESOTHO—BBC relay, 3255/6190 at 0441 with African music, news and financial news. (Lamb, NY)

MALAWI—MBC on 3380.8 at 0332 with African music, drums, ID. (Paszkiewicz, WI)

MALAYSIA—Radio TV Malaysia, 7295 at 1336. (Crook, CA)

MALI—China Radio Int'l relay on 11715 at 0340 with "Profile," easy listening music with CC announcer. (Flemmer, WA)

MEXICO—Radio Universidad, 6115 at 0610 in SS with Mexi-pops. (Flemmer, WA)

MONACO—Trans World Radio, 6230 in GG at 0401. (Low, TX)

NAMIBIA—Namibian Broadcasting, 3270 at 0506 with a relay of Radio France Int'l. This is not mentioned in the standard references but is in the RFI sched-

Abbreviations Used in Listening Post

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

ule, along with the FM relays for Africa. NBC also noted 3270//3290 at 0053 in EE with the All Night Service. (Lamb, NY)

NETHERLANDS—Radio Netherlands on new 11655 (Flevo) at 1717 with s/on, IS, ID, frequencies and into EE news. This frequency was used for Arabic until RN suspended that service. It now carries AA to the Mideast. (Lamb, NY)

NETHERLANDS ANTILLES—Radio Netherlands via Bonaire on 9720 at 0750 to Australia/Asia. (Flemmer, WA)

NEW ZEALAND—Radio New Zealand, 15115 at 0450 with sports and commercials. Moved to 11900 at 0459. (Flemmer, WA)

NIGERIA—Radio Nigeria, 4770 at 0428 with IS, ID, morning prayer and "Music Show." (Jeffery, NY) 0520 with African and world news. (Flemmer,WA)

NORTH KOREA—Central Broadcast Station on 2850 at 1426 with men's chorus in KK. (Foss, AK)

Radio Pyongyang, 13760 at 1320. (Crook, CA)

NORTHERN MARIANAS—KHBI, Monitor Radio, Saipan, 17555 at 1016 with EE news and features. (Jeffery, NY)

PAKISTAN—Radio Pakistan, 17705 at 0236 with news. (Jeffery, NY)

PALAU—KHBN—Voice of Hope, 9830 at 0830 with ID in CC/EE and into CC programming. (Flemmer, WA) 9965 at 1428 with religious programming. (Crook, CA)

PAPUA NEW GUINEA—Radio East Highlands, 3375 at 1215 with US pop, announcer in Melaneasian Pidgin. (Flemmer, WA)

PERU—Radio La Oroya, 4904.8 at 1005 with Andean vocals, "buenos dias," time check, ID. (Paszkiewicz, WI)

Radio Ancash, 4990.7 in SS at 0516. (Low, TX)

Radio Tarma, 4775 at 0306 in SS with pops, slogans, ID. (Lamb, NY)

Radio Huancabamba, 6281.6 at 0050, weak with vocals, announcements, quick "Huancabamba" ID at 0122. Ute QRM. (Paszkiewicz, WI)

Radio Oriente, 6190 at 0015 in SS with talk show, IDs. (Lamb, NY)

Ondas del Mayo, presumed, on 6803 at 0116 in SS with talks, folk music, possible ID. (Lamb, NY)

PHILIPPINES—Radio Veritas Asia, 9520 at 1425 with continuous IDs in EE, then into Tagalog programming at 1430. (Flemmer, WA)

Voice of America relay, 15425 at 1014. (Foss, AK)

PORTUGAL—Radio Portugal on 9705 at 0130. (Crook, CA)

Radio Canada via Portugal at 0425 on 11905. (Low, TX)

Deutsche Welle via Portugal on 9535 at 0310. (Flemmer, WA)

9580 at 0231 in EE to SE Asia. (Lamb, NY)

RUSSIA—Radio Moscow, 7315//9895//17890 at 0930. (Harrison, Japan)

Radio Magadan, 9530//9600 at 0620 with heavy traditional RR music. (Flemmer, WA)

SWAZILAND—Trans World Radio, 5055 at 0426 to 0430 close with religious programming in GG, IS over French Guiana. (Paszkiewicz, WI)

SINGAPORE—BBC via Singapore, 9740 at 0950 with sports news. (Harrison, Japan)

SOUTH AFRICA—Channel Africa, 3310//5965 at 0434 in PP with jingle, music, ID, IS and off 0456. Also 3220//5955 at 0420 in EE with trade news, "The Price of Freedom," "Sounds of Soweto." And on new 3955 at 0324 sign on in possible Chi-Chewa to East Africa with IS, ID, news, African music and business news. Also on 7185//9520 at 0458 in FF. Also 5955//9695 at 0507 in EE. (Lamb, NY) 5965 at 0436 with ballads, PP news with correspondent's reports. (Paszkiewicz, WI) 0515 with African music, "Dateline Africa." (Flemmer,,WA)

Radio 2000 on 4810 at 0038 in EE and Afrikaans with easy listening music, ID jingle. (Lamb, NY)

Radio Orion, reactivated, 3230 at 0013 in EE with pops, talks, ID "The Big O—Radio Orion." (Lamb, NY)

SOUTH KOREA—Radio Korea International, 5975 at 1410 and 9570 at 1316. (Crook, CA)

SPAIN—Spanish National Radio, 9540 at 0505 with instrumental music. (Flemmer, WA)

SWEDEN—Radio Sweden, 15240 at 1241 with news, weather, sports. (Jeffery, NY) 1330 with tourism program. (Flemmer, WA)

1345 with "In Touch With Stockholm." (Low, TX)

SWITZERLAND—Swiss Radio Int'l, 9860 at 0418 with world news. (Flemmer, WA) 0425 with talk. (Vaage, CA)

SYRIA—Radio Damascus, 12085 at 2037 in EE with ID, music and "The Arab Community." (Jeffery, NY)

TAIWAN—Voice of Free China, via WYFR on 9680 at 0300. (Crook, CA)

TAJIKISTAN—Radio Netherlands relay, 9860 at 0127 with pops, ID, frequencies for South Asia, news. (Lamb, NY)

THAILAND—Radio Thailand via VOA relay at Udorn Thani on 15370 at 0058 in EE with ID, piano music, anthem, chimes, ID, frequencies. Into Thai shortly after 0100. (Lamb, NY)

VOA Thai relay, 11785 in CC at 1332. (Low, TX) 1200 with news in CC. (Flemmer, WA)

TURKEY—Voice of Turkey, 9445 at 0300. (Crook, CA)

UKRAINE—Radio Ukraine, 15260 at 1750 in GG with program about classical music, ID, schedule. (Paszkiewicz, WI)

VIETNAM—Voice of Vietnam, 10059 at 1401 in VV. (Foss, AK)

YUGOSLAVIA—Radio Yugoslavia on 9580 at 0450. (Vaage, CA)

A big tip of the hat to the following who did the good thing this month:

Sue Wilden, Columbus, IN; Marie Lamb, Brewerton, NY; Sheryl Paszkiewicz, Manitowoc, WI; Marty Foss, Wasilla, AK; Bjorn F. Vaage, Granada Hills, CA; Lynn A. Harrison, Fussa, Japan; Sheldon F. Crook, Crescent City, CA; Brad Low, Jacksonville, TX; Mark A. Northrup, Goldstone, MO and Del Flemmer, Tacoma, WA. Thanks to each of you!

Until next month, good listening!

BY DON SCHIMMEL

COMMUNICATIONS CONFIDENTIAL

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Two great photos were supplied this month by August Stellwag, NY. The equipment he uses for receiving polar orbiter images consists of an Icom R-7000 with a modified IF, discone antenna, Packard-Bell 386 computer and WEFAX-GOES software. "I plan to upgrade soon to a faster 486DX computer with SVGA monitor for better resolution pictures."

Our youngest contributor, Basil Shelley, CA, is currently concentrating his efforts on spy numbers and MARS stations. "I am especially interested in MARS phone patches between 14400 and 14600 kHz. In the afternoon, there are usually several patches on this band."

Basil indicated he is interested in obtaining an FRG-100B in the future.

Kurt Mueller, Switzerland, vacationed in France and while there, he installed a 500-foot longwire, L-shaped, with a bearing of 325°. He fed the antenna via an antenna coupler to a Drake R8 receiver. "With this super antenna I caught 76 new beacons which brings my total to 287. The most distant beacon was GV in Iceland (1760 miles) followed by LOR and DHR in Libya (1350 miles) and KVR Athens, Greece (1160 miles). I hunted for beacons only during hours of darkness, listening to 10-20 kHz sections of the band."

Al Hemmalin, RI, wrote to tell is "I have just started to listen to the low band and I haven't had so much fun since I was working the peanut whistles. I am using a Drake R8, a Yaesu FRG-100, Grove antenna tuner, and a longwire aimed East and West essentially to be at right angles to some very noisy power lines."

Two letters were received from Tom Sevart, KS. In one, he explained he had finally figured out who was sending all the data burst signals he had been hearing. "I was listening to the USS Kitty Hawk working 'Shark 05' when they started sending information 'in the green.' Then came the data bursts."

In his second letter, Tom mentioned he noted that Over-the-Horizon radar bursts are quite common, especially above 10 MHz. He also pointed out that he was continuing to hear unusual activity on 7920 kHz, which is active often and sounds like some sort of space-ray sound effect. The signal sent an apparent ID of NHQ163. On the same frequency was a two-tone signal that Tom believed was unrelated to the space-type sound.

Tom reported an unusual "numbers" transmission. He found a YL/SS in FM on 16375 kHz. The traffic was in 5F groups and the station signed off with 00000.

Jeff Ryan, PA, informed us that he has

DKØWCY: New Format

Example:
DKØWCY BEACON ————————
DKØWCY BEACON ————————
.....
DKØWCY BEACON INFO
2Ø JUN Ø5Ø1 UTC –
FOR 19 JUN R 6Ø FLUX 77 BOULDER A 2Ø –
FORECAST SUNACT QUIET –
MAGFIELD ACTIVE CONDS EXPECTED –
DKØWCY BEACON ————————
DKØWCY BEACON ————————

Kurt Mueller, Switzerland, reports there has been a change in the format of the DK0WCY propagation beacon which operated in 10144 kHz.

COAST GUARD COMMUNICATIONS AREA MASTER STATION ATLANTIC/NMN

COAST GUARD CAMSLANT CHESAPEAKE VA/NMN RECEIVER/OPERATIONS SITE IS LOCATED IN CHESAPEAKE VA ON THE NC/VA BORDER (36-36.57N 076-15.25W) WITH ITS TRANSMITTER SITE LOCATED IN A REMOTE SECTION OF VIRGINIA BEACH KNOWN AS PUNGO (36-43.43N 076-00.36W). OUR MISSION IS TO PROVIDE LONG RANGE COMMUNICATIONS SERVICES TO COAST GUARD VESSELS, AIRCRAFT, NATIONAL OCEAN AND ATMOSPHERIC ADMINISTRATION (NOAA) VESSELS, A WORLDWIDE MERCHANT FLEET AND U.S. NAVY VESSELS, AS WELL AS PROVIDE WEATHER BROADCASTS, MARINE INFORMATION ADVISORIES AND DISTRESS COMMUNICATIONS TO THE BOATING PUBLIC.

CAMSLANT USES THE HARRIS R-2368/URR RECEIVER WITH A VARIETY OF VERTICAL AND LOOP ARRAY ANTENNAS. OUR TRANSMITTERS CONSIST OF 20 COLLINS HF-80 TRANSMITTERS FOR HIGH FREQUENCY VOICE/CW/SITOR/RTTY COMMUNICATIONS (10KW) AND TWO NAUTEL NX 5000TT/6 MEDIUM FREQUENCY TRANSMITTERS (5KW) FOR CW AND NAVTEX MODES OF OPERATION THROUGH VERTICAL ANTENNAS. ONE RECEIVE AND TRANSMIT ROTATABLE LOG PERIODIC ANTENNA PROVIDES DIRECTIONAL COMMUNICATIONS SUPPORT WHEN REQUIRED.

IF YOU HAVE A GENERAL COVERAGE RECEIVER YOU CAN LISTEN TO NMN ON THE FOLLOWING FREQUENCIES:

1. AIR TO GROUND: 5696KHZ, 8984KHZ AND 11201KHZ (USB).
2. CW: 16976KHZ, 12718.5KHZ AND 8741KHZ.
3. CW WEATHER BROADCAST: 8090KHZ, 12135KHZ, 16180KHZ, 20225KHZ, 5870KHZ AND 26725KHZ (24 HOURS A DAY). NMN ALSO MAINTAINS CODE PRACTICE ON THESE FREQUENCIES FROM 0200Z - 0445Z. SPEED FROM 6 TO 24WPM.
4. SITOR: (RX 8388, TX 8426.3), (RX 12490, TX 12590.8), (RX 16695, TX 16817.3), (RX 6264.5, TX 6314.3) AND (RX 22297.5, TX 22387.8). (USB).
5. VOICE: (RX 4134, TX 4426), (RX 8240, TX 8764) AND (RX 12242, TX 13089). (USB).

IF YOU WOULD LIKE TO RECEIVE A QSL CARD FROM NMN, LISTEN TO ANY OF THESE FREQUENCIES AND SEND A SWL REPORT TO:
USCG CAMSLANT C/O NSGA NORTHWEST
CHESAPEAKE, VA 23322. ATTN: RM3 MORALES

Joseph Devine, MO, received the CAMSLANT information sheet with QSL from NMN for working as part of the 1993 Armed Forced Day cross band contacts.

been logging a number of phone patches between patrons of major cruise lines and shore stations. He has noted one ship in particular, Royal Caribbean's Majesty of the Seas, quite often on 4390 kHz (SSB). Jeff said he used a Realistic DX-390 as his receiver. Okay, Jeff, we are looking forward to seeing some of your loggings.

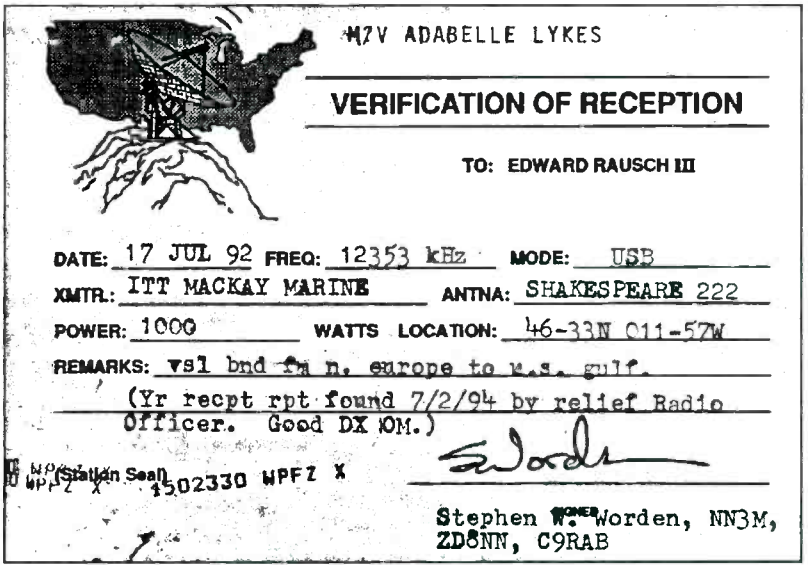
From a Northern neighbor, Paul Scalzo, Quebec, Canada, pointed out the similarity in broadcast call-up format and procedures of the Russian MFA and Bulgarian MFA transmissions.

I have also noted certain procedures used in some Cuban communications which show signs of the Russian influence in training of Cuban communications personnel.

News of U.S. Navy happenings was sent in by Richard Baker, OH, and included an item telling of the deactivation of the USS Long Beach (CGN-9), the world's first nuclear-powered cruiser. The deactivation ceremony took place at Norfolk Naval Station this past July, 1994. The vessel was commissioned in September, 1961, and was home ported in Norfolk up to early 1966 and then it was transferred to the Pacific Fleet.

Richard also provided information on a new aircraft carrier home porting plan which has been announced by the U.S. Navy. Several changes scheduled for the near future are as follows: USS Lincoln (CVN-72) from Alameda to Bremerton, in 1995; USS Enterprise (CVN-65) from Newport News to Norfolk in FY 94; and the USS Eisenhower (CVN-69) from Norfolk to Newport News in 1995.

While browsing through a recent catalog from Edward R. Hamilton, bookseller, Falls Village, CT, 06031-5000, I ran across three titles I believe to be of interest to SWL'ers. #336203—Department of Defense Dictionary of Military Terms, $5.95; #838810—Seven Language Dictionary (French, German, Russian, Hebrew, Spanish, and Portuguese, each from and to English), $7.95; and for those who follow U.S. Coast Guard communications, check out #514861—Rescue at Sea, $9.95. This book provides very interesting background stories on the many phases of Coast Guard activities. A $3 postage and handling fee is required for all books. These are great prices. I paid over $20 for my



M7V ADABELLE LYKES

VERIFICATION OF RECEPTION

TO: EDWARD RAUSCH III

DATE: 17 JUL 92 FREQ: 12353 kHz MODE: USB

XMTR: ITT MACKAY MARINE ANTNA: SHAKESPEARE 222

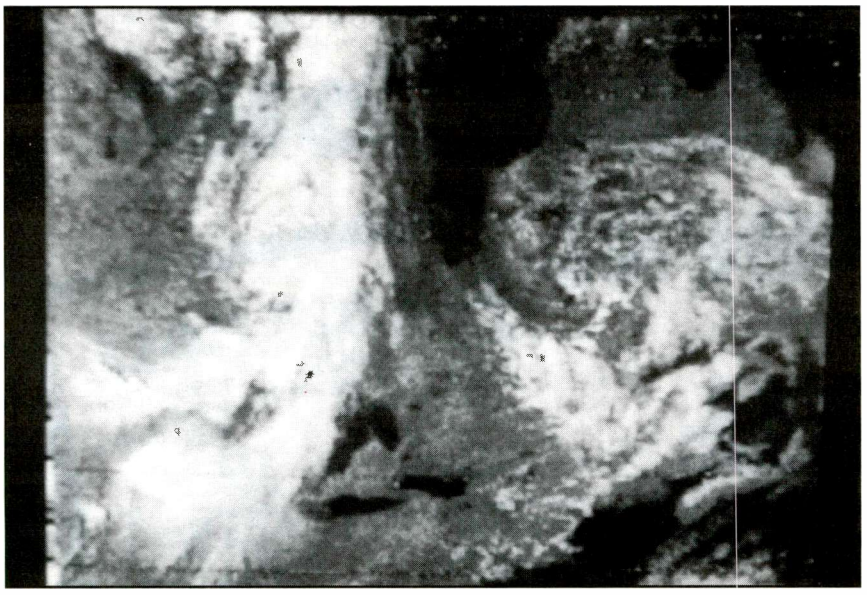
POWER: 1000 WATTS LOCATION: 46-33N 011-57W

REMARKS: vsl bnd fm n. europe to u.s. gulf.
(Yr recpt rpt found 7/2/94 by relief Radio Officer. Good DX OM.)

(Station Seal) 1502330 WPFZ X

Stephen W. Worden, NN3M, ZD8NN, C9RAB

Ed Rausch, NJ, had to wait a couple of years for the return of his PFC. It was found on board by the relief Radio Officer in 1994.



August Stellwag, NY, received this shot directly from the NOAA 11 polar orbiting weather satellite. Lakes Superior and Michigan are cloud-covered, but Lakes Huron, Erie, and Ontario can be seen. In the top center is Hudson Bay, and the right side shows New York, New England, Nova Scotia, and Labrador.

copy of the Defense Dictionary when it first came out.

Here is a list of the Over-the-Horizon radar signals observed by Tom Sevart, KS: 11890, 13830, 14849, 16279, 7855, 9163, 12159, 13810, 16118, 16250, and 18385 kHz.

Ary Boender, Netherlands, pointed out I had misunderstood a previous logging where he indicated DFA for 410 kHz. DFA is not a callsign; it stands for Direction Finding Activity. Sorry folks.

Ary also mentioned he had made a number of Rwanda associated loggings. He heard Belgian Air Force AFB 669, French CTM 9110, and USAF Reach missions (with suffix RW): 3, 210, 229, 232, 236, 239, 247, 260, 261, 277, 278, 281-284, 1288, 289, 293, 296, 300, 303, 304-T (tanker to refuel 304RW), 307, 309, 310, 313, 314, 320, 321, 331, 341, 370, 500, and 784. All logged on 11176 kHz and AFI-3 frequency 11300 kHz.

Abbreviations Used For Intercepts

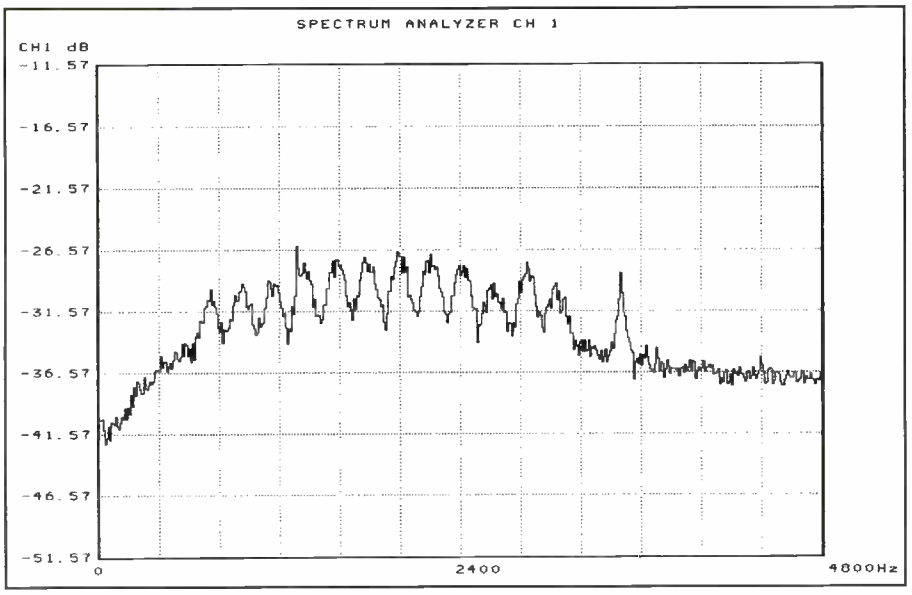
AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identification/led/location
LSB	Lower Sideband mode
OM	Male operator
PP	Portuguese
SS	Spanish
tfc	Traffic
USB	Upper Sideband mode
w/	With
wx	Weather report/forecast
YL	Female operator
4F	4-figure coded groups (i.e. 5739)
5F	5-figure coded groups
5L	5-letter coded groups (i.e. IGRXJ)

UTE Intercepts. All Times in UTC.

50: OMA, TSS Prague in CW at 0658 w/time sigs. (AB)

60: MSG, TSS Rugby, UK in CW at 0645 w/time sigs. (AB)

70.458: DECCA stns Holland chain-Gilze-Rijen, Hol., Heiloo, Hol., SAS Van Gent, Hol., & Thorpeness, UK & DECCA stns Frisian chain-Finsterwolde.



Kevin Tubbs, VT, has provided another of his fine Spectrum Analyzer charts. This signal was on 10560 kHz, USB, VFT-P12A, 12 PSK channels 200 Hz apart. The first channel is at 740 Hz, the reference tone is at 3740 Hz.

Hol., Heiloo, Hol., Hoyer, Denmark, & Zeven, Germany. W/pulses at 0703 & 0705. (AB)

75: HBG, TSS Prangins, Switzerland in CW w/time sigs. (AB)

111.3: SOA111, Warsaw, Poland Meteo at 0040 in Baudot (50) w/Synops. (AB)

117.4: DCF37, Offenbach, Germany Meteo at 0655 w/SDCZ chart in FAX 120/576. (AB)

126.825: DECCA stns Holland chain at 0722 w/pulses. (AB)

128.580: DECCA stns Frisian chain at 0726 w/pulses. (AB)

129.1: DCF49, BMPT Bonn, Germany at 0725 w/data bursts in u/i mode. (AB)

147.3: DDH47, Hamburg, Germany Meteo at 0649 in Baudot (50) w/Synops. (AB)

206: Beacon GLS, Galveston (Scholes Field), TX at 1239 w/voice wx. (BL); Beacon QI, Yarmouth, NS, Canada at 1804 w/id & 8 sec dash. (AH)

212: Beacon SJ, St. John's, NB, Canada at 1113. (AH)

218: Beacon YUY, Royun, PQ, Canada at 0834. (AH)

220: Beacon IHM, Mansfield, MA at 1709. (AH)

227: Beacon TAN, Taunton, MA at 1703. (AH)

232: Beacon GOP, Gaspe, PQ, Canada at 0824. (AH)

241: Beacon SFZ, Smithfield, RI at 1702. (AH)

245: Beacon YZE, Gore Bay, Ont., Canada at 0848. (AH)

248: Beacon UL, Montreal, PQ, Canada at0741. (AH)

254: Beacon 5B, Summerside, PEI, Canada at 0741. (AH)

278: Beacon OS, Los Angeles International, CA at 0510. (BV)

282: Beacon GWF, Lancaster Fox Field, CA at 0511. (BV)

287.3: Beacon CM, Cromer Light, UK at 0655. (AB)

288.5: Beacon YM, Ymuiden Light, Holland at 0656. (AB)

291: Beacon NP, Nobska Point, NY at 0208. (AH)

293: Beacon MP, Montauk Point, NY at 0208. (AH)

295: Beacon DP, South Jetty Light, Dana Point, CA. (CK); The Ken Stryker Beacon Guide shows this beacon on 292 kHz and the light as "Breakwater Light 5." (Ed.)

302: Beacon L, Pt. Loma Lightship, CA at 1458. (BS)

303: Beacon YPP, Parent, PQ, Canada at 0246. (AH). This is an ex-UAN. (Ed.)

307: Beacon R, Snug Harbor, Ont., Canada at 0823. (AH)

308: Beacon G, Cranberry Island, NS, Canada at 0314. (AH)

310.3: Beacon GV, Goltur Lt. (Galarvity), Iceland at 1930. (KM)

317.5: Beacon TRP, Tapani/Birgi, Sicily-Italy at 1940. (KM)

320: Beacon MLG: Gozo, Malta at 2008. (KM)

320: Beacon D, Bird Rocks, PQ, Canada at 0203. (AH)

322: Beacon H, Seal Island, NS, Canada at 0829. (AH)

323: Beacon BSD, St. David's Head (Bermuda NAS), Bermuda at 0848. (AH)

340: Beacon IOA, Ionnanina, Greece at 2032. (KM)

344: Beacon FCH, Fresno Chandler Municipal, CA at 0516. (BV)

345: Beacon THS, Thessalonike, Greece at 1959. (KM)

348: Beacon SVR, Sagvar, Hungary at 2011. (KM)

350: Beacon NUC, San Clemente Island, NALF Sherman Field, SW Long Beach, CA. Hrd at 0517. (BV)

353: Beacon BNA, Beni Amrane/Alger, Algeria at 2041. (KM)

357: Beacon KVR, Kavouri/Athens, Greece at 2050. (KM)

358: Beacon ELO, El-Qued/Guemar, Algeria at 2107. (KM)

359: Beacon EMT, El Monte, CA at 0518. (BV)

360: Beacon LOR, Dahra (Warehouse 32), Libya at 2120. (KM)

370: Beacon PAI, Pacoima Barton Heliport, CA at 0519. (BV)

374: Beacon DHR, Dahra (Warehouse 32), Libya at 2030. (KM)

376: WP, Locator Schiphol, Holland in CW at 2030. (KM)

378: Beacon CPM, Compton, CA at 0520. (BV)

385.5: Beacon KDN, Tunis/Carthage, Tunisia at 2102. (KM)

397: Beacon OP, Dublin, Ireland at 0300. (KM)

400: Beacon QQ, COMOX, CFB, BC, Canada at 0524. (BV)

410: Beacon NZJ, El Toro MCAS, Santa Ana, CA at 0525. (BV)

413: Beacon OEG, Yuma Proving Grounds, AZ, at 1547. (BS)

415: Beacon CBC, Cayman Brac, Cayman Islands at 0802. (AH)

416: Beacon MTA, Malta at 2030. (KM)

417: Beacon HHG, Huntington, (Municipal), IN at 0845. (AH)

419: Beacon RYS, Grosse Ile (Municipal—Detroit), MI at 0846. (AH)

420: Beacon GAS, Gallipolis, (Gallia Meigs Regional), OH at 0921. (AH)

428: Beacon COG, Orange, VA at 0754. (AH)

530: TIS, WNM0415, Westport, MA at 2053. (AH)

1612.5: GKR, Wick, UK w/CW mkr at 0022. (AB)

1794: SPO, Szczecin, Poland in USB w/navigational wrngs at 0029. (AB)

1905: SAB, Goteborg, Sweden in ARQ (100), Selcal YEFE. Hrd at 0032. (AB)

2182: Oilrig Borgsten Dolphin w/MV Cable Carrier in USB at 2042; GYWZ, MV Seaboard Integrity w/Wick Rdo in USB at 2140; GDBM, Oilrig Dyvi Stena w/Floro Rdo in USB at 2050. (AB)

2206: CFC389, F/V Cape Race wkg Yarmouth CG (VAU) on QSX 2582 kHz at 0334 in USB re ill crewman. VAU ended up relaying comms to the on-call doctor. (RB)

2366: J8EE3, MV Doggersbank w/MV Pelikaan in USB at 1950; PFFX, MV Pluto clg MV Jumbo in USB at 2012. (AB)

3016: Continental 1940 w/Shanwick at 0328; Reach F501CB w/NY, gives position at 0329; Shanwick clg AN216 & LTE965. No joy. All in USB. (AB)

3728: PA3FGB, Holland Ham, SSTV M-1, color picture at 1035; DK5VS, German Ham, SSTV M-1, color picture at 1040. (AB)

4015: AE1USA, USAF MARS Heidelberg w/AE1ZWA & AE0KRN at 2255 in Packet (300). (AB)

4017: CW 5F cut # stn (1-0-ANDUWRIGMT) at 0200. This stn on every night at 0200. Signs down w/ AR AR AR SK SK SK. (TS)

4023: Army MARS net at 1500. AAR8KK was net control. AAR8DJ/A, AAR8GP, AAR8ES, AAR8HB, AAR8LL, AAR8LZ, and AAT9SK were among the check-ins. USB mode. (BS)

4033: 735 rptd in CW at 0400, then GR 30 and 5F# msg. Rptd mssg and signed down w/AR. (TS)

4041: NAVMARCORMARS net at 2150 in 75/170 w/MARSAGRAMS being passed. (RB)

4089.5: USN freq w/Haitian ops. Victor w/Tango at 0247 re coordinates and Savannah, GA. Foxtrot Mike clg Foxtrot Charlie at 0248. (BL)

4106: KDG wkg JHQ in CW w/5F# mssgs. Used "Si" as an acknowledgment. (TS)

4174: 5F CW cut # stn (1-0: ANSUWRIGMT) at 0512. (TS)

4369: WLC, Rogers City, MI in USB at 0155 w/navig wrngs. (TS)

4408: VCS, Halifax CG in USB at 0206 w/wx. (TS)

4470: YL/EE in AM at 0006 rptng 913 & 1-0 count. At 0010, ten tones and 3/2F # mssgs. (TS)

4601: NW5Y & ROU4 w/HTWM (all u/i) in CW at 2133. (AB) These callsigns remind me of activity described in article by Bill Orr, June 1986 *POP'COMM*. (Ed.)

4602: CVVE, wkg CVVR, XVQV & A in ARQ (100) at 2142. All believed be Irish military stns. (AB)

4637.5: KFZ2799, Offshore oil rig hrd at 1410. (BL)

4958.5: '311' wkng '313 ops' w/rdo ck in LSB at 0531. (TS)

5177: YL/EE w/'Group 20' after CW NNN at 2100. This YL has replaced the YL/GG that used to send mssgs after the CW NNN sign-on. (SM)

5198.5: CZFG, HMCS Fraser (DDS-233) wkg Halifax Military at 2355 in USB for morale pp. (RB)

5207: U.S. Army MARS packet system at 0252, w/AAT3BB wkg the AT3TFC HF packet mailbox. (RB)

5277: 'Panther,' USS Kitty Hawk in USB at 0310 wkg 'Shark 05' "in the green" w/data burst xmsns. (TS)

5297: YL/GG w/3-2F grps in USB at 0233. (TS)

5505: EIP, Shannon, Ireland Volmet bcst at 0341 in USB. (BS)

5661: Malta LDOC wkg Air France 212 w/position report at 0212. Flight departed Nicosia, Cyprus enroute Parma, Italy. (ER)

5705.7: RFLI, French Forces, Ft. de France, Martinique (circuit IRT) in ARQ-E3/96. Between 0917/1100 rcvd 22 "non-protégé" mssgs. Incl announcement for rdo opr course & several 5LG's sent. (RB)

5750: YL/GG w/1-0 count and '828' from 2200-2210. After ten tones 'Gruppe 55; and into 3/2 grps. Also on 7320 kHz. (SM)

6256: Icepack w/Hunter at 0209 re mission numbers. (BL)

Telstra Radphone Direct Dial Service

Station Location Region Covered Phone Number	Telephone Channel Number	International Radphone Channel	Radio Frequencies Ship (KHz)	Coast (KHz)
Brisbane	01	417	4113	4405
Queensland	02	427	4143	4435
(Pacific Region)	03	607	6218	6519
+61 74 975 371	04	822	8258	8782
	05	829	8279	8803
	06	834	8707	8707
	07	1229	12314	13161
	08	1610	16387	17269
Darwin	01	404	4074	4366
Northern Territory	02	417	4113	4405
(Asian Region)	03	607	6218	6519
+61 89 813 492	04	822	8258	8782
	05	829	8279	8803
	06	834	8707	8707
	07	1229	12314	13161
	08	1610	16387	17269
Perth	01	412	4098	4390
Western Australia	02	417	4113	4405
(Indian Ocean Region)	03	607	6218	6519
+61 93 441 051	04	822	8258	8782
	05	829	8279	8803
	06	834	8707	8707
	07	1229	12314	13161
	08	1610	16387	17269

Free via Australia
Radphone Direct Dial Marine HF Radio Service

Ships and small craft cruising the Pacific, South China and Indian Oceans can now be called directly from your telephone without operator intervention, for the price of a phone call to Brisbane, Darwin or Perth in Australia.

You can now make use of HF radio equipment at Telstra's Coast Stations to speak with ships at sea, controlling channel selection directly from the keypad of your tone phone.

Telstra Mobile Satellite and Radio Services, previously the Australian Overseas Telecommunications Commission, now privatised and fearing competition, has rushed in to offer a service that allows ships to direct dial telephone subscribers within Australia using a selective calling system. Ships must pay a subscription to use the ship-to-shore service which is now in operation and is being well publicised.

What is less known is that anyone wanting to call a ship can use the system to do so from any tone telephone in the world without paying any subscription or shore-to-ship fees. All that the phone party has to do is dial the station serving the area where the ship is, wait for the phone to be answered and the cue tone to cease, key in the two digit telephone channel number representing the international Radphone channel required and then voice call the ship. Providing the ship is monitoring the appropriate channel, they will hear the call and be able to converse with the phone party.

Here is a system that allows anyone from anywhere to control a 400 watt transmitter on 8 international marine frequencies and speak to ships spread over a quarter of the worlds surface, without supervision, an operators licence or the use or callsigns. What a free radio country Australia is becoming. FCC, eat your heart out!

P.S. The Australian Spectrum Management Agency is reputedly taking a serious look at this service. Don't be surprised if Telstra's phones don't answer when you next try to call a ship via Radphone Direct Dial.

This chart and the accompanying text were received from an unidentified individual. Note the "P.S." at the end of the text.

6273.5: KNJN, S.S. Fredericksburg at 0344 w/ARQ telex to General Steamship w/ETA, also AMVER/FR. (RB)

6389: CTP, NATO Lisbon, Portugal in CW at 2236 w/call mkr. (AB)

6504: Vancouver Military clg any monitoring C73E stn for rdo ck at 0507. No joy. (BL)

6513: NMF, CommSta Boston at 0539 wkg Hercules 16 w/pp (District 7 ops) re RTB due bad wx, D-7 refers to a/c as the 1716, a HC-130 "Hercules." At 2028, NFMK, USCGC Seneca (WMEC-906) wkg CAMSLANT Chesapeake simplex w/pp Fleet Surgeon re-injured crew member. Both in USB mode. (RB)

6679: Aviation wx for Honolulu & Seattle in USB at 0559-0608. (CK)

6683: SAM *(Special Air Mission) 974 wkg Andrews VIP for pp at 0457, SAM Command. At 1851, Executive 1 Foxtrot (a/c w/President's family member on board) wkg Andy, both QSY to F295 upper for cks. At 0437, ARCHITECT, RAF Strike Command wkg WINSLOW (?)—39 for pp w/reminder it is a clear circuit & avoid use of name & rank. The pp apparently faded as 39 layer wkg Thule GHFS for same. Both i USB mode. (RB)

6769: YL/SS at 0100 w/Atencion & 5F grps. She ended w/two Finales. (TM)

6797: YL/SS 5F# stn in AM at 0300 every Wednesday night. Uses 'Atencion' and 'Finale.' (TS); CW 5F cut # stn (1-0: ANDUWRIGMT) w/mssg here at 0400 every Tuesday night. (TS); Nbr stn, address: 430, ten-count, ten dashes, 'count 135' & 5F grps. Parallel freq 5716 kHz. USB at 2100. (AB)

6815.5: Lima w/Foxtrot at 1325 w/checklist of supplies on a confiscated vsl. Foxtrot asked Lima to contact Foxtrot Mike to ask if it was okay to board the vsl. Foxtrot Charlie w/Charlie Echo at 0454. QSY'd to 12353 kHz at 0456. (BL)

6840: YL/SS w/4F grps fm 0230-0240 in AM. (BS); YL/SS w/4F grps at 0230 beginning when 9222 kHz goes down. (BL)

6850: CW stn 849 at 0500. At 0505 sent GR 35 and 5F# mssg. Ended w/AR. (TS)

6952: YL/SS w/5F grps. She ended w/three 'Finales' this time. Hrd at 0200. (TM)

6975: 6VU, ASECNA, Dakar, Senegal at 0508 in 50/425 w/coded wx. (RB)

7036: CW stn in 40M band sending 942 942 942, TTTTT at 2100 for five minutes then off. (SM)

7038: SHFM 'S,' Arkhangelsk, Russia in CW at 2140. (AB)

7325: AF-1 checking landing times at Andrews AFB, MD fm Edwards AFB, CA. USB at 1708. (CK)

7410: YL/EE w/1-0 count and 855 fm 2100-2110. After ten tones count 47 and into 3/2F grps. Also on 6797 & 5716 kHz. Very unusual to be on three parallel freqs. (SM)

7453: SLHFM "R" in CW at 0307-0430. (PS)

7535: SESEF Norfolk hrd w/foll for equip tests: NKXR, USNS Powhatan (T-ATF-166) at 1516. NAWR, USS Arthur W. Radford (DD-968) at 1649. NGLA, USS Gladiator (MCM-11) at 1718, clg but no joy. NNWA, USS Whidbey Island (LSD-41) at 1721, and USS Yorktown (CG-48) clg SESEF but no joy at 1816. Primary mode is USB. (RB)

7759: RDH77, Russian Aero wx in Baudot 50/1025 at 0225. Stn listed as RGH77 but id's itself as RDH77. (PS)

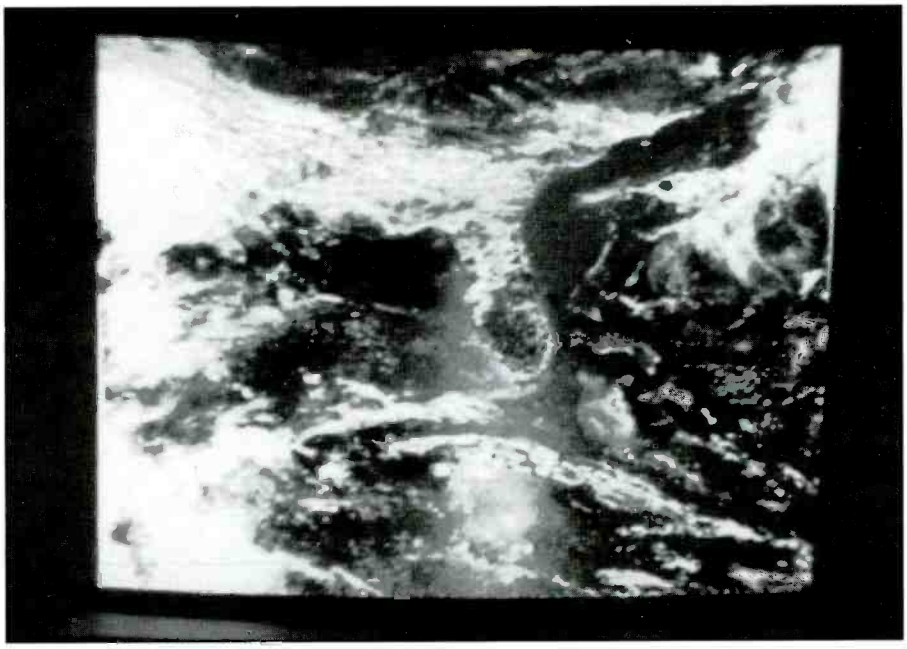
7840: Strong AM carrier here at 0310. At 0315, YL/EE rptng 347 347 347 00000. (TS)

8137: CW stn at 0300 rptng 94065 176 & 5F # mssg in cut #'s (1-0: ANDUWRIGMT). Stn had keying problems midway thru mssg & sent nothing but clicks. (TS)

8142: At 2220 OM/EE w/324 324 324, 1 then at 2225 9824, 81 rptd and into 5F grps. This was repeat of xmsn at 2200 on 9063 kHz. (SM)

8187.2: 112, u/i in Baudot 50/550 w/RY's & long strings of nbrs. Hrs at 2344. (PS)

8240: VRLQ, Bulk carrier M/V Brilliant Venture at 0257 wkg NMC, CAMSPAC San Francisco (on



August Stellwag received this photo from the Russian Meteor 2-21 satellite on 137.4 MHz. At the bottom, Cuba, the Bahamas, Florida and the United States Eastern Seaboard can be seen.

8764 kHz) re medico on board. NMC advises vsl to chg course & divert to San Diego. NASB, USCGC Attu (WPB-1317) at 0710 wkg NMG. CommSta New Orleans who advises is weak and unreadable. ATUF. Indian cargo vsl M/V Bhavabhuti at 2050 wkg NMF, CommSta Boston re medico, crew member cut badly. Vsl is 152 miles out of Jacksonville. USB mode. (RB)

8350: VTFJ, u/i Indian ship in CW at 0325 in comms w/VCS, Vancouver CG re sick person on board. Wanted to know what further treatment should be given. Ship advised they would leave patient at either the Azores or possibly Casablanca. (TS)

8380.5: CBCR, M/N Corcovado at 0010 w/telex for ETA, vsl is off coast of Chile. At 0054 TH Ivan Polzunov, UNXZ w/TG's to Radio Batumi. At 0352, M/T Star Wilmington, C6DJ, w/telex about odd insects found. All in ARQ mode. (RB)

8400.5: UYUW, TH Iona Yakir at 0327 in 50/170 Baudot w/RYRY's to UUI, Odessa & then into TG's. (RB)

8509.3: Believed to be RFFX, French Forces Versailles, France in ARQ-E/72 idling at 0105. (RB)

8560: Number stn, ten pulses & then 7983 5973 3751 foll by hic-cup where only the '3' was hrd & then 7083 5073 3751. It looked like someone entered wrong figures & made a last minute correction. (AB)

8604.3: ZRH4, South African Navy, Capetown at 0659 w/CW mkr. (RB)

8764: GKV54, Portishead Radio w/0500 UTC tfc list & ID. (RB)

8846: NY Aeradio Selcall cks to many flights at 1315 trying track down possible open mike on 128.5 MHz. (BL)

8866: Outbanders in LSB at 0348 discussing other outbanders using one or two digit numbers as callsigns. (TS)

9040: YL/GG w/5F grps at 2344 in USB. (PS)

9049: YL/EE w/1-0 count & 270 fm 2100-2110. Then ten tones, count 172 & into 3/2F grps. Also on 12238 kHz (SM)

9222: YL/SS w/4F grps at 0219. Text end at 0222 & carrier down at 0230. (BL)

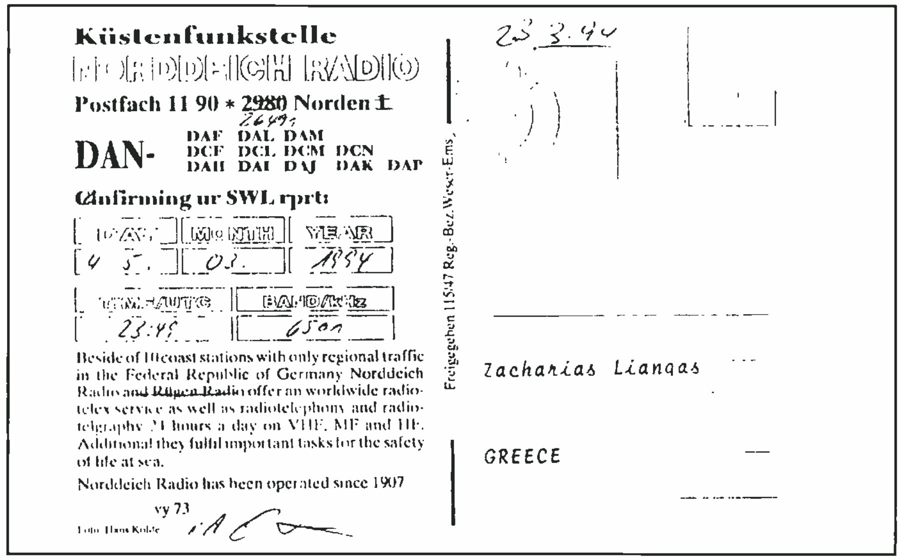
9287.5: TNL, ASECNA Brazzaville, Congo in ARQ-M2/96 idling at 0413. (RB)

9325: YL/GG rptng Golf Kilo fm 2101-2106 after which 5F grps sent for addressee 477. (SM)

10000: At 1959 CW stn sending BPM foll by short mssg by YL/CC. This Xian time station in China. (SM)

10024: Lima, Peru ATC wkg United 966 at 0304 in USB. (BS)

10030: LTU Dusseldorf wkg a/c "RB" (unknown location) re blocking brake at wheel one. "RB" had to fly back to Germany/disabled brake but only after writ-



Here is a QSL received by Zacharias Liangas, Greece.

ten order from LTU had been received. GG language. USB from 1526 to 1600. (KM)

10162: OM/EE rptng 947 947 947, 00000 between 1910-1915. (SM)

10283: SLHFM "V" w/raspy note at 1947 and 2-5 sec gap between V's. On 5206 kHz diff "v" was being sent w/purer tone and 2-8 secs spacing. (SM)

10345: YL/SS in AM at 0400 w/Atencion 73993 & 5F mssg. (TS)

10410: KUL, unlocated Russian Emb or Consulate. This RTTY bcst was 75/500 at 0715 and one mssg of 369 5L grps sent. (AB)

10529: YL/EE with 3/2F grps. Ended at 1352 w/end. (BS)

10584: KUL, believed to be Russian MFA bcst to u/i RR Emb or Consulate. Two mssgs in 5L grps sent at 1420 in RTTY 75/500. This was repeat of same mssgs sent at 1410 on 12193 kHz. Tfc was rptd at 1857. First on 4880 kHz and then on 4873 kHz. (AB)

10649: K9C & V9L at 0432. Military comms. (BL)

10796.4: Texts appeared to be French lang. press items for French Naval units. Hrd at 0315 in ARQ-E3-96I374V. (DC)

10780: Bandsaw Kilo (this could be a/c out of Tinker AFB, OK) clg Cape Radio at 1314 for sig ck. No joy. (BL)

10882: OM/RR rptng 758 758 758, 000 at 2000 then off. (SM)

11034: YL/EE w/1-0 count & 263 fm 2100-2110. After ten tones count 133 & into 3/2F grps. Also on 7588 kHz. (SM)

11176: Billy Club w/MacDill AFB at 1924. I have never hrd this callsign before. Even the rdo opr at MacDill asked for a repeat of his callsign and Billy Club answered phonetic spelling. QSY's to 11229 kHz at 1929 by MacDill's request. (BL)

11217: DZ3C, German AF wkg a/c DH060 re t/o time at Falconara AB, Italy at 1240 & expected landing time Landsberg AB, Germany at 1400. Hrd between 1220-1247 in GG lang. USB mode. This was a UN mission, enforcing sanctions against former Yugoslavia. (KM)

11220: SAM 201 (Special Air Mission) at 1902 wkg Andrews VIP w/comms cks in USB. (RB)

11226: SURPRISE wkg INIQUITY w/buzzing RTTY-type data mode. (TS)

11229: Billy Club & MacDill at 1929 on F-025. Billy Club dumped data (FSK?) at 1932. (BL)

11345: Foll air tfc in USB hrd 1036-1205: Martinair 653 w/Stockholm. PP to Dutch Govt.; Delta 109 clg Stockholm w/no joy; Delta 77 w/Stockholm, PP to France; Japan Air 419 w/Stockholm w/position report & FL. (AB)

11411.5: GXQ, Army, London in London in Baudot (50) at 1656 w/RY's & Foxes. (AB)

11460: AF-2 wkg Andrews at 1931 for comms cks in USB. (RB)

11554: 5F CW # mssg at 1933. Ended w/000 000. (TS)

12193: Baudot (75/500) bcst of 5L grps to unlocated Russian Diplo installation "KUL" at 1410. (AB)

12195: RFHJ, Papeete, Tahiti at 0436 in ARQ-E3 96. French Navy w/"Controle De Voie." (PS)

12221: YL/EE at 1400 w/1-0 count & 371. At same time on 10723//7871 kHz same YL count and 928. An hour later on 12221 kHz YL w/1-0 count and 838. At same time on 14423 kHz YL/EE w/count and 303. All four stns had count 225 after ten tones. (SM)

12222: Bulgarian MFA 5L grps & news items for Washington, new York, & Ottawa. Callup was ZFO ZFO ZFO foll by RY's. Hrd at 1955, Baudot 75/530. (PS)

12223: OM in unknown lang w/3F grps. very weak. Heard at 1959 in AM. (PS)

12282: 8BY, u/i in CW at 1942 w/3F grps. (TS)

12311: M/V C6BB trying to establish R/T comms w/W00 but sigs too poor so C6BB moved down to 12305 kHz and began R/T comms w/WOL. USB at 0253. (BS)

12477.5: Vsl Diamond Reefer, C6FL7. at 002 w/telex. Vsl loading butter in Houston. C6CY3, vsl Cast Husky at 2344 w/telex re cargo. Both in ARQ mode. (RB)

12489: C6DN2, M/V John Gorthon at 0347 (Bahamas flagged container ship) w/Sitor-A telex. (RB)

12559.5: YLGN, Latvian vsl Atmoda in 50/170 Baudot w/Ry's & into TG's/mssgs. (RB)

12799.7: PCH51, Scheveningen, Netherlands in CW at 2130 w/mkr. (PS)

12874: VCS, Halifax CG Radio in CW at 2015 w/ice reports. (TS)

13155: LOS, u/i Navy stn in USB at 0049 asking for rdo ck. At 0108, sent Air Force EAM mssg. (TS)

13254: White noise sig here at 0111. (TS)

13267: Khabarovsk, Russia Volmet at 0-48 in USB, very weak. (BS)

13270: Aviation wx at 0148 in USB mode. (CK)

13306: Sta. Maria, Azores Aero wkg AA35 re position report at 1416 in USB. (KM)

13368: 5F CW # grps at 2026, signed down w/000 000. (TS)

13375: At 2100 YL/GG rptng Juliet Whiskey w/electronic tones. At 2105 5F grps for addressee 521. (SM)

13965.2: HBD20, Berne, Switzerland at 0945 in Sitor-A (ARQ). Swiss MFA w/tfc in FF & GG to Embassies abroad. (PS)

14171: UMS, Russian Navy, Moscow in Baudot (50) at 1721. (AB)

14235: This is repeat bcst to KAC, Baudot 75/527 at 2100 of bcst earlier in **16282** kHz. Believed

to be RR MFA activity. (PS)

14362: YL/EE in AM at 2100 rptng 372 till 2105, then 540 540 61 61 & 5F # mssgs. Signed down w/00000. (TS)

14378: W6IS in CW at 0245 sending 5FL mssgs to 11VH. (TS)

14390: OM/EE rptng 395 fm 1900-1905 280 280 160160& into 5F grps. Ended w/00000. (SM)

14421: YL/SS rptng 154 x3 then 1-0 count fm 0000 to 0010. Then ten beeps foll by 3/2F grps. Ended at 0040 w/Fin; YL/SS rptng 010 x2 & 1-0 count fm 0000-0010. Then ten tones foll by Grupo 98 x2 then into 4F w/rpt at 0018. Ended at 0026 w/Fin. (BS)

1441.5: NAVMARCORMARS. NNN0CCN, USS Monterey (CG-61) at 1847 wkg NNN0FMN w/QSY to 14467 kHz. NNN0CEK, USS Wasp (LHD-1) wkg NNN0HLQ at 2044. NNN0CUS, USS Inchon (LPH-12) wkg NNN0RRC for QSY to 13643 kHz. All in USB mode. (RB)

14470: Navy MARS stns NNNNUW (Whidbey Island, WA) & NNN0CMC (USS Aubrey Fitch) in USB w/pp's at 0245. (TS)

14914: DFZG, Belgrade, Serbia at 1513 in Baudot 75/450. Serbian MFA w/news & commentary in EE. (PS)

14390: 8BY, u/i in CW 2052. (AB)

14980: RTTY bcst to RAU at 1400 w/heading of 11177 00070 00000 02012 00509. Mssg monitored on 18th of month but fourth grp of heading indicates date of 02 (??). (AB)

15035: Trenton Military in USB at 2239 w/wx. (TS)

15038: Irish MAn wkng Nightwatch (NEACP) in USB at 2315 w/scrambled speech comms. (TS)

16282: RTTY bcst to KAC (suspected RR Diplo, unlocated) at 2057 in Baudot 75/530. Xmsn rptd on 14235 kHz. (PS)

16300: Moscow radio feeder in USB at 0910. (AB)

16375: Unusual YL/SS stn in FM mode w/5F# mssg. Signed down w/00000. (TS)

16738.5: UBCP, Russian bulk carrier TH Aleksandr Matrosov at 1936 w/ARQ TG's to Odessa. (RB)

16892: XSG, Shanghai, China in CW w/mkr at 1542. (PS)

16933.2: VVV DE 9VG, Singapore Radio in CW at 1524. (KM)

18060: MFA Warsaw, Poland w/mssgs in Polish in POL-ARQ (100) at 1355. (AB)

18102.3: W1AW (ARRL) stn, Newington, CT at 0416 in FEC w/propagation info & new DXCC ham ops. (RB)

21862: CW stn rptng 463 463 463 00000 at 0041. (TS)

22450: VVV DE PPO, Olinda, Brazil at 1248. (KM)

22587.5: VVV DE LPD, Gen. Pacheco, Argentina in CW at 1431. (KM)

22670: VVV DE PPR, Rio de Janeiro, Brazil at 1510 (KM)

United States Coast Guard Air Station, Cape May

"Cape May Air"

To: Radio AA4JN
This confirms your reception of HF, USB radio transmissions as indicated below:

Date: 2 July 1993 Time: 0005Z Frequency: 5692.0 KHz
Callsign: NMK Location: 38-56.7N 074-53W (CAPE MAY, NJ.)
Transmitter Power: 100 W Antenna: 35' WHIP
Remarks:

S. A. NYSTROM
RMC, USCG
Signature/Title

Jim Navary, VA, used this PFC for the Cape May USCG Air Station verification of his logging.

Contributors for this month: Paul Scalzo, Canada; Simon Mason, England; Ary Boender, Netherlands; Kurt Mueller, Switzerland; Chris Kelishes, CA; Basil Shelley, CA; Bjorn Vaage, CA; Dennis Cahill, IL; Tom Sevart, KS; Ed Rausch, NJ; Richard Baker, NJ; Tom Mazanec, OH; Al Hemmalin, RI; Brad Low, TX. Our thanks to all of these contributors.

EMERGENCY

BY GORDON WEST, WB6NOA

COMMUNICATIONS FOR SURVIVAL

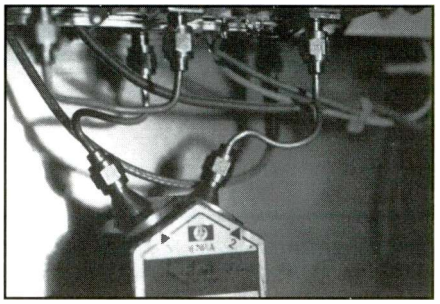
Out-of-Band Wipe-Out

During a recent training exercise in the Southern California mountains, trained search and rescue personnel were stymied by poor radio reception in locations that were line-of-sight to their dispatch radio tower only 30 miles away.

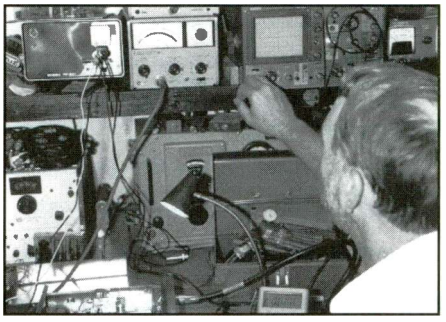
"It was radio specific," comments Dan Fort, amateur operator AA6LM and one of the emergency responders. "First, all of the Standard and Maxon radios were effected with broken reception to the dispatch center, and then the expensive Motorola and GE handhelds all took a nosedive when the rest of the cheap sets could hear dispatch loud and clear," adds Fort. And when it came to mobile radio reception in the all-terrain vehicles, the higher they got to the mountain top, the worse the reception–just when you would think the higher you go the better signal you're going to get.

Have you figured out the problem? Loose wires? No. Bad antennas? No. Radio-specific intermittents inside the set? No.

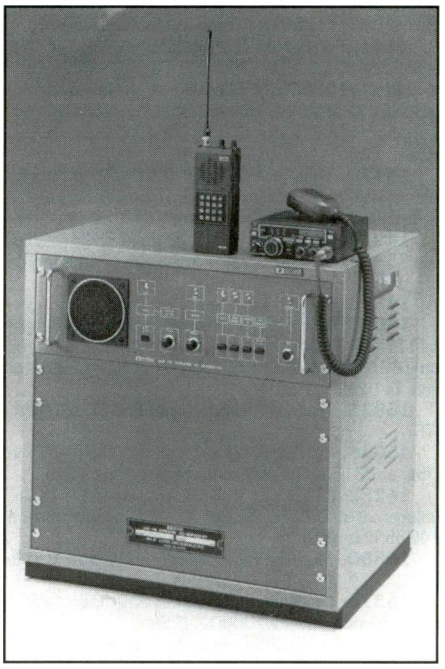
The problem is receiver swamping from nearby unseen mountaintop in-band base stations. Anytime you take a mobile or handheld transceiver and get it within five miles of a mountain top full of powerful two-way transmitters, receiver desensitization and cross-modulation within your set will cause normally good signal reception to become intermittent. As long as the powerful nearby transmitters are not actually on the air, reception will be fine. But when they cycle on with 200 watts of paging power within a couple of MHz of your assigned special emergency channel, your receiver overloads, and becomes desensitized to your assigned on-channel frequency—and if you have CTCSS decode switched on, the receiver squelch circuit clamps, and you hear nothing. When the nearby transmitter cycles down, your little mobile or handheld receiver springs back to life, and you hear the calls clearly.



Band pass filters feed the H.P. display and then go into the receiver section.

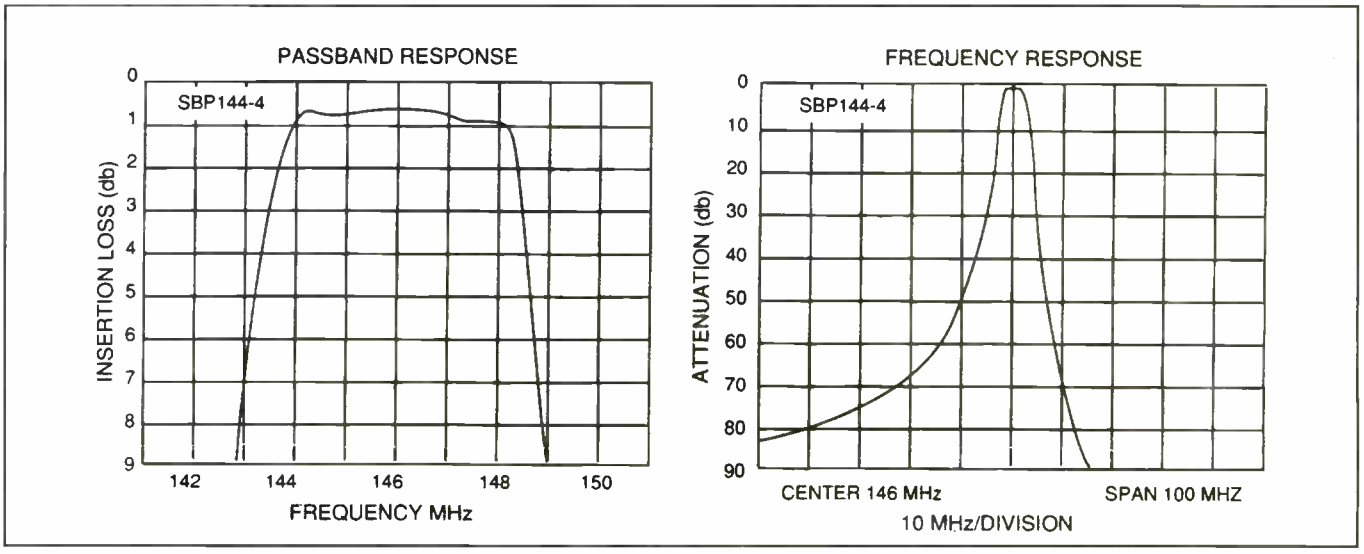


Checking the Sinclabs 2-meter Ham four-cavity filter.

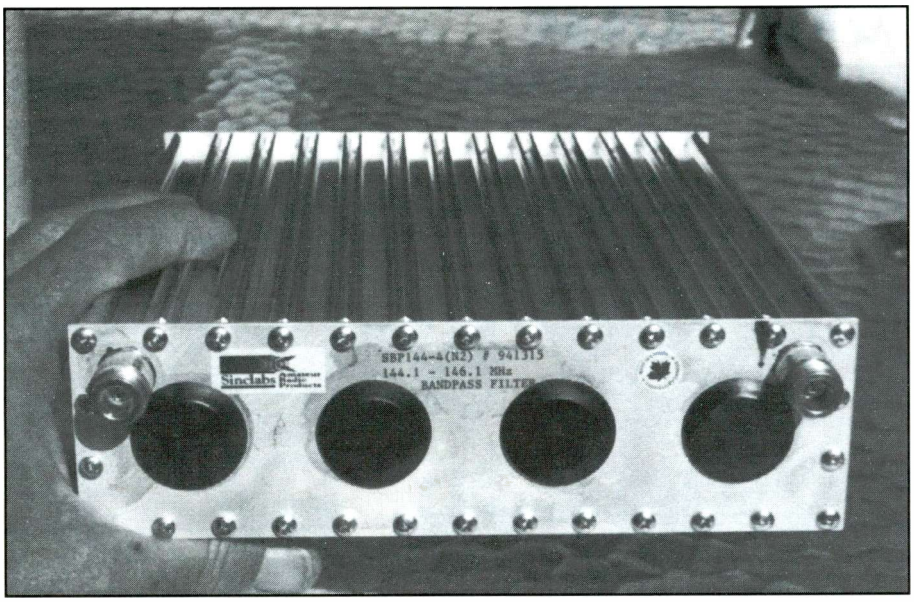


It takes band pass filters (inside the cabinet) to keep repeater clean of interference.

The worst band is VHF high band at 155 MHz. Within 2 MHz of your special emergency frequencies are powerful land mobile radiotelephone transmitters, powerful paging transmitters, and other land mobile radio base stations with thousands of watts of ERP that will desensitize almost any mobile or handheld transceiver in the vicin-



Response curves for a four-cavity band pass filter network.



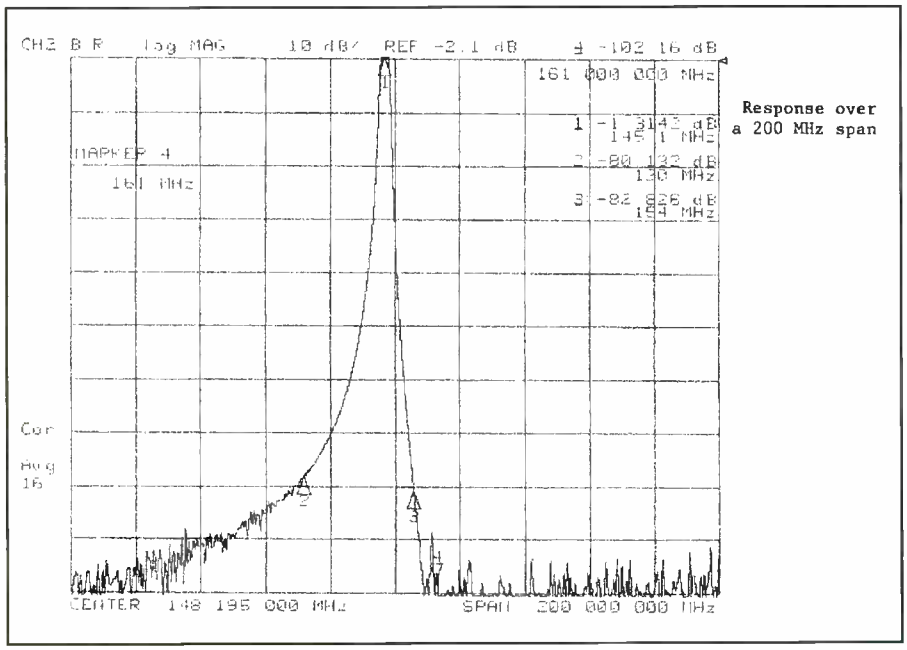
The four-cavity filter for 2 meters is hefty, heavy, and built to last!

ity. If you're within a few miles of the mountain top, expect receiver desense big time to your associated base station unless they are located on that same mountain top.

Handheld transceivers and scanner radios hooked up to a big outside base station antenna for improved reception can also get swamped from powerful nearby transmitters. Even not-so-nearby transmitters over 40 miles away can create intermittent reception where all you hear are squeals, whistles, and the sounds of two or more stations walking right down your receiver front-end and coming out the speaker. Even though each of these two interfering stations are on separate frequencies, their sum and differences add up to a headache in reception on an outside antenna. The simple cure is switch in a less efficient antenna, or go back to a telescopic whip mounted on the radio receiver itself.

In professional land mobile mountain top and base station installations, you will spot big brass cylinders that are specifically tuned to either the band pass desired frequency, or specifically tuned to notch out an offending signal on a nearby frequency. These giant "cans" could cost over $1,000 each and you might need up to four of them to do the job properly. But I have found a reasonable solution for VHF high band from 140 MHz to 160 MHz—a four-cavity bandpass filter from Sinclabs (Tonawanda, New York; 716/874-3682). At a recent ham radio symposium, they were showing a 1 MHz bandpass filter with over -50 dB attenuation 5 MHz on either side of the operating frequency. The amateur radio version of this four-cavity filter would be ideal for the 2-meter band where you need good reception on a specific frequency and good rejection a couple of MHz away. Same thing for VHF high band—this under-$400 four-cavity filter could really clean up strong paging transmitter signals 3 or 4 MHz away. The insertion loss is only about 1.3 dB, so both power output as well as on-frequency receive capabilities wouldn't suffer much. But the "Q" of the filter is tight enough to substantially reduce any interference more than a couple of MHz up or down the band from your assigned emergency frequency.

So if you're having mysterious radio problems where nearby strong transmitters on frequencies several MHz separated from your assigned channel are causing interference, consider bandpass filters that could spell relief for your ongoing radio problems. ■



Response curves conducted in the Sinclair four-cavity VHF filter.

SCANNING VHF/UHF

BY CHUCK GYSI, N2DUP

MONITORING THE 30 TO 900 MHz "ACTION" BANDS

It's the beginning of a new year and that means it's a time where we evaluate our habits and think about how we will conduct ourselves in the coming new year.

How much scanning do you do each day? Day, did I say "day?" How about each week or month? Some of us need to devote a little more time to our hobby if we expect to get something out of it. I know I fall into the trap of being perpetually busy. I just don't always find the time to walk four feet from the computer to the radio dials trying to find a new frequency or CTCSS tone. I don't always take the time to keep my scanners programmed with hot, active frequencies. I don't get on the ham bands as much as I'd like to.

On the same note, some of us spend entirely too much time on the hobby and not enough time on ourselves and our families. If you have a hard time deciding whether you will continue listening to that new FBI frequency or joining the family for a hot meal, then you need to take another look at the hobby. If you can't choose between spending the money on a new antenna and getting your car repaired, then you've got to re-evaluate!

Now is the excellent time to get your radio hobby in sync with reality. Make some resolutions for 1995 to enjoy scanning, but not to let scanning take over your life. And with that sermon, we'll take to the mailbox, electronic and snail mail, to see what readers are telling us.

Joe Althoff of Keymar, Maryland, sent in this photo of his listening post, and passes along a tip, too. Note the speaker sitting on top of the CB radio. Joe says this used to be an old antenna rotor control box. He took a 4-inch speaker, drilled four small holes and mounted the speaker right inside the dial opening. By adding a piece of window screen, the speaker is covered by a makeshift grille. Joe says he's only a small-time listener, but he has the right ideas!

Mailbox

Joe Tomasone, N2MUO, dropped a line from Long Island, New York, just let us know that he enjoys this column and wants us to keep it up. Well, Joe, you've got the e-mail address...how about a few popular frequencies for your listening area? Thanks for your comments.

Doug McClure e-mails us from Ohio with update information of interest to those in his monitoring area. The city of Medina, Ohio, Fire Department has changed its frequency from 46.20 to 453.950.

The reason for the change was to increase the department's coverage to the southern part of its service area. The fire department also added a new repeater to the water tower on the city's south side, Doug says.

Doug also said that he will be sending in a list of frequencies he monitors at the Cleveland National Airshow. He hopes to hear the Golden Knights and the Blue Angels on his handheld scanner during the show. We'll keep our eyes open for your report, Doug. Also, air shows seem to be a popular monitoring target. If you have a list of frequencies you'd like to share, please send them in for everyone to enjoy.

David Palmer of the West Coast sends along a tip to Scanning VHF/UHF readers: Ever wonder what to use "direct search" for on your scanner? This is a feature on many scanners where it will take off searching from any memory channel. David has never seen much said about direct search, or heard of it mentioned in "how-to-find-a-frequency" articles. However, David has found it somewhat useful when looking for unpublished frequencies.

In using the feature, David notes that whenever the local communications center in his area sends out an all-points bulletin or similar, they send the transmission out over several frequencies simultaneously. So, whenever a particularly long broadcast is transmitted, he hits direct search, and notes wherever he hears the same dispatcher talking on other frequencies. After discounting repeater inputs and possible images, he has found bulletins going out on frequencies where later he hears stuff like child protective services, special events and even chitchat.

David adds that he has been a *POP'COMM* reader since the beginning (gosh, back in 1982?) and has enjoyed having several photos published over the course of a year in the magazine. Thanks for your tip, David, and feel free to send us more helpful tips and information.

Fraser Bonnett, N8QNF, at Wright-Patterson Air Force Base in Ohio, writes to thank us for good recent columns. He says he always turn to this column first when he opens a new *POP'COMM*.

Fraser writes that the 907th Air Lift Group of the Air Force Reserves recently moved to Wright-Patterson Air Force Base from Rickenbacker Air Force Base in Columbus, Ohio. However, every frequency guide he checked still listed the group as being at Rickenbacker. He asked whether we had any newer info on frequencies used at Wright-Pat.

We were able to confirm that the 907th still is using its same frequencies from Rickenbacker while at Wright-Pat. However, we don't have an exact list of channels used. The only one we know of is 252.1, which is a military aviation frequency. Apparently

when the 906th Tactical Fighter Group was at Wright-Pat, it used the Air Force base's trunked UHF radio system on 406.350, 407.150, 407.950, 408.750, 409.550, 415.150, 415.950, 416.750, 417.550 and 418.350, as well as other frequencies in the 138 to 144 MHz range. Apparently the trunked system at Wright-Pat is used primarily by base security and police, fire-crash, building maintenance and other operations. It apparently is not used for anything tactical or military operations or flights.

Adrian Thomas of Williams Lake, British Columbia, sends along a few frequencies of interest in his area: 134.000, air ATC van; 381.400, military air ATC, Vancouver, B.C.; 147.120, amateur repeater; 149.260 and 149.890, ambulance; 157.295, Merle Wagner Mill; 152.525, Autoel mobile phone; 139.410 (dispatch repeater E), 139.245, 139.410, 139.500, 139.560, 139.080 (tact 1), 139.215 and 139.185, Royal Canadian Mounted Police; 154.190, BJ Towing; 159.570, BC Dispatch trains; and 938.750, 936.470, 935.9375, 937.4375, 935.025, 935.0875 and 935.125, trunked radio system.

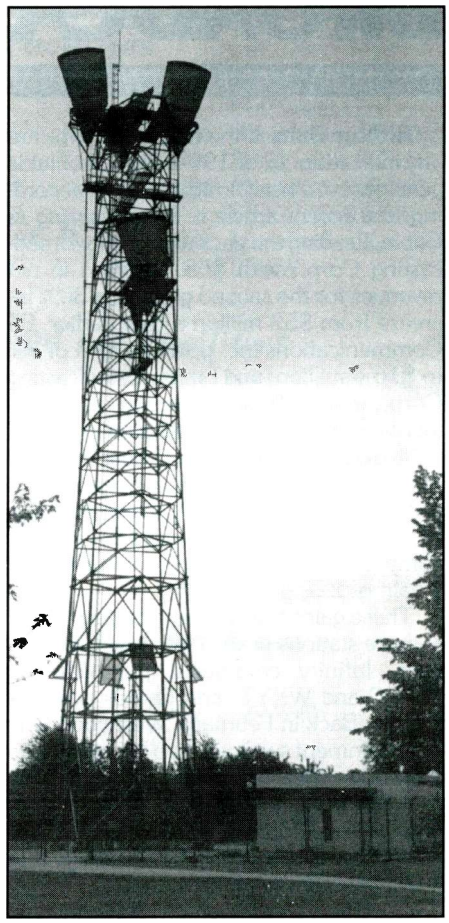
From Oakland, California, Fred James writes to say he always starts at this column when he gets his copy of *POP'COMM* and then goes on from here. Fred passes along some information on mutual aid frequencies used in California. He says 154.920 is California Law Enforcement Mutual Aid Radio System, or CLEMARS. He hasn't heard much on the frequency lately, but in the past he has heard Oakland police and California Highway Patrol coordinate chases. The frequency 154.280 is Firemars, or the statewide fire mutual aid radio frequency. It also is known as the white channel. Fred says this is a good frequency to monitor for mutual aid responses between the Oakland, Berkeley and East Bay Regional Parks fire departments when they deal with grassland fires in the Oakland and Berkeley hills. Fred notes that since Oakland police and fire have moved to an 800 MHz trunked radio system, the mutual aid frequency is about the only way for non-800 MHz scanners to hear the Oakland Fire Department these days.

Herman Fuselier of Opelousas, Louisiana, writes in with a few questions. He says he recently bought a Uniden Bearcat BC-700A scanner and has become interested in the 800 MHz cellular band. He says that the AT&T office in his city has a 400-foot tower full of cone-shaped antennas and dishes on it and he wants to know if he can pick up their transmissions on his scanner. In short, no. To further explain, the tower probably is a microwave relay tower and not only sends out long distance calls from your community to other towers for eventual upload to a satellite or further ground systems, but also probably relays calls from other towers (just look at where the antennas are pointed). These signals are transmitted on frequencies well above the range of any scanner, well into the gigahertz range. Even if you had a receiver that went that high, the modulation techniques would not be compatible with the AM or FM signals that your scanner can receive.

Herman also says that he hears several FAX or RTTY sounding signals on the 800 MHz band and was wondering what type of decoder he needs to read these signals. Actually, there are two possibilities that you have stumbled on. The first is that these are mobile data terminal (MDT) transmissions. You've seen police cars on TV where the officers can look up license plate numbers on a computer terminal in the police car and that's what it is. But even if there isn't a nearby police department using MDTs, that doesn't mean that it isn't a business either. Businesses that use MDTs typically are those that are in a delivery or pickup business, much like taxicabs or a package service like FedEx. Forget about using a decoder to decode these signals because each one uses proprietary software and hardware in their systems.

Another thought on these signals is that you have tuned across the data channels for trunked radio systems, whether they are public safety or common carrier for business users. In most trunked radio systems, information is sent out on one of the multiple channels that is used to instruct all the radios in the system which frequency needs to be used. For instance, if a business user transmits, the tower will send out a signal to all the other radios in the same fleet to switch to a given frequency within the radio system. In typical trunked systems, these frequencies will change at a given time every day or every few hours. If the signal is there one day, but not the next, then it probably is a data channel. Again, forget about decoding this information because it is proprietary.

Darren North, of Chambersburg, Pennsylvania, says he scans with a Uniden Bearcat 210XLT, 55XLT and 890XLT, a Uniden Sportcat 150 and a Realistic Pro-2006. He recently bought a Scantenna and is getting ready to get a discone and possibly a professional two-way antenna for the VHF high band so he can hear mobiles better. He notes that his reception capabilities are hampered somewhat because he lives in a valley. Here are a few of his favorite frequencies for the Chambersburg area: 460.075, Franklin County drug task force (usually encrypted); 460.375, Chambersburg police F-1; 460.450, Chambersburg police F-3; 45.60, Franklin County Emergency Management Agency; 45.62, Franklin County police net; 460.175, Pennsylvania State University Mont Alto campus police; 151.175, Pennsylvania Department of Environmental Resources park rangers; 453.875, Shippensburg University security; 151.835, Wilson College security; 149.865, Fort Richie security; 165.1875, Letterkenny Army Depot security; 46.16, Franklin County fire F-1; 46.10, Franklin County fire F-2; 46.36, Franklin County fire F-3; and 462.975, Franklin County ambulance dispatch (Med-10). Darren is interested in hearing from other area scanner listeners to swap information. You can write to him at: Darren North, 181 Kennedy Street, Chambersburg, PA 17201.



This tower relays telephone calls on microwave frequencies that cannot be heard by scanners, however, if you look on top of the tower, you'll see a mini tower with an antenna on it. The UHF antenna is used by a local telephone company's repair crews in the 451 MHz band. (Photo by Chuck Gysi, N2DUP)

What are your favorite frequencies? Do you have any scanner-related questions? Do you have any listening tips worth passing along to your fellow readers? How about sending in a photo of your listening post or antenna farm? Write to: Chuck Gysi, N2DUP, Scanning VHF/UHF, Popular Communications, 76 N. Broadway, Hicksville, N.Y. 11801-2909, or e-mail to scan911@aol.com through the Internet.

Changed AM Call Letters

New	Was	
KBLD	KBCO	Boulder, CO
KCSI	KOAK	Red Oak, IA
KEGE	KRXX	Minneapolis, MN
KJSL	KXOK	St. Louis, MO
KKLQ	KGMG	Oceanside, CA
KPIX	KKHI	San Francisco, CA
KWRN	KAPL	Apple Valley, CA
WDLP	WPCF	Panama City, FL
WEPC	WAFZ	Belton, SC
WEZS	WLNH	Laconia, NH
WIST	WCNV	Charlotte, NC
WMFA	WHIL	Raeford, NC
WOKV	WPDQ	Jacksonville, FL
WPFJ	WAJA	Franklin, NC
WRWB	WSVQ	Harrogate, TN

New FM Call Letters Issued

KAFM	Grand Junction, CO
KAIQ	Littlefield, TX
KNSW	Worthington, MN
KTDX	Mountain Pine, AR
WAIO	Kane, PA
WAIP	St. Joseph, IL
WAIU	Galeton, PA
WAIW	Three Lakes, WI
WASB-FM	Brockport, NY
WDBX	Carbondale, IL
WDWT	Dwight, IL
WFJZ	Alachua, FL
WJCS	Allentown, PA
WKAU	Kaukuana, HI
WMRY	Crozet, VA
WQMR	Jewett, NY

Changed FM Call Letters

New	Was	
KALC	KAKL	Denver, CO
KCBI	KCBI-FM	Dallas, TX
KCVS	KKCR	Salina, KS
KEGE-FM	KEGE	Minneapolis, MN
KKPT	KHLT	Little Rock, AR
KLLT	KVYV	Vinton, IA
KLTH	KACJ	Boonville, MO
KNYR	KAIG	Yreka, CA
KRAZ	KMAT	Sutter Creek, CA
KTCO	WAKX	Duluth, MN
KVRG	KMBY-FM	Seaside, CA
KWAK-FM	KXDX	Stuttgart, AR
KXPW	KNJS	Belle Plaine, IA
KZFO	KXMX	Madera, CA
KZME	KAHG	Hudson, IA
WAEG	WYFZ	Evans, GA
WAEJ	WAGW	Waynesboro, GA
WBYT	WLTA	Elkhart, IN
WDOL	WZJX	Englewood, OH
WIBM	WIBM-FM	Jackson, MI
WIFF-FM	WGTB	Auburn, IN
WJBW	WADY	Jupiter, FL
WKOA	WASK-FM	Lafayette, IN
WMXF	WMLI	Sauk City, WI
WNFZ	WKNF-FM	Oak Ridge, TN
WQLL	WHKW	Louisville, KY
WRQT	WMNW	Beulah, WI
WRRW	WJWL	Bartlett, TN
WSMD-FM	WSMD	Mechanicsville, MD
WUSX	WZST	Portage, WI
WVLY	WOEZ-FM	Milton, PA
WVVR	WZZF-FM	Hopkinsville, KY
WYNF	WVFE	Coral Cove, FL

McKean, chair of the broadcasting sequence at the University of Missouri School of Journalism, for clearing this up.

News from the Deep South: "Faithful reader" Russel Wells of Troy, Alabama, checks in with news of Montgomery, Alabama FMer WSYA's metamorphosis into WMXS earlier this year. The "Sunny 103" slogan was dropped, followed by two days of what Russel describes as "a mixed bag of comedy routines, songs along the lines of Spike Lee and P.D.Q. Bach, and some sketches that sounded as if Dr. Demento took over the station." Then, on the morning of February 24, WMXS—"Mix 103.3"—emerged, using, as Russel sees it, "pretty much the same AC format, unimaginative, only the name was different this time." Something must have clicked, however, since he goes on to note that the station managed to make number three overall, up from sevens and eights as "Sunny 103."

Stranger still is the facilities and management of Bonifay, Florida's WTBB. Russel reports that following a buy out last year by "a group of young mavericks," the station adopted the moniker of "Pirate Radio" and what he terms as a " 'Z-Rock'-type AOR" format. Although word has it that their studio is housed in a tractor-trailer, which allows them to broadcast from a new location each day, Russell has been unable to obtain a more permanent address. According to the *Broadcasting & Cable Yearbook 1994*, WTBB's previous licensee was Group M Communications Inc., with a station address of Suite 21, 8317 W. Hwy. 98, Panama City 32407. Perhaps a letter to that address might reveal some information. Records do show a construction permit issued for a power and antenna upgrade from 3 kW and 298 feet to 91 kW and 1,006 feet.

Russel mentions also that he collects airchecks from the '60s to the '80s, and would like to hear from anyone who collects East Coast/Southeast airchecks. His address is 409 Flavia Circle, Troy, Alabama, 36081-1609.

Glad to Have You Aboard: New to the *POP'COMM* family is Gene Vantreese, of Ft. Worth, Texas, who advises us that Dillon, South Carolina's WZNS is up and running as WEGX. You may remember this station from the September column, when Al Ogrizovich, KX5U, reported having heard a cacophony of bizarre sound effects on 92.9 MHz, with the ID of WZNS. The demons apparently exorcised, the station is now the perfectly normal and healthy WEGX, with country music and a slogan of "Eagle 92.9."

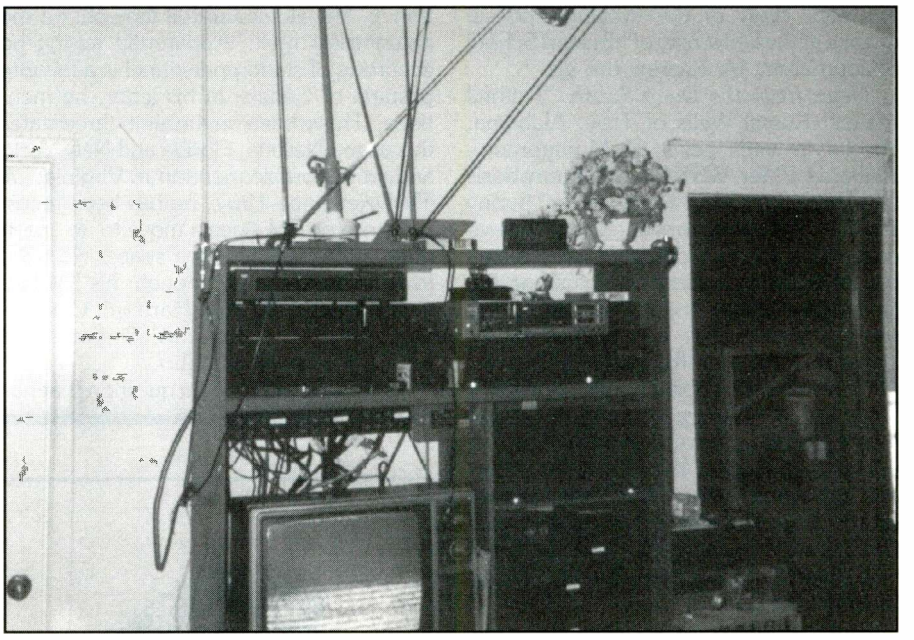
Gene included with his letter a tape which contains a logging of Wilmington, Delaware's WSTW. In the broadcast, DJ Mike Rossi admits his astonishment that Gene was able to hear their signal over such a distance. The DJ at (Nevada's?) "Kickin' Country 93.1, the new Y93" received a similar treatment, and attributed the reception to "the aluminum foil they put on the antenna last night." Apparently, raising the eyebrows of station personnel is a favorite pastime of Gene's; in his letter, he mentions, "I have been on the air in three states this year—Nevada, Florida and New York, and an honorable mention in Virginia." A TV DXer since 1967, he has been focusing more on FM since a move to an apartment curbed his antenna space. No need to feel sorry for him, though; his FM loggings include WZMX in Hartford, Connecticut, CKPC in Brantford, Ontario, and KZBQ, in Pocatello, Idaho.

Gene goes on to ask a question that has no doubt crossed all our minds at some point—how to boost the response rate to one's reception reports. He laments, "I have been sending mine to the chief engineer but some are too busy to reply." The principal thing to bear in mind is that a station's *raison d'être* is not to QSL reception reports. Broadcasters are occupied with serving their communities while at the same time striving to succeed as business ventures. But don't despair! Acknowledging this fact can be to your advantage. Suppose you have just logged a station that was carrying an out-of-the-ordinary program, such as "AgriTalk" (see last month's col-

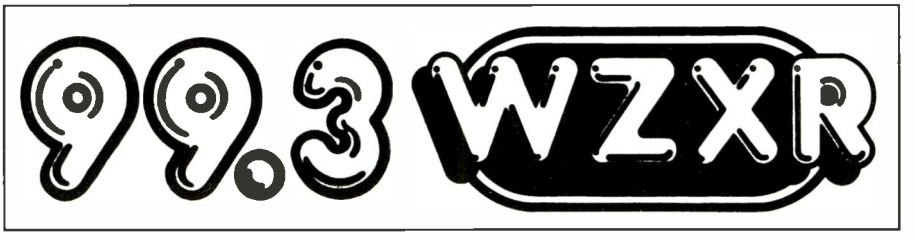
umn). A report sent to the general manager or program director that included a few lines of feedback regarding the program might elicit a better response than simply a cursory listing of program details and line or two about the quality of reception. (Compare the situation to QSLing international shortwave broadcasters—many encourage, even require, comment on their programming.) Station management appreciate such feedback, and would likely look more kindly on a request for a QSL if you helped them make their job easier.

Whether to agree or disagree with my suggestions, I would like to hear from the readers. Do your experiences support my claims? What other approaches have you found successful (or unsuccessful, for that matter)? I am especially interested in those of you who work in radio—what do *you* appreciate having in a report?

From My Mailbox: As noted in the August column, the former WCAU, after a brief stint as WOGL, is now WGMP (Gump?). For a reception report of 10 July 1994, I received a WOGL QSL card, even though I had logged them under their new call letters of WGMP. The QSL has on one side a picture of the original WCAU transmitter and tower; the reverse, which includes a thank you for the report of WOGL, mentions that their AM transmitter is located in Moorestown, New Jersey, while the FM counterpart is in the Roxboro section of Philadelphia. The accompanying QSL letter, however, bore the letterhead "The Game, 1210 AM, WGMP." By the time you read this, they may well be something else, but throughout its various incarnations, the station has retained its City Line Avenue and Monument Road address.



Shack photograph: "Gene Vantreese enjoys TV and FM DX from his shack in Ft. Worth, Texas. With this indoor antenna farm, it's no wonder that he comments, 'Thank goodness for cathedral ceilings.'"

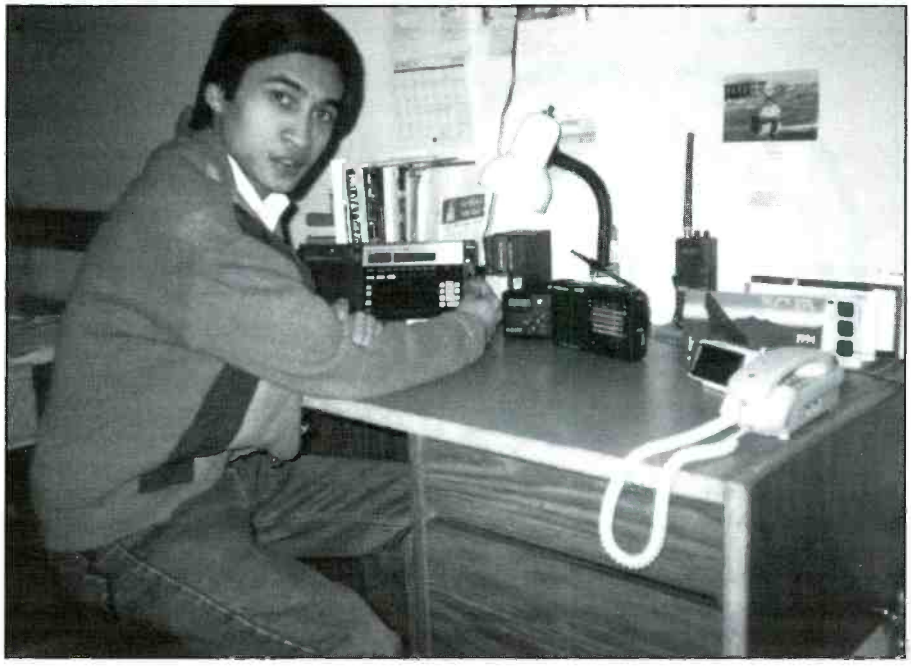


WZXR bumper sticker: "WZXR is located in South Williamsport, Pennsylvania." (Courtesy Mary Theresa Notaro, Hazelton, Pennsylvania.)

Bits and Snippets: Seattle's KING-AM has been sold to Bonneville Holding Co., whose stable includes KIRO-AM/FM/TV. The $826,500 sale was for the 50 kW AM outlet only; Classic Radio, Inc. retains KING-FM...After forty years of narrating St. Louis Cardinals baseball games, Jack Buck is taking the first steps toward retirement by limiting his duties to home games, beginning with the 1995 season. No word yet on his road-game replacement, and the 70-year-old will remain as sports director for KMOX...Following the start of the baseball strike, Akron, Ohio's WJMP adopted indefinitely a format of playing throughout its entire broadcast day nothing but versions of "Take Me Out to the Ballgame." ...O.J. Simpson resigned from the board of directors of Infinity Broadcasting Corp., a seat he had held since 1992...As of July 31, 1994, there were 4,925 AM and 6,762 FM stations in the U.S.

Thanks: We had a fine turnout from our readers this month, which was much appreciated. Keep sending articles and other news, bumper stickers, station and shack photos, and QSLs. 73s. ■

HOW I GOT STARTED



Here is Bishwa doing what he enjoys most—shortwave listening!

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

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

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to Popular Communications.

Address all entries to: How I Got Started, Popular Communications, 76 North Broadway, Hicksville, NY 11801.

Our January Winner

This month our winner is a student from the land of Mt. Everest, Nepal. Bishwa Shrestha, presently of Wyoming, currently attends Western Wyoming College, and has hopes of attending the University of Wyoming as an electrical engineering major shortly. Let's see how Bishwa started in shortwave:

"My interest in shortwave began when I was pretty young. I can remember my father listening only to the BBC on his shortwave set, but I would constantly turn the dial to get an earful of other stations.

"Slowly I began to understand different aspects of shortwave, and I have been able to make an impressive collection of QSL cards, including some from former East Germany, and Mongolia, among others.

"In Nepal I used a National Panasonic shortwave radio/cassette recorder. It covered 530 kHz to 26.1 MHz continuously, and had a manual display.

"Once I came to the States though, I bought a Realistic DX-350. Slowly my interest grew to listening to non-broadcasting signals. Back home, I used to listen to police frequencies on an FM radio below 88 MHz, but the 'hiss' made for pretty boring listening. And recently I bought a Sony ICF-2010 which is really easy to operate.

"Thanks to my interest in shortwave listening and scanning, I had a very intriguing experience during the Gulf War. I was listening to Radio Israel and actually heard the scud missile alarm during the broadcast! This proves that radio is the best form of communication."

PIRATES DEN

BY EDWARD TEACH

FOCUS ON FREE RADIO BROADCASTING

Why wait? Let's not delay and jump right into this month's pirate radio loggings, to see what's been happening.

WRDM was heard by Bud McPowell, in Georgia, using 7385 upper sideband from 0450 tune in to sign off at 0508. Played Rolling Stones music and the announcer gave his name as "R.D. Mercer," griping about various personal affronts he's suffered, and talked about giving "ass whippin's." The guy had a southern accent, says Bud, who also says he (Bud) didn't hear any mention of an address for QSLs.

"The Joint" heard by Jack Sheldon, Michigan, on 7472 at 0030, play rock and country with hosts "Phil Muzik and Captain Ganja claiming to be out in the woods without any beer. One phony public service announcement recruiting employees for the FCC and another for the "Emergency Employee Drug Testing System."

The Unknown Monkey Spanker (now there's a creative name!—Ed.) was picked up by Sheldon on 7385 upper sideband at 0000 with operator "Nemesis" talking about spanking his monkey. No music or QSL address heard.

George Roberts, in Pennsylvania, reports Solid Rock Radio on 7385 upper sideband at 2215 playing various rock tunes and a plug for the Association of Clandestine Enthusiasts (A*C*E). The QSL address was given as P.O. Box 452, Wellsville, NY 14895.

Caribbean Sound System was spotted by Roberts on 7385 signing on at 0100, announcing the broadcast as a test of their audio equipment. They played both Caribbean music, as well as rock. The announcer identified himself as "Count Whip" and claimed to be on a cruise ship. Address announced as P.O. Box 146, Stoneham, Massachusetts 02180. Roberts also found this one at 0110.

Roberts heard Omega Radio on 7385 at 2330 airing lots of guitar chords, rock numbers, and various sound effects. Host was Dick Tator.

Radio Azteca, logged by Harry Betts, in Illinois, at 0210 on 7385 with Bram Stoker and an "Ask Dr. Radio" feature. Interval signal taken from "Bullwinkle" television cartoon series; also had some fake/satirical commercials. Announced the Wellsville, NY address.

"Freedom 40" was another "Betts Best," heard on 7385 at 2315 with "Nemesis" hosting a program dedicated to shortwave liberation stations. QSLs (via the Stoneham drop) were offered to those who send copies of QSLs from five shortwave liberation stations. Music played included rock, country, and blues selections. Signed off at 2337. (I'm assuming Harry's "Lib" abbreviation stands for "Liberation" which, in turn, I assume stands for various clandestine stations and/or pirates which have an anti-government content—or maybe even some of the far out things aired by such stations as WWCR? I suppose "Lib" could also stand for "liberal." I presume Nemesis didn't specify what qualifies and what does not.—Ed.)

He-Man Radio is sending out this QSL card. It's in black type on shocking green paper.

Anarchy One (does this qualify as a SW "Lib" station?) was logged briefly by Betts on 7385 at 0300, though Harry reports a pretty weak signal and interference from a Voice of America transmitter.

KICK, apparently a new one, was heard by Roberts on 7385 upper sideband from sign on at 0200. They played heavy rock, and used the slogan "kick ass rock and roll station." Sheldon also caught this one, and says the announcer identified himself as Pete Moss, gave a QSL address of P.O. Box 605, Huntsville, AL 35804.

A Few Tips on Tuning for Pirates Broadcasters

Nearly every month I hear from one or more newcomers to the pirate DX'ing hobby who tell me they aren't having much success in finding pirate broadcasts. So here are a few tips which should help you increase your success level.

1) The best days (or nights) to listen are on the weekends and on holidays—everything from Halloween to New Year's Eve. This is when pirate radio activity is likely to be at its peak of activity.

2) The evening hours—say from 5 p.m., locally to midnight are the best times. Mid- to late afternoon is also good time.

3) Where to listen? Prime hunting ground is the area between 7300 and 7500, especially (and lately) such frequencies as 7385 (though this is now in use by Radio For Peace International, a Costa Rica broadcaster), 7415, 7445, 7465.

Of course there are many licensed domestic and foreign broadcasters in this region as well, so you need to look between them. Bands less frequently used by pirates include 3400-3500, 6200-6400 and 15000-15100.

4) Patience and persistence. Check the prime 7 MHz frequencies and, if you don't find anything, tune carefully through the entire band. Do this every half hour for your entire listening session. And even if you are unsuccessful that evening, try again the next night or the next weekend. Keep at it.

And remember, I always welcome log reports—whether you are a newcomer or have several dozen catches in your log. Copies of pirate QSLs are also needed for use as illustrations. I hope to hear from you next month—and often!

Good listening!

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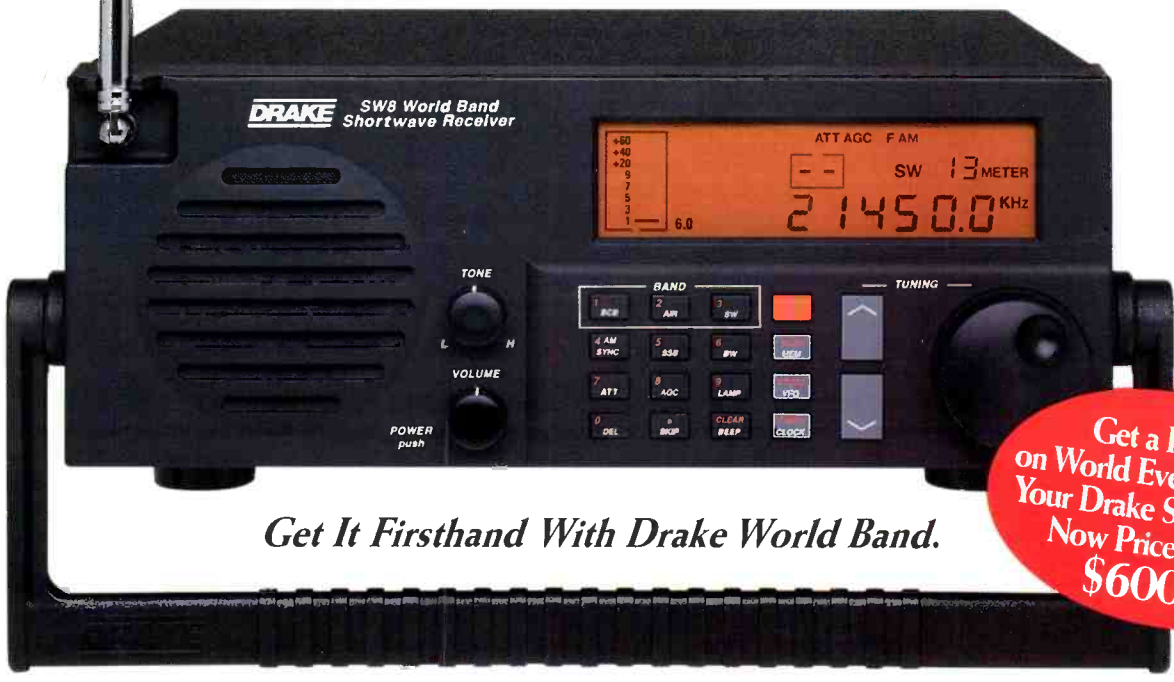
DRAKE



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WASHINGTON PULSE

FCC ACTIONS AFFECTING COMMUNICATIONS

Documents Considered Filed on Date of Receipt

The Commission adopted a new rule that explicitly provides that all documents are considered filed with the Commission upon receipt at the location designated by the Commission.

There are a number of rules establishing deadlines for various actions. Some rules explicitly state when a document is deemed to be filed, while others do not. It has been consistent Commission practice to consider documents filed when the document is received at the location designated by the Commission, not on the date it might be postmarked. Adoption of a rule specifically stating this policy will avoid any potential uncertainty.

Private Radio Bureau Extends Time to Construct 220 MHz Stations and Lifts Freeze for All Applications Modifying Locations

On March 30, 1994, the Private Radio Bureau released an Order extending the time to construct non-nationwide 220 MHz stations to December 2, 1994. On August 4, 1994, the American Mobile Telecommunications Association (AMTA), on behalf of three manufacturers of 220 MHz equipment, SEA, Inc., Uniden America Corporation and E.F. Johnson Company, requested that the Bureau further extend this period. In support of this request petitioners contend that licensees will have difficulty meeting the December 2, 1994 deadline because 220 MHz equipment is not readily available. Petitioners also contend that the Commission's action incorporating a Petition for Declaratory Ruling filed by SunCom Mobile and Data Inc. (SunCom), into the Further Notice of Proposed Rule Making in GN Docket No. 93-252, created an interference that a further extension would be provided.

The FCC does not fully attribute licensees' inability to construct their non-nationwide 220 MHz stations to equipment unavailability or to our consideration of SunCom's petition. Licensees have been on notice of the December 2, 1994, construction deadline since the release of the Order on March 30, 1994. This new deadline restored the full eight-month construction period afforded to licensees of non-nationwide 220 MHz stations under our Rules. See 47 C.F.R. § 90.725 (f). With respect to SunCom's petition, we note that the mere filing of a petition and the Commission's consideration of that petition creates no expectation that the petition will be granted. Therefore, licensees should not have presumed that construction requirements had or would have been suspended or would no longer be applied.

The FCC does, however, recognize the extenuating circumstances surrounding the implementation of 220 MHz service. In view of this, they do believe that a short additional extension is appropriate, but not to the extent or for the reasons proffered in the above-referenced correspondence. We note that the Commission recently adopted a Third Report and Order in GN Docket No. 93-252 addressing the regulatory framework for the commercial mobile radio services (CMRS). A uniform 12-month construction requirement for CMRS licensees was adopted. By imposing a deadline of December 2, 1994, non-nationwide 220 MHz licensees have approximately eight months from March 30, 1994 to construct. Since it appears that many of these systems may meet the definition of CMRS, decisions in the Third Report and Order in GN Docket No. 93-252 will be used as a guide in determining the length of extension deemed appropriate. Accordingly, we will grant a four-month extension until April 4, 1995, to construct non-nationwide 220 MHz station with original license grant dates after March 30, 1994, now has one year from that to construct the station and place it in operation.

In response to numerous requests and inquiries regarding the need and desire of existing 220 MHz licensees to construct and operate at sites other than those for which they were originally authorized, we are hereby modifying the current freeze on the filing of 220 MHz applications. Accordingly, 30 days after publication of this Public Notice in the Federal Register, the current freeze on the filing of 220 MHz applications will be lifted only with respect to those licensees applying to modify a station license to relocate the station to an alternative site in the same geographic area. A licensee must obtain an STA to operate at its newly-requested site if the licensee has not obtained a grant of its modification application at the time it intends to place the station in operation.

Furthermore, a licensee that constructs its station and places it in operation on or before April 4, 1995, will be considered to have met its construction requirement if the licensee constructs its station and places it in operation, (1) at the site specified by the original licensee; or (2) at the site requested by the STA, if the application to modify its license to this site is ultimately granted. Thus, a licensee that takes the risk of not constructing at its originally-authorized site, and instead constructs its station and places it into operation at a site authorized only by STA, will not be considered to have met its April 4, 1995, construction requirement if its modification applications cannot be granted (e.g., because of co-channel separation requirements). In the event, the license cancels automatically because the station will not have been constructed at an authorized site.

The FCC is still processing the applications that were filed in May, 1991. When the application processing is completed, license modification applications filed prior to this Public Notice will begin. Applications to modify licenses to specify a different site in the same geographic area will be granted only if they meet the applicable assignment criteria with respect to all previously-granted licenses.

Applications filed pursuant to this Notice to modify the locations of existing stations will be granted on a first-come, first-served basis. Application filed on the same day will be considered filed simultaneously. In the event that we receive modification requests ion the same day that are mutually exclusive, we will establish procedures to resolve them at that time.

For further information, contact the Consumer Assistance Branch at (717) 337-1212, or John J. Borkowski, Rules Branch at (202) 632-7125.

Implement New Microwave Licensing System

The Private Radio Bureau will be implementing a new automated licensing system for radio services currently licensed by the Microwave Branch of the Licensing Division in Gettysburg, Pennsylvania. In order to process applications, until the forms and their accompanying instructions are revised to match new computer requirements, the following information changes are required in accordance with Rules 94.31 (f), 94.33(b), 21.20(d), 73.3514, and 73.3566, as appropriate:

FCC Form 402: Application for Station Authorization in the Private Operational Fixed Microwave Radio Service (Part 94).

FCC Form 313: Application for Authorization in the Auxiliary Radio Broadcast Services (Part 74) (Subpart E—Aural Broadcast Auxiliary Stations and Subpart F—Television Broadcast Auxiliary Stations, only):

Applicants should henceforth use the "new" emission designators as specified in 47 C.F.R., Part 2, Subpart C—Emissions, when preparing their applications.

FCC Form 494: Application for a New or Modified Microwave Radio Station License Under part 21 (Subpart G—Digital Electronic Message Service, Subpart I—Point-to-Point Microwave Radio Service; and Subpart J—Local Television Transmission Service, only):

The Remarkable New Frequency SCOUT!

SCOUT IT OUT!

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- Pocket sized—goes anywhere!
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- Drive-by recording features a dual mode beeper. The Scout will record 200 different frequencies with 250 hits on each.
- With the exclusive feature, Reaction Tune, the Scout can be connected to the OptoScan 456 equipped Pro 2005/6 (or any receiver with CI-V). The Scout then tunes the receiver to any frequency captured or recalled in .01 seconds. In recall mode the receiver can be locked to any of the 200 stored frequencies.

ADDITIONAL FEATURES INCLUDE:

- Digital Filter
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- Belt Clip
- 10MHz to 2.8GHz single frequency range
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- Includes rapid charge- high capacity NiCad batteries 5 hr. operation-1 hr. recharge

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Rapid Charge transformer optional, AC100 ..... $39.
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- 250MHz direct count
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3000A+ 10Hz-3GHz HandiCounter® $349.

- High speed OE10
- Digital Filter greatly reduces random noise & oscillation
- Digital Auto Capture locks counter display on first reading to pass filter
- 6 Hour NiCad
- 10 Digit Backlit LCD display
- 16 segment RF bargraph
- Arm/Store button stores & recalls frequencies
- 250MHz direct count
- Built in RS-232 Serial Port permits data logging with optional software
- Multi-function: Frequency, Period, Ratio & Time Interval Measurement
- Dual High Impedance Inputs & Amplifiers
- Built In High Pass Filter

8040 Bench-Portable Multifunction Counter $689.

With all the features of the 3000A plus:

- Dual 50 Ohm and 1Meg Ohm input amplifiers with AC/DC coupling, ± Polarity, Trigger Level adjust, Low Pass Filter & Attenuator
- Internal clock output/external clock input
- RS-232 Serial computer interface
- Optional ± 0.1ppm TCXO or ± 0.05ppm KVG ovenized timebase
- Optional rapid charge NiCads for portable use

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CIRCLE 85 ON READER SERVICE CARD

CIRCLE 78 ON READER SERVICE CARD

CIRCLE 72 ON READER SERVICE CARD

These filings must include the transmitting and receiving antenna gains 9dBi0), the effective isotropic radiated power (W), and the "new" emission designator and frequency stability (%) of the transmitter, in lieu of antenna and transmitter codes, for all frequency paths added or modified by the application. The Commission currently determines these values based in the antenna codes entered in items 8 and 11 and the transmitter codes entered in item 10 of the application form. These values will be required on all application filings, for all frequency paths added or modified by the application, in items 8 and 10. Antenna gains will be entered in lieu of antenna codes in items 8f, h, j, and l; items 11(a), (b), and (c) may be left blank. Alternatively, the antenna gains and transmitter information for all frequency paths added or modified by the application may be provided by path data attachments.

FCC Forms 402, and 494 (All Private Radio and Common Carrier identified above):

Applicants in any of these services are reminded that an application intended to add a frequency path at a location for which the applicant already holds a license, in the same service and of the same station class, must be filed as a modification to the existing station license, and not as a new station request. Similarly, an application intended to add a frequency path at a location for which the applicant has an application currently pending, in the same service and of the same station class, whether the pending application is for new or modified facilities, must be filed as an amendment to the currently pending application. The new processing system will not accommodate multiple applications filed by the same applicant, in the same service, and of the same station class, against the same location. For purposes of this paragraph, Private Operational Fixed Microwave Radio Service applications for point-to-multipoint multiple address systems, digital termination systems, and low power 18 GHz systems described in Rule 94.88 will be considered as if they each belonged to distinct station classes separate from point-to-point stations in that service.

For further information regarding this Public Notice, you may contact the Private Radio Bureau's Licensing Division, Microwave Branch, in Gettysburg, PA, at (717) 337-1421.

Fee Amount for Radiotelephone Operator Restricted Permit

This is in response to the numerous questions received concerning the fee charge for applications in the private radio services for a restricted radiotelephone operator permit (RP). The fee amount is $45.

The FCC "Form Number" for this action is Form 753 and the "Fee Type Code" is PARR. The address is Federal Communications Commission, Restricted Permit, P.O. Box 328295, Pittsburgh, PA 15251-5295. This is a lifetime permit.

Further, the Commission has adopted rules to allow fee exemptions for operators of non-commercial education (NCE) broadcast stations. Applicants for the fee-exempt restricted permits will not be able to use the permit at commercial broadcast or other facilities. these restricted permits will bear a notation that they are valid only at NCEs. To apply for a fee-exempt RP, applicants must include a completed FCC Form 753 and a signed certification stating: "The Restricted Radiotelephone Operator Permit being applied for will be used only at a non-commercial educational station." Applications for the fee-exempt permit only should be mailed to the FCC's Gettysburg office at Federal Communications Commission, 1270 Fairfield Road, Gettysburg, PA 17325-7245.

For additional information, please contact the Private Radio Bureau's Consumer Assistance Branch at (717) 337-1212.

Policy on Private Printing of FCC Forms

The Commission has established a policy regarding the printing of blank FCC forms by private companies if they elect to do so as a matter of expediency and convenience to their clients and consumers. This applies to private companies or entities who wish to computer-generate FCC forms and submit them as completed applications or reports. This infor- mation is also referenced in 47 C.F.R. 0.409. The policy is as follows:

a) Blank FCC forms may be reproduced by private companies at their own expense provided the following conditions are met:

1. Use a printing process resulting in a product that is at least comparable in quality to the original document, without change to the page size, image size, configuration of pages, folds or perforations, and matching as closely as possible the paper weight, paper color and ink color.

2. Delete in its entirety any and all U.S. Government Printing Office (GPO) indicia that may appear in the margin(s), if applicable.

3. If the printer wishes to identify a foreign country in which the forms are printed, a marginal notation must be added stating "No U.S. Government funds were used to print this document."

4. Do not add to the form any other symbol, word, or phrase that might be construed as personalizing the form or advertising on it.

5. Except as specified above, do not delete from or add to any part of the form, or attach anything to it.

6. Assure that the form being reproduced is an edition currently acceptable by the Commission, which will endeavor to

keep the public advised of revisions to its forms, but cannot assume responsibility to the extent of eliminating any element of risk against the use of obsolete forms.

b) These guidelines do not apply to forms which respondents may wish to reproduce as photocopies to satisfy application or report requirements.

Request for permission to submit computer-generated forms to the Commission should be addressed to the Records Management Division, AMD-PIRS, 1919 M Street, N.W., Washington, DC 20554. For further information on computer-generating FCC forms. contact Judy Boley, telephone (202) 418-0214.

For information concerning the status of a completed and mailed application or license, contact Consumer Assistance Branch, PRB, Gettysburg, PA telephone, (717) 337-1212.

To order blank copies of FCC forms, contact the FCC Forms Distribution Center, (202) 418-FORM (3676).

Request to Waive Section 80.108 of the Rules

MCI International Inc. (MCI), licensee of public coast stations KPH in San Francisco, CA, and WCC in Chatham, MA, has requested that the Private Radio Bureau waive Section 80.108 of the Commission's Rules, 47 C.F.R. § 80.108, permitting both stations to broadcast shore-ship radiotelegraph messages "in the blind" during normally scheduled traffic list announcements. Public coast stations transmit regularly scheduled radiotelephone traffic lists containing only the call sign of vessels. Upon receiving the traffic list, a radio officer on board a vessel must contact the coast station via a radiotelegraph working channel in order to receive the vessel's messages. In general, however, foreign administrations prohibit ships from transmitting on radio telegraph frequencies while in port, effectively making it impossible to receive messages. MCI proposes to use half of each station's working frequencies to facilitate message transfer to ships in foreign ports by transmitting messages following each call sign in the traffic list.

FCC Establishes 800 Number at Gettysburg Licensing Division as Implementation of New Customer Service Standards Begins

Declaring that "Customer service has taken on new meaning at the FCC," Chairman Reed E. Hundt has submitted to the White House the FCC's plan for new, improved customer service standards.

Submission of the plan is in response to an Executive Order the President which requires that, in order to carry out the principles of the National Performance Review, the Federal Government must be customer-driven and provide the public with "the highest quality of service delivered to customers by private organizations providing a comparable or analogous service." Each agency is required to submit to the White House its individual plan for review.

As part of its overall plan, the FCC initiated a pilot program using customers of the Private Land Mobile Radio Services. It held a series of focus groups with external customers and then asked employees of the Division to develop a brochure on customer service standards, including increased emphasis on response to telephone inquiries. It also identified the need for an 800 number for calling the licensing division.

Effective immediately, all public inquiries to the FCC's Gettysburg, PA, Licensing Division, Customer Assistance Branch, can be placed by calling (800) 322-1117. Hours of operation are weekdays from 8 a.m. to 4:30 p.m., Eastern Time. On the Commission's 24-hour automated information system, callers dealing with interference complaints, form requests, availability of records, Amateur radio call sign assignments, Marine radio licensing information, fee information, ad processing times may access recorded information.

Within the next 18 months customer service standards will be developed for other areas of Commission operations to ensure that FCC customers receive the highest quality of service possible. As these new standards become available, the FCC will inform its customers.

Question Pools

You may purchase the question pools from which the COLE Managers prepare the examinations from the Commission's copy contractor or from private publishers.

Commercial Operator License Examinations

To obtain a new or ungraded FCC commercial operator license, you must pass an examination administered by a COLE manager. The COLE managers listed below are authorized to administer exams nationwide and, in some instances, at foreign sites. Upon passing the examination, the COLE manager will give you one more Proof of Passing Certificates (PPC) that you include with your license application package that you file with the FCC.

Drake Training and Technologies, 2601 West 88th Street, Bloomington, MN 55431. All elements are available by appointment on a daily basis in all states at over 280 locations throughout North America. Evening, weekend, and holiday appointment available. Fee, $60 per examination. Contact: Dyanne Drake, or Juli Johnson, (800) 401-EXAM, or (612) 896-7441, FAX: (612) 896-7020.

Electronic Technicians Association In-

ternational, Inc., 602 North Jackson Street, Greencastle, IN 46135. All elements are available at test sites located throughout all states, including some stateside and overseas U.S. military installations (DANTES). Call for schedule information. Examinations are also available by appointment. Fee, $35 to $75. Contact: Dick Glass, (317) 653-4301, or (317) 653-8262, FAX: (317) 653-8262.

Elkins Institute, Inc., P.O. Box 797666, Dallas, TX 75379. All written elements are available at approximately 100 test sites located throughout the continental U.S., Alaska, Hawaii, the Virgin Islands, Puerto Rico, and Europe. Scheduled examinations are available as well as examinations by appointment. Fee, $25 per element. For a session with only one element, the cost is $50. If two or more elements are taken at one time, the cost is $25 per element. Contact: Laura Elkins, (800) 944-1603, FAX: (214) 732-0244.

International Society of Certified Electronics Technicians (ISCET), 2708 West Berry Street, Fort Worth, TX 76109. All elements are available by appointment from 360 examiners in 47 states, Guam, and selected foreign countries. (Alaska, Vermont, and Wyoming, not presently available.) Fee, $25 to $75. Contact, Department 19, (817) 921-3741.

National Association of Business and Education Radio, Inc. (NABER), 1501 Duke Street, Alexandria, VA 22314. Computerized testing for all available FCC elements, except telegraphy, at over 200 locations nationwide. Exams are by appointment and are offered at a time convenient for you. Fee, $60 per exam element. Registration is open Monday through Friday, 7 a.m. to 6 p.m. Central Standard Time. The registration number is (800) 759-0300. If you are not ready to register for your exam but require additional information, call NABER's TC Department, (800) 759-0300.

National Radio Examiners, P.O. Box 565-206, Dallas, TX 75356-5206. UPS or Fed Ex: 2000 East Randol Mill Road, Suite 608-A, Arlington, TX 76011. All elements are available on a monthly or quarterly basis, based on demand, in all states, plus many foreign countries. Fee, $35 per license. Contact: Frederick O. Maia, (800) 669-9594, or (817) 548-9594.

Sea School, 5905 Fourth Street North, St. Petersburg, FL 33703. All elements are available by appointment in 83 coastal cities. Fee, $25 to $55. Contact: Len Wahl, (800) 237-8663, FAX: (813) 522-3155.

Sylvan Learning Systems, Inc., 9135 Guilford Road, Columbia, MD, 21046. All elements are available on a daily, walk-in, or scheduled appointment basis, Monday through Saturday (except holidays) at over 250 computerized testing centers in all 50 states and territories of the United States. Fee, $50 for the first element and $25 for each additional element. Contact, National Registration Center, (800) 967-1100, FAX: (410) 880-8714.

The National Association of Radio Telecommunications Engineers, Inc. (NARTE), P.O. Box 678, Medway, MA 02053. Fed Ex: 11 Awl Street, Medway, MA 02053. All elements are available by appointment on a quarterly basis at NARTE test centers located at over 120 universities and colleges throughout the U.S. Examinations are also available at stateside and some overseas U.S. military installations through on-base educational centers (DANTES). Fee, $40 per examination per sitting. Contact: FCC Examination Registration, (800) 89-NARTE, or (508) 533-8333, FAX: (508) 533-3815.

Filing Information

Your application package must include FCC Form 756 (edition dates prior to October 1993, are not acceptable). Attach your original PPC document(s) and copies of other documents for which you are claiming examination credit.

For a Marine Radio Operator Permit, GMDSS Radio Operator's License, GMDSS Radio Maintainer's License, GMDSS Radio/Operator/Maintainer License, and First, Second, and Third Class Radiotelegraph Operator's Certificate, enter "PACR" in the Fee Type Code block on Form 756. Include a check or money order for $35 payable to the Federal Communications Commission. Mail your package to Federal Communications Commission, Radio Operator Permits, P.O. Box 358800, Pittsburgh, PA 15251-5800.

For a General Radiotelephone Operator License or Ship Radar Endorsement, no fee is required. Mail your package to Federal Communications Commission, 1270 Fairfield Road, Gettysburg, PA 17325-7245.

Popular Communications Goes "Online"

Popular Communications readers now have a direct electronic link to our columnists and editors. A new "reader feedback" area has been set up on "America Online," (AOL) in which Popular Communications readers may ask questions, make comments, send column contributions, suggestions, and letters to the editorial staff. Popular Communications columnist Chuck Gysi, N2DUP (AOL Screen Name: SCAN911), will regularly read the mail, respond to questions, and refer comments, suggestions, etc., to the appropriate columnists or staff. Reports concerning subscription matters will be forwarded to our Circulation Department.

Please indicate the specific person, column, or department you want to receive your message. Otherwise, we'll try to direct it to the proper place.

AOL members can find the Popular Communications feedback area in the Ham Radio Club (keyword: Ham Radio) message center, under the heading, "Manufacturers, Dealers, and Vendors." Look for the Popular Communi-cations folder (along with those for our sister publications, CQ and Communications Quarterly, and for the CQ Books and Videos). Readers who are not AOL members may send e-mail to us via the Internet to SCAN911@ aol.com.

This reader feedback area is the first step in ongoing efforts by CQ Communications Inc., to better serve its customers through an easily-accessible online presence for Popular Communications and its other publications and products.

We will keep you informed as we develop additional online services, either on AOL, on other commercial services, or directly on the Internet.

(A free trial membership in America Online, including some software and ten free hours, is available by calling 1-800-827-63643.)

BY GERRY L. DEXTER

CLANDESTINE COMMUNIQUE

WHAT'S NEW WITH THE CLANDESTINES

As the Cuban situation heats up, so does the on-going shortwave radio war between the two countries. Cuba for some months now has been attempting to jam some of the anti-Castro broadcasts, such as La Voz del CID and the still mysterious Radio Caiman. Also a target is the program of Jorge Mas Canosa's Cuban American National Foundation (La Voz de Fundacion), which is aired over WHRI.

When Radio Miami International (WMRI —9955) came on the air it began carrying the Foundation program. Now it is being jammed. Initially, La Voz de Fundacion was on at 0200-0400, Tuesday to Sunday, UTC days. Now even more air time has been added. The current WRMI schedule shows the program extended to 0500, and also being aired from 1100 to 1400.

Last month we mentioned the financial problems of La Voz del CID and that they had been temporarily off the air. The return engagement isn't as extensive as their former 24 hours per day.

The current CID schedule shows them operating on 6305 between 0430 and 0730 and 9940 (actually closer to 9941) from 2130 to 0430.

A new Cuban clandestine being reported is Radio Frente National Cubano, operating on 7020—a traditional frequency area for shoestring stations operating converted ham transmitters, usually out of someone's Miami area basement. This station appears not to have a regular schedule so the best we can suggest is spot checks of the frequency during the late afternoon and early evening hours.

Some reports also say, or imply, that additional frequencies have been added for Radio Marti, and there are hints that one or more additional clandestine or surrogate broadcasters were to come on the air. If that's really true it's reasonably likely that one or more of these events will have taken place by the time you read this.

The other Caribbean country worrying Washington these days, Haiti, is now the target of a U.S. government broadcaster—Radio Democracy, operating on 1035 kHz medium wave from a C-130 Hercules communications aircraft flying over Haiti and operated by the Air Force Special Operations Command. The broadcasts air from 2230 to 2330 and 0000 to 0100 UTC, carrying a message from ousted President Aristide. Price tag? A mere $2 million dollars per month! Listeners in the southern portion of the U.S. might have a slight shot at picking the broadcasts up, particularly if using a quality communications receiver and medium wave directional antenna.

With the Palestinian Liberation Organization is expanding its governing responsibilities in the West Bank and Gaza. including the opening of broadcast facilities, the Voice of Palestine broadcasts via Radio Algiers have been discontinued. Unfortunately the new PLO broadcast facility is on medium wave only.

Apparently the Rwandan clandestine station Radio Muhabura is now off the air—since it's backers now run the government. The Rwandan Patriotic Front says it intends to put the national government radio back on the air—which will probably eliminate the need for Muhabura.

The Democratic Voice of Burma, aired via Radio Norway, is now broadcast on 9600 from 0000 to 0055, in Burmese. If you hear Burmese prior to that time it's from the BBC. Wonder if this time and frequency choice on the part of DVB/Radio Norway is deliberate, to catch an audience already tuned in. The Democratic Voice is also on the air at 1430 on 15180.

The station of the Cambodian Khmer Rouge has dropped the name Voice of the Front for Great National Unity of Kampuchea. The replacement (take a deep breath): Radio of the Provisional Government for Solidarity and the National Salvation of Kampuchea. The station operates 1200-1400 and 2300-0200 on 5408.

A new Sudanese clandestine station is rumored to be on the air or about to start. The Radio of the Opposition National Democratic Alliance is supposed to operate from a "non-Arab state." We've no idea if this is to be on medium wave or shortwave, or what the schedule may be.

Radio Message of Freedom, which broadcasts in support of the Hezb-e-Eslami (Islamic Party) of Afghanistan is now using 7000 between 0145-0315 and 0730-0830 in Pashto and Dari.

That covers the news for this time. Remember that loggings of and QSLs from clandestine and quasi-clandestine stations, as well as surrogate broadcasters are always very welcome at this column, as is any background information, news clippings and the like about the subject.

RADIO DNIESTER INTERNATIONAL
45, 25 October-str,
Tiraspol, Pridnestrovie
CIS

Dear Sir,

Thank you very much for your letter. We are happy to know that from time to time it is possible to receive our station in Europe and in North America.

We are awfully sorry for the bad quality of our signal. The worst of it is that we are not able to get rid of interferences. The Republic of Moldova properly jams our broadcasting.

Our station started working in March'93. It was created in order to tell Europeans and Americans about the situation in Pridnestrovie as we see it. The recognition of the Moldavian Republic of Pridnestrovie is our main purpose. Besides, it is always better to know more than one point of view on any issue.

Pridnestrovie is the eastern region of Moldova. Before the collapse of the USSR it was a part of the Moldavian Soviet Socialist Republic. After 1990 all the republics of the former Soviet Union have been facing economic and ethnic problems and Moldova is not an exception. Moldova tried to solve its ethnic problems by force in favour of native population at the expence of other nationalities.

Pridnestrovie, whose population is multinational has proclaimed human rights to be above ethnic ones. Inevitably it led to self-proclaiming of the independent Pridnestrovian republic on September 2, 1990 for providing equal rights for all nationalities. In summer 1992, Moldova attempted to suppress our republic by military actions. The war, as any civil war, has led nowhere. Now ideological pressure by Moldova is continuing. Moldova tries to block any information about our republic.

We hope to overcome international blockade with your assistance. The goal of our radio-station is to spread as much information as possible about our young republic, about our proud, independent and free people which has paid with thousands of human lives for its freedom.

Our current shedule is:
English programs - MON, WED, SAT, 21:30 UTC, 9620 kHz, 999 kHz
repeated respectively on
TUE, THU, SUN at 21:30 UTC, 999 kHz
WINTER TIME (+1 hour - Summer time)

German programs - WED, SAT 21:00 UTC 999 kHz
WINTER TIME (+1 hour - Summer time)

Yours truly

A.Komar
(chief editor)

Ed Rausch in New Jersey got this nice letter from Radio Dniester International, the station of the break-away Pridnestrovia portion of the former Soviet Republic of Moldavia. The station currently broadcasts at 2030 on 15290.

TELEPHONES ENROUTE

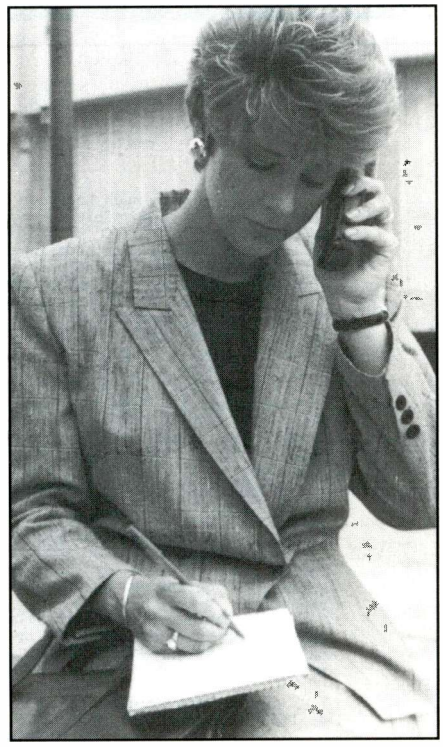
BY TOM KNEITEL, K2AES

WHAT'S HAPPENING WITH

A federal grand jury in North Carolina indicted five people in connection with a scheme to clone cellphone numbers and bilk carriers out of some $300,000 in cellular and long distance revenues.

The Secret Service and the Wake County Sheriff's Dept., acting on information provided by Sprint Cellular, arrested the suspects near the city of Raleigh. They were indicted on various counts that included the use of unauthorized access devices, possession of unauthorized access devices, and possession of device-making equipment. If convicted, they face up to 45 years in jail and/or fines of $50,000 or double the value of the illegally made calls, whichever is greater.

These wiseguys were tripped up by an alert Sprint Cellular technician who spotted a flurry of middle-of-the-night overseas cellular calls from a remote rural community. He thought the activity was so unusual that it needed looking into. The Sprint Cellular fraud task force, who went into action along with Sprint Corporate Security, turned over their findings to the Secret Service, and helped in the execution of the search warrant. The Secret Service, assisted by local law enforcement, made the arrests and seized 18 counterfeit cellphones and other cloning equipment.



Trish Malczewski tests out the NYNEX "Go Plan" PCS cellular trial in Nassau County, New York.

All the Better to Ear You

The Florida State Attorney's office was investigating a complaint of illegal cellphone conversation interception in the northwestern part of the state.

This was in reaction to an incident last summer in DeFuniak Springs, when the Walton County public safety director was alleged to have modified and then used the county's radio equipment to eavesdrop on and record the cellphone calls of other county officials. Supposedly, the contents of those calls were then disclosed to others.

In the aftermath of the charges, there was an arrest made on six felony charges, and a release was secured after a $10,000 bond was signed. The charges included possession of an illegal electronic device, principal to assemble or manufacture of an an illegal electronic device, intentionally endeavoring to intercept wire or oral communication, principal to the interception of oral communications, and intentionally disclosing contents of an oral communication obtained through an illegal interception.

The accused party denies all charges.

This valuable information was submitted by Paul Jensen, Destin, Fla., and was extracted from the *Northwest Florida Daily News*, of Ft. Walton Beach, Fla.

An anonymous reader in Vancouver, B.C., Canada, passes along a news clipping quoting the federal advisory council on the information highway stating that laws should be tightened to protect the privacy of cellphone and cordless phone calls in Canada. Specifically, they want an end to the manufacture and sale of scanners covering these bands.

A spilled cup of coffee or soda can put your cellphone out of service. Someone came up with a way you can protect your cellphone from yourself.

Existing legislation in Canada, the story pointed out, doesn't ban scanners, or make their use illegal. It does make it illegal to disclose information obtained while eavesdropping. Critics of a scanner ban point out that causing scanners to have certain bands blocked out or else be considered illegal could prove a costly administrative nightmare. They suggest that it would be simpler just to advise cellphone and cordless users because their calls are going out over public airwaves, there's a chance they might be overheard by others.

First Commercial Narrowband PCS License Granted

The FCC awarded the first commercial Personal Communications Service (PCS) license to Nationwide Wireless Network Corp., a subsidiary of Mobile Telecommunication Technologies Corp. (Mtel).

The license is for a single, nationwide, 50 kHz unpaired block. Mtel is required to hold the license for at least three years, or until the construction requirement applicable to the five year build-out period, whichever occurs first. The build-out requirement imposed requires that Mtel covers 90 percent of the population at the 10-year mark.

This was a stricter build-out requirement than those required of narrowband PCS licensees who will obtain their licenses through auction. It was done because of Mtel's previously affirmed "pioneer" status, and because Mtel obtained a license at a fixed price established at $3-million less than the lowest winning auction bid.

First PCS Trials

The first PCS cellular trials in the New York City metro area have been instituted by NYNEX Mobile Communications. The *Go Plan* is a low-cost, convenient wireless communications service specifically designed for local use by business and personal subscribers in Nassau County, N.Y.

A monthly charge of about $25 provides a package consisting of service and 30 minutes of local cellular talk time per month. For about $35 per month, there's service and 75 minutes of local cellular talk time per month. When roaming beyond the Nassau County area, usage costs are $.99 per minute. Included in both packages is a

▲*Motorola began its Wireless Sports Channel service. Now you can use a special alpha-numeric paper-type receiver to get the latest pro and college sports information and scores, nationwide.*

◄*Rick Ojeda, inventor of the "Pager Pal," poses with his clever idea. It allows you to send complete messages over a numeric beeper.*

Nokia handheld phone for $99.

As 1995 progresses, the *Go Plan* will be available in most other NYNEX Mobile Communications markets.

Two Great Low-Tech Ideas

As the idea of eating-on-the-go becomes increasingly popular, each cup of coffee or soda sipped behind the wheel becomes as much of a threat to your cellphone as it does to your clothing and person. One spill can render a cellphone useless.

Phonegaard is a transparent flexible custom-molded cover for your cellphone handset. It's engineered to protect it from spills, crumbs, ashes, spilled sugar and salt, plus other elements. The high-quality polyurethane is resistant to heat, salt, water, acids, solvents, gasoline, and oil. The covers fit most phones, including those from Audiovox, Diamondtel, GTE-OKI, Mitsubishi, Motorola, NEC, OKI, Nokia, and Uniden. You'd want to specify your particular phone when ordering. The device does not interfere with the normal use of the cellphone.

The Boston (Mass.) Police Dept. installed 1,000 of them in their squad cars to protect the cellphones from coffee spills. *Phonegaard* is available from most cellular carriers, and costs less than $10. Or, you can order one by calling 1-800-CELL-ONE.

Pager Pal is an electronic organizer for beeper owners. It is intended for use with numeric pagers, allowing the caller to transmit the most-needed words and phrases anyone would want to send a pager user. The list of code signals are cross-referenced both alphabetically and numerically for easy retrieval.

The list of codes are available on five credit card-sized plastic cards, with space and directions for adding your own additional codes and special identification numbers for specific family members, or business associates. The cards are bound together by a small key chain.

Using *Pager Codes*, instead of just receiving a phone number, a complete message can be easily sent. The sender selects the proper sequence of digits that relates to their message and then enters them just like a phone number. The beeper owner then looks up the meaning of those digits to understand the message.

Messages include things like: meeting cancelled, meet me at the movies, need a ride, get off the phone, running late, tired of waiting, and many others. You are also able to combine several different codes to create hundreds of your own unique specialized messages.

This thing is a blast. Really clever, and so simple. Best of all, it's less than $4 per set. For more information on *Pager Pal*, contact REO Enterprises, 18149 Ventura Blvd., #149, Tarzana, CA 91356. Phone 1-800-344-0022, or (818) 344-0082. Let them know you read about it here.

Wireless Sports Channel

Motorola announced its Wireless Sports Channel (WSC), which is the first in a series of information services to be offered by the new Wireless Broadcast Network (WBN). WSC provides sports info services on a variety of information devices including portable pocket receivers, and wireless receivers for personal computers.

WSC offers a broad range of services that allows fans to follow, in virtual real time, pro football, college football, pro baseball, pro basketball, college basketball, and pro hockey. Fans have the capability to select and filter updates to follow their favorite teams. The basic nationwide low-tier coverage is about $10 per month, although there are more advanced coverage services available. For more information, call 1-800-972-4261.

That's all we have room for this time. Please pass along your news clippings, and other information relating to cellphones and beepers, as well as related products and services. ■

Beaming In *(from page 5)*

was to be an all-staff gala party event, with a mix of records normally played on the various WTTT programs. All sponsors were invited to the studio, not only as a goodwill gesture, but also with the hope they would supply the food. Many sponsors were delicatessens and small restaurants.

The party kicked off at 9 p.m., and we were pleased to see that our sponsors were sending over trays and platters of food. By 10 p.m., listeners began showing up to be part of festivities, and they were also bringing food. By then, Aragon Avenue, normally dark and lonely at night, was quite busy. This began to attract a smattering of the area's homeless and street people who wanted to see what the fuss was about. Our party quickly overflowed the studio, filling the area in front of the building.

Towards 11 p.m., the people said they wanted to sing. We thought that was a great idea. We had sing-alongs, with everybody joining in. There were solos, too. A lady offered the Slim Gaillard classic, *Flat Foot Floogie*. One gent stumbled through something unrecognizable on a kazoo.

A man stepped up to the mic to sing a hilarious but raunchy version of the song, *Sweet Violets*. We were too astonished (and interested in hearing it) to think to cut him off the air. The crowd loved it. Thank goodness the FCC didn't hear that bawdy little ditty! The radio police would have been there in minutes with a wrecking ball and wire cutters.

Around midnight, everyone spontaneously joined hands and began to sing *Auld Lang Syne*. American and other U.N. forces were involved in a war in Korea at that time. Many of us had family and friends there. That's probably why there wasn't a dry eye at WTTT by the time the song ended.

As I looked around the WTTT studio, I saw business people, bus drivers, newspaper delivery drivers, cabbies, hookers, suburban couples, and people who slept in doorways. Silver Dollar Jake, the station's regular bookie showed up. There was a clergyman there, so were a couple of members of the city police department who had just gotten off duty. It was as diverse a mix of personalities, ethnic groups, and lifestyles as I had ever seen all at once.

Mrs. Athanos, the regal dowager who owned the Greek restaurant, was standing hand-in-hand with *Kingfish* Levinsky, a pugugly old time boxer who had cauliflower ears and a smashed-in nose. *Kingfish* was a well-known character around Coral Gables. He'd been KO'd too many times, first in the ring, and later by life. His main residence was a bench at the bus terminal. There may well have been more people at the WTTT party than the station ever had as listeners.

The evening ended at 1 a.m., with a few appropriate words over the air from our guest member of the clergy, followed by best wishes from Mr. Daley.

The final comments of the evening came from Silver Dollar Jake, our bookie. Stepping up to the mic, Jake revealed that when he was helping Walt Kinney string up WTTT's makeshift wire antenna, Walt told him that WTTT's frequency of 1490 kilocycles equalled a wavelength of 201 meters, or 660-feet. Jake was delighted to realize that 660 feet was one furlong, which is the most significant track distance measurement used in horse racing. He said that it was then that he understood why he felt a mystical kinship with WTTT.

Obviously, as dinky as WTTT was, it offered something special to everyone who took the effort to seek it out. It's just a pity that not enough people went to the trouble to look.

To me, the 1952 New Years Eve broadcast was WTTT's finest moment. Since then, every time I hear *Auld Lang Syne*, I can't help but flash back for an instant to that experience. For a brief moment, I warmly recall that feeling of togetherness and friendship that pervaded the little WTTT studio so many years ago.

Epilogue: After several years of struggling, WTTT's owners couldn't make it any longer. On July 1, 1953, they returned the license to the FCC for cancellation. Almost immediately, another licensee made arrangements to use the old WBAY/WTTT transmitter for a newly created station. A new antenna was erected, and station WAHR went on the air on 1490 kHz. That station also quickly failed. Existing Miami station WMBM then shifted from 800 kHz to fill the vacant 1490 kHz slot. By the way, the WTTT that went dark in 1953, is unrelated to any station(s) that were later assigned the same call letters.

Prior to WTTT leaving the air, my career there had ended. At the start of my sophmore year, I transferred to become a student at New York University. But that's another story.

Ray Briem Appreciation Day

Readers, particularly those in southern California, know Ray Briem. Ray, a longtime radio enthusiast (and ham operator), has been a tireless goodwill ambassador for our hobby. He has frequently dedicated all-night KABC talk-shows to SWL'ing and ham radio. In past years, Ray has done these valuable, informative programs over the entire ABC Talkradio network.

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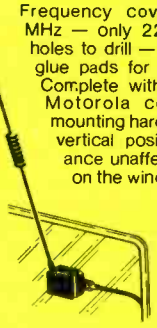

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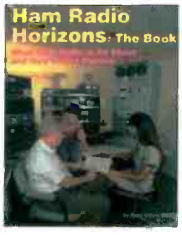

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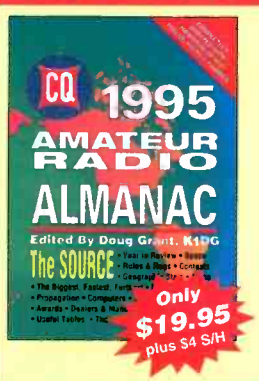

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