

POPULAR COMMUNICATIONS

JANUARY 1998

Volunteers In Action! JCES Lends A Helping Hand

- ARRL Rewrites H.R. 2369—
The Right Way?
- Double Vision? TWO Products
in the Spotlight: Opto's R11
Nearfield Receiver and
BMI's Nitelogs II
- Focus on Features—
Find the Scanner
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- Alan Dixon Resolves the
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JANUARY 1998

VOLUME 16, NUMBER 5

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By Ken Reiss



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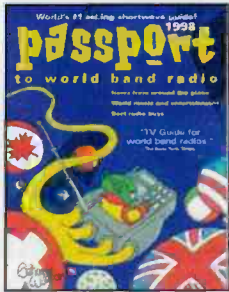
ON THE COVER: *Andre Spitzer and John Lasher keep tabs on the weather at the Harrison Weather Center near Newark, New Jersey a division of the Jersey Coastal Emergency Services. Read about this volunteer public safety organization on page 8. (Photo by Larry Mulvehill)*

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Tuning In

AN EDITORIAL

BY HAROLD ORT, N2RLL, SSB-596

Resolving the Radio Privacy Issue

By Alan Dixon

✉ **Editor's note:** This month we've given the pen to writer Alan Dixon whose views on the anti-monitoring bills making their way through Washington will clear the air on this touchy subject.

An inevitable conflict of interests between the cellular industry and radio monitor hobbyists has reached the boiling point. A collective lack of understanding on the part of those involved has exacerbated the situation, leading to a recent Congressional hearing which deteriorated into an animated circus, by various accounts. Last February, officials from three agencies concerned, the Federal Communications Commission, Justice Department, and FBI, participated in a House Telecommunications Subcommittee hearing investigating ways to curtail alleged unauthorized electronic eavesdropping. Why? The speeding freight train carrying commercial wireless technology, its industry, and related consumerism has slammed into the brick wall of the historically respected and honorable tradition of radio monitoring, and the reality of RF propagation.

Let's face it. Wireless telephony subscribers expect a reasonable degree of privacy when making calls. And why wouldn't they? The cellular system is designed to establish, essentially, a dedicated circuit between the caller and the called party, for the duration of a call. Why else does the caller dial a specific number? Radio monitors, on the other hand, have a proud tradition, going back generations, of providing useful reception reports, responding to unanswered distress calls, and reporting criminal activity heard on the airwaves. Such monitoring activity was entirely legal and considered to be quite ethical, until October 20, 1986. That was the date of establishment of the Electronic Communications Privacy Act (ECPA). Simply put, the cellular frequencies were said to be off limits to third-party listeners. So where is the misunderstanding? For one thing, privacy of communications on the airwaves has historically been, and remains, regulated by The Communica-

tions Act of 1934, Section 705. Its premise is simple and effective: With some exceptions, if you can receive it over the air, you can listen to it. But generally speaking, you must keep what you hear to yourself. Certainly, nothing received may be used for personal gain in any manner. The ECPA and Section 705—Congress has enacted two separate statutes that touch the same subject, with two different outcomes. Oops!

For some arcane reason, the Congressionally mandated ECPA failed to be correctly codified into Title 47 USC, the Communications Act, which gives the Federal Communications Commission complete jurisdiction over such matters. Instead, the ECPA was errantly codified into Title 18 USC, under the Omnibus Crime Control and Safe Streets Act. Talk about misdirection! Had ECPA been included in 47 USC, the conflicting statutes would likely have been discovered in the codification process, and the bill referred back to committee for further action. The outcome may have been significantly different than what we have today. The subsequent involvement of the various regulatory and investigative agencies present at the Congressional hearing is a direct result of the division of telecommunications authority under Title 18. The effect has been confusion within the communications industry as to which agency to charge with enforcement issues, as well as a general lack of enforcement activity among these agencies for precisely the same reason.

Another area of confusion lies with lawmakers', and evidently the general public's, lack of knowledge about the very nature of radio propagation. Radio waves travel everywhere. A cellular radio signal permeates every building, vehicle, and open space within the cell. These transmissions are easily and inadvertent-

(Continued on page 79)

POPULAR COMMUNICATIONS

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A publication of



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Offices: 76 North Broadway, Hicksville, NY 11801. Telephone (516) 681-2922. FAX (516) 681-2926. Web Site: <http://www.popcomm.com/> Popular Communications (ISSN-073-3315) is published monthly by CQ Communications, Inc. Periodical class postage paid at Hicksville, NY and additional offices. Subscription prices (payable in U.S. dollars): Domestic—one year \$25.95, two years \$45.95, three years \$65.95. Canada/Mexico—one year \$35.95, two years \$65.95, three years \$95.95. Foreign Air Post—one year \$45.95, two years \$85.95, three years \$125.95.

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Pop'Comm P.O.

LETTERS TO THE EDITOR

Each month we select representative reader letters for our Pop'Comm P.O. column. We reserve the right to condense lengthy letters for space reasons and to edit to conform to style. All letters submitted must be signed and show a return mailing address or valid e-mail address. Upon request, we will withhold a sender's name if the letter is used in Pop'Comm P.O. Address letters to: Harold Ort, N2RLL, SSB-596, Editor, Popular Communications Magazine, 76 N. Broadway, Hicksville, NY 11801-2909, or send e-mail via the Internet to <popular-com@aol.com>.

Breaking Down Ham Radio Types

Dear Editor:

I've been listening to shortwave and the VHF/UHF bands for about three years now—not a long time by some standards, but a while. One of my radio interests has always been the amateur bands. I use them for company, for information, for the shared excitement as the new sun cycle improves conditions, for the sheer amazement at distances traversed, for conversation that is live and unrehearsed.

While human beings invariably defy categories in the end, I would, for the sake of discussion, break ham radio enthusiasts into a large handful of types. One, of course, is the DXer, pouring time, energy and money into the quest for contacts. These folks, cordial as a rule, tend to establish themselves, exchange a few pleasantries and move on.

Next I think of the rag-chewers, people both experienced and novice who take pleasure in the human and humane contacts make possible by long-distance radio. I've heard long-time friends laughing in the mornings with great pleasure at the same old jokes, and I've heard heartbreaking stories of people about to lose their farms, equipment, and everything else, on the air to say goodbye, hoping they would get back some day.

Others, the nervy and hopeful CQers, the invaluable souls willing to put their time into passing information for ships and planes and people in trouble; all of this and more makes up a varied and

changing world of bright, interesting and interested people.

There is another category of soul in amateur radio, of course. At certain times their numbers are large. They are the Radio Man's Men, I guess. These are the tough guys who have been in it for years, know the business inside out, have staked a claim and a large part of their lives on amateur radio, and are damned well not about to let anybody else tell them anything about it.

These are the people who know every syllable of The Language, and who are proud to have the Biggest Damn Radios on the Block, which sure as hell includes Code. Because Code makes you special and Code makes you tough-as-nails, and that's just the way it is ("I'll be back in a few, boys, I gotta mix one more here").

Many of these folks have been invaluable to radio over the years, bringing invention and imagination to the hobby and their hard-earned money to the industry. But you can hear it late at night sometimes, when tempers might flare a little, or fatigue has set in ("That's just a little radio you got there, buddy. I could turn my knob a fraction and blow you right off the air, you hear me?"). The fact that they know a specialized language, the fact that they have bigger equipment than everybody else, is the very content of their conversation in many cases. The point of the whole thing. To take half of that away, to take Code, the secret language away from them, is to ask them to face a changing world stripped naked of their armor. They have their lives like everyone else. They will be outvoted some day, I suppose, but one cannot expect them to go quietly. They have the biggest radios on the block.

Sincerely,

Gary Otteson
Pennsylvania

Wants Police and Broadcast Audio Tapes of 50s and '60s

Dear Editor:

Just a quick note to say I look forward to your magazine every month. I do, however, have two suggestions.

First, I love Alice Brannigan's columns, but when she's doing histories of old radio stations, why not tell us what their *formats* were, too? My second suggestion has to do with GMRS. Is there a possibility that you could do some in-depth articles on this great service? Maybe focus on GMRS repeaters and their owners or how people have incorporated GMRS into their daily lives.

Also, I'm hoping you can help me. I'm on a desperate search for audio tapes of police radio transmissions from the '50s and '60s. I would be fascinated to hear how the police communicated back before computers, trunking, CAD, etc. Do you think anyone would have this kind of thing? I'm also looking for tapes of commercial radio broadcasts from the same era. Most compilations focus on network shows and radio dramas, but I'm more interested in hearing DJs doing record shows and the commercials that came with them. Even stuff from the early '70s would be interesting. Feel free to print my address. Thanks again for a great magazine and keep up the good work!

Matt Anderson
212 W. North Street, #22
Waukesha, WI 53188

The Indiana Recording Club

Dear Editor:

I thought your readers might be interested in this aircheck club. The Indiana Recording Club which has members worldwide, is great for airchecks collectors. It costs \$15 a year to join (and \$10 a year thereafter) and you get a membership directory and newsletter every other month. They are a great bunch of people. Contact Bill Davies, 1729 East 77th Street, Indianapolis, IN 46240 or <billindy@aol.com>.

Ed Best
Durham, NC

Dear Ed:

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Volunteer Public Safety in Action: Jersey Coastal Emergency Services (JCES)

From Hazardous Spills and Weather Emergencies to Train Derailments, JCES is There . . .

By Brian Flaherty and Ken Nieglos

High pitch sequential tones are followed by "Attention all stations and all units, this is Jersey Coastal Emergency Services; break, break," blares the voice over the GMRS channel of 462.625 MHz. "A Condition Red is now in effect for the northern and eastern New Jersey metro area. SkyWarn is now activated. The National Weather Service of New York City has issued a severe thunderstorm warning for the following areas: Bergen, Essex, Hudson, Morris and Passaic counties in New Jersey; and Orange, Rockland and Westchester counties in New York. Break, more to follow.

A line of severe thunderstorms is heading east-southeast from eastern Pennsylvania at 35 miles per hour. These storms contain strong winds, frequent lighting, heavy rain and hail; and should be moving into the area within the next hour. Break, more to follow. The severe thunderstorm warning is in effect from 14:30 till 15:30 this afternoon. Repeating, a Condition Red is in effect for the northern and eastern New Jersey metro area. The authority for this statement and SkyWarn activation is the National Weather Service, New York City, at Brookhaven, New York. This is Station 62-2, KAE 8459, Jersey Coastal Emergency Services, standing by."

Helping In Times of Need

Jersey Coastal Emergency Services (JCES) is a non-profit, volunteer public safety and community service organization whose members use two-way radio, especially CB radio, to assist the general public in times of need and emergencies. It serves the communities of the northern New Jersey metropolitan area and the New Jersey Shore area of Monmouth and Ocean counties, but is not limited to these



Harrison Weather Center (HWC) first floor equipment includes backup communications equipment and WTs. There are WTs for low band, high band, UHF/GMRS, T band, and amateur radio repeater access for SkyWarn coverage and disasters.

areas. Its members come from all walks of life and include professional public safety officers (police, fire, Emergency Medical Services (EMS) and Office of Emergency Management (OEM) personnel). Although many members are avid CB users, many are also amateur radio operators who are involved with the ARRL, RACES, ARES, MARS and related amateur radio groups. But JCES stays true to its roots; the core membership continues to closely monitor CB channel 9 and render assistance to motorists on New Jersey's busy highways.

Ken Nieglos never thought that he would become the reigning Deputy Chief of Communications and Operations when he started JCES 24 years ago, then

known as Highway Emergency Assistance Patrol or HEAP. HEAP members would monitor CB channel 9 from their home base stations and patrol the busy highways of Routes 3, 21, 17, and 20 in the Meadowlands area. Paul Haggerty, the current JCES Chief and CEO, was then a 13-year-old just getting started with CB. He monitored the HEAP activity and relayed many motorist calls from his base station. Paul joined HEAP to become one of its youngest members and one of its most vital assets. By 1975, HEAP merged with North Bergen Civil Defense and became Highway Emergency Assistance (HEA).

HEA expanded its scope of operations to include Route 46, Interstate 80 and por-

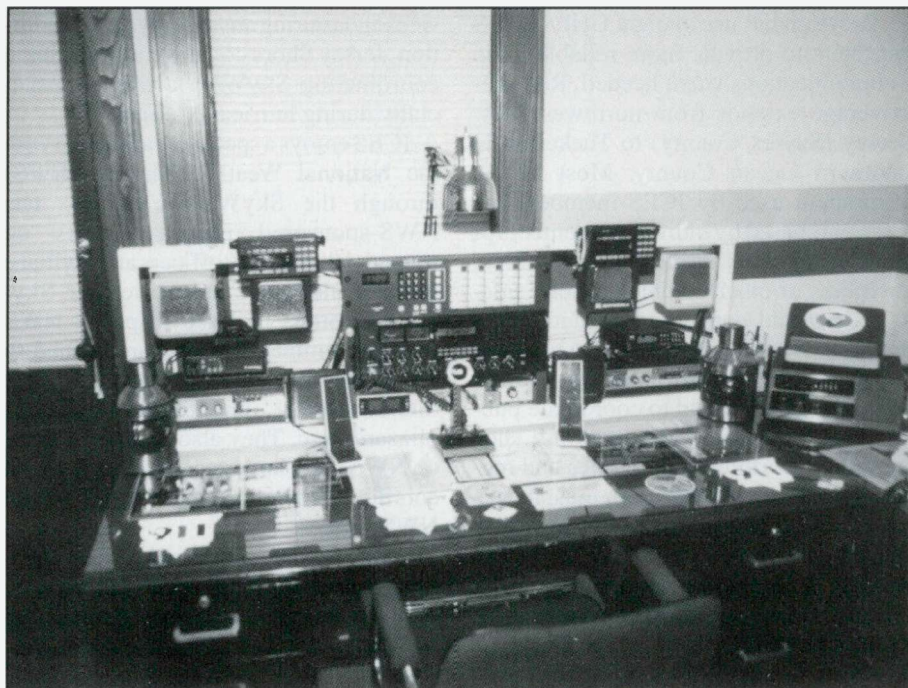
“As the team’s communications capabilities grew, so did its membership.”

tions of the Garden State Parkway. HEA at this time also enjoyed a special relationship with New Jersey State Police Troop B, then headquartered in Little Falls, and also Troop E in Bloomfield, New Jersey. HEA patrols were coordinated with the State Police, and radio procedures were developed with HEA units reporting directly to the State Police over CB channel 9. HEA played a key roll monitoring CB channel 9 and assisting other public safety agencies during “Operation Sail,” the 1976 Bicentennial Celebration of sailing ships on the Hudson River and New York Harbor.

Increased Capabilities

HEA continued to evolve and acquire more radio communications equipment and intersystem capability. A sister organization, Seaways Emergency Assistance (SEA), was created to monitor marine communications on VHF Marine channel 16, as well as CB channel 9, during the busy summer months at the Jersey Shore. Brian Flaherty joined HEA bringing to the team much-needed managerial skills. As an effective administrator, Flaherty was the chief organizing force behind the team, playing a key role during the name changes and re-organizations that followed. Paul, Ken and Brian continued to build the agency and extend its capabilities.

In 1980 HEA re-organized and changed its name to Tri-County Emergency Communications and Assistance Association (TECAA). Ken, Paul and Brian created Meadowlands Emergency Assistance (MEA) to concentrate on the area around the newly-completed Sports Complex. In 1981, Bay-Beach Emergency Assistance and Communications Operational Network (BEACON) replaced the older SEA team. To coordinate the myriad of agencies started in the early 1980s, Ken, Paul and Brian founded ACTION (Associated Communications Teams Interstate Operational Network) Radio (known as ACTION Radio) in 1984. The team further developed its UHF/GMRS communications capability to supplement CB and VHF marine radio. As the team’s communications capabilities grew, so did its membership.



The Lyndhurst CommCenter is the hub of most JCES radio communications. Equipment includes multiband radios, a tone panel for alerts and computer link. The Center has CB, high band, low band, UHF/GMRS and amateur radio capability. It’s self sufficient with its own power and has been used for police communications during power outages and emergencies.

ACTION Radio saw continued growth during the late 1980s, and later teamed-up with REACT changing its name to ACTION Emergency Communications REACT. In an effort to provide better inter-agency cooperation, and to more effectively manage communication resources for both REACT and non-REACT public safety teams in its operational area, ACTION re-organized in 1992 and changed its name to Jersey Coastal Emergency Services (JCES) as it is known today. JCES is here to stay.

Most of the CB activity is concentrated in the New Jersey Meadowlands area, since most active members live in south-central Bergen and southeast Passaic Counties. Heavy traffic flows around Giants Stadium, the Meadowlands Race-track and the Continental Arena. JCES CB monitoring covers the busy highways around the Sports Complex, including Routes 3, 17, 46, and I-80; the Meadowlands Parkway, adjoining county roads, and the New Jersey Turnpike. Members

“ACTION Radio saw continued growth during the late 1980s, and later teamed-up with REACT . . .”

respond to motorist calls for assistance and relay information to the appropriate municipal or state authorities. “Calls for help” include stranded motorists, stalled vehicles, accidents, and requests for directions from truckers and motorists.

Not Just CB

But the team’s activities are not restricted to monitoring CB. JCES members have been pressed into duty under more dire circumstances, such as train derailments, hazardous material spills (HAZMAT), and severe weather emergencies. Most members make up an integral part of the team’s SkyWarn network (more about JCES SkyWarn operations later in this article).

At times, CB radio can prove too unreliable, especially in the heavily populated urban area of northeastern New Jersey. Like most major metropolitan areas in the country, CB interference is a major problem, and can cripple efforts to assist the general public. JCES supplements its communications system with amateur radio systems in the 6 meter, 2 meter, 220 and 440 bands via FM repeaters. It also uses other radio bands including UHF/GMRS and VHF marine as authorized by the FCC.

The team has use of eight UHF/GMRS repeaters to provide more reliable radio communications when needed. Repeater coverage extends from northwest New Jersey (Sussex County) to Tuckerton in southern Ocean County. Most of the equipment used by JCES members has been purchased by individual members or donated by other members. In addition, members of other volunteer public safety teams, and concerned amateur radio repeater owners, allow JCES to use their repeater systems during severe weather and emergencies, and to coordinate public safety activities. Members use such systems according to FCC rules and regulations. To use GMRS, you must have a valid FCC personal use license; and to use amateur radio, you must pass the exams in order to obtain a valid amateur license. There is no examination requirement for GMRS licensing.

As its name implies, JCES has adequate radio coverage of the Jersey Shore area. This is important for the busy summer months (the Jersey Shore is an important economic base for the region between Memorial Day and Labor Day

weekends during any given year). In addition, Jersey Shore coverage is essential in coordinating SkyWarn activities, especially during hurricane season.

JCES enjoys a special relationship with the National Weather Service (NWS) through the SkyWarn Program. The NWS-sponsored program relies on trained public safety officers and civilians to track and report severe weather. SkyWarn Spotters undergo a special NWS training seminar. Spotters are trained to recognize severe weather, such as severe thunderstorms, hurricanes, tornados, blizzards, etc. They also receive training on NWS reporting procedures so they can coordinate their sightings with the local NWS offices.

JCES has its own Weather Coordinator, Tony Mondaro. A self-taught and recognized meteorologist who joined JCES in 1985, Tony is an official NWS-certified SkyWarn Coordinator for the State of New Jersey, and in charge of all JCES SkyWarn Operations. He is also a JCES Trustee and Weather Liaison Officer to the NWS. Tony operates from the Harrison Weather Center (HWC) in Harrison, New Jersey, a small town east of Newark. The HWC is officially a cooperating NWS weather center.

Tony has purchased and accumulated much of his own equipment, including computerized barometers, temperature, humidity, and rain gauges, and other weather monitoring equipment. The HWC has computer links with local and regional NWS offices, and has complete access to NWS and government satellite photos, and NEXRAD doppler radar for receiving up-to-date information. It also has direct links to local TV and radio news stations, many of which rely on JCES SkyWarn emergency alerts. Of course, the center has complete access to the JCES communications system (CB, VHF, UHF/ GMRS), especially during SkyWarn activation.

Since the re-organization of NWS forecast areas in 1992, the HWC is responsible for coordinating all JCES SkyWarn activities in New Jersey. However, the HWC focuses on the six northeastern New Jersey counties coordinating SkyWarn activities through the NWS New York City office in Brookhaven (Long Island), New York. The other JCES weather center in Matawan, New Jersey (the Monmouth Weather Center or MWC) coordinates SkyWarn activities for the remainder of New Jersey concentrating primarily on western and southern New Jersey, working closely with the

NWS office in Mount Holly, New Jersey, which covers the Philadelphia metro area. JCES SkyWarn Spotters report their sightings to either the HWC or MWC, which, in turn, relays this information to either the NWS office in Brookhaven or Mount Holly. Both weather centers can cover each other's operational area.

SkyWarn emergencies are not the only emergencies that JCES is equipped to handle. Its own Emergency Operations Center (EOC) at Paul's Lyndhurst home handles the remaining emergency categories, and works closely with the HWC and MWC during an active SkyWarn net. During SkyWarn activation, if the two weather centers are not available, the EOC takes charge and runs the JCES SkyWarn net. Most team activity has been mutual aid "fireground" coordination for surrounding communities, but the EOC can handle other incidents such as HAZMAT incidents, post-severe weather disaster clean up, assisting municipal public safety agencies with radio communications during power outages, and similar activities. The EOC issues all JCES-related alerts and special messages, and coordinates radio communications with other public safety agencies. During an EOC net activation, all JCES communications is controlled by the EOC.

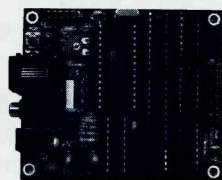
Jersey Coastal Emergency Services continues to grow and evolve. It seeks to build its membership base and solicit funds from additional sources, both private and public. While it enjoys a very strong relationship with the National Weather Service through the SkyWarn Spotter Program, JCES is working with other government and civilian volunteer agencies including the Federal Emergency Management Agency (FEMA); state, local and county OEM offices; and the American Red Cross to participate in similar programs for aiding the public in times of disasters and emergencies.

The agency has recently been incorporated into the South Bergen County Emergency Management plan and is working to be written into other plans of surrounding counties as a viable resource. Clearly, JCES is and will continue to be an integral part of the public safety scene in New Jersey, and the East Coast of the U.S.

For more information about Jersey Coastal Emergency Services, write to JCES Administrative Services, 43 Bradford Street, Glen Rock, New Jersey, 07452-2101. Their WEB site is located at <<http://www.erols.com/jcoastal/>>. You can contact JCES via e-mail at <jcoastal@erols.com>. ■

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H.R. 2369 and The ARRL

ARRL Proposal Modifies Bill in Two Key Areas . . .

By J.T. Ward

✉ **Editor's Note:** *Late-Breaking 2369 News*—We have just learned that apparently through the collective efforts of thousands of hobbyists, the ARRL, Uniden, RadioShack and many volunteer groups, 2369 has indeed been re-written to everyone's satisfaction; the cellular industry and hobbyists as well. Scanner industry representative, Rich Barnett told us, "It is nearly a completely re-written document . . . the ARRL worked very hard on this and they are to be congratulated."

Ken Johnson, Tauzin's aide emphasized, ". . . the bill as amended will not impede scanner enthusiasts' ability to listen to local police or fire reports and NASCAR . . . the intent was only to prevent the illegal interception of cell phone conversations . . . Billy promised scanner enthusiasts that he wouldn't move the bill until it was re-worked, and he delivered on that promise."

Of course, as Barnett said, "While this is a win-win situation for Tauzin and for us as well, we still have to be vigilant."

At this point, having not seen an actual copy of the revision, I'd recommend we curtail our letter writing campaign and give the system time to work with this delicate issue. For the latest updates on H.R. 2369, visit Pop'Comm's Web site at <<http://www.popcomm.com>>. ■

We may know by now what changes, if any, are being made to the proposed Wireless Telephone Privacy Enhancement Act of 1997 (H.R. 2369) in the wake of a letter writing/fax/e-mail campaign that has bombarded some members of Congress with angry missives from hundreds of scanner owners nationwide.

The bill was introduced by Rep. William "Billy" Tauzin, R-Louisiana. If passed as written the bill will prohibit the manufacture or importation of scanners capable of receiving many of what are commonly called "business band" frequencies. These frequencies will be blocked, just as cellular telephone frequencies are today.

Section 3, Paragraph A, Part 1 of H.R. 2369 will change the wording of Section 705 of the Communications Privacy Act of 1934 from "interception AND divulge" to read "interception OR divulge."

Right now it's pretty much OK to lis-

ten to whatever you like (except cellular, cordless phones and PCS, of course) as long as you don't repeat what you hear, or use it for personal gain.

Under H.R. 2369—as originally written—it appears that even the act of listening to anything but AM/FM broadcast and television stations, CB, GMRS, FRS, amateur (ham) radio operators, aircraft and boats could be illegal.

Tauzin has admitted that the bill is flawed, and claims that H.R. 2369 was never intended to ban public safety or other government monitoring.

The American Radio Relay League has offered its own version of the bill (see box below).

The ARRL's proposed language modifies H.R. 2369 in two key areas. First, it changes the wording in Section 2 from "receiving transmissions in the frequencies allocated to any commercial mobile service (as defined in section 332(d))," to read "receiving transmissions in the frequencies exclusively allocated to wireless mobile telephone services, including the domestic cellular radio service and licensed personal communications ser-

105th Congress, 1st Session

H.R. 2369

IN THE HOUSE OF REPRESENTATIVES

Mr. Tauzin introduced the following Bill, which was referred to the Committee on Commerce

A BILL

To amend the Communications Act of 1934 to strengthen and clarify prohibitions on electronic eavesdropping, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Wireless Telephone Privacy Enhancement Act of 1997."

SEC. 2. COMMERCE IN WIRELESS MOBILE TELEPHONE EAVESDROPPING DEVICES.

(a) PROHIBITION ON MODIFICATION.—Section 302(b) of the Communications Act of 1934 (47 U.S.C. 302(b)) is amended by inserting before the period at the end thereof the following: "or to modify any such device, equipment, or system in any manner that causes such device to have the capabilities prohibited in subsection (d) of this Section.

(b) PROHIBITION ON WIRELESS MOBILE TELEPHONE INTERCEPTION BY

SCANNING RECEIVERS.—Section 302(d) of such Act (47 U.S.C. 302(d)) is amended to read as follows:

"(d) The Commission shall prescribe regulations denying equipment authorization (under Part 15 of title 47, Code of Federal Regulations, or any other part of that title) for any scanning receiver that is capable of—

"(1) receiving transmissions in the frequencies exclusively allocated to wireless mobile telephone services, including the domestic cellular radio telephone service under Part 22 of the Commission's Rules and licensed personal communications services under Part 24 of the Commission's Rules;

"(2) readily being altered to receive transmissions in such frequencies;

"(3) being equipped with decoders that convert digital wireless mobile telephone transmissions to analog voice audio;

16 or
17 “(4) being equipped with devices that otherwise decode
18 encrypted radio transmissions for the purposes of unauthorized
19 interception.

20 (c) IMPLEMENTING REGULATIONS.— Within 90 days after the date
21 of enactment of this Act, the Federal Communications Commission
22 shall prescribe amendments to its regulations for the purposes of
23 implementing the amendments made by this section. In prescribing
24 such amendments, and in response to subsequent changes in
25 technology or behavior, the Commission shall review its definitions
1 of the terms “wireless mobile telephone services” and “capable of
2 readily being altered” as necessary to prevent commerce in devices
3 that may be used unlawfully to intercept or divulge wireless mobile
4 telephone communication.

5 SEC. 3. UNAUTHORIZED INTERCEPTION OR PUBLICATION OF COMMUNICATIONS.

6 (a) AMENDMENTS.— Section 705 of the Communications Act of
7 1934 (47 U.S.C. 605) is amended—

8 (1) in the heading of such section, by inserting
9 “INTERCEPTION OR” after “UNAUTHORIZED”; and
10 (2) in the second sentence of subsection (a) by striking
11 “and divulge” and inserting “or divulge”; and

12 (3) by substituting for the last sentence of subsection
13 (a) the following: “This section shall not apply to the
14 interception, receiving, divulging, publishing, or utilizing
15 the contents of any radio communication which is configured so
16 that it is readily accessible to the general public; or which
17 is transmitted: (1) by any station for the use by the general
18 public, (ii) on frequencies allocated to services that relate
19 to ships, aircraft, vehicles, or persons in distress; (iii) by
20 any governmental, law enforcement, civil defense, private
21 wireless or public safety communications system, including
22 police and fire, readily accessible to the general public;
23 (iv) by a station operating on an authorized frequency within
24 the bands allocated to the amateur, citizen’s band, or general
25 mobile radio services, or the family radio service; or (v) by
1 any marine or aeronautical communications system. It is not
2 unlawful under this Section to intercept any wireless or
3 electronic communication, the transmission of which is causing
4 harmful interference to any lawfully operating station or
5 consumer electronic equipment, to the extent necessary to
6 identify the source of such interference; or for other users
7 of shared frequencies to intercept any radio communication
8 made through a system that utilizes frequencies monitored by
9 individuals engaged in the provision or the use of such
10 system, if such communication is not scrambled or encrypted.

11 (4) in subsection (e) (1)—
12 (A) by striking “fined no more than \$2,000 or”; and
13 (B) by inserting “or fined under Title 18, United
14 States Code.” after “6 months.”; and

15 (5) in subsection (e) (3), by striking “any violation” and
16 inserting “any receipt, interception, divulgence, publication,
17 or utilization of any communication in violation”; and

18 (6) in subsection (e) (4), by striking “any other activity
19 prohibited by subsection (a)” and inserting “any receipt,
20 interception, divulgence, publication or utilization of any
21 communication in violation of subsection (a)”.

22 (b) RESPONSIBILITY FOR ENFORCEMENT.— Notwithstanding any
23 other investigative or enforcement activities of any other Federal
24 agency, the Federal Communications Commission shall investigate
25 alleged violations of Section 705 of the Communications Act of 1934
1 (47 U.S.C. 605) and may proceed to initiate action under section
2 503 of such Act (47 U.S.C. 503) to impose forfeiture penalties with
3 respect to such violation upon conclusion of the Commission’s
4 investigation.

vices (PCS) under Part 24 of the com-
missions’ rules.”

On its face, this appears to narrow the
focus of the bill significantly. However,
neither the League, the FCC, nor Tauzin’s
office will supply a complete list of the
affected frequencies.

The second major change being
offered by the ARRL is the inclusion of
the Chapter 119 exemptions directly into
H.R. 2369. Briefly, the exemptions allow
the public to monitor all government
communications (except when scram-
bled or encrypted), marine, aviation,

amateur, CB, GMRS, FRS or private land
mobile station. However, the ARRL has
deleted the private land mobile exemp-
tion and replaced it with the words “pri-
vate wireless.”

According to Julius Knapp, chief of the
FCC plans and policies division, the term
private wireless would expand the ex-
emptions to include not only land mobile
systems, but also point-to-point commu-
nications, such as press RTTY, weather
satellite and many other services.

Steve Mansfield, manager of legisla-
tive and public affairs for the ARRL, said
the League has not received a response
from Tauzin’s office regarding the pro-
posed wording.

Ken Johnson, Tauzin’s aide, said he
was “not at liberty” to discuss the changes
being made to the bill.

“We took everyone’s concerns under
advisement and we’re working very hard
to fix the bill,” he said.

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Broadcasters Touched by Fate

Five Stations That Became Curious Footnotes to History

By Alice Brannigan

We all know that broadcasters report history being made, but we seldom hear about stations whose very existence is somehow tied to history unfolding. Here are five strangely connected examples.

When the Japanese government planned its December, 1941 attack on Pearl Harbor, Hawaii, the carefully worked-out operation was predicated on certain assumptions with respect to the U.S. Pacific Fleet; that the main body of the fleet would be anchored within Pearl Harbor on December 7th, and that a Japanese carrier could be moved across the Pacific to within striking distance of the main islands without undue risk of detection by American reconnaissance.

The Japanese theorized that a powerful air strike against the American forces based in Hawaii could, if tactical surprise were effective, achieve the strategic result of incapacitating the American fleet, and also American land-based air power, thus permitting the striking force to withdraw without damage.

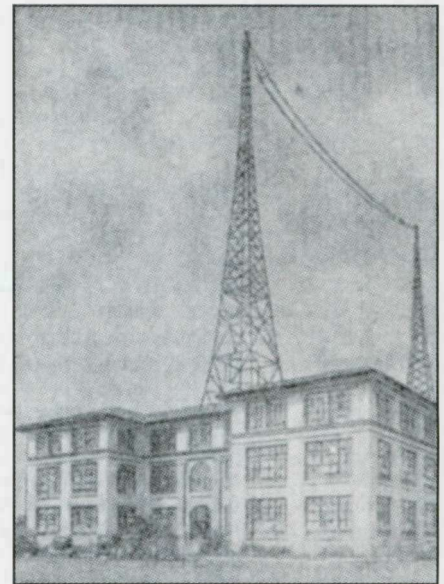
The intelligence section of the Japanese naval general staff had for years been compiling material by carefully collecting, making into statistics, and analyzing bits of information gleaned from naval officers at Washington, American newspapers and magazines, passengers and

crews of ships from Honolulu, observations of the number of ships at Pearl Harbor, and from American radio broadcasts and signals intelligence.

About November 14th, units of the Japanese striking force were ordered to assemble at Hitokappu Bay, Kurile Islands. On November 25th, the commander in chief of the combined Japanese forces ordered the advancement towards Hawaiian waters. The force was to rendezvous at 42N by 170E on the afternoon of December 4 (Japan time) for refueling.

The strike force consisted of six aircraft carriers, two battleships, two heavy cruisers, nine destroyers, three submarines, eight train vessels, and about 360 aircraft. As far as possible, absolute radio silence was to be maintained. When radio communications were necessary from the flag vessels, the ships were to operate only on commercial maritime frequencies, using commercial ship call-signs, and sending their coded traffic via Japanese maritime coastal stations.

The signal to execute the attack on Pearl Harbor had been sent from Admiral Yamamoto's flagship on December 2. From that time onwards, a close watch had been kept on Hawaiian broadcasts by Commander Ono, staff communications officer of the strike force. Naval intelligence believed that they could sense from



Here's how Honolulu's KGU looked during the 1930s. The station's signal was used for homing purposes by our military pilots.

these broadcasts whether or not the forces on Oahu had an inkling of the impending attack. They surmised that they could judge the tenseness of the situation by these broadcasts.

The actual attack began early on the morning of December 7th (Hawaii time), when the carriers had reached a desig-

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When its 7:30 p.m. in Honolulu IT IS	KGU sends you its heartiest "aloha" and regrets that your re- port does not tally with ours. Try again, please.	When its 7:30 p.m. in Honolulu IT IS
5:15 p.m. (L.S.) in Auckland		12:00 p.m. in Cincinnati
11:30 a.m. " " " Bombay		12:00 p.m. in Chicago
2:00 p.m. " " " Hongkong		11:00 p.m. in Denver
2:00 p.m. " " " Manila		12:00 p.m. in New Orleans
1:30 a.m. " " " Ottawa		6:50 a.m. (L.S.) in New York
12:45 p.m. " " " Singapore		12:00 p.m. in Saint Louis
2:00 p.m. " " " Shanghai		12:00 p.m. in Salt Lake City
4:00 p.m. " " " Sydney		10:00 p.m. in San Francisco
10:30 p.m. " " " Vancouver		10:30 p.m. in Seattle
3:00 p.m. (L.S.) " " Yokohama		1:00 p.m. (L.S.) in Wash- ington, D. C.
1 A. Following Day		

KGU Broadcasts for The Honolulu Advertiser, Hawaii's Biggest and Best Newspaper

A QSL card from KGU from 1929. Actually it's a non-QSL because it notified a hapless listener that his reception report failed to correspond with the station's log.

Time Schedule
 Evening, J. S. T.

6:00... (25)	Musical Talk for children
6:25... (30)	Lecture
6:55... (35)	Current topics, News, Weather forecast
7:30... (120)	Lecture, Talk, Music, Play, etc.
9:30... (70)	Time Signal, Weather forecast, Information etc.

B.C.J. Main Stations

JOAK	Tokio	870 kc	345 m
JOBK	Osaka	750 kc	400 m
JOCK	Nagoya	810 kc	370 m
JOEK	Hiroshima	850 kc	353 m
JOEK	Kumamoto	790 kc	380 m
JOEK	Sendai	770 kc	390 m
JOEK	Sapporo	830 kc	361 m
JOAG	Nagasaki	930 kc	323 m

Station JOAG, Nagasaki, Japan, sent this QSL in 1936. A photo of the station with its two towers is shown on the card. This station was destroyed by an atomic bomb dropped on the city in August, 1945. It was rebuilt after the war ended.

Station JOAG, Nagasaki, Japan, sent this QSL in 1936. A photo of the station with its two towers is shown on the card. This station was destroyed by an atomic bomb dropped on the city in August, 1945. It was rebuilt after the war ended.

nated launch point 200 miles north of Oahu Island, Hawaii.

According to the official U.S. government inquiry into the Pearl Harbor attack, Japanese naval intelligence had been monitoring Honolulu stations KGU and KGMB for this purpose. In 1941, KGU and KGMB were the only two broadcasting stations in Honolulu, so fate had allowed for no other choices. The Japanese monitoring revealed that both stations were going along in their usual manner and decided that the American forces were oblivious of developments.

On the Beam

Honolulu's KGU, had begun broadcasting in May, 1922. It had been started by The Honolulu Advertiser newspaper with 100 watts, then 500 watts, on 940 kHz. The studios and transmitter were located in the newspaper's office building. The two 160-foot antenna towers stood on the building's roof in the center of the city. The station later shifted to 750 kHz, then 760 kHz with 2.5 kW.

When KGU joined the NBC network in 1932, it received all of the network's program feeds via shortwave from San Francisco (actually Dixon), Calif. KGU could also transmit programs to NBC on the mainland via shortwave.

Because Hawaii was considered a strategic military area, beginning in the 1930s, a military representative slept at KGU nightly, ready to put the station on the air immediately if needed. Our military pilots routinely homed in on KGU's signals. Indeed, it's been reported that even the Japanese pilots homed in to Honolulu using KGU's signals on December 7th. Today, KGU operates on 760 kHz with 10 kW.

Station KGMB, on the air since 1929, was first licensed to the Honolulu Broadcasting Co., 119 Merchant street (later at 1129 Kapolani Blvd.). It began with 250 watts, later 1 kW, on 1320 kHz. By the time of the Pearl Harbor attack, KGMB was owned by the Hawaiian Broadcasting System, with studios and transmitter at 1534 Kapolani Blvd. The antenna was a 179-ft. vertical. By then it had already moved to 590 kHz with 5 kW. A CBS affiliate, it was both sending and receiving network programs to and from California via shortwave. Today the station has evolved into KSSK with 7.5 kW on 590 kHz.

As a result of the December 7 attack on Hawaii, the U.S. declared war on Japan, thus entering World War II. Amer-

ican military and naval forces at Pearl suffered 3,435 casualties, 188 aircraft, and 18 naval vessels (including battleships, light cruisers, and destroyers). Japan had suffered less than 100 casualties, 29 aircraft, and five midget subs. The astoundingly disproportionate extent of the American losses caused Pearl Harbor to be marked the greatest military and naval disaster in our nation's history. "Remember Pearl Harbor" became the American battle cry of WWII.

Stations KGU and KGMB remained on the air during and after the attack, and (via network feeds) were the first to tell the waiting world the story of Pearl Harbor. Certainly these two stations were tied by destiny to the very point of our nation's entry into WWII.

Blast From The Past

No less deserving of a special place in history were the two stations fate touched at the exact end of our nation's hostilities with Japan.

The first atomic bomb was exploded on July 16, 1945, during a test in southern New Mexico.

On August 6, 1945, an American B-29 Super Fortress bomber dropped a gun-type uranium bomb on the city of Hiroshima, Japan. This device had the equivalent power of 15 tons of TNT and destroyed 10 square miles, or two-thirds of the city. Some 66,000 people were killed instantly, 69,000 more injured, 67 percent of the city's structures were either destroyed or severely damaged.

Hiroshima's only broadcasting station was part of the mass destruction. This was station JOFK, which ran 10 kW on 830 kHz under the auspices of the Broadcasting Co. of Japan (NHK). JOFK was the first broadcast station ever blasted off the air by an atomic bomb.

On August 9, 1945, a B-29 flew over the Japanese city of Nagasaki and dropped an implosion type plutonium fuel version of the atom bomb. This was a duplicate of the July 16th test bomb and had the power of 21 tons of TNT. The center of the city had been targeted, leaving 39,000 dead, 25,000 injured, and 40 percent of the buildings destroyed or severely damaged.

Nagasaki's only broadcasting station was destroyed during this action. That was station JOAG, which ran 500 watts on 930 kHz, and was also owned by the Broadcasting Co. of Japan. JOAG was the second broadcaster in the world to be blown up by an atomic bomb.

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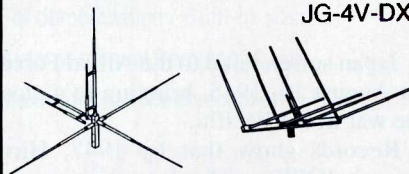
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A LOOK BEHIND THE DIALS

A Cold War Relic Brings Back Memories

I am always thrilled to hear from my readers, especially letters like this one from Barry Rowan of Harrisburg, PA. Barry writes: "I've really enjoyed your radio restoration column in *Pop'Comm*; and since you made everything sound so easy I finally worked up the nerve to work on my father's old Telefunken.

As I mentioned in an earlier letter, it is a model 5183W AM/FM/SW unit built around 1960. My father bought it while in the Navy. Over the past 10 years or so I noticed a deterioration of the AM and SW performance—even to the point where the local AMers would barely budge the "Magic-Eye" indicator. A friend who is an electronic engineer has been telling me for years that the old wax caps would have to be changed. So, late last year I decided to tackle the job. I studied the schematic and your articles thoroughly and then took my parts list to the local electronics supply house. It cost about \$12 to replace all of the wax caps.

I would change two or three caps, and then turn the unit on to test it. That way, if I made a mistake, it would be easier to correct. I only made one mistake and it wasn't serious. Now the radio sounds great! Except for the caps, one tube, and a small speaker, it is all original! You do a great job explaining things so that a non-engineer like me can understand it. Keep up the good work!"

Barry, thank you! That's the mission of this column—to help newcomers understand how radios work, and hopefully get them to the point you have reached! If you ever think we are failing to meet that goal, let me know!

Once In a Lifetime

Once in a lifetime a collector will stumble across a find, be it an extremely rare and valuable piece, or something that stands alone to mark an era in history. Sometimes these sets are right in front of us at yard sales, auctions or antique shops, and we never give them a second glance. Thus, our Radio of the Month spotlights such a strange radio from an memorable



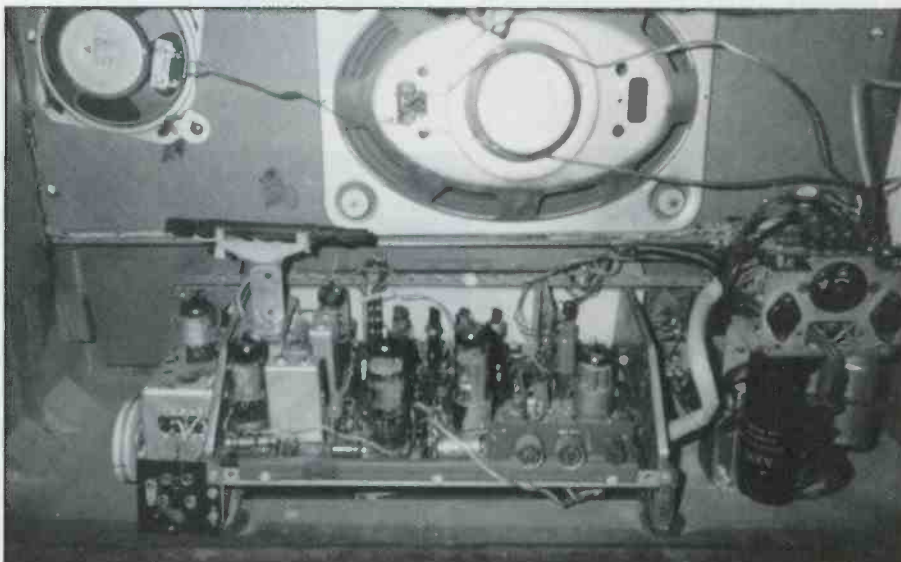
Barry's Telefunken "Allegro" German radio. These radios usually feature highly lacquered cases. Many collectors specialize in collecting these sets.

era. One that you may have seen, and never gave it a second thought.

"They were the best of times, they were the worst of times . . ." Fellow collector John Pelham observed that radios mirror the eras in which they were created. Well I am from the '60s generation—we had John Kennedy, The Beatles, the 1964 New York World's Fair, Woodstock, hip-

pies and flower children, Dr. Leary, Tiny Tim and lava lamps. We had Dr. King, and we had American heroes orbiting the earth. Warm and fuzzy memories.

Funny how nostalgia is so selective. Last week I watched a grade B movie starring John Goodman, "Matinee." Strangely enough, the story line hinged on a producer of grade B horror flicks



I don't like working on German sets, they are compact and hard to service. Barry did one heck of a nice job on his dad's old radio!

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*Pictured Right:
The HX 1000 was a popular scanner
under the Regency Electronics name.*

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The Sylvania model U235 "Prospector." A rare radio relic from the Cold War era. Notice the compass at the center of the sundial rosette. The sundial forms a clever grille for the speaker. Sundial arm is extended, and the volume control is visible at the right side. The tuning knob is on the opposite side.

back in 1962. The movie lampooned my school days, showing scenes of kids with their arms over their heads, crouched in hallways in a central Florida school; an air raid drill in progress. This was in the days of the Cold War—The Russians had

missiles in Cuba aimed at the U.S., Vietnam was on the horizon, and Camelot was soon to be slain. Folks were busy digging bomb shelters, stocking them with food, guns, supplies, water, more guns, and radios. And our editor, Harold, then



This old radiation meter brings back memories of my days in Civil Defense, during the 1960s while I was still in high school. From the collection of Peter Eslinger.

in the U.S. Army, was guarding our front-lines along with Elvis. (Peter—just a few years later, and I never met Elvis! Ed.) Well, this timeline may be a bit off, and maybe Elvis was really stationed in West Germany, but I like to think of Sgt. Harold sitting on some Florida atoll waiting for the Big One to drop in his lap.

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"Fellow collector John Pelham observed that radios mirror the eras in which they were created."

Peter's Atomic Radio

A few years ago while visiting at my local antique shop I spotted a new addition on the radio shelf, a 1957 vintage tube portable. Clad in a small leatherette case, it was something most collectors would pass over in a flash. Early transistor radios, and tube-transistor hybrids bring the big bucks. I suspect it was one of the last tube portables made, since Regency had introduced the first all-transistor radio, the TR-1, two years earlier in 1955.

A Most Unusual Radio

Something about the radio caught my eye. Mounted on the front cover was a sundial (a little arm that could be raised for this feature) and a small removable compass. (The compass was removable, so that the speaker magnet would not affect its readings). Together the sundial and compass formed an ornate speaker grille for the set. But, wait, there was more

to this odd little radio. Peeking inside, I spotted a Geiger Muller tube! The radio would, of all things, also work as a Geiger counter! Wow!

Paradise Lost

What happened next is a story all too familiar to collectors. I struck a deal with the antique shop for the set, but when I returned later with the money the little radio was gone. Another partner in the shop had sold it to someone else by mistake. For some reason watching "Matinee" brought that little set back to mind, and I decided to query the fellows on the <Rec.Antique.Radio+Phono> internet usegroup about the radio.

Sure enough, replies soon followed. I learned I had stumbled upon one of Sylvania's model U-235 "Prospector" portables. (I believe U-235 is enriched uranium). Another fellow mentioned he had heard of set, but he had never seen one, or heard of anyone having one in a collection. Of course, he just had to say that I missed the "find of a lifetime, you will never find or see another one."

He also mentioned that the set was mentioned in Schiffer's "The Portable Radio in American Life." And, that of all the sets covered, it was the one Schiffer was never able to document with a photograph. I was one sad hurting puppy.

In the book, the author had this to say about the U-235, "The most bizarre leather lunch-box portable of this time (1957) was the Sylvania U-235, which sported a compass, sundial, and Geiger counter. Why would someone want to measure radiation levels with a portable radio? This was the fifties, of course, the height of Cold War madness, when as weekend pastime some families built a backyard bomb shelter. . ."

Was this what the U-235 was all about? To allow one to scan the dial for signs of life while keeping an eye on radiation levels after a nuclear holocaust? I suspected Sylvania had a different marketing scheme in mind. During the '50s uranium prospecting was a national craze, folks scoured the deserts and mountains searching for uranium deposits—and instant wealth. Whether the "Prospector" was the proper tool or not for either endeavor is a moot point.

A Radio Connection Exclusive!

It's been two years, and that radio is now in my collection. I'm pleased to show

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“... I like to think of Sgt. Harold sitting on some Florida atoll waiting for the Big One to drop in his lap.”

you one, or maybe even the last, of the surviving Sylvania U-235 Prospectors!

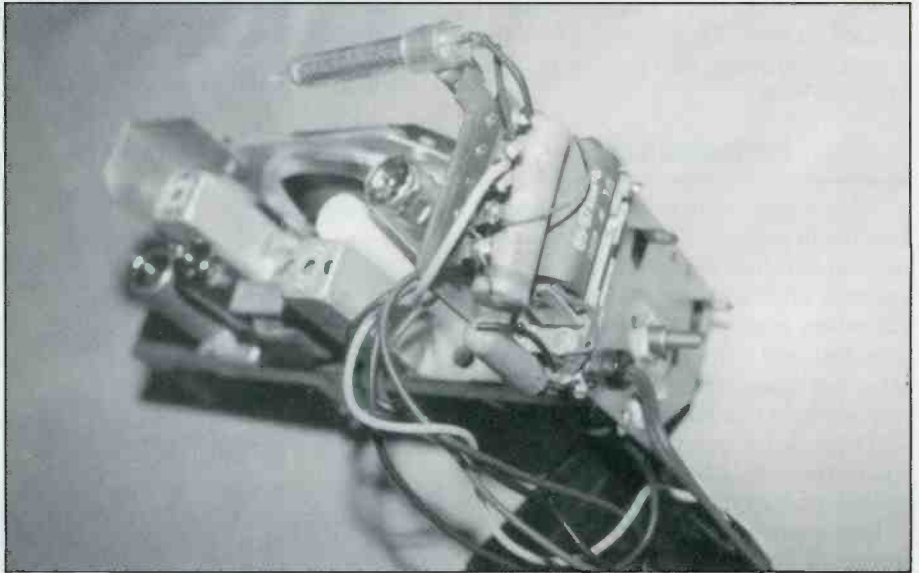
Now that I have both the radio, and the original instruction booklet, the interesting history behind the Sylvania U-235 is slowly coming into focus. Quoting from the owner's manual: “Be a vacation Prospector—The built in Geiger counter of your Sylvania Prospector provides “sight and sound” indication of radioactivity. When operated close to a radioactive source, distinct clicks are heard from the speaker and the neon visual indicator flashes clearly. For more accurate qualitative and quantitative analysis of an ore sample, or location, the use of chemical assay methods and instruments such as a scintillometer are suggested.”

The booklet goes on to suggest contacting the United States Atomic Energy Commission, or obtaining the booklet entitled “Prospecting for Uranium,” sold back then by the Superintendent of Documents for 50 cents, for details “on the application of prospecting instruments and the regulations concerning them.” The last page includes a small prospector's log for marking locations, dates and findings. The only reference to Civil Defense are the markings at 640 and 1240 kilocycles on the tuning dial for the old Emergency Broadcast System.

And Yet Another Mystery To Be Solved

I wondered how well this set worked as a Geiger counter. Normally, Geiger tubes are charged with up to several hundred volts for operation. As radiation passes through the tube, the gas is ionized, causing brief periods of conduction across the tube anodes. Capacitor coupled into the radio's audio stages, these ionized trails would be heard as a loud click—the more clicks the higher the radiation “count.” A simple brass shield separates the U-235's Geiger tube from the ore sample, presumably to limit detection to the deeper penetrating Alpha particles resulting from the natural decay of uranium ores.

I had assumed that the Prospector's Geiger tube was charged by the radio B-plus battery, which would not supply



The Geiger tube is visible at the top of the photo. To the right is the charge capacitor, and the small induction “buzzer” type transformer that generates the high-voltage needed to operate the Geiger-Muller tube.

enough voltage for the Geiger tube. This riddle was solved when I removed the chassis from the case. There it was, a primitive induction coil mounted near the Geiger tube! Pressing a small button on the case activates this device, which is powered from the “D” cells used for the A battery supply. The high-voltage output from the secondary coil charges a .1 mfd at 600 Vdc capacitor. The charge lasts long enough, probably 20 or 30 seconds, to permit analyzing the ore sample! A clever bit of engineering, and one that avoided the expense of adding additional expensive B supply batteries.

So there ya' go. You now know the real

story behind the Sylvania U-235 Prospector, a rare relic from the Cold War era tucked away in a “top grain cowhide” package. If you are wondering what the radio is “worth,” I have no idea. It is not in any of my price guides, so its value would have to be determined by tallying previous sales recorded from auctions, the pages of ARC, etc. If the fellow was a plastic transistor set, it would be worth a lot, I suspect. The right TR-1 (a red one in good condition) can fetch over \$500. The U-235, being tube and cowhide, no one knows. But, I know what I paid for it, and I know what it means to me to finally own a piece of that era. ■



[TOP VIEW] Above the metal plate bearing the “Prospector” legend is a peephole for viewing the neon bulb for a visual indication of radiation. The push-button for charging the Geiger tube is also on this plate. The leather case and carrying strap show no signs of wear, and the stitching is in excellent shape. This set is about as close to a “10” as you will find.

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Antennas & Things

BY JOE CARR, K4IPV

<carrjj@aol.com>

SIMPLE ANTENNAS AND ACCESSORIES FOR SIGNAL IMPROVEMENT

Revisiting the TCFTFD Antenna

The very first topic that I covered in this column was the Tilted, Center-fed, terminated folded dipole (TCFTFD) high frequency antenna. This antenna is also known as the Tilted, Terminated Folded Dipole (TTFD). I have received a lot of mail on this form of antenna from that article and others that I've written. Part of this article is a reprint of the original material, but updated to answer some questions and clean up some problems in the original.

Several different "standard" forms high frequency (HF) antennas are used by shortwave listeners, but random length wires and dipoles are by far the most common. Both of these antennas are susceptible to noise pick-up from the local environment, with the random length wire being more susceptible than the half wavelength center-fed dipole. In addition, the dipole is rather long at low frequencies. For example, a 49-meter (6000 kHz) dipole antenna is on the order of 77 feet long. The tilted, center-fed, terminated, folded dipole (TCFTFD, also sometimes called the T2FD or TTFD) is an answer to both the noise pick-up and length problems (the overall length for a 49-meter TCFTFD antenna is 54 feet).

Perhaps the real reason why the antenna is superior to some other wideband types is that it picks up both the electrical and the magnetic field components of the radio signal. Dipoles and random wires usually respond to the electrical field only. Given that the real issue in radio reception is signal-to-noise ratio, the TCFTFD antenna is well suited to those who need wide bandwidth and lower noise performance.

The TCFTFD antenna was first described in public in 1949 by Navy Captain C.L. Countryman, although the U.S. Navy tested it for a long period in California during World War II. The TCFTFD can offer claimed gains of 0.7 to 6 dB compared with a dipole, depending on the frequency and design, although 3 dB is probably closer to the mark.

One reader sarcastically asked me "how could an antenna with a resistor in it have gain." The reader apparently expected the resistor to absorb part of the

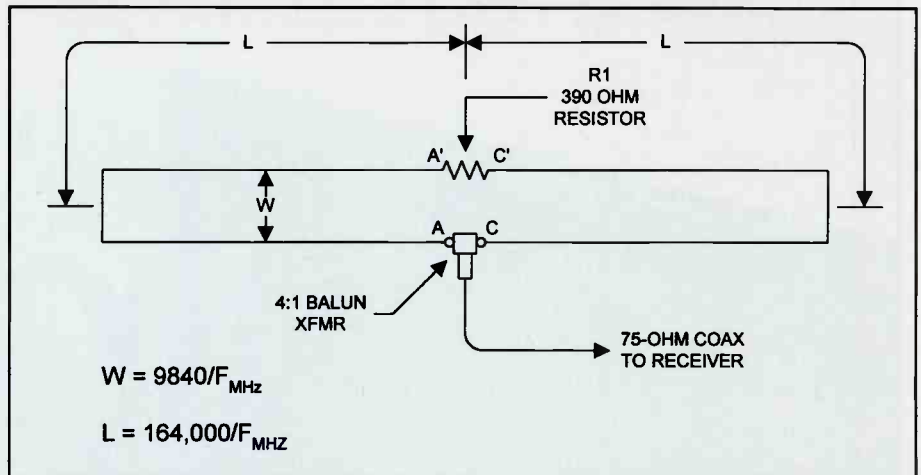


Figure 1. The TCFTFD antenna.

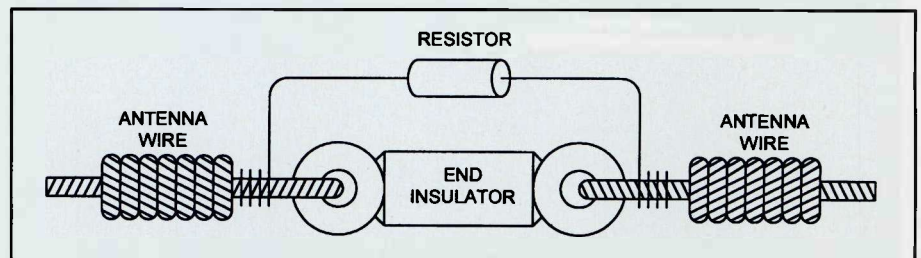


Figure 2. Mounting the termination resistor.

signal, producing less at the receiver's antenna terminals. The reason is that this form of antenna is a terminated, traveling wave antenna, rather than a standing wave antenna. Terminated longwires can have tremendous gain, but none the less have a resistor at one end!

In addition, the TCFTFD can also be used at higher frequencies than its design frequency. Some sources claim that the TCFTFD can be used over a five- or six-to-one frequency range, although my own observations are that four to one is more likely. Nonetheless, a 49-meter antenna will work over a range of 6,000 kHz to 25,000 kHz, with at least some decent performance up into the 11-meter citizen's band.

The basic TCFTFD antenna, shown in Figure 1, resembles a folded dipole because it has two parallel conductors of length "L," that are spaced a distance "W" apart, and shorted together at the ends. The feedpoint is the middle of one con-

ductor, where a 4:1 BALUN coil and 75-ohm coaxial cable transmission line to the receiver are used. The TCFTFD can be built from ordinary no. 14 stranded antenna wire.

A non-inductive, 390-ohm resistor is placed in the center of the other conductor. For receiving antennas, this resistor can be a 1/2-watt, 1-watt or 2-watt carbon composition or metal film resistor, but MUST NOT be a wirewound resistor. One reader told me that he could not obtain these resistors, but I find that hard to believe. RadioShack stocks both the 1/2-watt and 1-watt varieties. If you cannot find the 390-ohm resistor, find any resistor between 330-ohms and 560-ohms. Also, you can parallel connect three 1,200-ohm resistors to form a 400-ohm resistance.

Figure 2 shows how to mount the 1/2-watt through 2-watt resistor. Use an end insulator to hold the wires together, and then bridge the resistor across the insula-

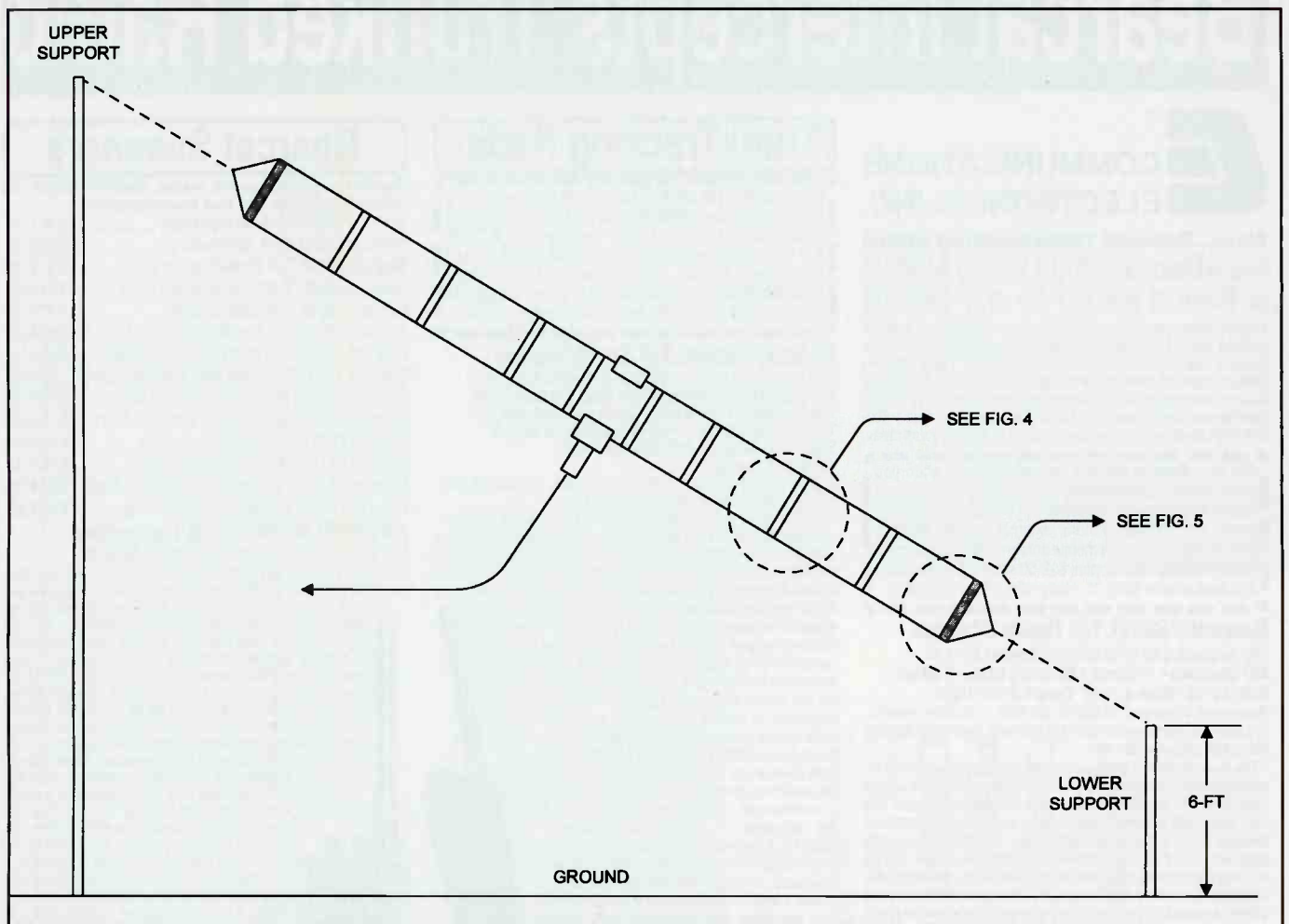


Figure 3. Construction of the TCFTFD antenna.

tor and solder it in place. You will probably have to solder extension wires onto the resistor's wires in order to have it fit. For a TCFTFD antenna covering 49

through 11 meters, the spread between the conductors should be 19.5 inches, while the length (L) is 27 feet. Note that length L includes one-half of the 19-inch spread

because it is measured from the center of the antenna element to the center of the end supports.

Construction of the antenna is shown in **Figure 3**. The TCFTFD is a sloping antenna, with the lower support being about 6 feet off the ground. The height of the upper support depends on the overall length of the antenna. For a 49-Meter design the height is on the order of 50 feet, although for higher frequency antennas 30 to 40 feet is usually specified.

The parallel wires are kept apart by spreaders (see detail in **Figure 4**). At least one commercial TCFTFD antenna uses PVC or Lucite spreaders, while others use ceramic. You can use wooden dowels of either 1-inch or 5/8-inch diameter, although a coating of varnish or polyurethane spray is recommended for weather protection. Drill two holes, of a size sufficient to pass the wire, that are the dimension "W" apart (19-inches for 49-Meters). Once the spreaders are in place, take about a foot of spare antenna wire and make jumper to hold the dowel

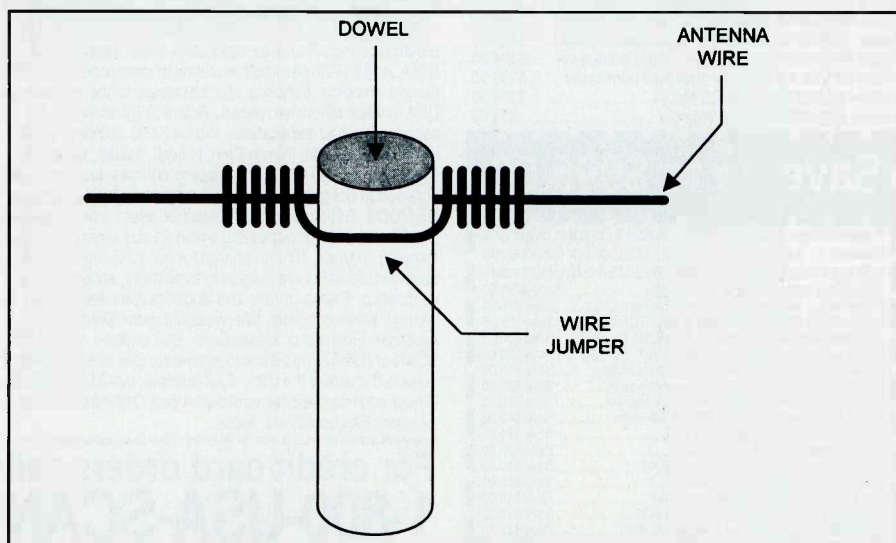


Figure 4. Detail for the separators.

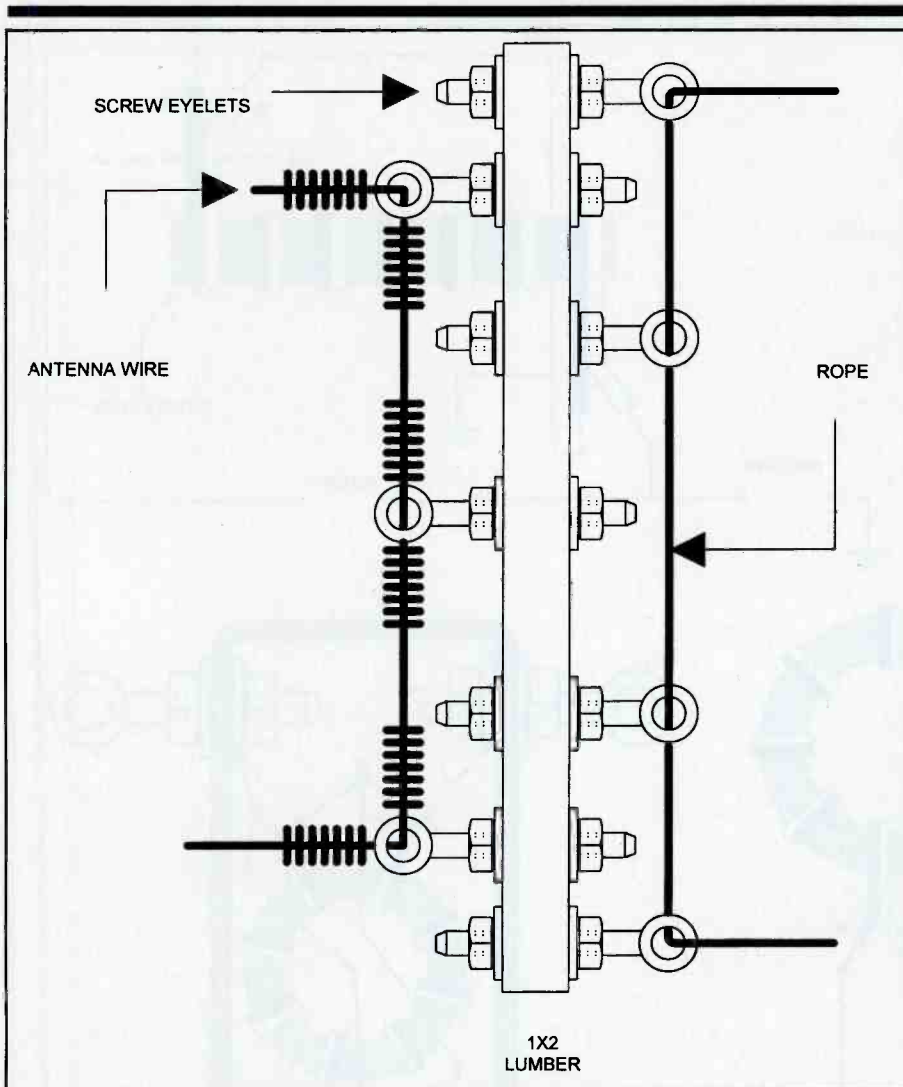


Figure 5. Detail for the end supports.

in place. The jumper is wrapped around the antenna wire on either side of the dowel, and then soldered.

The two end supports (Figure 5) can be made of 1 x 2 wood treated with varnish or polyurethane spray. The wire is passed through screw eyes. A support rope is passed through two more screw eyes on either end of the 1X2, and then tied off at an end insulator.

BALUN Construction

The BALUN transformer can be a problem for many people. One reader sent me a couple advertisements for BALUN transformers at prices from \$40 to \$80. Those BALUNs are for 2,000-watt ham radio transmitters, so are naturally larger and more costly than receiver-only BALUNs. If you want to try building your own, then consult Figure 6. The circuit for a 4:1 BALUN transformer is shown in Figure 6A. Two coils (L1 and L2) are

wound in the bifilar fashion, i.e. the two wires of L1 and L2 are wound parallel to each other (see Figures 6B and 6C). The receiver is connected to the "R UNBALANCED" terminal, while the antenna is connected to the 4R BALANCED" terminal. These resistances represent the receiver input resistance and antenna feedpoint impedance, respectively, and are not physical resistors.

Two methods are available for constructing the BALUN. The use of a cylindrical ferrite rod is shown in Figure 6B, and use of a powdered iron or ferrite toroidal core is shown in Figure 6C. In each case, L1 is represented by the white wire, while L2 is represented by the black wire. Use insulated wire of two different colors to keep them separate. The black dots in Figures 6A through 6C are used to indicate the same end of the windings. The number of turns can be anything from 12 to 15.

The toroidal version of the BALUN

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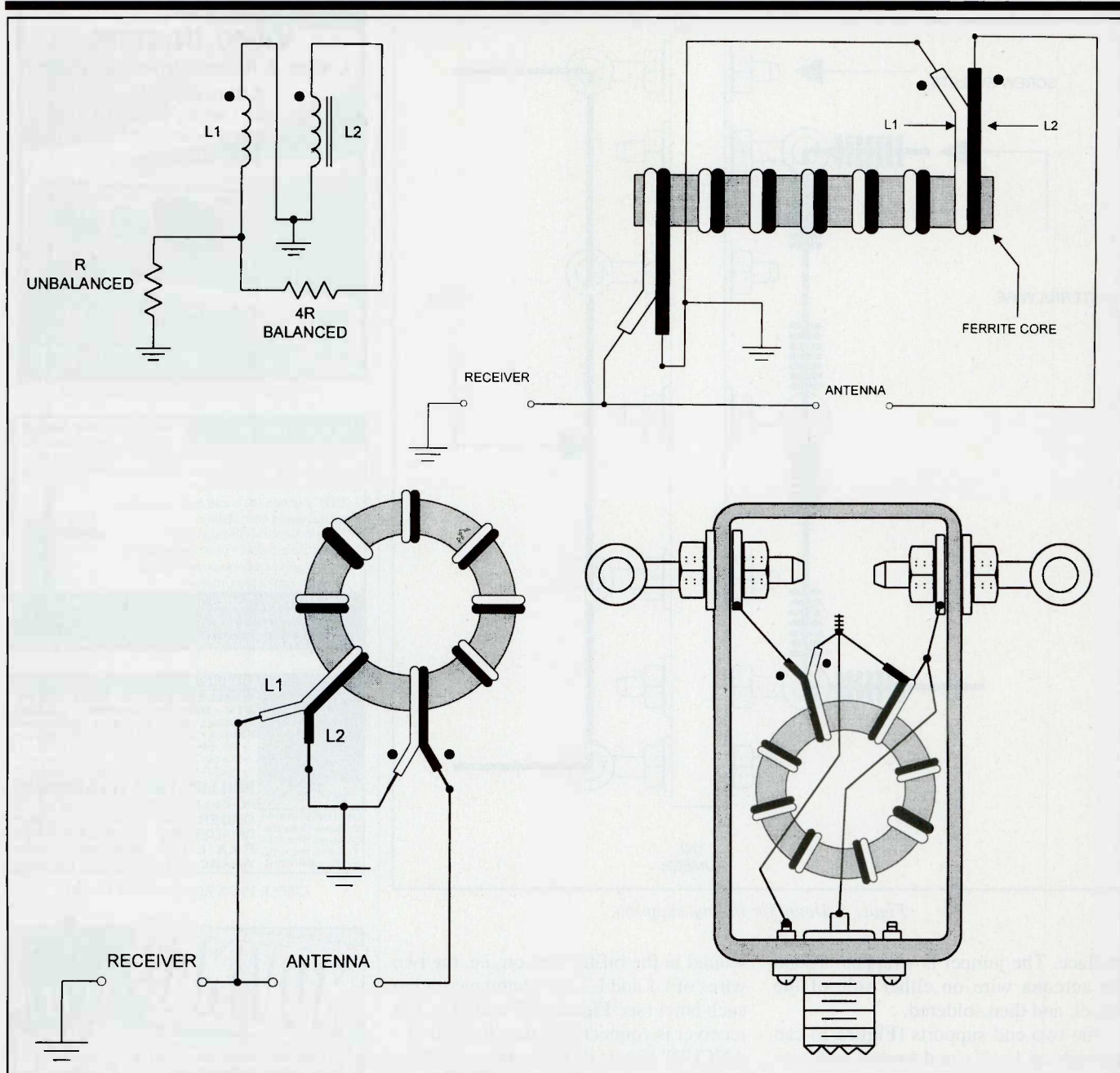


Figure 6. A) 4:1 BALUN circuit; B) cylindrical construction; C) toroidal construction; D) mounting of the BALUN in a box.

Table I— Dimensions for Other Bands

BAND LENGTH (L) SPREAD (W)

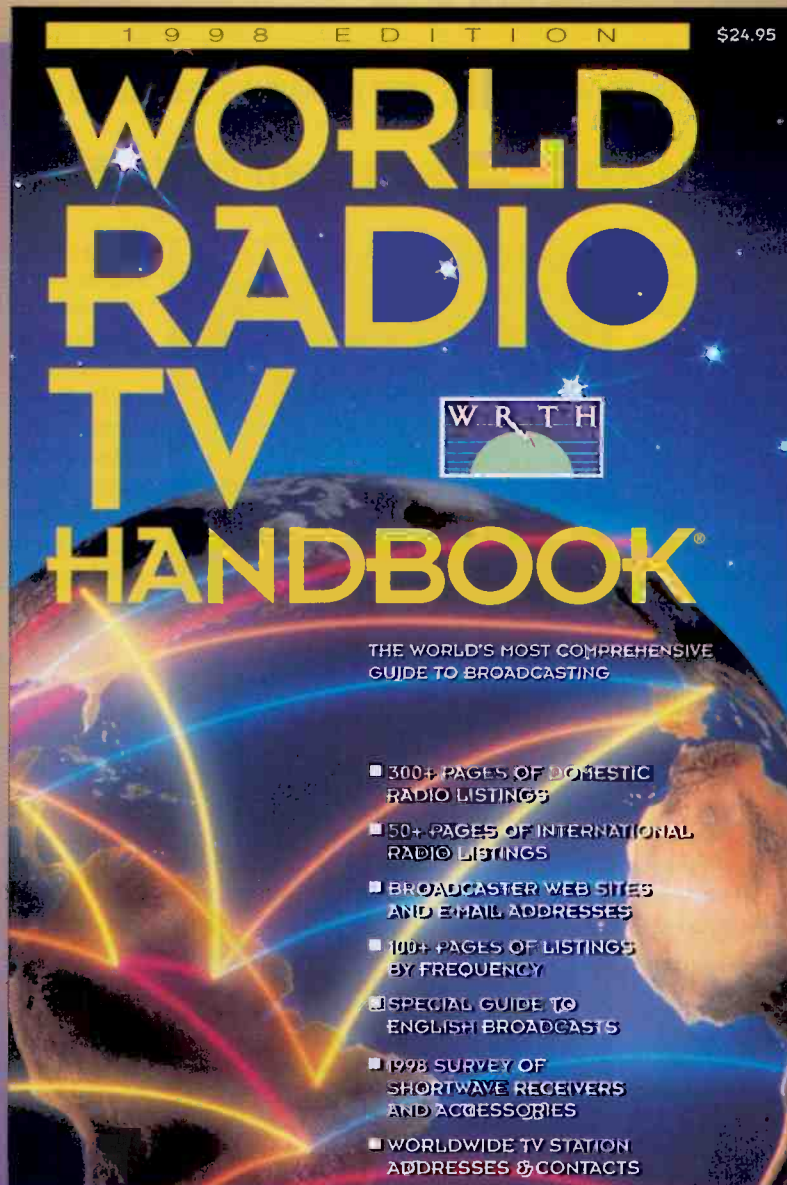
41-m	23'	16.5"
31-m	16'11"	12"
25-m	13'11"	10"
22-m	12'	8.6"
19-m	10'8"	7.75"
16-m	9'3"	6.75"
13-m	7'7"	5.5"

can be made of nearly any size toroid core from 0.50-inch to 3-inches because power handling capacity is not an issue. Perhaps the best form would be about 1-inch o.d. wound with #24 wire. **Figure 6D** shows a method of mounting the toroidal core. A strong plastic box is used. Screw eyes are mounted in the two vertical walls, and an SO-239 coaxial connector is mounted on the other end. The toroidal transformer is installed inside, and the wires soldered to the connections. Although not shown, the connections to the screw eyes are made through solder terminals on both sides of the box wall. Use

silicone RTV, caulk or some other sealant to weatherproof the box.

The TCFTFD antenna is noticeably quieter than the random length wire antenna, and somewhat quieter than the half wavelength dipole. When the tilt angle is around 30 degrees, the pattern is close to omnidirectional. Although a little harder to build than dipoles, it offers some advantages that should not be overlooked. The dimensions given above will suffice when the "bottom end" frequency is the 49-meter band, and it will work well on higher bands. For other bands (and higher) use the dimensions in **Table I**. ■

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Radio Resources

INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

Moose Alerts on Ham and CB

“Here in Anchorage, Alaska, amateur radio, CB radio, GMRS, and scanner radio are our way of staying safe and keeping in touch,” comments Rick Marvin, KL7YF. Rick and his wife Lil, NL7DL, are well-known Anchorage, Alaska, goodwill ambassadors for hobby radio communications, plus they are the driving force behind the every-year Anchorage ham radio convention in September.

“When we teach our twice-a-year classes for amateur radio, we always include detailed discussions on *all* types of radio communications that Alaskans may need to use during heavy weather to double check everyone’s safety,” adds Lil. She emphasized that it’s an almost daily occurrence to hear “moose reports” over ham radio, plus an every-now-and-then call on CB Channel 9 or GMRS where a radio operator on the outskirts of town needs a hand shooing away a pesky brown bear which won’t let the radio operator out of the cozy “shack!”

The KL7AA ARC encourages visitors to check in on one of their local Anchorage repeaters:

146.940 (–) PL 100 Hz
224.940 (–)
444.700 (+) PL 100 Hz

And there are many other repeaters serving the city of Anchorage, Alaska:

146.970 (–)
147.180 (+)
147.220 (+)
147.300 (+)
147.990 (–)
444.500 (+)
444.950 (+)

The Anchorage Amateur Radio Club is extremely active in promoting amateur radio to non-hams and kids. Every year they donate thousands of dollars to scholarship programs in the name of amateur radio, and all of the local libraries regularly receive the KL7AA Anchorage ARC “study pack” made up of ARRL and



The massive glaciers can soak up VHF signals to where simplex range is only a mile!

Radio School home-study ham radio licensing materials.

Anchorage and Fairbanks are also served with an amateur radio inter-tie made up of VHF and UHF repeaters bridging the frozen gap. You can look up this system on the Web at <<http://www.aarc.uaf.edu/aarc/AARCrptmap.html>>.

Several Alaskan hams report that while an aurora borealis is indeed a beautiful sight to see, it knocks the heck out of 40 meters, 75 meters, and 160-meter nighttime communications. During the cold winters, sunny skies and windless days provide hundreds of miles of VHF and UHF tropospheric ducting. Lee Wareham, KL7DTH, operated on amateur 70

cm with tropo signals from Gambell, Alaska, to Provideniya, USSR. Some of the extraordinary Alaska long-haul tropospheric ducting has been published in the Central States VHF Society proceedings; Jim Larsen, AL7FS, and Mike Turner, KL7X, have some fascinating tropo ducting stories over hundreds of miles of ice pack that really point out how still weather can capture and funnel VHF signals for hundreds of miles beyond normal line of sight.

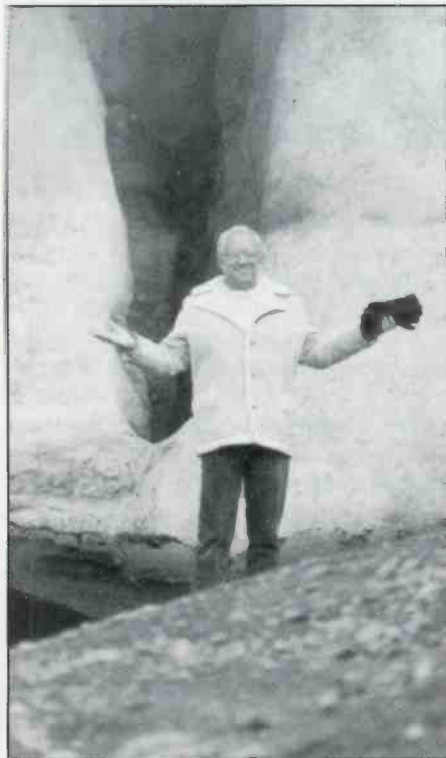
New Gear from Yaesu!

Part of our Alaska luggage was the new Yaesu VX-1R VHF/UHF, micro, dual-band transceiver with extra-wide scanning capabilities; 500–1700 kHz broadcast band, 76–88 MHz Wide-band TV, 108–137 MHz Double sideband AM aircraft, 137–170 MHz Narrow-band FM VHF, 170–222 MHz VHF wide-band TV audio, 222–420 MHz Narrow-band FM military, 420–470 MHz UHF narrow-band FM, 470–800 MHz UHF TV wide-band reception, 800–999 MHz Public safety reception (cellular frequencies blocked), 144–148 MHz 2-meter transmit and receive, 430–450 MHz 70 cm transmit and receive. Now look at the photo with an Alaska ham demonstrating its size! The tiny Yaesu has its own built-in speaker, and while I wouldn’t judge the audio output as loud, it nonetheless is clear if you hold the unit up near your ear or run it with an earphone plugged into the extension mic. This micro dual-band transceiver operates from a 3.6 volt lithium-ion battery that provides 700 mAh capacity and recharges in just two hours with the included major-sized wall adapter. Lithium-ion is relatively new for ham radio transceivers, and Chip Margelli, K7JA, Yaesu’s technical design specialist, indicates that the battery should go for at least 300 complete charge cycles before a new one might be necessary. You can also run an FBA-20 battery case for receiver monitoring that uses a single “AA” alkaline battery. An alkaline

battery can also be used for transmission in an emergency, but power output is only 1/10th of a watt, and battery life will be somewhat short. With the regular 3.6 volt lithium-ion battery, power output is one-half watt, that can be boosted to one watt when running the unit off of an automobile cigarette lighter power adapter Yaesu plug assembly.

Running the handheld on ham radio's 2 meters and 70 cm is straight-forward. The back-lit buttons are plenty large enough to get your fingers onto, and audio output is more than adequate when you're holding the unit and have the speaker directed toward you. Repeater splits are automatic in the ARS automatic repeater shift mode. You can override this mode if you find that there are splinter repeaters that may have a backwards split.

CTCSS operation is built-in, and so is receive tone squelch as well as digital code squelch which is a more advanced tone system to prevent false triggering from the CTCSS mode. "There are no other little teeny boards to buy with this unit," comments Janet Margelli, WØMF, store manager for Ham Radio Outlet. "In fact, we discourage amateur operators from doing anything on the inside because of the miniaturization incorporated within this unit," adds Margelli. Yaesu USA indicates they are happy to modify



Looks like Gordon has traded in the California boating and beach gear for a woolly coat and gloves in the Alaskan wilderness.



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Scanning The Globe

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MONITORING THE 30 TO 900 MHz "ACTION" BANDS

Emptying the Mailbag

The winter's upon us. It's a new year, and it's two years until the year 2000. Have you made any resolutions related to your hobby? I think all scanner hobbyists, let alone every radio hobbyist, should strive to learn something new and advance their knowledge of the hobby. For instance, there may not be any trunking activity worth scanning in your community, but why shouldn't you take the initiative to learn a little about it. Then, when it does come to your community (and you'd be surprised where it does wind up), you won't be rushing around to learn about newer technology just to catch up. If you know about it, then you're prepared.

There's a lot to read in this magazine and you can learn a lot by reading one additional column each issue. You may not be a shortwave listener, but that doesn't mean you need to be ignorant about that aspect of the radio hobby. Learn a little and advance yourself. That's a good New Year's resolution.

This month we're going to the overflowing "Scanning the Globe" mailbox and pulling out a few letters of interest, answering them here. And don't forget, letters always are welcome. I may not be able to respond to each and every letter or e-mail I receive, but I will try to answer in this column those questions that would answer others' questions, too. You may be asking the same question that others have on their minds, so send in those letters and e-mails! Without any further prodding, here's this month's round of reader interaction:

Where Is It?

Kenny Daube sent an e-mail requesting: "Could you please let me know about scanning online/internet as soon as possible?" I'm not sure exactly what Kenny is looking for, but if you are looking for scanning information on the World Wide Web, there are many places to look.

Many Web page creators post information about their web pages on the Internet's powerful search engines, such as America Online's Webcrawler <<http://www.crawler.com>> or Yahoo at <<http://www.yahoo.com>>. If you go to these search engines and ask them to search for Web pages that might interest you, then you can take a look at what's out there.

For instance, you may ask the search engine to look for Web pages that have frequencies for central Indiana. You'd tell the search engine to look for this combination: central AND Indiana AND frequencies. If it found a web page that included all those words, it would give you a list of possible sites to click on and investigate. In other words, let the Internet's search engines do the work for you.

There was a time when magazines and other Web sites could publish a list of potential Web pages of interest to the scanning hobby. But with all the people out there building Web pages, it's almost impossible anymore to come up with such a catalog. Plus, sites can come and go as Internet users switch providers.

Take a look at what's out there. If you find sites that are very good and wish to share them with others, feel free to e-mail the information to us and we'll try to include it in this column.

Gone Digital

Bob Ingram, KK5CL, is the 911 director for Vicksburg and Warren County, MS. He writes in to say: "Recently, we purchased a Motorola Smartzone Digital 800-MHz trunking system for public safety communications. In our community, in the past, scanners were as popular and essential as telephones and televisions. Now, we have no public assistance with manhunts, missing children, suspicious subjects and vehicles, assistance with chain saws in storms, etc., as scanner listeners are shut out of the system. My question is: Has any scanner vendor such as Uniden or AOR or others begun working on providing receivers or scanners capable of receiving Motorola digital format? The Trunk-Tracker is a very innovative unit, but does not receive the digital mode."

Bob, there's nothing I have heard of on the boards that will allow scanner listeners to monitor the digital mode in trunk-

ed systems. And I don't think you'll see anything soon. Just look at how many years it took for a manufacturer (Uniden) to make scanners capable of following trunked conversations.

More Net Info

Hugh Bradshaw sent e-mail saying: "I enjoy your Scanning the Globe column in *Popular Communications*. I am an avid scanner listener and enjoy chatting with others who have similar interests. I was wondering if you could give me a list of Web sites and chat areas that are of interest to scanner enthusiasts and public safety buffs like myself."

Again, I suggest, Hugh, that you use the Internet's powerful search engines to look for scanning-related web sites. Narrow what you're looking for and you'll find all kinds of good stuff. There are new Web pages out there everyday! For chat sites, most on-line services have chat rooms related to the radio hobby. And there are Internet chat areas, too, if you have the proper software and know where to look. Some chats meet on a regular basis, but you'll need to know when and where to look.

Gopher Freqs

Jim Jordan sent an e-mail saying: "I realize you probably get a ton of e-mail asking this question and if you're unable to reply I understand. I'm new to scanning and cannot find any Web sites listing scanner frequencies or clubs for Minnesota, specifically the Twin Cities area. As you know, it gets pretty damn cold here in the winter and boredom is something you deal with however you can! A scanner site or club would sure be a blessing."

Jim, as I've suggested, look at the search engines for what may be out there. However, if you cannot find such a beast in cyberspace, why not create your own Web page? With the proper software (it's real simple with the on-line services), you can author and create your own Web page and then publish it on the World Wide Web. Make a list of your own favorite fre-

quencies and then ask other hobbyists to e-mail you with additional information. If you find enough interest in cyberspace, you may have the start of a club! See what's out there, and when there isn't enough, make something.

Ontario Freqs

We received an e-mail indicating that you can find frequencies for Ontario, Canada, at the following Web site: <<http://web.idirect.com/~dkwood>>. It's always hard finding enough information on Canadian frequencies, so take advantage of all the resources you can find, especially on the Internet.

Mismatch?

Keith Zollinchofe of Severn, Maryland, sent along an e-mail saying: "I liked your article in the November *Pop 'Comm*. I've heard of using the TV amp for an antenna scanner amp. How do you compensate for the impedance mismatch? TV stuff uses 75 ohms, where most scanners and antennas are 52 ohms. Is there an impedance matcher readily available? I live in a community where I have to utilize all the stealth and amplification compensation techniques that are available. If residents see an inch of wire protruding from your house, they go nuts around here."

Keith, for the most part, if you use 52-ohm cable with the 75-ohm TV amp, you're not going to have any problems. If you want to be a purist, I suppose you could find a balun to alleviate the mismatch, but for all practical purposes of receiving signals, you're not going to have a problem. So hook up those TV amps and start scanning!

That Awful Hissing Sound

Jeff Gullikson sent in an e-mail saying: "I live near a town that has recently gone to 800-MHz trunking for the police and ambulance crews. I have no problem hearing other trunked police in other towns and I think I have found these new frequencies. However, I think that they are digitally scrambled because all I can hear on these five or six channels are static combined with beeping whenever they transmit. Have you heard much about this type of scrambling and is it possible to descramble it?"

Jeff, you've found a trunked system that is fully digitally encrypted. It's a real sin that the residents of that town have no idea anymore what their public servants are doing. It's all cloaked in secrecy now.

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Model T includes 100' twinlead feedline
Model C includes weatherproofed center connector for your coax & coax sealant

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- Foreign shipping quoted

- * "The best...built like an antenna should be." -Larry Magne in *World Radio TV Handbook*
- * "Our best seller." -EEB in their recent ads and catalogs
- * "Now in use in 45 countries." -Gilfer Shortwave in 1983

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And don't expect that to change. You're just about out of luck hearing this town from now on because it's unlawful to have any equipment that is capable of unencrypting digital signals. And there is no black-market equipment out there that will help you either.

However, here's one tip. In some towns where trunked digitally encrypted equipment has been installed, the old frequencies will sometimes remain in use for a period of time afterward. The new frequencies are simulcast onto the old frequencies until everything gets converted over. So, if you monitor the old frequencies, you may very well be able to hear the digitally encrypted system loud and clear. Never give up listening to the old frequencies, because after the town is done using them and is fully switched to its new system, it's likely that a nearby town may jump the gun to use the other town's old frequencies on VHF or UHF. It happens all the time with the shortage of frequencies.

Fort Meade

Bill Dillon of Glen Burnie, Maryland, passes along these frequencies for the military trunked system in use at Fort

Meade, Maryland: 406.325, 407.400, 407.575, 409.325 and 409.450 MHz. Thanks, Bill!

More from Ontario

Dan Watkins, a 17-year-old scanner bug from Belleville, Ontario, says he loves scanning with his Realistic PRO-63 and PRO-2001 scanners. Here are some frequencies for his area: 153.830, 154.265, Belleville fire; 139.770, 142.770 and 142.035, Belleville police; 149.170 and 150.100, Belleville ambulance; 161.415, railroad.

Write In

What are your favorite frequencies? Do you have any scanner-related questions? Do you have any listening tips worth passing along to your fellow readers? How about sending in a photo of your listening post or antenna farm? Write to: Chuck Gysi, N2DUP, Scanning the Globe, *Popular Communications*, Box 11, Iowa City, Iowa 52244-0011, fax to 516-681-2926, or e-mail to <SCAN911@aol.com>. Make sure you indicate in your e-mail that you are writing regarding this column. ■

Product Spotlight

POP'COMM REVIEWS PRODUCTS OF INTEREST

Optoelectronics, Inc. R11 Test Receiver

It had to happen. The folks at Opto have a long, proud history of introducing new hotshot electronic products to the marketplace; the M1, Scout, Xplorer—but the hobbyist didn't have a sensitive nearfield receiver in a compact package that sweeps 30 MHz to 2 GHz in less than a second. Now we do. The new R11 is truly a remarkable piece of equipment. In this review we'll look at what the R11 test receiver is, and isn't, and of course, how well it performs.

A Look at the Specs

The R11 is a nearfield FM test receiver, meaning it is designed to pick up locally-generated, relatively strong RF. It's not a scanner, but rather a frequency sleuth; if a signal is received, a small LED lights above the frequency for a specific band or search segment of frequencies.

Only analog FM signals (of course cell frequencies are blocked) are received, and the resulting audio is demodulated and heard through the built-in speaker. The R11 also includes a headphone jack for private listening with an earphone (not included). The top-mounted separate volume and squelch controls are clearly marked with a yellow line; you don't have to guess or squint to see where either control is set. Also on the top is a 9–12 Vdc charging socket that works with the included power supply. For the lucky owners of the Scout, Opto has included a terminal for an optional cable (CB-RT, \$9) that allows users to Reaction Tune®; Scout-received frequencies sent to the R11 to tune the receiver to that frequency. This works with any version Scout!

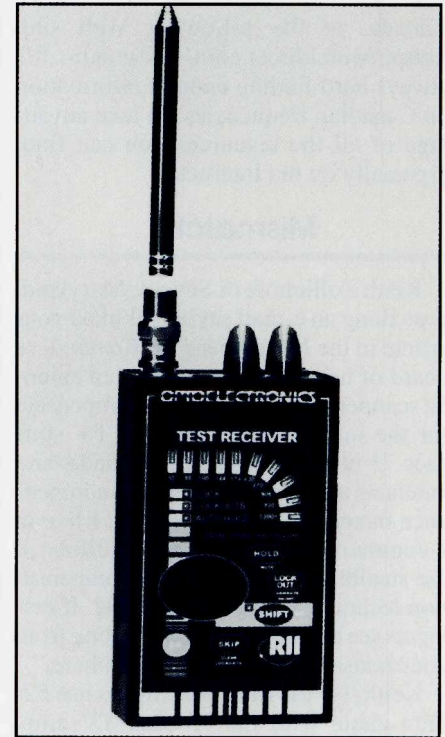
“Whether you're an amateur operator, scanner enthusiast or someone just getting into all of the high-tech aspects of scanning, the R11 Test Receiver should certainly be in your inventory!”

The front of the receiver has a total of five pressure sensitive keypads; On, Skip, Shift, Lockout, and Hold. The “Shift” control does double duty as the “off” control by holding it down for about four seconds. And in addition to the series of 10 LEDs that run across the top third of the receiver, are three more LEDs; for Lock, Lockout, and AutoHold.

Talk About Fast!

The ad says “The R11 can lock onto a 5 watt UHF signal as far away as 500 feet . . .” so we decided to check it out and got right down to business with the R11. The first place I shopped for RF was downtown, near our local police department. I'll admit it, this test would be really outstanding at dusk or night. Like many scanner enthusiasts, I like bells and whistles on receivers, and flashing lights. In fact, the R11's flashing LEDs are reminiscent of the old Bearcat scanners that scanned a handful of channels. Interestingly while those old Bearcats scanned about 10 channels in a couple of seconds, the R11 zips through an entire spectrum in less than one second!

Remember we said we'll tell you what the R11 is and is not? It's a pretty unique receiver—and a darned good one at that! It's actually a frequency sweeper that captures a strong signal as you approach the transmitter. It's this stronger-than-all-other-signals that the R11 detects and demodulates; not the police on the other side of town or the ambulance a mile away. And like the R11's manual says, *you're trading distance for speed*. Your typical scanner receives signals from further away, but only scans or searches at no more than about 100 channels per second. The big benefit of using the R11 over a conventional scanner is just how fast you can find an unknown frequency. Using the search mode of your trusty scanner, you've got to first program in the upper and lower limits and after a couple of additional keypresses, you begin searching; and then you're only typically searching a small segment of a portion



Optoelectronics new R11 zips through 30 MHz to 2 GHz in less than a second!

of the spectrum. The R11 does the whole 30 MHz to 2 GHz in a second. Pretty impressive, wouldn't you say?

I had charged the R11 overnight; a fully discharged battery pack takes about 10–12 hours to charge. An automatic sensor in the charging circuit senses battery voltage and shuts the R11 down when a low battery is indicated. I had parked the car in the municipal lot adjacent to the police station and nearby transmitter; probably a distance of 300 feet from the tower. Within seconds the “420” LED lighted and I heard the familiar voice of the dispatcher call a patrol which was a few blocks from the station. Referring to the manual, the “420” indicator tells me the received signal is in the 420–470 MHz portion of the spectrum. Actually from prior experience I know the frequency is 460.30 MHz. Pressing the “Shift” key lights a small LED, then pressing the Lockout key locks out that

frequency so the receiver doesn't stop there again. The R11 will hold 1,000 lockouts. Of course they can all be cleared very easily just by pressing "Shift," then "Skip."

Clear, Crisp Audio

The small front-mounted speaker on the R11 will fool you. It's a small speaker, the size of a quarter, but packs a wallop. Audio was crisp and clear and sufficiently loud—frankly, as clear and clean as some scanning receivers I've tested.

The R11 comes complete with a 19-inch telescoping whip antenna, which allowed me to move another 150 or so feet from the police transmitter and still receive the 460.30 signal; not bad at all! But I've got more rubber duck antennas than most people have pens and pencils, so wanting to be a bit more discrete with the monitoring, I popped on a small duck from my ham HT and drove to the mall.

Malls don't really do much for me except take my money, but that's another story. Lucky for me I remembered to bring along the earphone. Now what I'm going to describe probably sounds more strange than it looks, but stay with me on this. Our mall security force is not unlike another mall security; it's a security presence that is comprised mostly of young folks with radios. So you can imagine there's lots of interesting monitoring, if you're lucky enough to be in mall itself. I had just run out of money, but the R11's battery was charged and ready to go. Sitting on one of those benches where tired shoppers compete for space can be a real experience, especially if you've got an earphone in one ear and you're listening for your wife with the other. The R11 fit nicely in my coat pocket, where I had my finger strategically placed on the hold key, ready to hit it when a signal was captured by the R11.

Our mall security is one frequency I didn't have in my any of my scanners, so this was a great opportunity to hear the action right at ringside. Since I'm not a "mall person" (except for the occasional bagel or slice of pizza) hearing the security there for a few minutes would give me my fill of the mall for a while. I couldn't see him, but a few minutes later, the "420" LED lighted and I pressed the Hold button, keeping that frequency in the receiver, waiting for the next transmission. During the next half hour I heard at least a dozen transmissions on what turned out to be 461.175 MHz. Once again, the R11 had given me the search segment; if I wanted to, all I needed to do

"... the R11 zips through an entire spectrum in less than one second!"

was verify it with my scanner in the search mode between 420 and 470 MHz.

As we walked out into the parking lot and got in the car, I placed the unit into the sweep mode again and asked my wife to hold the receiver as we drove down the highway. Now, that's a lot like her asking me to hold her purse on my lap if she were driving. It's OK in a pinch, but only for a while. "Hold it closer to the window," I asked. Just outside the mall on State Highway 35, the R11 again sprang to life. An ambulance was radioing patient information to one of the local hospitals, lighting the "144" LED indicating a transmission taking place in the 144-174 MHz area. Not bad from inside the car on this busy Friday night. I would guess the moving ambulance was within a few hundred feet of our car near the intersection of Route 36.

The Perfect Squelch

During most of my testing with the R11

I kept the squelch about half closed. What impressed me with the R11 was that I didn't have to keep re-adjusting the squelch each time I changed location. Of course, adjust it too far and you'll certainly miss a signal—even a strong one, but with a little patience, learning the proper squelch setting is a breeze.

Since my scanners are programmed with all the local/regional frequencies of interest, when I travel on weekends, the R11 comes along—the scanner stays home—and I've got instant access to the airwaves. It's super quick and extremely sensitive! You can mute the audio with the simple press of a button.

In the 800 MHz portion of the spectrum the R11 performed exceptionally well; only a couple of times was nearby strong FM broadcast masking a problem. Opto sells the N100 FM broadcast notch filter which removes this minor annoyance, permitting the unit to pick up other signals. Whether you're an amateur oper-

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ator, scanner enthusiast or someone just getting into all of the high-tech aspects of scanning, the R11 Test Receiver should certainly be in your inventory! It's compact (about 4 1/2" x 2 1/2" x 1 1/4") and works very well, indeed. The R11 manu-

al states a four hour operating time from a full charge; our tests confirmed that claim four out of five times. Typically we were able to use the receiver for about 3 1/2 to 4 1/2 hours, depending on the volume setting.

Optoelectronics, Inc. is located at 5821 NE 14th Avenue, Ft. Lauderdale, FL 33334. Phone 954-771-2050. The R11 sells for \$399 and you can order it direct from Optoelectronics by calling the toll-free number at 800-327-5912.

Benjamin Michael Industries, Inc. Nitellogger II

The original "Nitellogger" was introduced by BMI in 1981 and it has served the monitoring community very well, indeed. But recently BMI re-introduced the Nitellogger that's improved over the original version and still simple to operate.

The new Nitellogger II, a nifty tape recorder activator, is constructed in a white and black plastic case that fits nicely (2" x 4 1/4" x 3") on the monitoring desk. A couple of provided plugs connect between your cassette recorder, scanner and the Nitellogger II. The unit includes a 110 Vac power adapter that also connects to the rear panel.

Operation

Perhaps the best feature about the Nitellogger II is that it can be kept in-line with your scanner 24-hours a day; there's no need to unplug the recorder-activator and your tape recorder. And using the recorder-activator is as easy as 1-2-3! After taking two minutes to hook up the unit and put a new tape—and fresh batteries in your recorder—adjust the front-mounted "monitor volume" control fully clockwise. Turn on your scanner and find an active channel such as NOAA weather. Ensure that the "audio" light is flashing and the "record" light is lighted. Using a small screwdriver, adjust the "delay" control to mid-range, press your recorder's "play" and "record" buttons to initiate recording.

After making a couple of test recordings, adjust your scanner's volume control (which is what controls your recording level) until you achieve the proper recording level. Adjusting the "monitor volume" changes volume on the Nitellogger II's internal speaker and doesn't affect your recording level; it merely lets you go about your business (or sleep!) as you capture all the action your scanner hears. After adjusting the volume, set the "delay" control on the unit to give the best "drop-out" delay for the signals you're taping. For example, you'd certainly want less delay when taping fast-action drama on public safety frequencies where you want the unit to keep your recorder taping in order to hear the entire transmission. Admittedly, this takes some getting used to, and of course, different services will require a different "delay" setting. Overall, though, most of the time I was able to "set it and forget it." Sensitivity seems to have improved on the new Nitellogger, and I like the unit's new look.

This solidly-constructed unit is a pleasure to operate; and one of those must-have accessories—unless you think the important stuff doesn't happen when you're away from your monitoring post. Most folks realize that's typically when the feathers fly; turn off the radios for the night, or go take off for a few hours and you'll quickly discover you wish you had the Nitellogger II connected!

Where I live there are three unusual federal frequencies that I keep plugged in my 2006 and run all day. But taking phone calls and constantly turning down the volume, and even just waiting for a transmission on the frequencies can be downright frustrating. Besides, they're only active a couple of times daily.



The Nitellogger II cuts the frustration level to zero and allows me to get these signals 24-hours a day, seven days a week. Two days ago I hooked up the recorder and Nitellogger II and left it running. That was Friday night. This morning the 90-minute cassette was half full! Seems Uncle Sam was working this weekend at Fort Monmouth. Thanks to the Nitellogger II I was able to capture all the action on all three frequencies while asleep and away from my monitoring post!

"The Nitellogger II is one of the best inexpensive investments any radio hobbyist can make."

New Features

The new Nitellogger II now has a record lamp which lets you know when the unit is actually recording, and also on the front panel there's a three-position vertical slide switch that allows you to disable the unit without having to disconnect the cables, place it in record mode, and bypass the unit entirely for listening to your tape recordings.

As with all radio equipment, adequate audio is a must, and the Nitellogger II shines with excellent, loud audio from the large top-mounted speaker. It's actually better sounding than some handheld scanner speakers I've tried!

The Nitellogger II is one of the best inexpensive investments any radio hobbyist can make. This no-nonsense device will serve you well for many years, and with a \$69.95 price, (plus \$4.50 s/h) you can't go wrong. It's available directly from BMI at 9445 Seven Mile Road, Caledonia, WI 53108, phone 414-835-4299 or fax 800-276-2604.

Coming Next Month . . .

Next month we'll have an in-depth look at Cherokee's new 40-channel AM/SSB CB walkie-talkie, the AH-100. It's compact, loaded with features and a hot performer!

Tap into secret Shortwave Signals

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



MFJ-462B **Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.**
\$169⁹⁵

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

You'll read interesting commercial, military, diplomatic, weather, aeronautical, maritime and amateur traffic... 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, Iraqi News in Iraq -- all on RTTY.

Super Active Antenna

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

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

\$129⁹⁵ MFJ-1024 **Indoor Active Antenna**

\$79⁹⁵ MFJ-1020B **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

\$39⁹⁵ MFJ-1022

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

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

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, \$12.95. 3 1/8x1 1/4x4 in.

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 on 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

MFJ Antenna Matcher

\$99⁹⁵ MFJ-959B

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

\$69⁹⁵ MFJ-1045C

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

\$99⁹⁵ MFJ-752C

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

How to build MFJ-38 and put up inexpensive, fully tested wire antennas using readily available parts that'll bring signals in like you've never heard before.

\$16⁹⁵

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

\$149⁹⁵ MFJ-1214PC

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

The Super Hi-Q MFJ-1782 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

\$39⁹⁵ MFJ-956

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 pos. 2x3x4"

Mobile Scanner Ant.

\$19⁹⁵ Cellular MFJ-1824BB/BM look-a-like. Covers 25-1300 MHz. Highest gain on 406-512 and 108-174 MHz, 19 in. Magnet mount. MFJ-1824BB has BNC/UHF plug; MFJ-1824BM has Motorola plug.

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. 5 1/4x2 1/2x5 1/4 inches.

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MFJ 12/24 Hour LCD Clocks

\$9⁹⁵ MFJ-107B

\$19⁹⁵ MFJ-108B **\$19⁹⁵** MFJ-105B

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

\$59⁹⁵ MFJ-1704 **\$21⁹⁵** MFJ-1702B

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.

World Band Radio Kit

\$59⁹⁵ kit MFJ-8100W **\$79⁹⁵ wired** MFJ-8100K

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Pop'Comm's World Band Tuning Tips

January 1998

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

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

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0000	4830	Radio Tachira, Venezuela	SS	0230	11715	Radio Canada Int'l	
0000	6055	Radio Exterior de Espana		0300	3290	Voice of Guiana	
0000	9022	Voice of Islamic Republic of Iran		0300	4755	Radio Educacao Rural, Brazil	PP
0000	11870	Radio Yugoslavia		0300	4980	Ecos del Torbes, Venezuela	SS
0000	13605	Radio Australia		0300	6085	Voice of Germany via Canada	
0000	7345	Radio Prague, Czech Republic		0300	7305	Vatican Radio	
0030	6050	Voice of Islamic Republic of Iran		0300	12050	Voice of Russia	
0030	11795	Radio Guiaba, Brazil	PP	0327	7215	Trans World Radio via South Africa	s/on, unid
0030	17555	KWHR, Hawaii		0330	4880	Radio Transcontinental, Mexico	SS
0050	11800	RAI, Italy		0330	4955	Radio Nacional, Colombia	SS
0100	4960	Radio Internacional, Honduras	SS	0330	6010	Radio Mil, Mexico	SS
0100	5025	Radio Rebelde, Cuba	SS	0330	6110	BBC via Antigua	
0100	5077	Caracol Bogota, Colombia	SS	0330	6135	Radio Japan	
0100	5728	Radio Naylamp, Peru	SS	0330	6210	Radio Fana, Ethiopia	Oromo
0100	5930	Croatian Radio	Croat/EE	0330	7200	Republic of Sudan Radio	AA
0100	5930	Radio Slovakia Int'l		0330	7265	Sudwestfunk, Germany	GG
0100	6020	Radio Netherlands		0330	9820	Radio Havana Cuba	
0100	6100	Radio Havana Cuba		0400	5180	Voice of Russia	
0100	6135	Swiss Radio Int'l		0400	9730	China Radio Int'l via Fr. Guianal	
0100	9580	Radio Budapest, Hungary		0400	9885	Swiss Radio Int'l	
0100	9905	Swiss Radio Int'l via Fr. Guiana		0400	15060	Broadcast Svc of the Kingdom of Saudi Arabia	AA
0130	4201	Radio Nacional, Bolivia	SS	0400	15167	Radio Tahiti	FF
0130	7290	Radio Sweden		0430	3300	Radio Cultural, Guatemala	SS/EE
0130	7450	Voice of Greece		0430	4765	RTV Congolaise, Congo Rep.	FF, irr.
0130	9665	China Radio Int'l via Brazil	SS	0430	7090	VORGAN, Angola	PP
0130	9705	Radio Mexico Int'l	SS	0445	4890	Radio France Int'l, via Gabon	FF
0130	11720	Radio Bulgaria		0500	503	Radio Nacional, Equatorial Guinea	SS
0200	4835	Radio Tezulutlan, Guatemala	SS/local	0500	4915	Ghana Broadcasting Corp.	
0200	4885	Radio Clube do Para, Brazil	PP	0600	6115	Radio Universidad, Mexico	SS
0200	6725	Radio Satelite, Peru	SS	0600	7195	Voice of America, via Morocco	
0200	9737	Radio Nacional, Paraguay	SS	0600	11900	Channel Africa, South Africa	
0200	11710	RAE, Argentina		0630	4919	Radio Quito, Ecuador	SS
0200	15115	Radio New Zealand Int'l		0630	6015	Radio Austria Intl, via Canada	
0230	7160	Radio Tirana, Albania		0700	11910	Radio Japan	
0230	7250	Voice of Vietnam via Russia		0800	6150	KNLS, Alaska	
0230	9515	BBC via USA		0800	9645	HCJB, Ecuador	
0230	9655	Radio Austria Int'l					

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0800	9755	Trans World Radio, Monaco		1530	11620	All India Radio	
0830	9710	Radio Vilnius, Lithuania		1530	15220	BBC via Canada	
1000	6100	Radio New Zealand Int'l		1530	17765	Voice of Germany	
1030	11715	Radio Korea Int'l, via Canada		1545	9940	Vatican Radio	
1030	15170	KSDA, Guam	CC/EE	1600	9860	Golos Rossi, Vladivostok	RR
1100	3360	La Voz de Nahuala, Guatemala	local	1600	17485	Radio Prague, Czech Republic	
1100	4890	NBC, Papua New Guinea	pidgin	1630	9565	China Radio Int'l	
1100	5030	Adventist World Radio, Costa Rica		1630	9655	Voice of Germany via Sri Lanka	GG
1100	6087	Radio Chasqui, Peru	SS/Quechua	1630	9750	Voice of Malaysia	
1100	9975	Radio Pyongyang, North Korea		1630	9870	Radio Korea Int'l	
1100	12005	HCJB, Ecuador		1630	13675	UAE Radio, United Arab Emirates	
1100	13635	Swiss Radio Int'l		1700	11585	All India Radio	
1130	3315	Radio Morbe, Papua New Guinea	Pidgin	1700	15460	Radio Prague, Czech Republic	
1130	9415	Radio Australia		1700	21605	UAE Radio, Dubai, UAE	AA
1200	4000	Radio Republik Indonesia, Kendari	II	1730	11570	Radio Pakistan	
1200	9580	Radio Australia		1800	13645	Radio Vlaanderen Int'l, Belgium	
1200	9590	Radio Norway Int'l	NN/EE	1845	15315	Radio Netherlands via Bonaire	
1200	13625	Radio France Int'l., via Fr. Guiana		1900	11605	Kol Israel	
1200	13790	All India Radio		1900	11605	Kol Israel	
1200	15770	All India Radio	Tamil	1900	12005	RTV, Tunisia	AA
1230	6950	China Radio Int'l	unid	1900	15400	BBC via Ascension Island	
1230	9525	Polish Radio		1900	15505	Radio Kuwait	
1230	11900	Radio Finland Int'l	FF/EE	1930	15160	Radio Algiers Int'l, Algeria	
1230	12085	Radio Ulaan Baator, Mongolia		1930	15265	Radio Nacional, Brazil	PP
1245	4755	Radio Republik Indonesia, Ujung Pandang	II	1930	17605	Radio Netherlands via Bonaire	
1300	6065	Radio Australia	CC	1930	154445	Voice of America via Morocco	
1300	11990	Voice of America via Russia	CC	1950	9645	Vatican Radio	
1300	15670	China National Radio	Tibetan	2000	9855	Radio Finland Int'l	
1330	9200	Radio Omdurman, Sudan	AA	2000	11715	Radio Algiers Int'l, Algeria	
1330	9715	Radio Tashkent, Uzbekistan		2000	11815	Radio Brazil Central	PP
1330	9800	Radio Cairo, Egypt	AA	2000	11990	Radio Kuwait	FM relay
1330	9890	Radio Netherlands via Madagascar		2000	15580	Voice of America	
1330	11655	Radio Sweden		2030	9510	Trans World Radio, South Africa	unid
1330	15395	UAE Radio, United Arab Emirates		2030	9965	Voice of Armenia	
1330	17820	Radio Canada Int'l		2030	11795	Voice of America via Sao Tome	
1350	11625	Vatican Radio		2030	17860	Voice of Germany via Rwanda	GG
1400	9780	Republic of Yemen Radio	AA	2100	7475	RTV, Tunisia	AA
1400	9810	Voice of Russia		2100	9580	Africa Number One, Gabon	FF
1400	11910	Radio France Int'l		2100	9645	Radio Bandeirantes, Brazil	PP
1400	15075	IBC, Georgia Republic	Tamil	2130	13610	Radio Damascus, Syria	
1400	15084	Voice of Islamic Republic of Iran	Farsi	2200	9655	Voice of Turkey	
1400	15521	Radio Bangladesh		2200	15110	Radio Exterior de Espana, via Costa Rica	SS
1430	11690	Radio Jordan		2200	15200	Radio Portugal	PP
1430	15460	Universal Life, via Russia		2200	15345	RAE, Argentina	SS
1430	15520	BBC via Canada		2230	11780	Radio Yugoslavia	
1430	15525	Radio France Int'l	FF	2230	11785	Radio Iraq Int'l	
1430	17630	Africa Number One, Gabon	FF	2300	4850	CRTV, Yaounde, Cameroon	FF
1430	17640	BBC		2300	5905	Radio Ukraine Int'l	
1445	17620	Radio France Int'l		2300	9680	Radio Republik Indonesia, Jakarta	II
1500	5995	Radio Australia		2300	9900	Radio Cairo, Egypt	
1500	9785	China Radio Int'l		2300	11780	Radio Nacional Amazonas, Brazil	PP
1500	9860	Islamskaya Volna, Russia	RR	2300	11940	Radio Romania Int'l	
1500	12120	Voice of Hope via Georgia Rep.		2300	15460	Adventist World Radio, Costa Rica	
1500	15175	Radio Minsk, Belorussia Belarus	11795	2330	5770	Radio Miskut, Nicaragua	SS (USB)
1500	17545	Reshet Bet, Israel	Hebrew	2330	5960	Radio Canada Int'l	
1500	17755	Radio Exterior de Espana	SS	2330	7125	Voice of Russia	
1515	9820	KTWR, Guam	CC	2330	7480	Radio Bulgaria	
1530	9810	Far East Broadcasting Assn. Seychelles	unid	2330	15500	Central People's Broadcasting Stn, China	CC

Product Parade

BY NANCY BARRY
AND R.L. SLATTERY

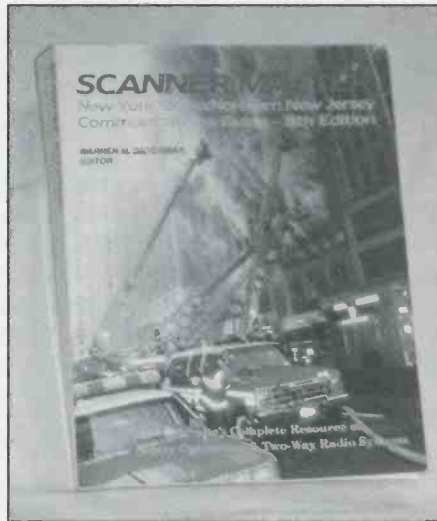
REVIEW OF NEW, INTERESTING AND USEFUL PRODUCTS

New York/New Jersey Metro Scanner Guide

The massive 724-page Sixth Edition of the *New York Metro/New Jersey Communications Guide* has arrived from Scanner Master. This thing weighs in at more than three pounds! It is jam-packed with scanner data on state, county, and municipal EMS, CD, local government agencies including law enforcement, fire, and highway departments; conservation, transit, hospitals, and schools.

Information is presented on PL tones, trunking systems, channel usage, channel designators, unit numbers, codes, and there are many maps. In addition, the directory also lists hospitals, news media, colleges, maritime channels, ham repeaters, and more.

Public safety listings are shown by location, then cross-indexed by frequency. This directory covers New York City,



Nassau, Suffolk, Orange, Putnam, Sullivan, Ulster, Dutchess, Greene, Columbia, Albany, Rensselaer and Schenectady Counties in NY; NJ coun-

ties of Hudson, Bergen, Essex, Union, Passaic, Morris, Middlesex, Monmouth, Somerset, Sussex and Warren. It also covers Fairfield County, CT.

If you own a scanner in the area covered by this monster-sized comprehensive publication, you'll certainly want to have a copy close at hand. The price is \$38.95, and can be ordered from Scanner Master, P.O. Box 428, Newton Highlands, MA 02161. Phone orders 1-800-722-6701; FAX orders 508-655-2350; e-mail orders <ScanMaster@aol.com>.

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HOKA CODE-3 USA Version

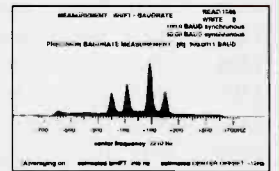
"The Standard Against Which All Future Decoders Will Be Compared"

Many radio amateurs and SWLs are puzzled! Just what are all those strange signals you can hear but not identify on the Short Wave Bands? A few of them such as CW, RTTY, Packet and Amort you'll know - but what about the many other signals?

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- SWED-ARQ-ARQ-SWE
- ARQ-E/ARQ1000 Duplex
- ARQ-N-ARQ1000 Duplex Variant
- ARQ-E3-CCIR519 Variant
- POL-ARQ 100 Baud Duplex ARQ
- TDM242/ARQ-M24-242
- TDM342/ARQ-M2/4
- FEC-A FEC100A/FEC101
- FEC-S • FEC1000 Simplex
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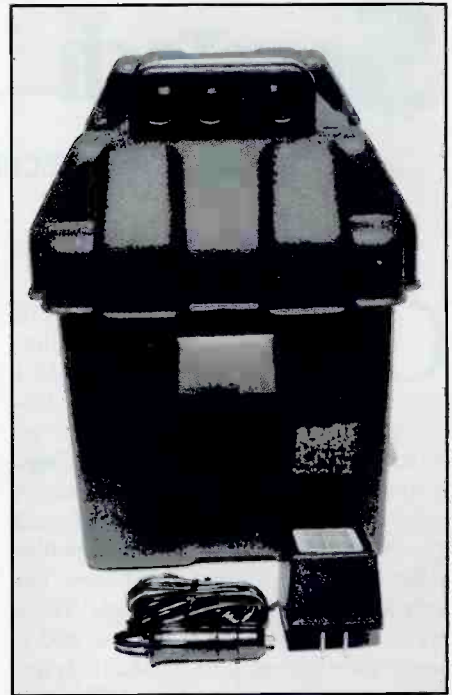
New Cutting Edge Battery Enclosure

The PowerPort PowerSafe, by Cutting Edge Enterprises, has everything you

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TRUNKING, TIPS, TECHNIQUES and MODS

Selecting a New Radio

One of the most frequent topics of discussion among scanner enthusiasts is "which radio should I buy?" This question comes up very frequently on our weekly conference on AOL, and at other times too. Sometimes it almost comes down to "Tell me which radio to buy." I can certainly understand the anxiety of committing to a particular radio, especially for first-time buyers, but even for those wanting to upgrade. There are so many options these days, and it seems to be getting more difficult! My answer to this favorite question is always—more questions.

If this is your first scanner and you are just beginning, there are a number of special considerations that you should look at before buying. However, if you're reading this column, my guess is that you're beyond that first radio and looking to upgrade with all that loot you got for the holidays. Sounds like a good plan to me, so let's focus on some of the more popular upgrade features. I'll be glad to come back to the first radio issue at another time if there's interest.

What Type of Radio?

If you're in the market for an upgrade, do you want a handheld, base or mobile? Most folks want handhelds so they can take them along, but if you do most of your listening in the car, or at home, then one of the other models makes more sense. If you already have a handheld, look at your listening habits. Would it be handy to have a rig at home all plugged in and ready to go? Or do you never have problems with dead batteries?

Don't get me wrong, there's nothing wrong with handhelds. I own a couple (ahem) myself. If you do most of your listening on the go, or need portable, that's the way to do it. In the good old days, portable meant compromise—big compromise. That's not really the case any more. Yes, there are some compromises with battery life, and power availability can occasionally limit some of the performance. But for the most part, hand-



Time to update your equipment? The myriad of choices available can seem like an impassable brick wall, but this month we take a look at some considerations to narrow down your choices and help find a radio you'll be happy with.

helds are a valid choice for almost any application if they suit your needs.

If you have a handheld already, you might consider one of the other models. I personally have always preferred base units because I do most of my listening at home. But I'll admit to owning a few handhelds and mobile units too, although these days I tend to use the handhelds in the car.

Price Level?

Probably the next most important question after the type of radio is the price level that you're considering. It's easy to spend literally thousands of dollars on high-end receivers, but if that's not what you had in mind, there's not much sense in throwing those receivers into your selection mix. It's simply not fair to compare receivers in the thousand-dollar class with high-end scanners in the four or five hundred dollar range. It's a different class of radio, and the feature on these radios are completely different. And if it doesn't make sense to

you why someone would spend that much on a receiver, please don't. We'll talk more about why crazy people buy those things in another article.

Trunking?

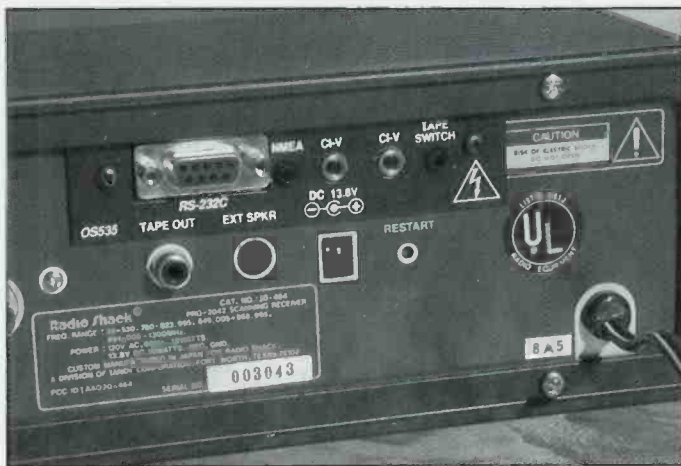
This question sure can eliminate some of your choices in a hurry. If you live in an area that uses a trunked system (Motorola type I, II or III) the trunktrackers should be at the top of your list. These radios make excellent regular scanners too, as their ability to reject interference and unwanted signals is rather high. But if you have a trunking system to listen to, there's no substitute. Right now, your only choices are the BC-235XLT handheld, or the BC-895XLT base unit. Both come highly recommended if you're in a trunked environment, and well recommended if you're not.

Number of Channels

The next function most people are after is large numbers of channels. Somewhere around 1000 seems to be about the right number for folks to ask for, but 500 or so is also a very comfortable level. In reality, even folks with thousand channel radios don't fill them all up. In fact, I'd guess there are a lot of four hundred channel units that aren't full either. Don't get too wrapped up in the number of channels, as long as it's a big enough increase over what you have to make a difference.

Number of Banks

This is probably a much more important consideration. The whole idea of banks is to be able to organize and switch in and out channels that are of interest at the time. By having large numbers of small banks, you can divide things up pretty well so that you only have to scan what's of interest at the time. The best radios in this regard have at least 10, but 20 banks is better. Only a few of the high end Uniden radios have this many banks. Computer control can eliminate both the



The PRO-2042 is one of a very few radios that can have a full function computer interface installed after the fact. This could be a strong consideration in your search if you think you might be interested in computer control later on. The Optoscan OS-535 is shown here, and it almost looks like a factory installation.



Two handhelds on the market with advanced features. The AR-8000 features full computer interface and alpha tags. The RELM HS-200 is the only scanner available with CTCSS and DCS tone squelch. Both have S-meters.

banks and number of channels barrier, so that's also something to think about.

Frequency Coverage!

It used to be that pretty much any scanner would cover the frequency ranges that most of us were interested in monitoring. However, in recent years that's changed a bit. One of the biggest areas to have trouble is the military air region from 220 to 400 MHz or so. There are simply not a lot of scanners on the market right now that cover this area. If you're interested in this frequency range, you can eliminate a lot of choices from your shopping list quickly.

Another place to watch is the 800 MHz range, particularly on entry-level radios. No, I'm not talking about the cellular portion of the 800 bands, as no current production radio is going to offer that coverage, but rather the entire 800 range itself. A lot of the introductory radios simply don't provide these frequencies, and there is virtually no way to add a band to a radio that doesn't have it built into the design in the first place. Now the good news is that in many places in the country, VHF/UHF is about all that's in use and you can live without the 800 bands. You can certainly save a lot of money on the radio that way, and might be an option for a second radio or other application where you don't have a lot of 800 MHz activity anyway.

What About Computer Control?

Over the past few years, computer control has really become a viable option for

scanner enthusiasts. Both software and hardware interfaces have improved considerably and can now make the marriage of the computer and scanner seem almost a necessity. If you have any interest in computer control, make this a major factor in your decision. It's easy to spend lots of money on both the receiver and the computer control portion of the system, so watch your budget. You can have lots of fun with some of the medium range receivers by spending a few extra dollars on better software.

It is virtually impossible to gain full functionality from many receivers that simply don't have a computer interface built in, or an add on system available for them. Make sure, if you're interested in computer control, that the receiver you buy has that as an option. You can always add it later if they make one, but inventing one from scratch is a bit inconvenient, to say the least. The bottom line is a system you're happy with, and a budget you can live within.

Many of the high end receivers, including those from AOR and ICOM have built-in computer interfaces. Several software packages have been developed to support these radios and can really overcome some of the built in limitations of the radio. A perfect example of this is the high end ICOM receivers which tend to have either no banking capability, or a very inflexible bank structure (the top of the line 8500 and 9000 are the exceptions to this pattern). By using a computer control system, you can completely overcome this and have as many banks and channels as your hard disk will hold. In addition, the computer allows you to store

information and groups of frequencies that are not in use until they are needed. Rather than re-program the entire receiver when something happens, you can simply reload the file and scan away.

If your budget doesn't allow for a high-end receiver such as this, you may still be in business. There are certain models of radios that are still in production (PRO-2042 for instance) that can have computer interfaces added later. This will allow you to ease in slowly if you think computer control is something you may be interested in later. Also, the recently introduced BC-895XLT has an interface, but very little information is available as of this writing regarding the functions that this interface will provide, or the software that may be available soon.

Currently, the number of handhelds that support computer control is very limited. The PRO-64 from RadioShack has a download capability (i.e. you can use the computer to re-program the radio's memories, but the radio does not talk back to the computer). The AOR-8000 has a full computer interface as does the recently introduced R-10. If you think about it, download is really what you would want in a handheld most of the time, as you're not going to be carrying a computer around with the radio.

Alpha Tags?

If you don't want computer control, the next best thing to have is the ability to assign each channel an alphanumeric label. Only a handful of high end radios currently have this feature, but it is very valuable in larger capacity radios. The BC-

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CIRCLE 67 ON READER SERVICE CARD

Scanner Basic Features Comparison

The list below contains information regarding some of the more common upgrade scanners on the market today. This is not intended to be a complete list, nor does it include models which may be found on the used market.

Scanner	Radio Type	Channels	Banks	Other Features of Interest
AOR				
AR-3000A	Handheld	400	4	Computer interface
AR-5000	Base	650	65	Computer Interface
AR-8000	Base	1000	20	Computer Interface
ICOM				
R-10	Handheld	1000	18	CI-V Computer interface
R-7100	Base	800	8	CI-V Computer Interface, S-Meter
R-8500	Base	1000	20	CI-V Computer Interface, Direct connection, Alpha Tags, Wide band coverage, S-Meter
RadioShack				
PRO-26	Handheld	200	10	
PRO-64	Handheld	400	10	Computer download
PRO-67	Handheld	200	10	
PRO-90	Handheld	300	10	Trunktracker
PRO-2041	Base	400	10	Computer download
PRO-2042	Base	1000	10	3rd party computer interface available
PRO-2045	Base	200	10	CTCSS option, weather alert
RELM				
HS-200	Handheld	200	10	CTCSS and DCS built in, S-meter
Uniden				
BC-230	Handheld	200	10	
BC-235	Handheld	300	10	Trunktracker
BC-890	Base	200	10	CTCSS option, Weather alert
BC-895	Base	300	10	CTCSS built-in, Trunktracker, Computer Interface, S-Meter
BC-3000	Handheld	400	20	
BC-9000	Base	500	20	CTCSS option, Alpha tags on 250 channels

9000XLT is the main base station receiver that has this feature (leaving out the high end ICOMs once again). The AOR AR-8000 handheld seems to have a lock on the handheld market, but there may be additional radios on the horizon with this feature. The AR-8000 is currently the only handheld that will allow you to have your cake and eat it too. It's a handheld, with computer control and alpha tags.

tem, also known by the Motorola trade name Private Line™, is becoming available on more and more units. If you are living in a metropolitan area at all, this is a worthwhile option. It is discussed at some length in the December '97 "ScanTech" column.

Do You Need An S-Meter?

A signal strength meter is something that most shortwave listeners would not be without. It allows you to see at a glance the incoming signal strength and to make

CTCSS

Continuous Tone Code Squelch Sys-

comparisons between antennas, time of day, frequencies that are on at the same time, etc. For some reason, this feature has been lost from all but the high-end communications receivers and scanners for years. The first consumer grade radio to offer this feature in quite literally years is the BC-895XLT (also a TrunkTracker) base radio, and the Regency HS-200 and AOR AR-8000 handhelds. It's really a convenient feature in a handheld so you can check antennas, location, etc.

Other Considerations

There are lots of other features available from model to model. Some folks would not own a scanner without search lockouts, others never search. Auto search and store is a handy feature too, if you do any searching.

Selectable attenuation, delay function, priority operations, service search, weather scanning or alert functions, selectable modes, and tuning dials are also features that have various amounts of importance depending on who you talk to about scanning. Look around, collect some catalogs and dive in. Once you've narrowed the field a bit, start asking around and see if you can find folks who have used the receivers you're interested in buying. Join us on the AOL ScanScene conference and ask the "panel of experts" that frequent the conference. But ultimately, only you will have to live with your final decision. Good luck!

A Quick Question

Alan Bint, Jr. wrote in and asked "I just purchased an ICOM R-10. My question . . . that R-10 instruction book is a bear, does anyone put out a simplified guide for programming this scanner?"

I am not aware of any, and I have not worked with this radio enough to offer any advice. I do understand that the R-10 manual is like most other ICOM manuals, hard to follow. If anyone has any suggestions or hints for the R-10 (or other radios too) e-mail me or send them via the post office.

Your Input Needed

I'm always looking for your input. Got any search results to let us in on? Pictures of your system in operation? Send them in! Next month is right around the corner.

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26.965	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
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The Listening Post

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

Hearing Iraq Becomes Easier and Radio Jordan Asks for Letters!

Shortwave broadcasts from Iraq have been difficult for most North Americans to hear ever since much of Hussein's radio facilities were destroyed during the Gulf War. Not only were signals weak, the operating schedule was erratic and no one even seemed sure of the moniker the station was using. Of late, though, Iraqi Radio seems to have gotten its act together a bit more as people report more frequent and consistent reception. The international service, called Radio Iraq International, is aired on one frequency—**11785** (we've noted it closer to **11787**) as follows: In Arabic at 0000–0300 and 1900–2000; English from 0300–0400 and 2030 to 2100; French from 2000 to 2030. The all Arabic domestic service, Republic of Iraq Radio, is relayed on shortwave from 0900–1200 on **11785v**, 1400–1600 on **9715** and 1900–2200 on **9755** and **11292** (that odd frequency is not a misprint. It's been heard quite well in North America.

Two other Iraqi services on shortwave (all Arabic) are the Voice of the Masses on **9715** from 0615 to 0900 and Mother of Battles Radio on the same frequency from 1600 to 1900.

China has placed a new high powered transmitter site at Xinjiang on the air so China Radio International's signals direct from the Middle Kingdom are being better received. Strong signals are no longer a tip off that you're listening to CRI via a relay! By the way, CRI has a new address: 16A Shijingham St., Beijing. The change is likely due to having now moved into their new headquarters building.

Elmer Wallesen of Illinois sends a news clip which says the U.S. government has complained to China about a recent increase in China's jamming of Washington's Radio Free Asia and Voice of America broadcasts. What did they expect would happen? Meanwhile, there are changes underway in the radio operations of Beijing's nemesis. As of January 1 Taiwan's Voice of Free China becomes CBS—Taipei Radio International. This is due to the merger of the Broadcasting Corporation of China (BCC) and the



Radio Havana Cuba operates from the building of Radio Progreso. Note RHC's sign at the far right. (Fabien Serve, France)

Central Broadcasting System, which operates the government's domestic services. Apparently Taiwan's shortwave service aimed at Southeast Asia—The Voice of Asia, will then change its name to Voice of Free China.

The Voice of Armenia's planned celebration of its 50th anniversary, which we mentioned a time or two ago, has been canceled in an "administrative decision." The planned special event amateur radio operation will not take place, either.

Radio Jordan is not known for the efficiency or friendliness of its audience relations department. Indeed, it can be one of the toughest countries to QSL you're likely to run across (never mind that the King is a ham operator and knows all about such things). Recently, people on Radio Jordan's mailing list received a form letter pointing out that in recent years powerful, computerized state-of-the-art transmitters have been installed. One of the other positive steps is the creation of a "special unit to look into your letters and reception reports and respond to them." The letter says English is transmitted daily from 1000 to 1630 on **11680** and that reception reports would be highly appreciated on this frequency. The sta-

tion's address is P.O. Box 909, Amman, Jordan. We'll see!

Radio Bulgaria is also asking for reports on its broadcasts. According to an announcement monitored in Florida by David Bannar, the station requests the inclusion of IRCs to help cover the cost of its response (something the old Communist governments never asked for). Radio Bulgaria's address is P.O. Box 900, 1000, Sofia Z, Bulgaria.

There are many changes taking place at Radio Vlaanderen International in Belgium, too, and not much to the good. Fifteen people are being made redundant (read: fired). The station is discontinuing broadcasts in both Arabic and Spanish, with broadcasts in German and French being cut down to weekend airings only. The end has also come for the long-running listener's club and QSLs will now only be issued at the rate of one per person per year.

Due to its powerhouse signal, Africa Number One is the station one usually associates with Gabon. The government operation isn't heard nearly as well. But give it another try. The government's Voice of Gabon (which seems to be a new name) is using a new high power trans-



The engineer at Radio Havana Cuba recording an interview with Fabien Serve who was visiting from France.



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QSL

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KOL Israel sent this QSL to Jeffery Muska of New Jersey.

mitter on its regular 4777 frequency. This sign on daily at 0500, all in French.

Another upgrade on the way will happen in Madagascar, where reports say that Radio Netherlands is to provide Radio Madagasikara with transmitter upgrades. As things are now, the station is a tough tune by anyone's measure.

We've had a most interesting letter from Fabien Serve in France, who says

he recently visited Cuba and some of its radio stations. He was welcomed at Radio Havana, which is housed in the Radio Progreso building at 105 Infanta Street, and was interviewed there by someone in the French service (the interview was later broadcast in RHC's European Service). He also visited Radio Rebelde where he got an even bigger welcome—the woman host even going out of her way

to find someone who could serve as a translator. He also stopped at local station Radio Ciudad de la Habana but, says Fabien, the people there did not seem very interested in foreign visitors. Fabien notes there are a lot of cars and busses in Havana which have the word "radio..." or "television..." on them. Thanks for the great letter and pictures, Fabien!

Let's have a letter from you next time!

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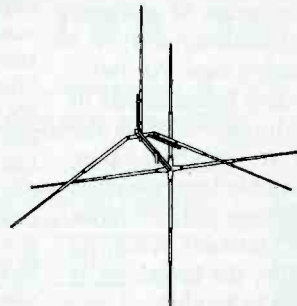


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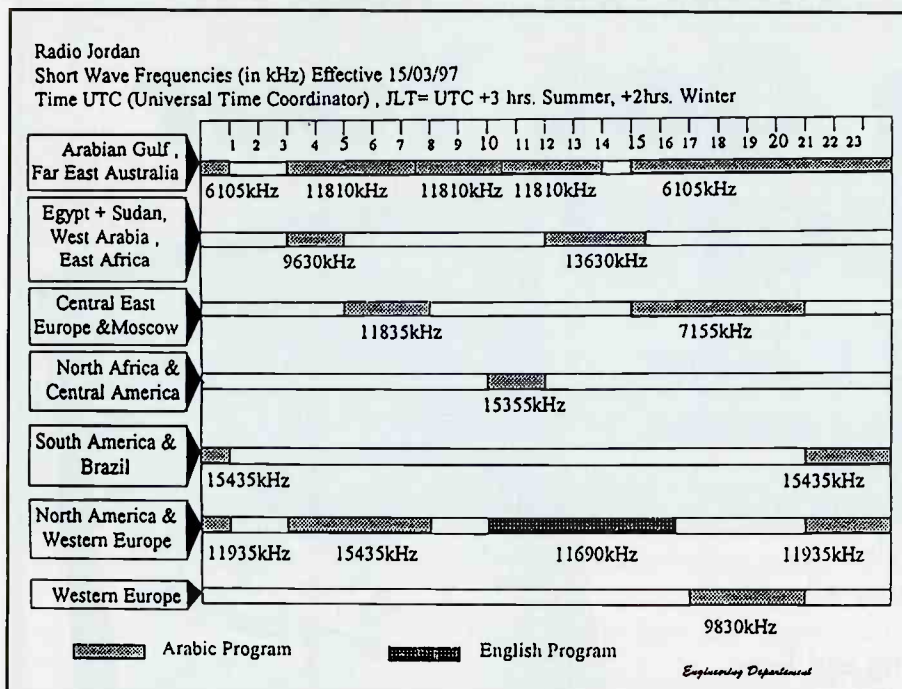
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CIRCLE 76 ON READER SERVICE CARD

THE MONITORING MAGAZINE

January 1998 / POPULAR COMMUNICATIONS / 51



Here's Radio Jordan's current schedule.

KUWAIT—Radio Kuwait, **11990** at 2018 to 2200 with ID, IS, music, news, weather. (Bannar, FL) 2006 with relay of Kuwait City FM on 99.7. (Jeffery, NY) **15505** in AA. ID, frequency and news at 1900. (Yohnicki, ON)

LATVIA—The Media Zoo, **5935** at 2300 to 2359 with a one-time broadcast marking the 30th anniversary of the Marine Broadcasting Offences Act. Verbal and audio clip history of 60s era offshore stations. Also acknowledged the cooperation of the Latvian transmitter relay arrangement. (Rausch, NJ)

LITHUANIA—The Word-The Cosmic Wave, **5890** at 1945 sign on to 2015 close with a bizarre religious talk by a woman. Address is P.O. Box 5643, D-97006 Wurzburg, Germany. (Rausch, NJ)

MADAGASCAR—Radio Netherlands relay, **9890** at 1331 with news, ID, weather. (Jeffery, NY)

MALAYSIA—Voice of Malaysia, **9750** at 1645 with pops. (Miller, WA)

MEXICO—Radio Transcontinental, XETRA, **4800.7** at 0330 sign on in SS with ID "XETRA, la voz comercial de Mexico." Old big band music and Mexican ballads. EE from 0500 to 0530 with mini features on history and geography of Baja, California and Tijuana.) Address: Torre Latinoamericana, piso 37, 06007 D.F., Mexico. (Rausch, NJ) Radio Mexico Int'l, **9705**, 1405 with ID and frequencies in EE, Mexican pops. (Wilden, IN) 1225 in SS. (Northrup, MO) 0137 with soft SS music. (Jeffery, NY)

Radio Mil, **6010** in SS at 0325. (Moser, IL)

MOROCCO—Voice of America relay, **7195** at 0550 with program about the Bald Eagle's comeback. (Foss, AK) 0615 with "Daybreak Africa." (Tucker, AL)

NETHERLANDS—Radio Netherlands, **6020** at 0100-0130. (Tucker, AL)

NETHERLANDS ANTILLES—Radio Netherlands Bonaire relay, **6165** at 0452. (Wilden, IN) **15315** at 1846. (Jeffery, NY) **17605** at 1934, // **15315**. Also **9895** and **11655** both from Flevoland. (Tucker, AL)

NEPAL—Radio Nepal, **5005** at 0015 sign on in Nepali with IS, time pips and ID by woman. (Rausch, NJ)

NEW ZEALAND—Radio New Zealand Int'l, **6100** at 1003 with local news, weather and "Late Edition." 0209 on **15115** with "Cadenza." (Jeffery, NY) 2316. (Yohnicki, ON) 0122 and 0332. (Moser, IL) 0406. (Miller, WA)

NIGERIA—Voice of Nigeria, **7255** at 0533 with news. (Foss, AK)

NORTH KOREA—Radio Pyongyang, **13760** at 2300 with IS, ID, news. (Rausch, NJ)

NORWAY—Radio Norway, **13805** at 1600 in NN. (Wilden, IN)

PAKISTAN—Radio Pakistan, **11570** at 1725 in unidentified language. (Miller, WA)

PAPUA NEW GUINEA—NBC, Port Marseby, **4890** at 1048 with requests, news. (Miller, WA)

PERU—Radio Cristal, **7745.8** from 0210 to 0235 in SS with huaynos, time checks, greetings to listeners, ID "siempre Radio Cristal." (Rausch, NJ)

Swiss Radio Int'l relay, **9905** at 0107 with "Newsnet." (Jeffery, NY) 0458 with jazz & new age. (Tucker, AL)

China Radio Int'l relay, **9730** at 0415, 0433. (Tucker, AL; Foss, AK)

GABON—Africa Number One, **17630** in FF at 1440 with music. ID 1452, news at 1500. (Yohnicki, ON)

GEORGIA REPUBLIC—IBC Tamil, **15075** heard at 1335 to 1400 sign off. In Tamil with talks and brief segments of Sri Lankan music, ID as "IBC Tamil" at 1403 and 1425. (Rausch, NJ)

GERMANY—Deutsche Welle, **6075** at 0450, **9640** at 0126 and **13610** at 1135 (in GG). (Wilden, IN) 6085 (Canada) at 0325 and **9655** via Sri Lanka at 1640 in GG. (Miller, WA) **17765** at 1540 in GG. (Yohnicki, ON)

GREECE—Voice of Greece, **7450** at 0135 with news. (Moser, IL) Here and parallel **9420** at 0130 to 0145 with EE news, into Greek at 0145. (Lynch, NC)

GUAM—KTWR, **9820** at 1525 in CC with Oriental music. (Miller, WA)

GUATEMALA—Radio Tezulutlan, **4835** at 0255 in Quechua with music request program. (Miller, WA)

HAWAII—KWHR, **17510** at 0220 with USA Radio news. (Tucker, AL) New **17555** at 0200 with test of their new transmitter. "Onward Christian Soldiers" and list of Pacific locations reached by KWHR, talk about founder Lester Somerall's dream of missionary radio, promise of special QSL. Also on **7560** and **11565**. (Rausch, NJ) 0015 to past 0200 with first day broadcast for new transmitter. Same on **11565** from 1212 to 1255. (Silvi, OH)

HUNGARY—Radio Budapest, **9580**, 0100 to 0130 with music and commentary. (Lynch, NC) 0118 reporting on increase in price of

beer. (Moser, IL) 0126. (Wilden, IN)

INDIA—All India Radio, Aligarh, **11585** at 1719 in Hindi. (Miller, WA)

AIR, Bangalore, **11620** in Hindi at 1530. (Miller, WA)

INDONESIA—Radio Republik Indonesia, Ujung Padang, **4755** at 1244 with call to prayer. (Miller, WA)

RRI Jakarta, **9680** at 2300 in II with "Song of the Coconut Islands" IS, ID, Jakarta news, call in program. (Rausch, NJ)

IRAN—Voice of the Islamic Republic of Iran, **9022//9685** at 0000 to 0130 with news, religion, political commentary. (Lynch, NC)

IRAQ—Radio Iraq Int'l, **11785** at 2220 to 2235 in EE with ID "This is Baghdad—Radio Iraq International" and talk about Islamic holy shrines, anti-U.S. propaganda. (Rausch, NJ)

IRELAND—West Coast Radio Ireland, **5910**, Thursdays from 0100 to 0200, via Germany. (Wood, SC)

ISRAEL—Kol Israel, **11605** at 1900 with ID, "Israel News Magazine." (Jeffery, NY) Reshet Bet, **17545** in Hebrew at 1503. (Yohnicki, ON)

ITALY—RAI, **6010** at 0322 in II with bird chirps at 0325 sign off. (Moser, IL) **6010//11800** at 0050 to 0100 with news, weather, sports. (Lynch, NC)

Adventist World Radio, Forli, **7240** at 0300 with special anniversary broadcast to 0500. QRM from VOA-7235 until they went off at 0430. (Silvi, OH)

JAPAN—Radio Japan, **6135** (via Ascension Island) at 0330 in JJ and **9535** at 1505 with news. (Miller, WA) **9835** at 0600 with ID "This is Radio Japan—NHK World Network in Tokyo." Also **11910** at 0720 with "Tokyo Pop-In." (Foss, AK) **13630** at 2100 "Hello From Tokyo." (Hill, ID)

Radio Comas TV, 3250.8 at 0330 to 0500 close in SS with cumbias, time check, ID "transmite Radio Comas en los 1300 kc/s amplitud modulada onda media. Ahorás una nueva senal 3250 kHz onda corta. Avenida Estados Unidos 327 urb huaquillay Distrito de Comas, Lima, Peru." (Rausch, NJ)

PHILIPPINES—Radio Philipinas, 15330 at 0346 with news in language. (Foss, AK)
Voice of America relay, 7215 at 2200 sign on with IS, ID, news. (Rausch, NJ) 17735 at 2308 with news. (Jeffery, NY)

POLAND—Radio Maryja, 7400, 2000 to 2200 close, in Polish with religious talk, listener call-ins. EE ID and schedule in local time at sign off. Schedule: Mon-Sat 0500-0715, Sundays 0700-0900 both on 9905; Daily 1500-1700 on 12010 and 1700 to 2200 on 7400. (Rausch, NJ)

PORTUGAL—Radio Portugal, 15200 at 2230 in PP. (Miller, WA)

ROMANIA—Radio Romania Int'l, 11940 at 2301 with ID, news, features. (Jeffery, NY)

RUSSIA—Golos Rossi, 9860 at 1650 with CC-RR language lesson. (Miller, WA)
Voice of Russia, 5180 at 0410 with program highlights, //12010, 12050, 13645, 15595. (Tucker, AL) 12050 at 0311 from Khabarovsk. (Miller, WA) 15430 at 1604 with news. (Wilden, IN)
Magadan Radio from Yakutsk, 7320 at 0546 in RR. (Foss, AK)
Radio Netherlands relay, 12065 at 0939 with news. (Foss, AK)

RWANDA—Deutsche Welle relay, 17860 at 2043 in GG with folk music. Off at 2056. (Jeffery, NY)

SAO TOME—Voice of America relay, 11795 at 2032 with ID, frequency, music, news, discussion. (Bannar, FL)

SAUDI ARABIA—BSKSA, 11870 in AA at 0309 and 15060 at 0405. (Miller, WA)

SEYCHELLES ISLANDS—Far East Broadcasting Association, 7350 from 0200 sign on to 0230 sign off in II with IS, ID, Indo lagu popular music and II talk by woman. (Rausch, NJ) 9810 at 1550 in unidentified language. (Miller, WA)

SLOVAKIA—Radio Slovakia Int'l, 5930//9440 at 0100 to 0130. (Lynch, NC) 7300 at 0704. (Moser, IL)

SOUTH AFRICA—Trans World Radio via Meyerton, 9510 heard at 2051 with religion. (Miller, WA)
Channel Africa, 11900 at 0619 with sports. (Foss, AK)

SOUTH KOREA—Radio Korea Int'l, 9870 at 1652 with listener's letters. (Miller, WA)

SPAIN—Radio Exterior de Espana, 3210 (via Costa Rica) at 0316 in SS. (Foss, AK) 6055 at 0000 with ID, time, frequency info, news, commentary, Latin American news. (Jeffery, NY) 0030 to 0200. (Lynch, NC) 6130 in SS at 1310. (Wilden, IN) 7255 at 1210 and 9630 (Costa Rica) at 1230 in SS. (Northrup, MO) 15110 (Costa Rica) at 2224 in SS. (Miller, WA) 17755 at 1505 in SS. (Yohnicki, ON)

SWEDEN—Radio Sweden Int'l, 7290 at 0130-0200 with news and commentary.

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April '96

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(Lynch, NC) 0131 with news. (Moser, IL) SWITZERLAND—Swiss Radio Int'l, 6135/9885/9905 at 0100-0130 with news and commentary. (Lynch, NC) 9885 at 0110 with "Newsnet." (Jeffery, NY) 0357 in GG, into World News at 0400. (Miller, WA) 0300 with news in SS. (Wilden, IN) SYRIA—Radio Damascus, 13610 at 2125 to 2155 with ID, news, music. (Bannar, FL) TAHITI—Radio Tahiti, 15167 at 0409 in FF. Polynesian music Very faint. (Miller, WA) TAIWAN—Voice of Free China, 5950 (via WYFR) at 0302. Announcements and anthem. (Wilden, IN) 9610 at 1235. (Northrup, MO) THAILAND—Voice of America relay, 9705 at 2300 with ID, "VOA Today." (Rausch, NJ) 11725 at 0117 with IS, ID, news, "VOA Today." (Bannar, FL) BBC relay, 11955 at 0934. (Foss, AK) Radio Thailand, 15395 with dull speech about health care in Thailand. (Foss, AK) TURKEY—Voice of Turkey, 7300 at 0300-0350 with news, music, commentary, current affairs. Also 9445/13695 from 1830 to 1920 and 9655 at 2200-2250. (Lynch, NC) 7300 at 0320. (Moser, IL) 0348 announcing contest winners. (Hill, ID) TUNISIA—RTV Tunisienne, 7475 at 2012 to past 2310. Seemed news in AA for 5-10 minutes at top of the hour. (Silvi, OH) 12005 at 1900 in AA. Also 2205. (Yohnicki, ON) UNITED ARAB EMIRATES—UAE Ra-


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AMERICA • NORTH - CENTRAL - SOUTH

Zone	Time UTC		Frequency (kHz)			Language
Zone	39 m	30 m	25 m	19 m	16 m	
A	14.00	14.25				Italian
	18.30	19.05				Italian
	22.30	00.50	6010	9675	11800	Italian*
	00.50	01.10	6010	9675	11800	English
	01.10	01.25	6010	9675	11800	French
	01.30	03.05	6010	9675	11800	Italian*
	01.05	03.25	6010	9675	11800	Spanish
B	22.30	00.50				Italian*
	00.50	01.10		9575	11800	Italian*
	01.10	01.25		9575	11800	Spanish
	01.30	02.30	6110			Portuguese
	01.30	03.05		9575	11800	Italian*
C	03.05	03.25		9575	11800	Italian*
						Spanish

NORD - CENTRO - SUD • AMERICA

Zone	Time UTC		Frequency (kHz)			Language
Zone	39 m	30 m	25 m	19 m	16 m	
A	14.00	14.25				Italian
	18.30	19.05				Italian
	22.30	00.50	6010	9675	11800	Italian*
	00.50	01.10	6010	9675	11800	English
	01.10	01.25	6010	9675	11800	French
	01.30	03.05	6010	9675	11800	Italian*
	01.05	03.25	6010	9675	11800	Spanish
B	22.30	00.50				Italian*
	00.50	01.10		9575	11800	Italian*
	01.10	01.25		9575	11800	Spanish
	01.30	02.30	6110			Portuguese
	01.30	03.05		9575	11800	Italian*
C	03.05	03.25		9575	11800	Italian*
						Spanish

EUROPE

Zone	Time UTC		Frequency (kHz)			Language
Zone	39 m	30 m	25 m	19 m	16 m	
G	15.30	15.55	7290	9755		French
	15.55	16.25	7290	9755		Italian
	16.05	16.25	7290	9755		German
	16.15	16.25	7290	9755		English
	16.15	16.25	7290	9755		Swedish (Mon-Wed-Fri)*
	16.15	16.25	7290	9755		Thai (Sun-Thur)*
	16.15	16.25	7290	9755		Esperanto (Saturdays)*
	16.15	16.25	7290	9755		Russian
	16.15	16.25	7290	9755		Ukrainian
	16.15	16.25	7290	9755		Italian*
H	03.50	04.10	5975		9670	Ukrainian
	04.30	12.00	6110			Italian*
	04.45	05.05	5975		9670	Lithuanian
	05.10	05.30	5975		7240	Romanian*
	06.00	12.00	7240			Italian*
	13.20	13.55	5980		7240	Albanian*
	14.00	14.15	5980		7240	Slovene*
	14.15	14.35	5980		7240	German*
	14.35	14.55	5980		7240	Croatian*
	15.00	15.20	5970		7240	Turkish*
	15.20	15.40	5970		7240	Greek*
	15.40	16.00	5970		7240	Bulgarian*
	18.15	18.30	6110		7145	Czech*
	18.30	18.45	6110		7145	Slovak*
	18.45	19.05	6110		7145	Polish*
19.10	19.30	5955		7145	Serbian*	
19.35	19.55	5955		7145	Hungarian*	
21.15	21.35	5970		7120	Romanian*	
21.35	21.55	5970		7120	Czech	
21.55	22.10	5970		7120	Slovak	
22.10	22.25	5970		7120	Polish	
H-L	03.30	03.50	5975		7270	Russian
	05.35	05.55		9670	11800	Russian*
	16.05	16.25		9670	11800	Russian*
	20.00	20.20	6035		7145	Russian

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RAI, Italy's coverage area and time/frequency schedule for Europe and the Americas.

dio, Dubai, 15315 at 0342 in AA. (Foss, AK) 15395 at 1329 with frequency info, news, Dubai weather and headlines. (Jeffery, NY) VIETNAM—Voice of Vietnam, 7250 (via Armivir, Russia) at 0133. (Moser, IL) 0240 with features about relations with the U.S., then listener letters. (Jeffery, NY) 9730 at 1055 with IS, ID, program preview, ID, news. (Rausch, NJ) VATICAN CITY—Vatican Radio, 7305 at 0308 with "On the Air." (Tucker, AL) 9605 at 0256. Discussing putting religion back in school, how bad the new age is. (Wilden, IN) African service on 13765 at 0634 with speech by Pope John Paul. (Foss, AK) YUGOSLAVIA—Radio Yugoslavia, 11780 at 0553. Off 0559. (Miller, WA)

Sound the cannons in salute to the following who helped us out this month: Marty Foss, Talkeetna, AK; Thomas W. Hill, Mountain Home, ID; Ed Rausch, Cedar Point, NJ; Joe Kenneth Wood, North Augusta, SC; Mark Northrup, Gladstone, MD; Sue Wilden, Columbus, IN; Lee Silvi, Mentor, OH; Michael Yohnicki, London, ON; Michael J. Miller, Issaquah, WA; Robert J. Lynch, New Bern, SC; David R. Bannar, Ormond Beach, FL and Michael J. Tucker, Culman, AL. Thanks to each of you and until next month, good listening!

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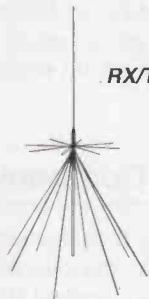
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The Old CB Shack

BY DON PATRICK

GIVING LIFE TO YESTERDAY'S RELICS

The Johnson Messenger I, II and 223

Well, it's that time again; another year has come and gone. We're going to start 1998 with a "three-in-one" rebuild/refurbish on the three most popular CB radios ever manufactured—the models about which we received the most letters. The first third will be in this month's column, with the second third to follow in March and the final third in the May issue of *Pop Comm*.

The three units are the E.F. Johnson messenger I (Whiteface), the Messenger II (Blackface), and the Messenger 223. While these units are among the easiest to rebuild due to their simple construction and accessibility of parts, the alignment is unusual and takes up a lot of space, so we'll do it in thirds.

Thanks to an Unknown Reader

Before we get started, I want to thank some unknown person that sent me a collection of old CB literature, *10-9ers Megahertz* newsletters and such. The package was severely damaged in the mail, so I've got no idea what, if anything, was missing, other than the sender's name and address. The best we can do is thank the sender here in our column.

They're Identical Units

Why do these three units together?

"... these units are among the easiest to rebuild due to their simple construction and accessibility of parts ..."

Well, because they're virtually identical units. It doesn't surprise most people that the Messenger I and II were very similar, but what about the 223? If you think we're kidding, just follow along and you'll see just how much alike they were to each other.

Most of our previous articles over the past two years have been about old tube-type units. If I've received one call or letter about where to find tubes, I've received dozens. Either the person can't find a tube or they have been ripped with high prices. Let me pass along a source that will have most any tube you need at a fair price. You amateur operators might want to make a note of this source for your old tube-type ham equipment. He is out of the old sweep tubes used in linear amplifiers, but I've got a suggestion for those later. Write him with a list of what you need and enclose an SASE. Paul will respond with what he has and the price for each plus UPS charges. You then can send him a money order and shipping address, as UPS doesn't deliver to a P.O. box. A money order will get your order shipped within a couple of days. A check

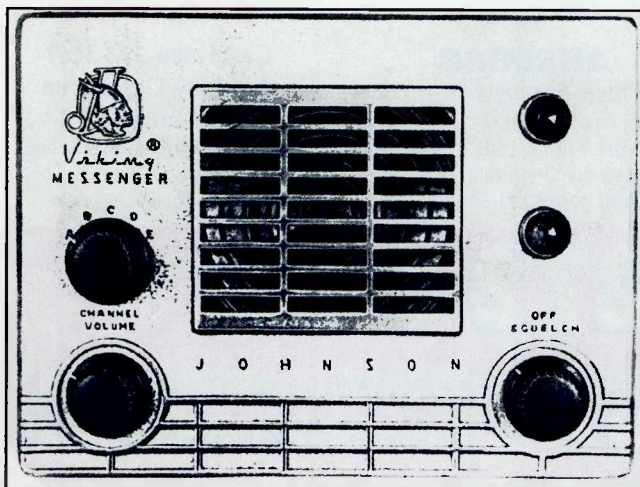
will have to clear before he ships. Write to Paul Tucker, 4700 No. "N," Fort Smith, AR 72904. He has almost 60,000 tubes, so he'll be able to fill most of your needs.

Old Sweep Tubes

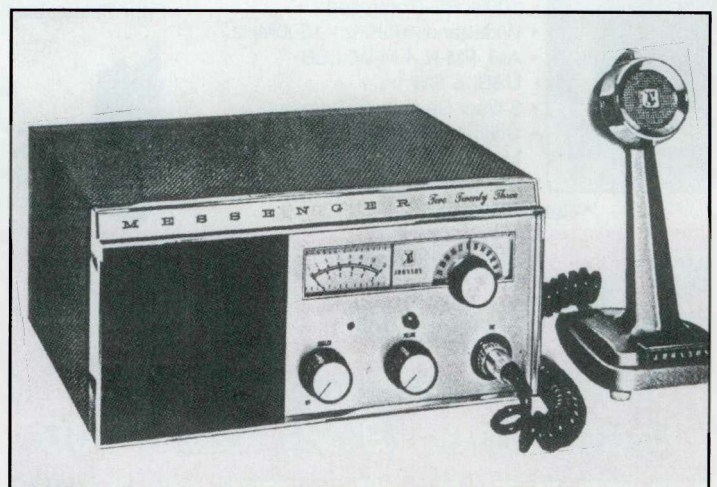
The sweep tubes used in RF power amplifiers were originally manufactured for use in TV sets as the horizontal output stage. Some types were in black and white sets and others in color TV sets. Scout around your area for large TV sales and service dealers. While they may not have any new tubes in stock, some dealers have a large pile of old TV sets out back that they have taken in trade and not yet taken to the dump. Being outside in the rain will not have hurt the tube if it was good when the set was junked. Also, watch the newspapers or *Thrifty Nickel* for old TV sets. You might even consider running an ad for old sets yourself. A quick look will tell you if an old set has a tube you need.

The E.F. Johnson Company

The company originally manufactured electronic parts mainly for amateurs and radio manufacturers. They jumped into the CB market in 1961 with the Johnson Messenger I, called the Whiteface due to its silver cast front. For that era, it was a



The Johnson Messenger I.



Johnson's first 23 channel base station, the Messenger 223.

"The Messenger I didn't have to take a back seat to any on the market."

very modern radio with all the bells and whistles such as multi-channel (5), dual power supply (AC & DC), push-to-talk (PTT) microphone, squelch circuit and automatic noise limiter circuit. Like all Johnson products, the components were operated well below their limits, making for extreme reliability and long life. About the only way you could damage one was to operate it with an oversized fuse or no fuse or have a vibrator "stick." This resulted in a burned up power transformer. As I said, the company made radio parts, so the Messenger I had a lot of their own parts in it such as switches, tuning capacitors, crystal sockets and others.

The Messenger I Receiver

First, let's consider the receiver. When it was designed there weren't a lot of CB radios on the air anywhere. You needed a receiver that was sensitive in order to reach out and pick up a distant, weak signal. Most likely you didn't have anyone nearby using the two channels above and/or the two channels below the one you were on at the time. Therefore, you didn't need a receiver that was very selective. However, as more and more people jumped onto the CB bandwagon, this weakness became more of a problem. The Messenger I was not alone in this shortcoming. Most of the sets popular at the time were nearly equal in this regard, suffering from bleed-over from the adjacent channels. This poor selectivity was due to the fact that the receiver had only one IF stage. The main purpose of the Intermediate Frequency (IF) amplifier stages with their input and output transformers is to narrow down the bandwidth which is passed on to the detector. The more IF stages a receiver has, the narrower the path, but the channel you're on is passed with no reduction, and the channels on either side of your channel are tuned out to a great degree.

The Transmitter

The Messenger I didn't have to take a back seat to any on the market. In fact, most owners soon discovered that with two minor changes, the Messenger I

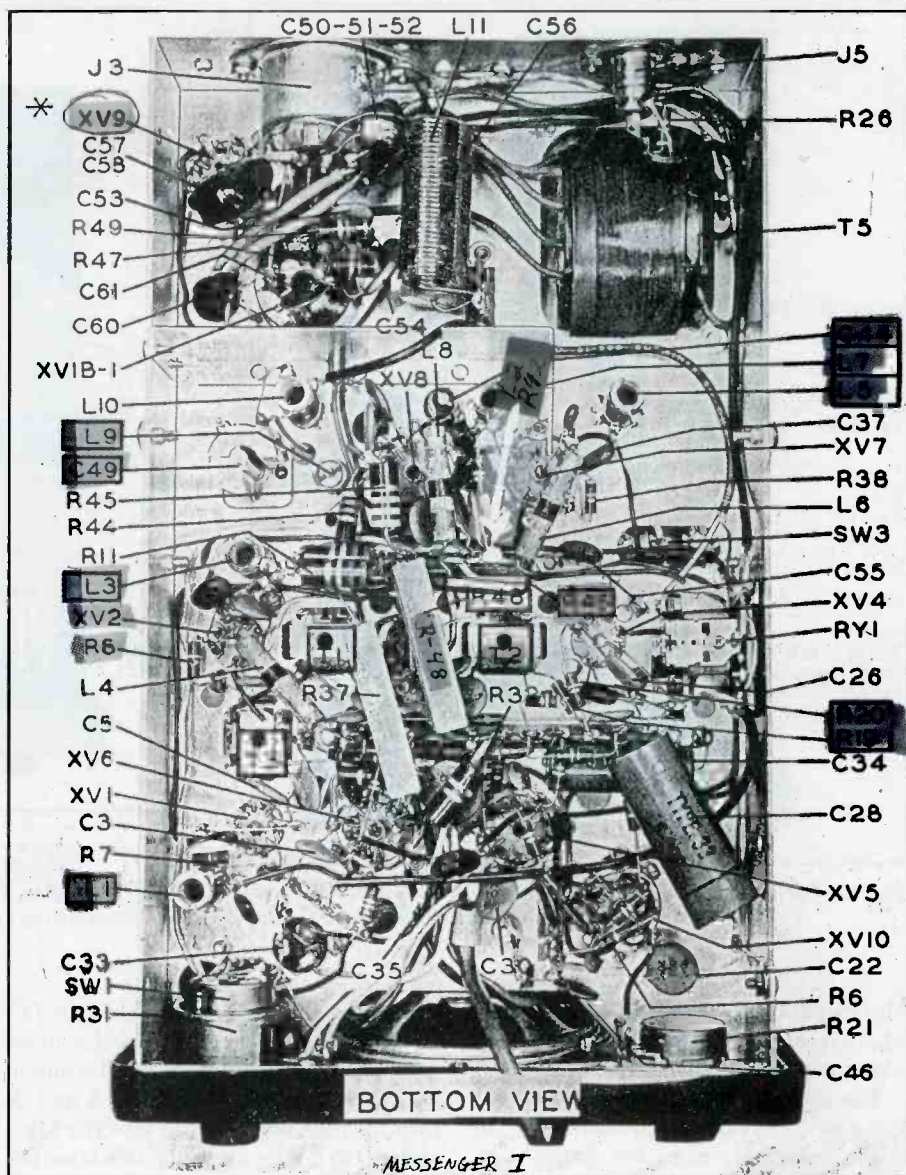
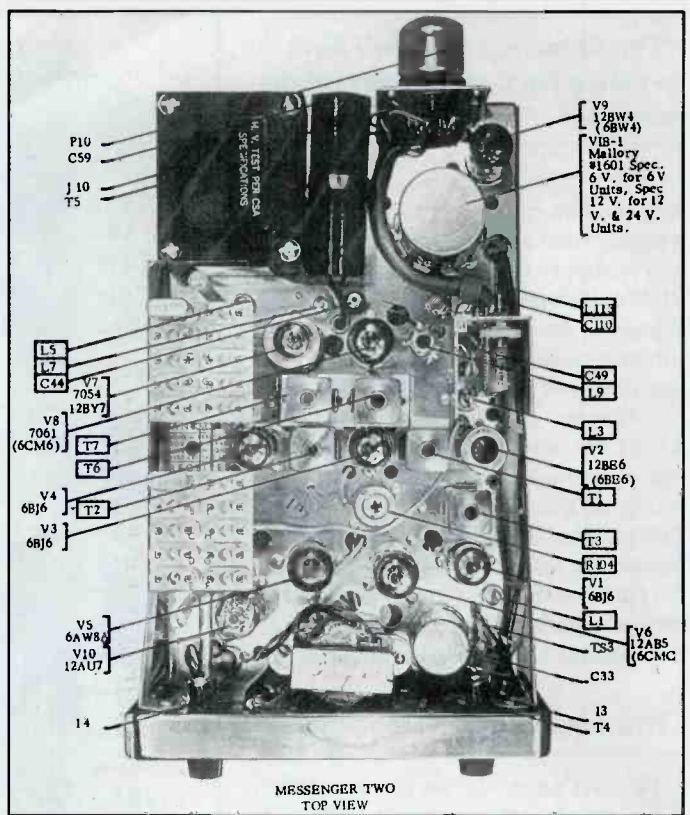
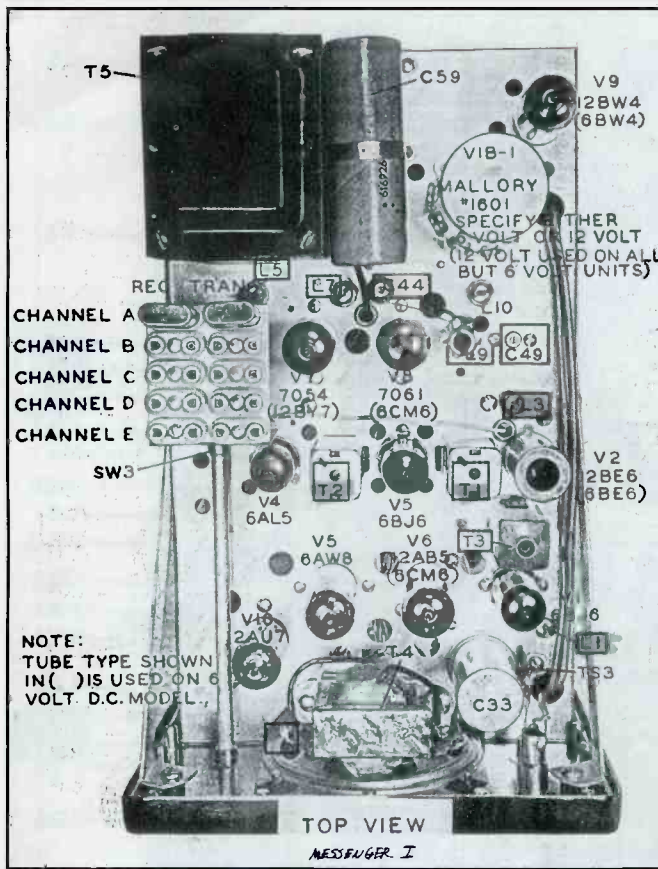


Figure 1. If you removed or jumpered R-48 (a 3900 Ohm, 10 watt resistor) shown here, the power increased considerably.

would put out around eight to 10 watts of RF power. This was due to the fact that the radio was basically the same as the Johnson low band commercial unit and was de-rated down to the legal five watts for the CB band. Therefore, if you removed (or jumpered) R-48 (a 3900 Ohm, 10 watt resistor shown in Figure 1), the power increased considerably. A second increase was obtained by replacing V9, the rectifier (a 12 BW4) with two one-amp, 1000 PIV diodes. This increased the B+ voltage because the diodes have only an insignificant loss across them compared to the tube-type rectifier.

Once upon a time you could purchase a plug-in solid state rectifier to replace the tube. Today, you'll have to solder in a pair of diodes if you want to do this by twist-

ing the cathode (banded) end of two diodes together and soldering to pin No. 9 of the tube socket V-9 shown in the upper left of Figure 1. The other end of one diode goes to Pin No. 1 and the end of the remaining diode goes to Pin No. 7 of V-9. While you can leave the tube in the socket, I recommend you remove and save it in case you ever want to restore the unit to original condition. CAUTION! Either of the two changes (jumping R-48 or replacing V-9 with diodes) will result in an illegal power level on Class D CB. I have discussed them for two reasons; if you are restoring a Messenger I or II, it's almost certain that some previous owner will have made one or both of the changes and you will want to undo them if you want to be legal. Secondly, many of the



Figures 2 and 3. Compare these two figures and it's out with the 6AL5 and in with a 6BJ6. Don't get the idea you can convert a Messenger I to a II by changing this tube because there were a lot of small parts and wiring changes made on the bottom side.

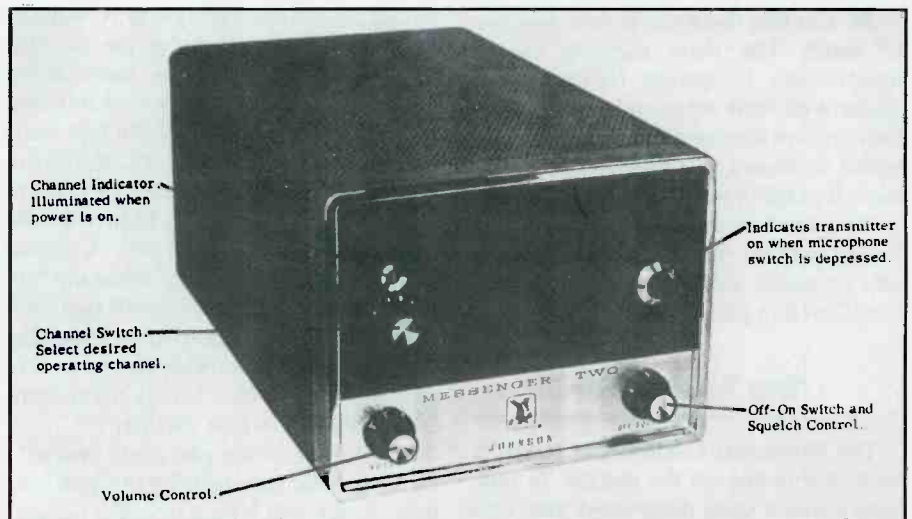
Messenger I and II units may be converted for use on the 10 meter ham band, where the higher power level is legal.

The transmit audio on the Messenger I, II and 223 is crisp and clear with the original ceramic mic, but unless you speak right into the mic it will be less than 100 percent modulation. While I'm not a fan of power mics in general because most sets don't need one and poor-sounding modulation is often the result, these three units are the exception—more so if you convert a Messenger I or II to the higher RF output for amateur use. We will discuss which power mic model to use in our second segment.

In mid to late 1963, the Johnson Company came out with the Messenger II or Blackface as it was called. The major difference between it and the Whiteface Messenger I was an additional IF stage in the receiver. They realized that improved selectivity was a must if Johnson was going to maintain their market share, but where were they going to put the additional tube and transformers without an expensive re-design of the entire unit? The chassis was already full. Room for the tube was made by replacing the audio

detector and AVC functions which had all been performed by V-4 (a 6AL5 tube) with a diode. So, out with a 6AL5 and in with a 6BJ6. Compare Figs. 2 and 3. Don't get the idea you can convert a Messenger I to a II by changing this tube, because there were a lot of small parts and wiring changes made on the bottom side.

The additional two IF transformers were added by installing a sub-chassis on the top side of the main chassis between the existing IF transformer and the two transmitter tubes V-7 and V-8. It was a tight squeeze, but worked fine and substantially improved the selectivity. I won't bore you with the technical specs between



The Johnson Messenger II.

"Don't apply power to the unit unless you are sure the power cord is wired and fused properly for your unit."

one and the other, but will just say it was much better! By piggy-backing into the set the way they did allowed Johnson to bring the Messenger II to market a year sooner and without all of the expenses of a major re-design which kept costs down and the price low to the end user.

The other changes between the Messenger I and II were the addition of sockets for five more sets of crystals for a total of 10 channels and an optional tunable receiver to cover all 23 channels. The tunable option was available on later models, although not many of them were sold, but are very popular for ham use if one can be located.

The Johnson 223

Last but not least, we come to the third model, the Johnson 223. Let's see if you qualify as a rocket scientist. Can you figure out what the "223" means? You got it! A Messenger II (2) with 23 channels. It was Johnson's first 23 channel base station. They used the standard Messenger II chassis by removing the mobile vibrator, crystal sockets and switch assembly. This chassis was turned sideways, then to the left side an attractive front panel was added about two inches out. This provided room for the synthesizer board to mount where the crystal sockets and switch had been located. The synthesizer crystal bank, a switch, meter and speaker all mounted to the new front panel. The 223 was a tube unit but with an all transistor synthesizer section. Again, the Johnson Company was able to save time, cut costs and get a good unit at a very attractive price to market quickly. They did have some revisions though. You can tell which model you have by the serial number which will have a letter from "A" through "H." Some changes are minor and not needed in old units. Others are of major importance. Most revisions call for a change in a resistor or capacitor value or moving a wire from one point to another. If you have an early model, I will be happy to send you a copy of the revisions made after your code letter. Send me an SASE and your complete serial number and I'll send it along.

Basically that's the Johnson I, II and 223. In the March issue we'll begin the alignment of these—remembering it's



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CIRCLE 71 ON READER SERVICE CARD

NOT standard. All three units use stagger tuning in the receiver and I've seen that many were improperly tuned, resulting in fine performance on a few channels and terrible performance on the others. It's not hard to do, just different. Also, I'll recommend a suitable power microphone. And, if you have problems finding either or both of the transmitter tubes used in all three models (7061 and the 7054/8077) don't despair. There's an easy and inexpensive solution. Between now and the March issue, check and replace your bad tubes, clean the switches with a suitable tuner cleaner and generally clean up the unit. Check the speaker with an ohmmeter and replace it if it's bad or damaged.

Don't Apply Power Yet!

Don't apply power to the unit unless you are sure the power cord is wired and fused properly for your unit. On the Messenger I and II, the fuse for both AC and DC is part of the power cord. If you are not going to use the unit on DC (your car), take the vibrator out and save it for future use. You don't need it on 117 Vac. Your AC power cord must have a fused plug on it with a two-amp fuse on each

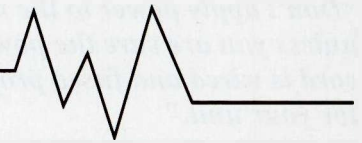
side of the line. If your power cord doesn't have such a plug, you need to get one or install the fuses inside the unit in the proper places. If you don't know how to do this, take your unit to someone that does, because in just a short moment you can damage your unit!

Be careful, because there are voltages in excess of 400 volts exposed in certain places in all three models. This can result in severe shock or even death if you are careless or don't know what you're doing. You will need to save some of the figures from this issue for use during the tuning procedures. Space limitations will not allow us to repeat all of them. At this point, if your set is properly fused and you have a 117 volt power cord to run with the unit, it should be tested at this time. As long as you have proper crystals in the Messenger I or II it should transmit and receive on whatever channels you have installed. If it doesn't, you need to find your problem or your service shop needs to look at it so it will be ready to tune up following the procedures in our next article in March. Send your questions on any CB subject to the Old-Timer, Don Patrick, 3701 Old Jenny Lind, Fort Smith, AR 72901. See you in March! ■

CB Scene

BY ED BARNAT

27 MHz COMMUNICATIONS ACTIVITIES



West Virginia Sheriff Gets Into CB In a BIG Way

Who's got the biggest, baddest, roughest, toughest CB station in town? Aw heck, in the state? Well, for that matter, probably anywhere? It is Marion County, West Virginia's very own Sheriff Ron Watkins. It's quite a set up! He has power mics, roger beeps, echo chambers, 2000-plus watt linears, all kinds of noise toys and at least 14 radios. Sheriff Watkins estimates the value of his superstation at about \$75,000. He's not on the air with the equipment, but is definitely making a point with the gear!

How in the world, you might ask, can a government employee afford such a thing? Well, it seems it was, kind of, donated. Acquired, so to speak, with a little help from his friends and even a few of his foes. Therein lies a tale.

Meet Sheriff Watkins

Fairmont, West Virginia, is headquarters for the Marion County Sheriff's Department. Fairmont is also home to Sheriff Ron Watkins. Like many urban areas, perhaps yours, Fairmont has an active CB community. Moreover, as with most, if not all CB communities, Fairmont has had its share of problem operators. You know the kind; loud, vulgar, overpowered, into everybody's TV and stereo. They're always eager to harass anyone and everyone who dares venture into their domain, which of course, they consider to be all CB frequencies. They act with impunity because they think the FCC wouldn't or couldn't stop them and that there is nothing the local authorities can do, or so they thought.

Sheriff Watkins is familiar with the problems the CB community was having. He and his deputies would occasionally catch a little of it when they monitored channel 9 from their patrol cars. It wasn't, however, until the local amateur radio group tried to use CB to introduce area youth to the wonders of radio, that Sheriff Watkins realized just how bad it really was on CB.

The amateurs, who had been providing emergency communications assistance to the county for years, invited the

sheriff to listen to the way their proteges were being treated. When Sheriff Watkins heard the foul language and abuse directed at the kids, he got on the radio and advised the bullies to back off. Well, you guessed it. They didn't. In fact, the blowhards actually told the sheriff, in graphic terms, where to go and what to do when he got there. He didn't. What he did do, was strengthen his resolve to put an end to their electronic reign of terror. Unable to secure assistance from the FCC, Sheriff Watkins took matters into his own hands. He recalled that West Virginia has an obscenity law. In addition to authorizing a fine of a dollar a word, it also gave the sheriff the power to confiscate their equipment.

With the aid of the amateurs and a number of local CBers, 14 of the offending operators were identified and located. The sheriff's department then tape-recorded their antics, including one woman soliciting sex from truckers. Court orders were secured and the seizures executed.

I would like to tell you that Fairfield is now the perfect place to radio. I can't. Sheriff Watkins admits that there are still a number of problems. He, for instance, is receiving threats. He knows who is doing it, and I wouldn't be surprised if that fool sees some jail time. I can tell you that radio conditions in Fairfield are much improved—so much in fact, that many of the old timers, who had long since packed away their radios, are starting to get back on the air and enjoy the hobby. Youngsters in Marion County are also finding their way to the radio and discovering just how much fun it can be.

Even better, Sheriff's Watkins excursion into CB continues. He is working with his state legislature to get laws passed that will give him greater latitude in taming the band. He is also actively supporting U.S. Senate bill S.608 (which would allow local authorities to enforce certain FCC regulations). Sheriff Watkins is working with individuals and agencies, both in and out of West Virginia, to tackle their CB problems. Further, he is willing to communicate with any law enforcement agency to help them

do the same. He can be reached at the Marion County Sheriff's Department, P.O. Box 1384, Fairmont, West Virginia, 26554. He can also be reached by phone at 304-367-5300.

S.608 Update

For the past several months there has been no progress on S.608, a bill being considered by the U.S. Senate that would allow local authorities to enforce certain FCC regulations that pertain to CB. Introduced in April 1997 by Wisconsin's Senator Russell Feingold, S. 608 has been referred to the Communications Subcommittee of the Senate Committee on Commerce, Science, and Transportation. So far, the bill has attracted only two co-sponsors. They are Michigan Senators Abraham and Levin.

No action is scheduled on this bill (as of early November 1997). None is expected before the Senate adjourns in late November. Committee staff tell me that a heavy work load (this committee is working on tobacco and telecom bills) will probably keep S.608 on the back burner until at least spring of 1998. If no action is taken on the bill by April of 1999 (bills can stay in committee for up to two years) it will die.

So far, my mail here at *Pop'Comm* about S.608 is evenly split pro and con. Most agree that something must be done to curb problem operators. Many, however, fear that giving the government more power will be more trouble than it is worth. They wonder if the problem operators will really be the targets or if the new powers will also be used to restrict the freedoms that CBers have come to enjoy. For the moment, it would seem that opponents have little to fear. Unless enough support is generated for S.608 to get it out of committee it will probably just disappear.

Welcome Newbie

"Tis the month after Christmas, and all through the land, are some brand new CBers, explorin' the band." Well, new-

bie, on behalf of all of us who have been here for a while, let me say, welcome aboard. You have joined us at a very good time. Late winter and early spring are the most active times of the year for CB radio. So, over the next few months you'll have some of your best opportunities to meet and mingle with "the locals." Not only that, but, over the past few months there has been growing evidence that the "skip" cycle is increasing. That means, it is quite possible that you will occasionally be able to hear, or even talk to, CBers hundreds or thousands of miles away!

Yes, you could be in for quiet an adventure. You could be, that is, if you play your cards right. Otherwise, you could be in for quite a disappointment. You see, CB radio is indeed easy to use; set up, turn on, tune up, but it is not all that easy to operate; to interact with the on-air community and environment. All of us, no matter how long we have been on the air, are constantly learning new and better ways to enjoy and improve the hobby. So, be prepared to learn, make mistakes, and to grow. With that thought in mind, here are a few tips to help get you on the air quickly and headed in the right direction.

① The number one rule for using a CB is; NEVER TRANSMIT WITHOUT A PROPERLY TUNED ANTENNA ATTACHED TO THE RADIO. Why? Because transmitting without an antenna can burn out the transmitter. If you don't know what kind of antenna to use or how to "tune" or "match" it to the radio, spend a little time with an experienced operator or at the local radio store BEFORE you press the mic key.

② Once you have your radio and antenna up and running you are at last ready to hit the air. Now you challenges really begin. The first of which, and one that you'll face as long as you own a CB, is to make sense of what you are hearing. So, listen! It is important! In fact, listening—how well you listen, without a doubt, will be the single most important factor in determining your success (or failure) as a CBer. At first, as you scan from channel to channel, you can easily get the impression that you are listening to chaos. To some degree, you are, but not totally. Astute operators can eventually come to

"... over the past few months there has been growing evidence that the 'skip' cycle is increasing."

recognize the natural rhythms and synthetic procedures that bring a degree of order to what otherwise would be (and often is) mass confusion.

As seasons produce changes in climate and weather, that effects the ebb and flow of everyday life, the "skip cycle" exerts nature's largest influence on CB. This cycle runs its course, from maximum to minimum and back to maximum, over a period of about eleven years. When the cycle is at its minimum, little or no skip is heard at all. At its maximum, skip can run 24-hours a day. Neither extreme lasts very long.

For the most part, Skip is a daytime phenomenon. High noise levels, foreign languages and strange accents on all channels are the telltale signs that the "skip" is in. During times like these, all but the most local—one or two miles—of communications are all but impossible. These, however, are the times when seasoned CB veterans grab their SSB (Sideband) rigs and head for the "Freeband" (above channel 40) for some long distance, perhaps international, contacts!

As you listen, you will also notice a "Band Plan" of sorts exists. That is to say, that certain channels have somewhat specific uses. Officially, the only channel with a specifically designated "Special Use," is channel 9. It is for emergency and assistance communications only. Unofficially, there are many others. Channel 19, for example, is the "Highway" channel. Channel 36 through 40 should only be used for Single Sideband. And, every community has one or more "Home Channels." These are the channels where the locals regularly congregate. There are more, for instance, in many areas channel 13 is the marine/RV call channel. It is your responsibility to become familiar with, and respect, the commonly accepted special use channels in your area.


③ Finally, there is the matter of technique. Learn to recognize and then practice good on-air technique. It is well worth the effort, not only for giving you ready acceptance into most communities, but also for enhancing the enjoyment of the hobby for all of us. Good technique is simple and based mostly on common sense. Use plain English. Avoid slang and jargon. Learn how to "pause on the key," that is to leave a little silence between exchanges of conversation to allow others to join in or ask for the use of the channel. Study and associate only with those who respect the rights of other operators and who are polite and courteous.

Well, that's it for now. I look forward to hearing from you soon. Please send your comments, questions, suggestions, QSLs, and shack photos to me in care of the magazine. I can also be reached on the Internet where my address is <edbar-nat@global2000.net>. Better yet, if you can, catch me on the radio.

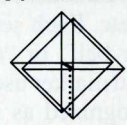
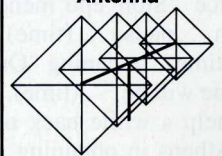
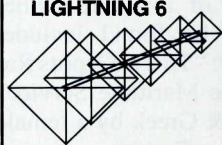
73s,
Ed

✉ **Editor's Note:** Now and then we're made aware of a particularly informative book or source of great CB information. Such is the case with the *Measuring SWR and Things Every CBer Should Know* book published by Firestik Antenna Co. technical support folks.

They've put 25 years of technical experience in a clear, concise, \$3 booklet that talks about CB from A to Z including antenna selection, placement, SWR, interference, and lots of good coax information. The 32-page booklet is available directly from Firestik at 2614 E. Adams Street, Phoenix, AZ 85034-1495. Call them at 602-273-7151; or reach Firestik via e-mail at <fscm@firestik.com>. The booklet is only \$1 with any Firestik antenna purchase. Tell them you read about it in *Pop'Comm!*



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YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Maritime Channel Markers

Hopefully everyone is recovering from the holidays and getting in gear for the New Year. From my bag (it was an envelope when I started—hi!) of questions, I had several about the various maritime channel markers which can be heard. Channel markers provide a signal or beacon of sorts, for ships to tune into. They confirm the proper frequency is tuned and help the operator judge the signal. On voice/telephony, many of the so called "voice markers" or "voice-mirrors" can still be heard. But in an age where radios no longer 'glow', their use is becoming increasingly nostalgic as they fade away into history. Most are in English but some are broadcast in the station's native language. One of the more commonly heard stations is SVN, Athens Radio, Greece. They make use of two markers. The first is easily recognizable by its doorbell like "ding-dong" chime. This is a female voice in Greek with announcements of dial-up services Hellenic Telecommunications Organization (O.T.E., who owns SVN) offers, such as meteo services, ship and train schedules, atmospheric pollution, etc. Each service is separated by a "door bell" or "ding-dong" chime. The second marker used by SVN is also easily recognized as it's a rebroadcast of the Greek national time standards station. Again, it is in Greek with a female voice "Ston epo'meno to'no i o'ra tha i'neh... pause... (time)" "neh... pause... (time)," meaning "On the next tone the time will be... (time)." I appreciated the help a while back of Costas Krallis of Athens in obtaining a proper translation of this one. Other markers that can be found include: Cyprus Radio, CYP: "This is Cyprus Radio, Radiotelephone Maritime Service" spoken in English & Greek by a female voice. Madrid Radio, E: Although not a "voice" marker, an air horn like noise that precedes H+00 traffic lists. Not noted recently. Monaco Radio, MCO: female in English "This is Monaco Radio maritime telephone service", and repeated in 3 other languages with frequencies given. Norddeich Radio, GER: "Hier ist



Walter Smith sent this picture taken by Chris Troup at the 1997 Cleveland Air Show of "Fat Albert," the Blue Angels support C-130. The aircraft can be heard on GHFS frequencies using the callsign Blue Angel 09.

Norddeich Radio." in German by a female voice, followed by sound of ticking clock. Note that "Norddeich" sounds a lot like "Nordine" to English speakers. St Lys Radio, F: A few notes of the melody "Haute Garonne" played on a concertina or 'squeeze box', then male in French "Ici Saint Lys Radio (sounds like Cy-lease Radio and to me for a long time, the phrase sounded like "here is Paris Radio")... Service radio telephonique avec les navires en mer. Cette transmission est effectuee au niveau normal de parole pour permettre le réglage des recepteurs de bord." English translation: This is St. Lys Radio. Radiotelephone service for vessels at sea. This transmission is made at normal speech level to allow adjustment of ships' receivers. It is irregularly broadcast ahead of the 0000, 0600, 1200 and 1800 UTC traffic list. Note that to English speakers, what sounds like "this is" is the over-emphasized "Ici" with the stress on the second syllable. Thanks to Marty Barry for the French translation. Moscow Radio, Russia: "This is a transmission for circuit adjustment purposes, from the Moscow Radio Telephone station."

Sadly, most of the voice markers have become history now. Some historical

markers that folks have sent me over the years include a "close relative" of the Norddeich announcement which used to be broadcast by the now defunct Kiel Radio, Germany. It was the very same recording with the voice part saying "Kiel Radio" and the clock noise played back at double speed. General Pacheco Radio in Buenos Aires has run something similar to Madrid's noise, only without voice ID, for years. They also used to broadcast a little out-of-tune, five-note electronic song, then "Desde Buenos Aires, esta Lima Papa Lima, transmite Argentina, servicios de General Pacheco Radio, radio- telefonico publico" (or something very similar to that). Nepal Radio: "This is a test transmission for circuit adjustment purposes from the Radio phone terminal of Nepal Telecom Corporation. This station is located in the Central Telegraph office, Kathmandu.;" Hong Kong Radio, HK: "This is a test transmission from the Radio phone terminal of the Cable and Wireless LTD in Hong Kong. This transmission is for terminal alignment purposes for the transmitting and receiving stations."

There are a few more still in operation and quite a few I am still missing from the historical file. If you can add to these,



Maritime markers are used to help ships at sea locate proper frequencies and to confirm that they are not in use. Pictured is the M/V Canmar Success (photo courtesy John Whitehead's Color Prints).

drop me a line. I appreciate the help from all of those who helped with my research, mostly from the WUN club on-line.

Other Types of Markers

Other types of maritime markers found include the morse code (CW) marker (another dying breed) and the sitor/digital marker. In CW, we commonly find the 'QSX' marker, which looks like "CQ DE KFS QSX 4 6 8 12 16 22 MHZ" and the "CQ" marker, which looks like "CQ CQ CQ DE 5AT". QSX means "I am listening to . . ." and CQ is a general 'any station' call. So for this marker we end up with "any station, this is KFS, I am listening to 4,6,8,12, and 22 MHz." There are many variations of these markers. I recently logged PPO, Olinda Radio, Brazil sending "DE PPO HF RTG OPRTN WAS DISCONTINUED QSX RTF 421 821" announcing the end of radiotelegraphy (CW) there, and referring ships to 'fone' (radiotelephony) frequencies. That's a marker we don't really like to see. On the maritime digital bands, one will come across a CW marker that consists of just the stations call-sign and several digital bursts. This is known as a 'sitor free' or 'station free' marker and lets ships know the station is free to be accessed to send traffic in Sitor-A/ARQ mode (or in some cases now Clover II or PACTOR).

In other news of UTE fan interest, the U.S. Coast Guard announced that the Omega worldwide radio navigation system was permanently discontinued at 0300 UTC on September 30, 1997. This meant the closer of the remaining eight Omega stations in Norway (A), Liberia (B), Hawaii (C), North Dakota (D), La

Reunion (E), Argentina (F), Australia (G) and Japan (H).

Digital News

Check out the latest schedule of the MAP (Maghreb Arabe Presse) news service sent in by several readers. Traffic is sent in 50/425 baudot RTTY. Globe Wireless has announced their newest station on the global radio network is on the air. KHF Guam is operating on: Ch. 808, 8420.0/8303.0 kHz and Ch. 1301, 12629.0/12527.0 kHz. KHF joins recent additions KPH/San Francisco and WCC/Chatham Radio to their network which now consists of these stations: KFS—Palo Alto, CA, USA; KPH—San Francisco, CA, USA; KEJ—Hawaii, USA; WCC—Chatham, MA, USA; WLC—Rogers City, MI, USA; WNU—Slidell, LA, USA; VCT—Tors Cove, NF, Canada; SAB—Gothenburg, Sweden; ZLA—North Island off New Zealand; ZSC—Cape Town, South Africa; VIP—Perth Australia; and A9M—Bahrain.

Signal reports are welcome. You can send reports for a QSL via the internet at: <qsl@globewireless.com> or via the post office at: Globe Wireless, 1 Meyn Road, Half Moon Bay, CA 94037, Attn: Michael

Beck. We've attached a list of Globe's scheduled broadcasts.

Reader Mail

What got me thinking about the markers discussed this month was a note from Mike Scott (NJ, KNJ2JD/WJ2D) who copied a voice-marker back in 1970 near 4400.0 kHz. It went something like this: "This is a transmission for further adjustment purposes from the American Telephone and Telegraph building located in New York City." This tape went on for hours and from what Scott can remember. Scott wondered if it could be identified. I contacted AT&T Maritime Services in Ocean Gate, NJ, (WOO, AT&T Coastal Station New Jersey). There, longtime communications technician Steve Rosenfeld was able to confirm that the transmission was indeed used by AT&T in the mid-'60s to the late '70s. The New York city control center was remoted to transmitter sites in Lawrenceville and Ocean Gate, New Jersey. According to old FCC records 4457.5 kHz was WEI24, a point-to-point frequency for overseas radiotelephone calls out of Ocean Gate and WED24 out of Lawrenceville. At one time AT&T had point-to-point service to more than 100 countries. 4434.9 kHz was a maritime radiotelephone frequency used by WOO and transmitted from Ocean Gate. Steve seemed to recall that both used the same marker, but when broadcast by WOO it included the call-sign. Readers may recall from a previous article in *Pop'Comm* that the original WOO callsign was held by Wanamaker's Department Store until it was purchased by AT&T.

Jack Metcalfe (KY) wrote in about a U.S. Navy net he regularly heard a few years back and wondered as to its purpose. The net came up every Wednesday morning around 1300–1400 UTC on 7783.5 kHz. The two locations, Gulfport and Milton, didn't come from on-air monitoring, but Jack recalls that's the location listed for those calls. Here is his list:

7783.5	1416	03-27-91	IX514	USB	USN
7783.5	1416	03-27-91	NBV	USB	USN
7783.5	1416	03-27-91	NIM	USB	USN-Gulfport, MS
7783.5	1416	03-27-91	NMM	USB	USN
7783.5	1327	09-01-93	NNT	USB	USN
7783.5	1416	03-27-91	NPA	USB	USN-Antarctica?
7783.5	1416	03-27-91	NSE	USB	USN-Milton, FL
7783.5	1327	09-01-93	PORT OPS.	USB	USN
7783.5	1416	03-27-91	SQNY	USB	USN

He also seems to recall this may have been a secondary frequency and also that the "Port Ops" call also went by "Stinging" or "Stinking" River Port Ops. Jack has not heard anything on it since 1993. It was a new one for me, but maybe a reader can shed some light on what the use of the net was and the stations that used it. Now, on with the show . . .


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 Logging's SSB/CW/DIGITAL

206: GLS, Galveston, TX at 0220. (WP)
 216: CLB, Wilmington, NC at 0225. (WP)
 236: GNI, Grand Isle, LA at 0227 w/CW id, & wx in AM. (WP)
 278: BKV, Brooksville, FL at 0230. (WP)
 325: BHF, Freeport, Bahamas at 0233. (WP)
 332: FIS, Key West, FL at 0235. (WP)
 338: FJ unid at 1630. (WP)
 344: ZIY, Georgetown, Cayman Isl. heard at 0237. (WP)
 353: HOT, Higuerote, Venezuela monitored at 0239. (WP)
 365: CZM, Cozumel, Mexico at 0245. (WP)
 385: FLS, Flores (Santa Elena) Guatemala at 0250. (WP)
 402: C, Camaguey, Cuba at 0256. (WP)
 2182: USCG Mayport, FL, wkg unid USCG a/c re flare sighting/lights at 0215 to 0250 in USB, a/c unable to locate distressed vsl or wreckage. (RK)
 2357.5: OUA32, Danish navy Stevns, DNK at 2017 w/CW VVV tape. (AB)
 2743: ULX Mossad best heard at 1930 in USB //4880. (TY)
 2953: SYN2 Mossad best heard at 1545 in USB //4165 //6370 kHz. (TY)
 3175: V, Russian Navy Khiva, RUS at 2156 w/CW marker. (AB)
 4060: Unid, F at 1952 in CW w/BT NR 06 S 02 21:50:16 1997 BT + 5LG's. (AB)
 4143: Unid "312", Cuba, at 1310 in USB being worked by various vessels. (AWH)
 4154.5: DHJ59, German Navy Wilhelmshaven, D at 1940 in USB w/unid vessel. (AB)
 4165: SYN2 Mossad best heard at 1545 in

DIP



391

BEACON

This will verify your

Date: June 2, 1996

Freq.: 391 KHZ

Time: 0417 UTC

Elevation: 10 feet

Power: 3000 watts

Location: 18°28'N 66°25'W

Antenna Type: VERTICAL STEEL TOWER

San Juan

S
T
A
T
I
O
N

KHZ

Reception of our beacon:

[Signature]

Verified by: Assistant Manager
Miami/San Juan System Management
Office (SJO), San Juan, Puerto Rico

Title:

June 24, 1996

Date:

Thanks for the report.

Remarks:

Puerto Rico

PFC from the collection of Jill T. Dybka.

USB //2953//6370kHz. Another day CIO2 Mossad heard at same time. (TY)
 4270: PCD2 Mossad best heard at 1900 in USB. (TY)
 4372: 8XU at 0148 in USB wkg GIANT KILLER after 'any station this net' call. (DW)
 4463: FTJ Mossad best heard at 1900 in faint USB. (TY)
 4470: Unid stn at 2203 in CW w/VVV QRJ NO QCM QYT6 K. (AB)
 4510: Unid COX30(?), Cuba, clg TAINO (motor vessel?). (AWH)
 4527: SVR, Cuba, "Fast CW" spook station heard at 1124 rptng "538 538 0000", off quickly. (AWH)
 4547: 3HU, Unid poss German mil. heard at 2035 in USB w/stations 3HU, N9P, D7K for radio checks in EE & tactical comms in German. (AB)
 4558: S, Russian Navy Arkhangelsk, RUS at 2146 w/CW marker. (AB)
 4560: YHF Mossad best at 1800 in USB //5820kHz. (TY)
 4574: Unid Cuban voice net monitored at 1208 in USB w/QSOs w/CLX100, CLX58, CLX52. (AWH)
 4577.5: Cuban CW net at 1138 w/usual format. (AWH)
 4644: NNN Station at 2100 w/N rpt in CW until 2105, then YL in GG? Extremely weak, barely above the noise. Gone at 2113. My first logging of this station. (CS)
 4670: The Counting Station (Mon) at 1800 w/digital data on this TCS freq. //5238, another TCS freq. This data is always heard starting at the hour for exactly ten minutes, and stops exactly when the first of ten beeps is played on whichever TCS stations are presently on the air. There is a connection, now we just have to figure it out. (CS)
 4762: XYT, Dutch Army exercise, HOL at 2052 in USB op chat & on-line encrypted 50bd RTTY. (AB)
 4765.2: RFFP, MOD Paris, F at 0720 in ARQ-

M2 200bd w/msgs to RFFUAFE, RFFUBB, etc. (AB)
 4770: Korean nbr stn, YL opr, w/5FG's in AM at 1400. (TY)
 4780: Abnormal Mossad transmission heard, Mossad lady Rptng "Kilo Papa Alpha Two" for more than 30 mins at 2030 in USB. (TY)
 4823.2: WWJ85 at 1130 on in PACTOR 200/200, BBS, incl dumped e-mail log, could see previous logins from various branch MARS stations, SHARES stuff maybe. Presume FHWA station. (AWH)
 4943: Unid Russian? at 2138 in CW w/Cyrillic letters/figures, no words. Each character is separated by a space mark. Probably encrypted. (AB)
 4993: "12," Irish Navy, IRL at 0828 in ARQ wkg HQ Dublin. (AB)
 5091: Abnormal Mossad transmission heard. "Juliet Sierra Romeo" & "Uniform Lima Xray" were simultaneously heard in USB at 1730. ULX-1 stn was // to 4880 kHz. (TY)
 5117: SS/YL/5FG Atencion station at 0400 (Mon). (CS)
 5164.5: Prefecture Epinal, F at 0708 in ARQ signing off. (AB)
 5215: Unid at 2202 in USB, German number station, 5LG's, ended w/'000 000 ende'. (AB)
 5230: MIW2 Mossad best at 2115 in USB //8641kHz. (TY)
 5257.8: Unid Cuban stn at 1418 to 1441, open carrier w/telco noise at first, 1430 suddenly went into RTTY 50/500 running sloppy ryriry tape, 1437 into several lines of fake-looking 5FGs, then idle 1439, 1441 off. (AWH)
 5307: The "6589 net", Cuba, at 1200 in USB w/PORTERO or similar wkg RONDONDA, latest random call signs here. Some other stations also, some off freq, so think at least some individual transmitters rather than collective headline relay as speculated previously. One station w/carrier stayed on continuously as usual. (AWH)
 5315: BJZ27, Wuhan Meteo China at 1900 in

Globe Wireless Scheduled Broadcasts

GLOBE WIRELESS STATIONS (SELCAL 1094):
 A9M KEJ KFS KPH WCC WNU WLC VCT VIP SAB ZLA ZSC
 KFS WX BCST SKED:
 EASTERN/CENTRAL PACIFIC TROPICAL HURRICANE BULLETINS
 0221 0521 0821 1121 1421 1721 2021 2321 UTC
 1051 2251 UTC
 KPH WX BCST SKED:
 PACIFIC HIGH SEAS WEATHER 0520 AND 1920 (FOLLOWING TFC LIST)
 WCC WX BCST SKED:
 N. ATLANTIC HI SEAS WEATHER 0500 1300 1700 (FOLLOWING TFC LIST)
 WNU WX BCST SKED:
 GULF/CARIBBEAN/ATLANTIC TROPICAL HURRICANE BULLETINS
 0221 0521 0821 1121 1421 1721 2021 2321 UTC
 GULF/CARIBBEAN OFFSHORE FCST 0351 0951 1551 2151 UTC
 VCT WX BCST SKED:
 NORTH ATLANTIC HIGH SEAS WEATHER 1051 2251 UTC
 ZSC BCST SKED:
 WEATHER 0930 1700 UTC
 NAV WARNINGS 1000 1730 UTC

RTTY 75/400 w/wx synopsis. (IJ)

5320: USN: CHARLIE BRAVO at 2308 in USB clg KILO TANGO no joy, then wkg BRAVO, QSY to "night frequency." (Ed.)

5341: Cuban Spook Babbler station in USB, reactivated, 1200 idle w/ hum on tx, strong. On again 1331, not heard subsequently. 5688 not on during same time periods (AWH)

5360: VJQ, Royal Flying Doctor Service (RFDS) Kalgoolie, WA, Australia in USB at 0845 w/wx forecasts & road closure advisories. (IJ)

5422: Lincolnshire Poacher lady passes SFG's at 1800 in USB //6485 kHz. (TY)

5430: ART2 Mossad best heard at 1800 in USB. (TY)

5465: Unid Pacific Island Telecom in USB at 0810 w/2 YL's having a long conversation in unk Pacific Island Language. (IJ)

5510: Cuban CW net at 1240, 2 stations w/usual format, no IDs noted. "Usual" includes sending a series of slow dits to get the net's attention; lots of 5FG and 5MG (M=mixed alfa & numeric) tfc, latter including the N tilde character " _ ". Each msg typically begins w/"NR . . ."; some of them use "shave and a haircut" to end a QSO. All manually hand-keyed, usually very sloppy. Plaintext SS occ noted, but have never made the effort to copy entire messages. Most stations seldom ID. (AWH)

5530: C102 Mossad best at 1545 in USB. (TY)

5616: Gander, CAN at 2233 in USB w/many aircraft (AB)

5629: C102 Mossad best at 1545, another day SYN2 Mossad heard at same time both in USB. (TY)

5643: Cuban Babbler at 1210 on, SS/OM w/long counts, sounds like same guy as 5341. Cross-talk from "Atencion" station. Noted again 1421 w/ scrambled audio, 10hz freq audio hopping, sounds like longcounts. No accompanying 110-baud keying data as some-

times noted previously on Cuban scrambled txs. (AWH)

5680: At 1057 Watchdog 94 (MAFF) wkg Rescue 51 (Nimrod) in SAR incident to rescue an injured crewman from a Russian ship. At 1111 the m/v 'James Clark Ross' called Rescue 193 and told him they had a Russian speaker on board if they needed him! At 1134 'Portishead Radio came on frequency and asked Watchdog 94 if he'd closed down watch w/him! At 1015 Irish helo 'E-IMES' in r/watch with Plymouth Rescue. At 1044 'Valley Rescue' (RAF Valley) asked Kinloss for a ground r/check. At 1122—IMN93 (Puma helo en route to Belfast!) asked Kinloss for r/watch and latest wx. At 1552 Bodo Rescue (NOR) wkg Sabre 22. At 1002 Kinloss 'Alt' in r/check with Kinloss 'Pri' (Kinloss Alternative & Kinloss Primary!) At 1007 Tingstaede Radio with 2182 kHz Nav Warning message (Gotland Rescue is based at Tingstaede, they often send out the wrong message on the wrong sender!). At 2032 'Workshop 402' asked Plymouth for a ground r/check. These carry out Fisheries Patrol for MAFF—the Ministry of Agriculture Food & Fisheries. (AG)

5691: Cuban CW net at 1325 w/IJK wkg CCN, normally on 5291. (AWH)

5696: RESCUE 1718, USCG HC-130H7 at 0147 in USB wkg CAMSLANT, 1718 is flying 'cover' for USCG Helo 6032 (HH-60J) who is enrt to Tampa General Hospital. Comms include request for authorization to be passed so that 1718 can penetrate the US ADIZ (Air Defense Intercept Zone) without trouble. Apparently, 6032 has a severely injured patient on board. (DW)

5696: CG 6009, USCG HH-60J monitored at 0315 working NMN, CAMSLANT Chesapeake, receiving tasking from D-5 re PIW (Person In Water) 36-58.8N/76-23.7W. At 1545 NRPT, USCGC Madrona (WLB-

302) clg Group Moriches, then CAMSLANT, for radio check (Ed.)

5702: Unid poss Brest Rescue heard at 1490 in USB in FF re boat going missing in the Bay of Biscay, and French SAR teams out searching. (AG)

5714: Unid poss Brest Rescue monitored at 1544 in USB and heard the callsign Rescue WJ and 4LO used. Later ARCHITECT up w/wx states. (AG)

5740: Armada, MEX at 1230 on in USB, net incl. "Alfa Sierra" & one other, both good, alternating between voice and ARQ-100/400 centered 1.5 kHz up on 5741.5, mostly online crypto during data sends, some CW also. 1240 several attempts to start data xfer w/ plaintext, beginning "NUM. 1 ISLA MUJERES Q. ROO 5 OCTUBRE 1997" several times, also one mention of "TRANSWORLD DATA-COM TERMINAL". So now we know what kind of equipment they're using, probably same one used to generate the "ALLPP" crypto telexes seen occasionally on FEC-109/400 also. 1253 selcall'ing XBRIS briefly. Some chatter re. "problemas de configuracion." Same net noted 6215.0 kHz USB at 2100 same day w/XBRIS SELCAL, brief voice. Noted next day on 8030 USB at 1345-1352* running ARQ again, brief voice QSO & off. (AWH)

5757: HBD20, MFA Berne, SUI monitored at 1353 w/ARQ encrypted msgs to various embassies. At 1610, HBD77, Swiss Embassy Brussels, BEL w/msgs to MFA Geneve. Both in ARQ. (AB)

5814: SVR, Cuba? at 1620 weird time/freq, RTTY 75/500, missed machine send portion, sporadic hand-keyed incl msg header "11100 00113 34211 28004 00519" but no accompanying msg, ended w/usual "qrq qrq sk sk". No listing for 00113 link ID here; also priority group 11100 different from usual 11177, maybe a "test" priority. (AWH)

6370: SYN2 Mossad best at 1545 in USB //2953 //4165 kHz. Another day VLB2 Mossad heard at 445. (TY)

6429: 'LU', unid military station at 1920 in USB w/phonetic msgs, pronounced the letter H as Hotel a & the Letter U as Uniforma. (IJ)

6477.5: KPH, San Francisco Radio at 1806 in CW w/mkr wheel. (SW)

6502: Unid stn TBBG Rptng "VVV TBJ DE TBB6 QAP." in CW at 2055, what is this? (TY) (Turkish Navy Ankara w/general call to any Turkish warship (TBBG)—Ed.)

6640: Connie 812 heard at 0201 in USB working NY ARINC w/pp to Connie Op's, a/c will be on the ground in Gander in about 1.5 hrs. After Gander, a/c will be going to Dublin, Ireland. (DW)

6658: KPA2 Mossad best heard at 2015 in USB. (TY)

6683: SAM 300 monitored at 1615 in USB reporting departure thru Andrews to SAM Command at 10 minutes past the hour . . . then pp to COMMAND POST, reporting blocks at 2230 . . . DV2 plus 7. (TB) (C-20H w/tail 90-0300—Ed.)

6688: GXW, RNAS Portland, England at 0740 in USB, 1st time logged on this freq for

me last time I heard them was a good number of years back when they were on 8993. (IJ)

6694: Swordfish 13, CanForce CP-140 Aurora fm 415 Sqn Greenwood, at 2348 in USB w/kg Halifax Military re msg dated: 151415Z Sep97, Departed Oceana NAS 212319Z, ETA Greenwood 220130Z. (DW)

6715: Korean nbr stn, YL opr w/5FG's at 1535 in AM. (TY)

6730: SAM 36971 at 2320 in USB passing departure message thru Andrews to SAM Command. (TB) (C-137B 58-6971—Ed)

6750: USAF, Lajes AFB, at 1915 in USB w/SPAR 76 for pp's to SHAPE, comms were mainly Bosnia related. Had to change freq due to RTTY interference. (IJ)

6751: JYG (Sounded like), possible Japanese Military in USB at 0820 passing wx info to aircraft '1KRT.' (IJ)

6768: SS/YL/5FG Atencion stn at 0400 (Mon) w/8052332531 60801, very distorted, seemed to be LSB and USB w/attenuated carrier. (CS)

6780: CIA Counting Station at 1810 in USB, YL w/numbers. (IJ)

6826: Atencion 1 . . . 70132 70053." at 0596 (Mon) in AM, late start, only heard for 1 minute then gone. (CS)

6868: Cuban Bored Man stn at 1402 w/SS OM "R290" message rptd. Another day at 1500, no carrier, USB only, began w/OM/SS w/long counts, then "comienzo" several times & into usual format w/ "R290" msg. They had their HF radios on in the background again today, could hear CW & was able to // it to audible 5642. There was also a voice net in the room background noise a couple of times, but insufficient traffic to locate the freq, some possible, presumably inadvertent co-ch ANDVT heard also. At 1517 YL/SS took over, until abrupt 1527 off w/o usual FINALS. Note the new time, ex-1400, switched with the change from Cuban summer time (from Z-4 to Z-5). Wednesday broadcast now presumably at 2100. (AWH)

6890: VZN, RFDS Port Augusta, SA, Australia in USB w/OM repeating telephone number. (IJ) (UTC? ---Ed.)

6910: Lakecom 206 & Lakecom 438, unid commercial stations, SA, Australia in USB at 0815 w/2 OM's talking after work 1 OM said "He used an extra tank load of fuel to get from Port Augusta SA to Alice Springs NT due to strong headwinds." (IJ)

6920: Russian Man Unisex/EE at 0202 (Mon) in AM w/"197 197 197 0 0 0 0 0" no traffic. (CS) VJC, RFDS Broken Hill, NSW, Australia in USB at 0645 handling pp's. (IJ)

6992.5: MFM38, Royal Navy Sea Cadet Corps, G at 1010 in USB w/MFJ22, MFJ04, MFM01, MFK62. (AB)

7185.7: WA3NAN, Goddard Amateur Radio, MD, at 1441 in LSB w/rebroadcast of shuttle comms for STS-85 w/lift-off of Discovery (OV-103). (MT)

7232: FTJ Mossad best at 1500 in USB, heard on this time every night. (TY)

7337: Lincolnshire Poacher lady passes 5FG's at 2000 in USB //9251 kHz. (TY)

7484: Cherry Ripe lady passes 5FG's at 1300

in powerful USB // 13866 //11565 kHz. (TY)

7535: At 1503, "803" calling 801, then calling "any station this net." Norfolk SESEF quickly came up and told 803 to "get off my frequency." (AWH) HOPPER 85, USN LCAC-85, a Landing Craft Air Cushioned hovercraft monitored at 1738 clg HOPPER 87 & into ANDVT ('green').

NHGR, Los Angeles-class nuclear attack sub USS Hyman G. Rickover (SSN-709) at 1812 w/kg SESEF Norfolk w/HF testing. All in USB mode. (Ed.)

7600: VDD, CanForces Debart, NS, CAN at 1746 in USB reporting ready for RTT from CIS202 . . . VDD reported that the last RTT message that he had received was 'your 065' . . . 202 told VDD that he would call him land-line. (TB)

7635: ASPEN GOLD 24, Rocky Mtn Region CAP at 0034 in USB conducting a net 'roll-call' for the Nighttime Communicators Net. Stations active include CAJUN CAT 30; Louisiana CAP unit 30; RED FOX 287; Illinois CAP unit 287; GEORGIA CAP 507; Georgia CAP unit 507; Beaver Fox 94; Oregon CAP unit 94; and HEAD CAP 45; National HQ, CAP. (DW)

7668: Unid stn 8BY Rptng "VW 8BY", followed by 3FG's separated by a slant bar in CW at 1940. (TY) (reportedly French Intelligence related—Ed.)

7678.5: HBD20, MFA Berne, Switzerland at 0700 in ARQ w/5LG's. (IJ)

7716: Corsica? at 0313 in ARQ-E 192/170, idle as always when audible here. Probably Ajaccio & seemingly paired w/probable Bordeaux 7614. These appear to be the same txs formerly on 6929/6976. It would be REALLY nice if our European friends would confirm the locations (from tfc content), call-signs and CIDs for these two circuits and the 5301 kHz et al alleged Bastia-Ajaccio circuits. (AWH)

7760: RGH77, Arkhangelsk Meteo, Russia at 0330 in 50/900 RTTY w/wx synopsis. (IJ)

7890: ZME20, Joint Weather/Dept of Conservation Station, Raoul Isl, The Kermadecs at 0900 in USB w/pp's to New Zealand. (IJ)

7898.5: National Weather Service, Papua New Guinea in USB at 0700 w/OM w/wx forecasts. (IJ)

7995.5: USN MARS (Unid stn) at 2230 in PACTOR 200/200 w/Afloat Net report. (MT)

8029: D3E at 0315 in LSB w/kg A4M in SS, D3E was an American operator w/kg A4M & several other SS-accented stations. At one point D3E spelled out the name Jenny Margot in very clear phonetics. (TB)

8047: AIR FORCE TWO heard at 0048 in USB w/kg Andrews, switched to LSB to escape QRM. (DW)

8074.5: GYU, RN Gibraltar at 0200 on in Piccolo 6 11.3 bd engineering channel, usual signal check stuff. Prob MKK return link on 8089.5, but no tfc copied there. (AWH)

8112.8: 'YEC' Australian Military Tracking Net at 1930 in USB. (IJ)

8122: Canberra Control, AUS at 0945 in USB clg Wollongong, RAN Fremantle-Class

Patrol Boat 206: HMAS Wollongong. No joy. Also at 1008. Unid vsl at 0137 in CW w/"V HZW V". Sent 3 or 4 times then QRT. HZW is Khafji Radio, Saudi Arabia. (DW)

8136: Unid stn in auto-CW at 1230 sending 5LG's. (JR)

8213.6: At 1332 Cuban M/V Taihuey (or similar) clg Leningrado, Cuba. (AWH)

8219: ELBM9, 36,674 DWT Carnival cruise-ship M/S Tropical heard at 0314 in USB clg/wkg AT&T Coast Station Calif, KMI, for R/T tfc. (Ed.)

8294: WCB1956, vsl Saint Christine at 0415 in USB clg vsl Julia Maria, no joy. (MT)

8320: Cherry Ripe lady passes 5FG's in USB heard at 1200//13866 kHz & at 2200//9263 kHz. (TY)

8510.7: RFFX, French MOD, Paris, F (assumed) monitored at 2310 in ARQ-E 96/404 tfc, but no ID noted, should be circuit XXI to Bangui. (Ed.)

8520.1: PPO, Olinda Radio, B at 2318 in CW w/marker, "DE PPO HF RTG OPRTN WAS DISCONTINUED QSX RTF 421 821." (Ed.)

8556: SAB44, Goteborg Radio, Sweden at 2325 in ARQ w/maritex "erer" string, then into sending various selcall's. (MT)

8680: WSC, Tuckerton Radio, NJ at 1635 w/CW mkr wheel. (SW)

8855: American 906 at 0355 in USB w/kg Manaus w/posn check . . . Selcal JL-PR. (TB)

8861: Ascot 3201, RAF a/c at 0115 in USB w/kg unid African ATCC w/posn & flight level. (DW)

8888.3: Presumed MFA Pyongyang, N.Korea at 1920 in RTTY 75/500 w/5LG's & Romanized Korean Msgs had Pyongyang as Pyenyang. (IJ)

8891: American 136 heard at 0347 in USB w/kg Montreal . . . told to contact Montreal on 133.5 (TB)

8925: U.S. Tuna Fishing Net at 1830 in LSB w/clear & scrambled comms (this is their primary freq). (IJ)

8971: U.S. Navy monitored at 1213 in USB w/RED LANCER 03 w/kg 9XM, ops normal msg. (AWH)

8983: CAMSLANT at 0128 in USB w/kg 20C, re PANTHER adv re the target vessel not enter the ADIZ area (Air Defense Intercept Zone), but is to search outer ADIZ area to sector ZULU. (DW)

8992: SHADOW 08, KC-10 fm 68th ARW, Seymour-Johnson AFB, at 2339 in USB clg MacDill for radio ck no joy, QSY'ed 11244 for HF ck w/Andrews. (RK)

9023: USAF Lajes AFB w/SPAR 76 at 1935 in USB, was about to resume pp to SHAPE when SPAR 76 came back & said "NATO advises to terminate due to security issues." (IJ) SIDECAR 2315 USB w/kg 1 QUEBEC CHARLIE (w/Canadian accent) arranging a data test. (TB)

9041: 5YE, Nairobi Meteo, Kenya at 2255 in RTTY 100/850R w/METAR wx w/ryry fill between sections. (AWH)

9122.5: WUG, USACE Vicksburg, MS at 1540 in USB standing by for any late net

check-ins . . . nothing heard . . . reported that the net is now free and open. (TB)

9125: Unid commercial station, WA, Australia in USB heard at 0920 about a vehicle rolled over 60 Kilometers North of the Kimberley's. (IJ)

9127.7: Unid Philippines station monitored at 0850 in ARQ selcalling FCBD & FFIB (This is one of a group of ARQ stns originating from the Philippines that come up between 0845-0920 UTC usually send a bunch of sel-call codes & occasionally wx synopsis last year one sent a message about a Provincial Disaster Co-Ordination Committee (PDCC) conference meeting. See further logs for additional freqs.) (IJ)

9144.2: Unid Philippines stn at 0900 in ARQ Selcalling FCIE & w/wx synopsis. (IJ)

9151.8: Presumed JPA, INTERPOL, Tokyo, Japan at 0810 in ARQ, stn was encrypted the format is similar to their own encrypted text caught letters JPA between a line of encrypted text. (IJ)

9156.2: Unid Philippines stn at 0910 in ARQ w/wx synopsis. (IJ)

9160: Unid USAF a/c (just missed ID) in USB at 0400 passing load status, had 36900 lbs of cargo, asked other station his callsign & was adv "Kilo November" had a foreign accent, possibly Arabic. USAF a/c said he would call every hour w/Op's normal reports. (IJ)

9166.1: Unid Philippines Stn at 0915 in ARQ Selcalling FPIE. (IJ)

9251: Lincolnshire Poacher heard at 1805 in USB. (CS)

9307: FOXTROT TANGO, USN Link-11 Coordination NCS at 1750 in USB w/kg other single letter callsigns w/link-11 coord tfc. (Ed.)

10026.7: Egyptian Embassy, Havana at 2205 in ARQ w/IRS mode. At 2215, into tfc w/msgs from Havana (rkukgk) to MFA Cairo (fekpr kdzywr). (DW)

10072: Air Pacific 313 in USB at 1935 clg Nandi, Fiji, no reply. (IJ)

10202: AIR FORCE TWO at 0038 in USB w/kg Andrews. QSY from 11220. AF2 reports QRM on this freq. RTTY present in background. (DW)

10452: Cherry Ripe lady passes 5FG's in powerful USB heard at 1000 // 15616//17499 kHz. (TY)

10969: HBD20, MFA Berne Switzerland at 0715 in ARQ w/SLG's. (IJ)

11123: Counting stn, YL/EE, w/3+2FG's in AM at 1100 Sat //12221 kHz. (TY)

11175: LOOK 99 w/kg Thule for pp to unid "op's" re poss runway closure at 1705 in USB, LOOK 99 is RC-135 fm 55th Wing, Offutt AFB. (RK)

11181: CROWN 96 at 0045 in USB w/kg Thule w/pp to CROWN OPS. ETA Andrews 0215z. Ref's to CROWN 95 being airborne in about 3 hours. (DW) KINDLADY at 1900 in USB clg NIGHTWATCH 01 on Z200. (MT)

11217: NIGHTWATCH 01 at 0045 in USB

w/kg MacDill re data. (MT)

11220: Andrews in USB heard at 1900 w/Air Force 2, Andrews was having some comms problems. (IJ) SAM 27000, C-137C tail 72-7000, at 2223 in USB w/kg Andy on F311 w/rdo ck's. (MT)

11232: SENTRY 50 at 1700 in USB w/kg RAYMOND 24 asking to know what their SAR track was & who would be refuelling them. (TB)

11265: Unid ?-Air 27JT at 1531 in USB req wx for Halifax & Gatwick from Trenton Military. (TB)

11272: GONZO 06A at 1537 in USB, req Trenton Military relay to MOC Halifax the message—EXERCISE AIRBORNE 1515 ZULU ETA 2015 WINNIPEG EXERCISE BREAK. (TB)

11306: Unid Britannia a/c at 1715 w/patch thru Portishead to Op's to req an a/c ferry from Luton to Gatwick . . . Ops said that it would be aircraft 'AK' instead of 'AR', will depart Luton 1935 w/ETA Gatwick 2035, fuel for ferry 1450, fuel on board 4440. At 1502, American 932 clg Flight Support Lima (Peru) w/no reply. Both in USB. (TB)

11450: Unid LACSA a/c monitored at 1737 in USB w/kg unid stn mentioning Tegucigalpa in SS, assume Costa Rican LDOC. (TB) (last month Al Hussein logged Mexican LDOC here—Ed.)

11545: Lincolnshire Poacher at 1725 (Sun) //13375 in progress. (CS)

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CIRCLE 7 ON READER SERVICE CARD

THE MONITORING MAGAZINE

CIRCLE 63 ON READER SERVICE CARD

January 1998 / POPULAR COMMUNICATIONS / 71

MAP Press Frequencies/Schedule

For the Middle East and Africa:

Arabic Language

1030-1130

1530-1700

CNM80/X11 18496.1

CNM80/X11 18496.1

For Southern Africa:

French Language

1000-1130

1530-1700

For West Africa:

1000-1130

1530-1700

CNM76/X9 18220.9

For Eastern Europe:

1000-1130

1530-1700

CNM29/1X 10213.0

For Eastern Europe and Asia:

1000-1130

1530-1700

CNM85/X11 13585.9

English Language:

All transmission times:

1200-1400

For the Middle East:

CNM80/X11 18496.1

For Southern Africa:

CNM78 18265.0

For Western Africa:

CNM76/X9 18220.0

For Eastern Europe:

CNM29/1X 10213.0

For Eastern Europe and Asia:

CNM85/X11 13585.9

Same, YL/EE hrd at 1600 to 1645 w/heavy jamming. (RK) Both in USB.

11570: Cherry Ripe lady passes 5FG's in powerful USB heard at 1300 // 13866//7484 kHz. (TY)

11584.5: Unid Piccolo-6 at 0218 idle single channel so prob MKK or MTS. (AWH)

12175: The Counting Station at 1800 (Sat) in AM, YL/EE "471", very weak. (CS)

12566: UDLE, BATM Berezina at 2214 in 50/170 RTTY, Russian-flagged Bol'shoj Avtonomnyj Tral'shchik Murilzhnik—BATM w/posn report to Vladivostok Radio

from master, KMD Mironov, app to use c/s UDLE, no prior logs of this vsl. (Ed.)

12940: LZW53, Varna Radio, Bulgaria at 0515 w/traffic list & CW marker. (IJ)

13312: Poss Pyongyang N. Korean diplo t/c in 50/425 RTTY at 1308, sends 5FG's then to CW, looks like typical N. Korean but 425 shift is a little unusual. (JR)

13333: Unid SPEEDBIRD a/c at 1730 in USB w/kg Speedbird London re conditions at Antigua, London adv 'the plume' (assume volcanic?) continued to be ENE of Antigua but to call Speedbird Antigua VHF when in range . . . Ajitalia a/c then came on frequency calling London w/no reply. (TB)

13342: REACH 17 at 1701 in USB w/kg Stockholm Radio asking for wx for several points including CYQX. (TB)

13356: Air Jamaica 057 at 1709 in USB w/report to Op's that upon arrival in Kingston that he needs a new Latin America 97-98 chart as the one he had was completely ruined. (TB)

13373: Unid at 1802 in CW w/5FG cut numbers. Close to Poacher freq. (CS)

13473: Unid Polish Military at 0520 in 50/850 RTTY w/a long list of Warsaw telephone numbers. (IJ)

13866: Cherry Ripe at 1300 (Mon) in AM, w/msg to 07513, //11570. My first loggings of this station! (CS) Same passing 5FG's in powerful USB at 1100 //14469//9263 kHz. (TY)

14633.3: RFLI, Martinique at 1215 in ARQ-E3 192/400, ckt RTI to Guyane, tropical wx synopsis, then CdV. Return link still on 10281 at time. (AWH)

14817.5: JPA, INTERPOL, Tokyo, Japan at 0700 in ARQ w/encryption. (IJ)

14826: Unid Cuban diplo (poss CLP-22 Hanoi) at 1620 in CW, told someone to QSY 19517, there CLP1 MFA, found in 50/425 RTTY on 19517.5 kHz. (JR)

14873.3: RFLIG, Guyane at 2144 in ARQ-E3 192/400R (i.e. locks inverted on USB, typical for IRT & RTI ckt), ckt RTI, return link IRT on 14633.3 at same time. (AWH)

15016: WGY918, FEMA, Denver, CO, at 1700 in USB clg NIGHTWATCH, no joy here. (MT)

15091: JESSE 95, 139th ALW, MO ANG C-130, at 2206 in USB w/kg Thule Global w/pp FURIOUS (AMC Theater Airlift Control SOUTHCOM). (Ed.)

15616: Cherry Ripe lady passes 5FG's in powerful USB heard at 1000 // 17499//10452 kHz. (TY)

16135: CLP1, MFA Havana clg CLP-45 in CW at 1320, no contact. (JR)

16186.1: CLP-18 Dar-es-Salam, Tanzania in 50/425 RTTY at 1810, P/L SS msgs to CLP1, MFA Havana, also relays msgs from Embacuba Baghdad & Damascus. MFA is on 18297.8 at 1901 in 50/425 after CLP-18 told him to QSY to "18300." (JR)

16249: MFA Pyongyang, N. Korea in 50/850 RTTY at 1618, Korean P/L & 5FG msgs, goes to CW at the end. Looks like daily sked 1615-1645. (JR)

16256.9: CLP-7 Embacuba Brazzaville in 50/425 RTTY heard at 1314, P/L SS t/c to

MFA Havana in CW on 20019.0 kHz. First time catch! (JR)

16528: Vessel Research I at 2200 in USB w/kg vsl Lordship which was launching from dry dock in Fort Pierce, FL. (DJ)

17141.3: USU, Mariupol Radio, UKR in 50/425 RTTY at 1412, sent several msgs in EE, this is an unusual shift for them. (JR)

17499: Cherry Ripe lady passes 5FG's in powerful USB monitored at 1000//10452//15616 kHz. (TY)

18042.8: CLP-55, Embacuba Georgetown, Guyana in 50/425 RTTY at 1840, relaying a SS circular to an unid stn, another first time catch. (JR)

18208.6: CLP-1, MFA Havana, in 50/425 at 1845 w/circulars in SS. (JR)

18419: CLP-1, MFA Havana in CW at 1900, poss clg CLP-18. (JR)

18621.1: CLP-44 Harare in 50/425 RTTY heard at 1514 relaying msgs from Baghdad to CLP-1. (JR)

19042: CLP-45, Luanda, Angola in CW and then 50 baud RTTY at 1315 but too weak to copy. (JR)

19557: CLP-45 Luanda, Angola in 50 baud RTTY at 1315, to weak to decode, in CW he told unid stn to QSY 16175. (JR)

19615.5: MTS, Falklands at 2105 in Piccolo-6 w/"MKK DE MTS LOLOOL PAL PSE TO QSY 060 TO F57 F57 KKK." Down on 14593.5 at 2255 recheck. (AWH)

19715: EZI Mossad best in faint USB at 0930 //17410 kHz. (TY)

19884: Cherry Ripe lady passes 5FG' at 0000 & 0100 in powerful USB //15616 //21866 kHz. (TY)

20018: CLP-1, MFA Havana clg CLP-45 Luanda, in CW at 1300. (JR)

20019: CLP-1, MFA Havana, clg CLP-7 Brazzaville, Congo at 1300, found CLP-7 on 16256.9 (JR)

20946: VL8IPS, Australia at 2213 usual prop beacon format, FSK 100/850 RTTY + morse ID. (AWH)

26001: Mexico? Telco link at 2250, continuous Euro busy signal. (AWH)

28897: Mexico? "Swirlie" scrambling (spectrum-slice) typically used by Mexican Army at 2252 w/QSO. (AWH)

29825: Unid digital mode at 2145, 41/170, repetitive sounding so may be telemetry link of some sort or mutant ARQ format, F skip open into Latin America at the time. (AWH)

This months contributors

(AB) Ary Boender, The Netherlands; (AG) Alan Gale, UK; (AWH) Albert W. Hussein, FL; (DJ) Douglas Jarrard, NM; (DW) Dave Wright, TX; (IJ) Ian Julian, New Zealand; (JR) Joe Richards, FL; Fink, FL; (MT) Matt Thompson, PA; (RK) Richard Klingman, NY; (SW) Sue Wilden, IN; (WP) Walt Petersen, FL; (TY) Takashi Yamaguchi, Japan; and (Ed.) ye editor in Ohio. Thanks to all. ■

Broadcast DXing

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

Expand Your Horizons by Going on a DXpedition

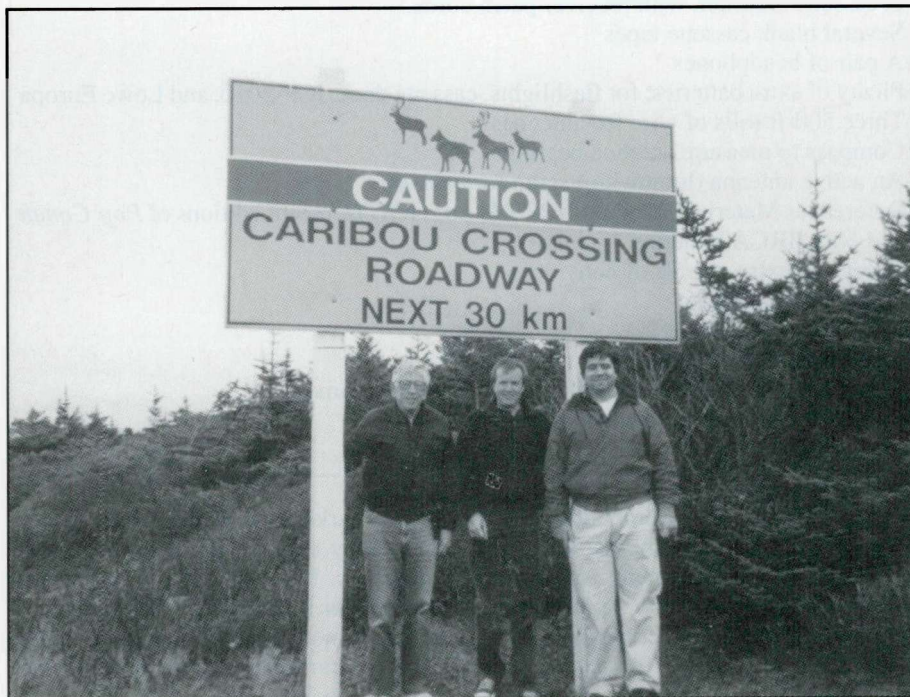
Exploring for remote DX sites and finding new signals across the radio dial is a fun way to rejuvenate interest in DXing, and recover from cabin fever this winter. Here are a few tips on how to prepare.

Locating a Site

Site selection can vary, based on your objectives. The best sites will be either coastal or mountaintop locations, or where wide-open spaces are available for antennas. A remote location where you are less likely to be disturbed by police or pedestrian traffic is preferable, but not necessarily required. Exploration for a site usually begins with a leisurely drive and good documentation such as a DeLorme road atlas or government survey maps to lead the way. Access roads to parks, wildlife refuges, or water are a good place to start. Mountain tops are great sites for FM DXing. FM broadcasters know the importance of antenna height. FM transmitting antennas are often found on mountain tops like Mount Soledad in San Diego and Mount Washington in New Hampshire, or on the top of city skyscrapers such as the Hancock and Prudential towers in Boston, the Sears tower in Chicago, and the World Trade Center in New York City. In contrast, coastal locations are best for AM DXing, especially transoceanic DX, where saltwater conductivity enhances low-angle reception from over the ocean while the land opposite the ocean direction blocks domestics. That is not to say that AM DXing wouldn't benefit from a mountaintop location or vice versa. The fact is that broadcast DXing can take place just about anywhere. So if the extremes of mountaintop and seashore locations aren't practical, just look for a site away from pesky local stations, free from electrical noise, and with plenty of room for AM longwire antennas.

"Test Drive" The Location

Once a site is found, it's best to "test drive" the location, before dedicating a



Remote site DXpeditioning isn't without risk. Here Ben Dangerfield, Bruce Conti and Neil Kazaross pose during a Newfoundland, Canada DXpedition.

full-blown effort toward a mini-DXpedition. Scan the band to get a feel for local conditions and the potential for new DX. Spend some time at the site to learn about the types of visitors that might frequent the area for purposes other than DXing. Be especially mindful of hunters. Wear bright clothing to prevent being mistaken for a deer or other game animal while hiking to a site or rolling out wire antennas. Many of the sites desirable for DXing can also be the preferred hangouts for kids looking for a place to party or looking for privacy in extra-curricular activities. Police will often patrol such sites and won't allow overnight parking or loitering. One night while DXing from a parking area overlooking a salt marsh in the Parker River National Wildlife Refuge, a police officer feared that I was communicating with a drug-running boat offshore, and requested that I leave. But in most cases, a presentation of documentation such as *Popular Communications* magazine and the *World Radio TV Handbook* is enough to convince the police that you aren't

doing anything illegal. Even better, try to obtain the permission of the land owner to use the site. Or for extra security, renting a cottage or campsite in a prime DX location will insure that DXing can proceed without disruption.

Be Prepared

At a remote location, the worst thing that can happen will be equipment failure, or forgetting an important piece of gear. For this reason, it's always good to have a back-up plan so the DXpedition isn't a total disaster. This includes having a back-up receiver available, and being familiar with a nearby second location. If the location is a long distance from home, then it is especially important to have a second location in mind, just in case you're chased out or someone else has claimed the site for other activities. There's always the risk of damage to a receiver during transportation or due to accidents ("Oops, I dropped it!"). A back-up receiver is a must. Create an equip-

Suggested DXpedition Equipment List

Two Receivers—Drake R8A, Sony ICF-2010, and/or Lowe HF-225 Europa
Two Flashlights (a back-up flashlight is a good idea)
Cigarette lighter power cords for the receivers
One 12-volt battery pack for Lowe Europa (runs 8 to 16 hours on a 12-v D-cell battery pack)
A cassette recorder, with receiver patch cords.
Several blank cassette tapes
A pair of headphones
Plenty of extra batteries; for flashlights, cassette deck, ICF-2010, and Lowe Europa
Three 500-ft rolls of wire for antennas
Compass to measure antenna bearings
An active antenna (loop/whip) setup for back-up
References Material including *NRC AM Log*, *WRTH*, recent editions of *Pop' Comm* and *NRC/IRCA* bulletins
Paper and extra pencils or pens
Digital clock or watch
Road maps
Extra clothes to keep warm in winter.
Bug repellent to keep the flying insects away in summer.
Food and drinks to keep energy levels up
First aid kit.

ment checklist before embarking on a DXpedition, to make sure that you have all the necessary equipment. And before your first DXpedition, do a practice run at home to determine whether you're really prepared. If planning for an overnight car DXpedition or camping trip, set up and do an overnight session in your dri-

veyway, parking lot, or backyard. The activity may solicit comments from your neighbors, but it's worth it to identify weaknesses in your plan. Shown above is an equipment list for a typical mediumwave car DXpedition, which might help you to formulate a plan.

Remember, if you're going to be set-

"... it's always good to have a back-up plan so the DXpedition isn't a total disaster."

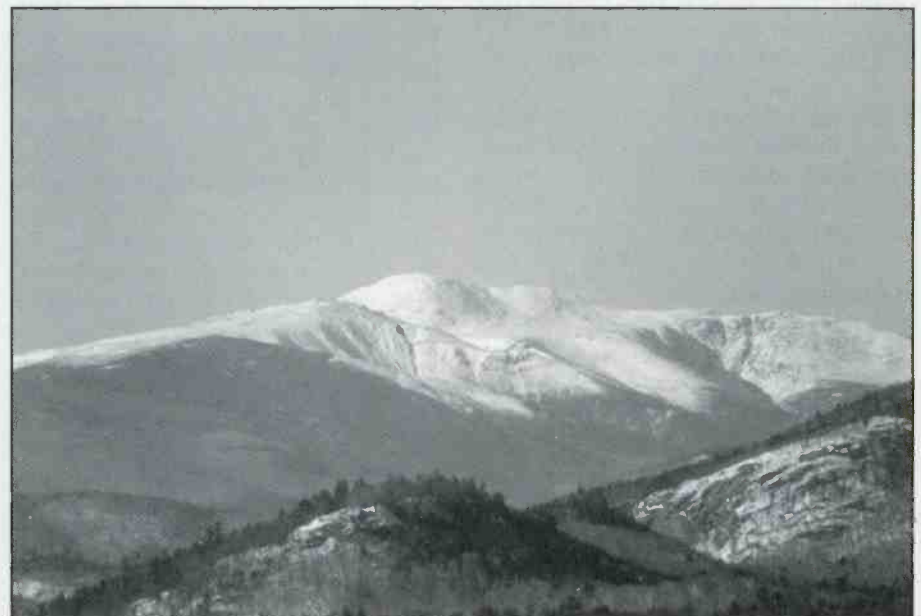
ting up antennas in rather wet locations, bring extra clothing including socks and shoes. Many DXers, including myself, have slipped and fell into the ocean or sunk knee-deep in the muck on the salt marsh while rolling out wire. One more tip if you're DXing in the car; don't use the vehicle overhead interior "dome" light for extended periods, as that single light will drain your battery faster than any modern receiver. It's a good idea to run the engine for a few minutes every two or three hours to keep the car battery charged, especially in cold weather. Some DXers power equipment with separate deep-cycle marine batteries rather than risk not being able to start the car at the end of the DXpedition.

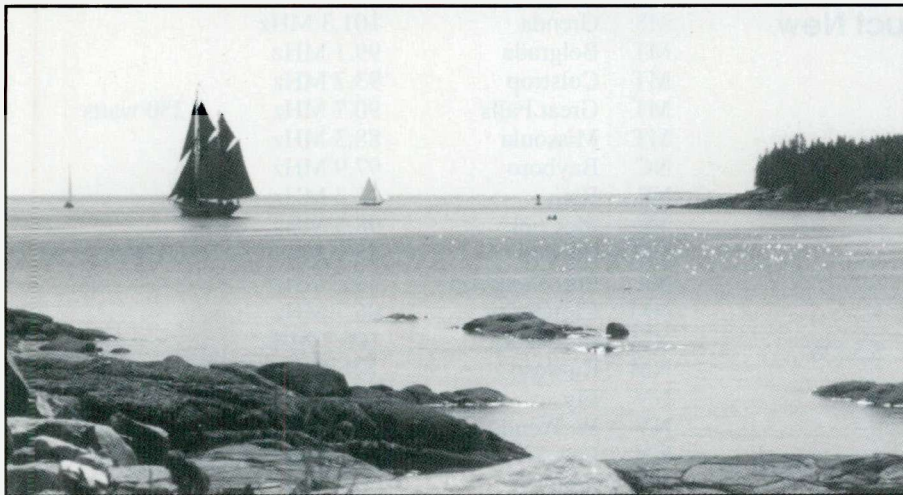
DXpedition Results

If you're looking for some inspiration, then check out this brief summary from Mark Connelly on a car DXpedition at the Parker River NWR site. "On a cool crisp October night (temp. 7 C / 45 F) at the salt



← The WMTW (TV Channel 8), WPKQ 103.7 and WHOM 94.9 FM transmitter site on top of Mt. Washington in New Hampshire. Mt. Washington, the highest point in the northeast probably isn't a good DXpedition site this time of year.





Coastal sites such as this are great for transoceanic DX.

marsh in Rowley, MA, the sky was full of stars and the MW dial was full of DX. Mediterranean-area stations were doing well. The highlight was Greece on 1386 kHz heard at 2327 UTC (7 Oct.) and again at 0024 (8 Oct.), this time with parallel 981 kHz. Many other strong European signals were heard along with some Caribbean and South American stations. I used the Drake R8A and a MFJ-1026 to phase two MFJ-1024 active whips spaced at 40 meters on an east-west line." DXing under the stars, whether solo or as a group, is a sure-fire way to spice up your enjoyment of the hobby. For more information on mediumwave DXpeditioning, refer to the NRC's "DXpedition Handbook" by Shawn Axelrod, featuring DXpedition reports by Mark Connelly, and the follow-up publication "Season of DXpeditions" which lists the results of DXpeditions worldwide, focusing on autumn 1996.

CKFX Shortwave Silent Forever

Ben Krepp reports via BADX e-mail that CKWX Vancouver 1130 kHz has no future plans for shortwave CKFX 6080 kHz. Krepp asked CKWX Chief Engineer Jack Weibe if CKFX would be reactivated. The management of CKWX AM some time ago decided not to restore CKFX after transmitter failure, and has allowed the license to lapse. Krepp reports, "The CKWX shortwave transmitter, which used a single 807 tube, ran 10 watts, and dated from the period 1945-1947, gave up the ghost in late 1994/early 1995. At that time, CE Jack Weibe explored the possibility of getting the shortwave service back on the air

using a modified ham transmitter running around 100 watts. The estimated cost of doing this was approximately \$100. Unfortunately, this approach didn't pan out: the transmitter would have to be "type approved" by Industry Canada, and the cost of doing this ranged in the many thousands of dollars. This was therefore, deemed unacceptable.

"Jack then explored getting the service on the air using a new shortwave trans-

"DXing under the stars, whether solo or as a group, is a sure-fire way to spice up your enjoyment of the hobby."

mitter. A new transmitter of around 1 kW would cost the station between \$20,000 and \$30,000. Given that the original motivation for the shortwave service—to serve remote fishing communities on the British Columbia coast—was no longer relevant, the station management deemed the expenditure of \$20,000—\$30,000 to restore the shortwave service unacceptable. The decision to allow the shortwave license to lapse followed from this. There are no longer any plans to reactivate the CKWX shortwave service whatsoever. CKFX 6080 kHz is history."

Radio Futures

The market value of AM and FM stations continues to soar since FCC deregulation first took effect in 1996. Aside from the billion dollar deals by large corporations such as SFX and CBS/Westinghouse, even smaller deals are com-

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AR	Heber Springs	89.7 MHz	
AR	Pangburn	99.1 MHz	
AR	Springdale	88.5 MHz	2.5 kW
AR	Stamps	104.3 MHz	
AZ	Oro Valley	101.9 MHz	
CA	Coachella	90.3 MHz	
CA	Grass Valley	103.3 MHz	
CA	Laytonville	90.1 MHz	
CO	Rocky Ford	95.5 MHz	
CO	Salida	93.7 MHz	
CO	Strasburg	97.7 MHz	
CO	Vail	88.5 MHz	
FL	Key West	90.1 MHz	
GU	Dedeo	105.1 MHz	
IA	Mason City	88.5 MHz	
IA	Waverly	88.9 MHz	
ID	Driggs	102.1 MHz	
ID	Homedale	106.3 MHz	
ID	Idaho Falls	107.1 MHz	
ID	Pocatello	92.1 MHz	
ID	Twin Falls	98.3 MHz	
IL	Cairo	88.5 MHz	
IL	Charleston	88.1 MHz	2.5 kW
IL	Chicago	90.1 MHz	
IL	Duqoin	90.1 MHz	
IL	E. St. Louis	89.7 MHz	250 watts
IL	Martinsville	88.1 MHz	1 kW
IL	Peoria	90.7 MHz	
IL	Pittsfield	90.9 MHz	500 watts
IN	Bloomfield	101.1 MHz	
IN	Frankfort	90.7 MHz	
IN	Lebanon	91.1 MHz	
IN	New Haven	91.3 MHz	430 watts
IN	Valparaiso	91.1 MHz	
KS	Arkansas City	91.3 MHz	250 watts
KY	Mount Sterling	88.1 MHz	300 watts
LA	Bastrop	91.9 MHz	6 kW
LA	Kinder	90.3 MHz	
LA	Lake Charles	90.3 MHz	
LA	Plaquemine	88.1 MHz	4.5 kW
MA	Nantucket	89.5 MHz	
ME	Nilbridge	93.7 MHz	
MI	Bear Creek Twp.	89.3 MHz	6 kW
MI	Charlevoix	107.9 MHz	
MI	Glen Arbor	93.3 MHz	
MI	Harrietta	93.7 MHz	
MI	Muskegon	91.7 MHz	
MI	Pinconning	104.1 MHz	
MO	Dixon	92.1 MHz	
MO	Garden City	105.3 MHz	
MO	Kirksville	91.9 MHz	
MO	Poplar Bluff	92.5 MHz	
MO	Vienna	90.9 MHz	
MS	Indianola	88.7 MHz	

MS	Grenda	101.3 MHz	
MT	Belgrade	99.1 MHz	
MT	Colstrop	93.7 MHz	
MT	Great Falls	90.7 MHz	250 watts
MT	Missoula	88.3 MHz	
NC	Bayboro	97.9 MHz	
NE	Blair	97.3 MHz	
NE	McCook	98.5 MHz	
NE	Ralston	88.1 MHz	6 kW
NJ	Port Republic	88.3 MHz	
NM	Cloudcroft	96.7 MHz	
NM	Lordsburg	105.7 MHz	
NM	Ruidoso	101.5 MHz	
NV	Ely	96.7 MHz	
NV	W. Wendover	89.7 MHz	
NY	Fenner	90.5 MHz	
NY	Remsen	90.3 MHz	
OH	Ashtabula	98.3 MHz	
OH	Millersburg	90.5 MHz	5 kW
OH	Zanesville	91.7 MHz	6 kW
OK	Chickasha	90.5 MHz	
OK	Seminole	89.1 MHz	
OR	Jordan Valley	90.9 MHz	19 kW
OR	Pine Grove	89.5 MHz	
PA	Forest City	100.1 MHz	
PA	Meadville	100.1 MHz	
PA	Middleton	88.7 MHz	
SD	Rapid City	88.3 MHz	250 watts
SD	Sioux Falls	90.1 MHz	
TN	Clifton	106.5 MHz	
TN	Portland	91.5 MHz	
TX	Abilene	90.5 MHz	
TX	Bastrop	88.5 MHz	
TX	Big Lake	104.1 MHz	
TX	Brenham	89.7 MHz	250 watts
TX	Canadian	94.9 MHz	
TX	Denison	91.5 MHz	
TX	Fannett	90.5 MHz	20 kW
TX	Freer	90.7 MHz	20 kW
TX	Harlingen	89.9 MHz	
TX	Hebbronville	91.9 MHz	3 kW
TX	Levelland	91.9 MHz	20 kW
TX	Longview	97.3 MHz	
TX	Marble Falls	88.5 MHz	6 kW
TX	Markham	92.5 MHz	
TX	Sherman	91.5 MHz	
TX	W. Odessa	88.7 MHz	
TX	Zapata	93.5 MHz	
VA	Ashland	88.1 MHz	
VA	Richmond	88.1 MHz	
VT	Bolton	91.7 MHz	
WA	Cle Elum	93.7 MHz	
WA	Ellensburg	88.1 MHz	
WI	Biramwood	92.9 MHz	
WI	Cuba City	89.7 MHz	
WI	Wautoma	102.3 MHz	
WY	Fort Bridger	99.1 MHz	

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MI	Reed City	97.3 MHz	2.9 kW

MO Ellington 103.9 MHz
 WA Sunnyside 88.1 MHz 250 watts

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 NV Sparks 880 kHz
 TX Denton 1440 kHz Synchr. xmtr. of KICI

Canceled or Revoked

(new) Grove City, PA 88.9 MHz 100 watts
 KAAM Huntsville, MO Licensee deemed unqualified
 KBMX Eldon, MO 101.9 MHz Licensee deemed unqualified
 KBLV Pasadena, CA 1240 kHz
 KFMZ Columbia, MO 98.3 MHz Licensee deemed unqualified
 KFEXE Cuba, MO 102.1 MHz Licensee deemed unqualified
 KZOW Forest City, IA 91.9 MHz 100 watts
 WCXR Lewisburg, PA 103.7 MHz 3 kW
 WBFX Terre Haute, IN 1230 kHz Licensee deemed unqualified
 WBOW Terre Haute, IN 640 kHz Licensee deemed unqualified
 WUNW Key West, FL 90.1 MHz 6.1 kW
 WYNI Repton, AL 101.1 MHz 4.1 kW

WZZQ Terre Haute, IN 107.5 MHz Licensee deemed unqualified

Requesting Modified AM Facilities

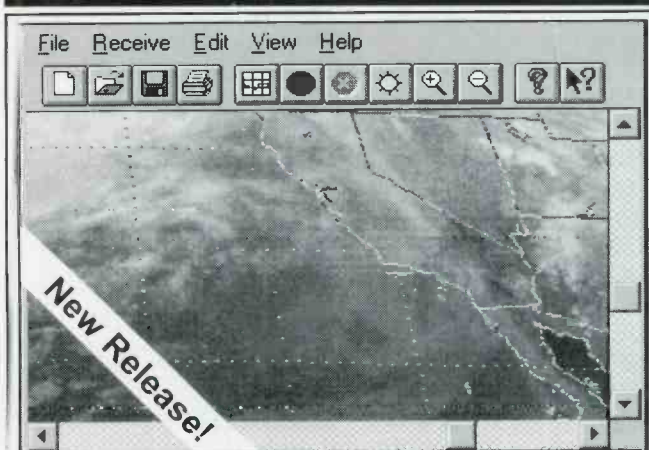
KAFY Bakersfield, CA 970 kHz Seeks changed night power
 KVSN Tumwater, WA 1500 kHz Seeks move to 1340 kHz, 1 kW nights
 KWFT Wichita Falls, TX 990 kHz Seeks change community and power
 WBMD Baltimore, MD 750 kHz Seeks daytime increase to 1.2 kW
 WCTR Chestertown, MD 1530 kHz Seeks daytime increase to 1 kW
 WELP Easley, SC 1360 kHz Seeks daytime increase to 5 kW

Changed AM Facilities

KRTX Rosenberg, TX 980 kHz Changed night power
 WOKA Douglas, GA 1310 kHz Changed day power
 WSQR Sycamore, IL 1560 kHz Changed power

Changed FM Frequency

KSAR Salem, AR 100.9 MHz Moved to 95.9 MHz



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 WAUL Brantley, AL

Pending AM Call Letter Changes

New	Old	
KMYR	KQAM	Wichita, KS
WDBI	WZHF	Arlington, VA
WRDT	WLLE	Raleigh, NC

Changed AM Call Letters

New	Old	
KEWS	KOTK	Portland, OR
KMHS	KRSR	Coos Bay, OR
KNSN	KPAY	Chico, CA
KPAM	KZTW	Troutdale, OR
KPAY	KNSN	Chico, CA
KPBL	KAWS	Hemphill, TX
KRHW	KMPL	Sikeston, MO
KTCT	KOFY	San Mateo, CA
KUND	KFJM	Grand Forks, ND
KYLS	KFTW	Fredericktown, MO
KXTA	KIIS	Los Angeles, CA
WDCZ	WCMF	Rochester, NY
WDLW	WMLO	Lorain, OH
WELP	WRAH	Easley, SC
WGMY	WCSY	South Haven, MI
WIRA	WYFX	Fort Pierce, FL
WJBW	WMLZ	Jupiter, FL
WNIS	WTAR	Norfolk, VA
WNVI	WKRP	North Vernon, IN
WTAR	WNIS	Norfolk, VA
WTLI	WIST	Statesville, NC
WTMM	WQBK	Rensselaer, NY

New FM Call Letters Issued

KAWP Santa Rosa, NM
 KAWQ Bridgeport, NE
 KAWT Princeville, HI
 KAWU Newberry Springs, OH
 KAWV Lihue-Kauai, HI
 KAWX Weaverville, CA
 KAWY Denver City, TX
 KAXA Pioche, NV
 KAYA Hubbard, NE
 KAYB Sunnyside, WA
 KAYC Durant, OK

KLRO Nile, WA
 KMFG Nashwauk, MN
 KRGD Burlington, CO
 KTFW Stamford, TX
 KUWA Afton, WY
 KUWC Casper, WY
 KUWG Gillette, WY
 KYFP Palestine, TX
 WAUM Duck Hills, MS
 WAUO Hohenwald, TN
 WBLQ Westerly, RI
 WGWR Liberty, NY
 WNHT Lancaster, NH
 WSQA Hornell, NY
 WSSK Saratoga Springs, NY

Pending FM Call Letter Changes

New	Old	
KBFG	KNYN	Santa Fe, NM
KCUF	KXOZ	Mountain View, MO
KFJM	KFJY	Grand Forks, ND
KHDR-FM	KVVQ-FM	Victorville, CA
KJML	KOCD	Columbus, KS
KKLL	KWSK	Dangerfield, TX
KLRX	KEZT	Madrid, IA
KOMC-FM	KRLK	Kimberling City, MO
KRNC	KKDJ	Fresno, CA
KTRM	KAVT	Kirksville, MO
KUAB	KUAC-FM	Fairbanks, AK
KUAC	KUAB	Fairbanks, AK
KUND-FM	KFJM-FM	Grand Forks, NM
KWCY	KOAZ	Glendale, AZ
KXOA	KXOA-FM	Sacramento, CA
KYLS-FM	KYLS	Ironton, MO
KYTI	KWYO-FM	Sheridan, WY
KZKE	KJJJ	Seligman, AZ
KZQZ	KOYT	San Francisco, CA
WBYP	WVRD	Belzoni, MS
WCTO	WLEV	Easton, PA
WDCZ-FM	WDCZ	Webster, NY
WFLV	WMLO	Havana, FL
WGCX	WZEW	E. Brewton, AL
WHCD	WPCX	Auburn, NY
WJBW-FM	WJBW	Jupiter, FL
WKES	WCIE-FM	Lakeland, FL
WLEY-FM	WYSY-FM	Aurora, IL
WLJH	WARD	Glens Falls, NY
WNSR	WDBZ	New York, NY
WQLL	WOXF	Bedford, NH
WRQC	WBOB-FM	Minneapolis, MN
WTCD	WDLJ	Indianola, MS
WZEW	WGCX	Fairhope, AL

manding big bucks. And the big money isn't limited to FM. Take for example the 8 million dollar price tag that One-On-One Sports paid for 1510 AM in Boston. With the amount of money that's being

thrown around these days, you can bet that AM and FM radio will be around for a long time to come.

Thanks to Mark Connelly, Bob Gilbert, Ben Krepp (BADX), Jeff Richardson,

and G. Stewart Tyler. Make Broadcast DXing part of your future plans. Join the fun by sending in your loggings, news items, and reports of DX experiences.

73s and good listening! ■

Tuning In (from page 4)

ly received on older, ordinary consumer grade scanning receivers, or as perfectly intelligible "image" signals on newer scanners, and by hundreds of thousands of old dial-tuned UHF television sets. Regardless, wireless service subscribers do expect privacy.

Further complicating the matter is the question of digital transmission. Apparently, many cellular customers believe that they have digital service. Some do, many don't. Ironically, much of this confusion has originated from the consumer electronics industry. Small wonder. "Digital" has come to be the most abused word in the language. It has been applied to everything from musical instruments to coffee makers. And how secure is digital transmission? Where encryption algorithms are utilized, security may be substantial. Short of that, however, digital transmission refers simply to several methods of modulating the air interface. All modulation techniques are published by industry trade associations. Call it what you will, the fact is that all radio transmissions are modulated onto an analog wave, and all transmissions can be demodulated, with varying degrees of difficulty.

There's More

Scanner enthusiasts are getting mixed signals from various levels of government, as well as different agencies. For example, until recently the state of New Jersey had one of the most rigid and brutally enforced mobile anti-scanner laws in the nation. Licensed radio amateurs, and others, were actually being arrested by overzealous local police agencies, for the mere possession of federally authorized radio equipment. Then, in January of 1992, the state suddenly reversed itself when Governor James Florio signed S.305 into law. Overnight, anyone, not just licensed radio operators, could own and operate a scanning receiver in New Jersey, as far as the state was concerned. Although the bill addressed specifically mobile monitoring and governmental frequencies, its message seemed to indicate a green light in the overall direction of scanner deregulation.

This was followed by FCC Memorandum Opinion & Order PR Docket 91-36, released in September of 1993. The action preempted any state and local authority regulating or banning certain out-of-band receiving equipment utilized by licensed radio amateurs. This was yet another sig-

nificant step in reducing government over regulation of what may be received over the airwaves. These precedents are significant given the account that at least one well known industry representative present at the Congressional hearing called for a ban on manufacture and sale of scanning receivers which have been up to now, "entirely legal." Yet amateur radio operators are not hackers, nor "electronic stalkers." They are simply interested in advancing the radio art, as specifically authorized by the Communications Act, Title 47 CFR, Part 97.

There will be no simple resolution among the two camps. Scanner listeners are not electronic stalkers. Millions of scanner listeners are public safety career and volunteer personnel, available for round-the-clock emergency response. Others are neighborhood watch groups, or citizens wanting to know of suspicious or criminal activity in their neighborhood. Many are licensed ham radio operators listening to amateur frequencies or conducting authorized checking for out-of-band interference. Many more are licensees of two-way radio systems who need extra receivers, without the expense of additional transceivers. Nonetheless, the wireless telephone industry will not likely abandon concern for their users' privacy at the behest of tradition.

Recently another two concerns for radio hobbyists have arisen. Congress's House Telecommunications Subcommittee introduced two similar bills, Committee member Representative Edward Markey's H.R.1964, the "Communications Privacy and Consumer Empowerment Act" and Committee Chairman Billy Tauzin's H.R.2369, the "Wireless Privacy Enhancement Act." Essentially, both pieces of proposed legislation seek to outlaw the manufacture, sale, or modification of scanners capable of receiving Commercial Mobile Radio Service (CMRS) Frequencies. CMRS is the new FCC designation for radio services which function as wireless telephone services. For those familiar with frequency allocation, the main problem is obvious. These frequencies are scattered *all over the spectrum*. Further, allocations are continually being changed by the FCC . . . and what may be a CMRS channel in one locality may be assigned to another service entirely, in another. Again, "digital transmission" appears headed to becoming confused with true encryption, in at least one of the bills. Cracking an encrypted message is one thing, but demodulating an analog or digital signal is basic stuff.

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The Pirate's Den

FOCUS ON FREE RADIO BROADCASTING

Lots of Strange Loggings Again This Month in Pirateland!

This month we've got another flood of logs to keep us busy, so let's get going and dive right in!

Radio Nonsense, 6955 USB at 2319 with "Jo Mamma." Also at 0104 and 0041. (Silvi, OH)

Radio Tellus, 6955 USB at 0159. Also 2236. (Silvi, OH) 2340 with soft rock. Also 0103 with an episode of "The Shadow" complete with ads for Blue Coal. (Hassig, IL)

Radio One, 6950 at 0031. (Silvi, OH) 0040 with oldies, mention of Chess Records and the Chicago music scene. (Hassig, IL)

Radio Metallica, 6955 at 1401. Also 2355, 0136, 1553, 0030, 0016, 2320, (Silvi, OH) **6954.5V** at 0020 claiming to broadcast from a ship in the Atlantic Ocean. Rock. Also at 0025 on **6952.84** with rock. (Hassig, IL)

Argosy (?) Radio, 6955 USB at 1959 with several IDs mentioning Argosy. Merlin drop. (Silvi, OH)

Radio USA, 6955 USB at 2122 with anniversary program. (Silvi, OH) 0226 with take off on Radio Metallica, comedy bits, "Secret Agent Man." (Wood, SC) 2100 with anniversary show with rock, skits, pirate news. (Burgess, MA) 2303 pretending to be Radio Metallica with fake ID and good imitation of Dr. Tornado. Then revealed real ID with TV themes, comedy and rock. (Jeffery, NY) 0217. Dr. Blue Sky, Flintstones, Green Acres. Also 0047 with rock, comedy ads, pirate news by Ginger Ale. Also at 2240 when said studios were in Ft. Wayne, Indiana with satellite relay to a ship in international waters. Off with "Happy Trails." (Hassig, IL) 0111 with comedy, talk, music, IDs, mailbag. (Pappas, SD)

Radio Free Euphoria, 6955 USB at 2313 with Captain Gong. (Silvi, OH) 0033 advocating marijuana. (Watts, KY) 2320 with rock, talk of getting high. (Hassig, IL)

Orbital Mind Control, 6954.7 USB at 0130 with cha-cha, rock. (Hassig, IL)

Voice of Mind Control Satellite, 6955 SSB at 0134 with hard rock, funny exchanges between the announcer and someone else. (Jeffery, NY)

WRKO shortwave QSL

TO: Duane VonDenburgh - Wisconsin

The international service of WRKO 680-kHz, Boston.

Transmitters: Meadow Rd., Burlington, Massachusetts
Mailing Address: Box 109, Blue Ridge Summit, PA 17214

We are pleased to note that you heard our simulcast of *WRKO AM* with the July 4th "68 Most Popular Rock Albums" based on listener voting.

TIME: 02:17 UTC DATE: July 5, 1997 FREQUENCY: 6950 kHz

73's & Good DX!! Virgin Boy "VB", C.E.

Duane VonDenburgh in Wisconsin got this QSL for a special program on WRKO last July.

WREC, 6955 USB at 0155. Sign on with pirate song, funny bits. Also 0400, 0500 (Hassig, IL) 0000 with T.J. Sparx. (Watts, KY) 0043 with risqué jokes and a QSO with "Jolly Green" in Cape Cod. (Zollinhofer, MD) 0010 with ID, country songs, comedy, rock to 0032 off. (Jeffery, NY) 0152 with comedy ads and sketches. (Jeffery, NY) 0402 with special program. Another followed at 0453. (Pappas, SD) 2115. Also 2351. (Silvi, OH)

Take It Easy Radio, 6955 USB, 0438 with rock, Belfast address. (Burgess, MA) 0240 with song "Take it Easy." 0413—two stations came on at the same time both playing the song "Take It Easy." Also heard at 0155 with rock. (Hassig, IL) 0153 with easy listening. (Silvi, OH)

KRAP, 6955 at 0030 with dedications to the FBI, Lounge Lizard Radio and others. Said 75 watts. 0120 with oldies. "Greensleeves" used at sign off. (Hassig, IL) 0042 with Fred Flintstone and dedications to other pirates. (Wood, SC) 0205 with mostly instrumentals, letters. (Lewis, SC) 0144. (Pappas, SD) 0029 with rock. (Silvi, OH)

WLIS, 6955 USB at 0328 with interval signals, Canadian National Anthem. (Hassig, IL) 0327 with special tribute to an FM DXer who's heard 1,000 stations. (Pappas, SD)

Mystery Radio, 6955 USB at 0544 with muzak style rock. (Hassig, IL) 0239

with "Flashback" program, IDs. Also heard at 0708. (Pappas, SD)

Radio Clandestine (tentative), 6955 at 0111 with heavy metal, "broadcasting from a ship off the North Atlantic coast." (Wood, SC) 0107 with Stan Freeberg's "St. George & the Dragonet."

Radio Eclipse, 6955 USB, 0049 lots of talk, off with "Sweet Thing." Said had 75 QSL requests. (Wood, SC)

WALN, 11855 at 1620 with 50's rock and ID. (Jeffery, NY)

He-Man Radio, 6955 USB at 2337 with letters, ID, rock. (Jeffery, NY)

WRYT, 6955 at 0111 with rock. (Hassig, IL) 0020, 0126. (Silvi, OH)

Voice of Hell, 6955 USB at 0010. Sign off with "See You in Hell!" (Hassig, IL)

WMFQ, 6955 USB with rock, pop, country varying from "This Train" to "It Had to be You" to "What's New Pussy-cat?" (Hassig, IL) **6954 USB** at 1736. (Silvi, OH)

KIWI, 7475 USB at 0705. Very weak with choral singing and pop, mention of IRCs. (Hassig, IL)

RMWW, 6955.5 at 1400 with end of an editorial by Dr. Tornado, rap, American Bandstand theme, said was on a ship in the Atlantic and using 25 kW generator to power the final and 10 kW to power all else. He said it was not the WJDI transmitter but that parts were from WJDI. (Hassig, IL)

Voice of the Runaway Maharishi, 6950 LSB at 1735 with music of India as well as rock. Announcer called himself "His Holiness" and said we are his disciples. Broadcasting from a magic carpet above the USA. (Hassig, IL)

WMPR, 6955 USB at 0126 with loop IDs and music. (Silvi, OH)

Mystery Radio, tentative, 6955 USB at 1840 with music similar to their format. No ID. Also 0212 with unusual but pleasant music. (Silvi, OH)

Jerry Rigged Radio, 6955 USB at 2220 music, announcing switch to 6925 where he showed up at 2227 announcing a test broadcast on a less crowded frequency. (Silvi, OH)

Southern Music Radio, 6955 USB at 1511 with music from New Zealand. (Silvi, OH)

Microdot Radio 6950 USB at 0022 with music, many IDs, jokes. Also at 0046 (Silvi, OH)

Radio Azteca, 6955 at 2259, 2343 and 0002. Fifth anniversary and NAPRS reactivation? Offered special NAPRS QSL. (Silvi, OH)

Radio Free Information, 6955 USB at 2330 saying first broadcast. Discussion format talking with other pirates. Said no QSLs. (Pleakos, ME)

WEED, (6955?)—Ed at 0739 with rock, static-laced IDs, movie soundtrack. Off with bells ringing. (Pappas, SD)

Redneck Radio/WART, 6955 USB with songs, sound effects, uncopied e-mail address. (Silvi, OH)

Silver Eagle Broadcasting Network, 6955 USB at 1939 with tests, asking for comments on the signal. (Silvi, OH)

Radio Tornado WW (?) 6955 USB with IDs, CQ loop, swearing, montage of other stuff. (Silvi, OH)

Radio Three, 6955 USB heard at 2000 with Sal Amoniac and "Harbor Lights," "YMCA." Also heard at 2100 with rock. (Silvi, OH)

WLS Shortwave, 6955 USB at 2045. (Silvi, OH)

La Voz de Moderno Tiempo, 6955 USB at 2214 with Spanish IDs, nice music. (Silvi, OH)

Lounge Lizard Radio, 6955 at 2236 with program four. (Silvi, OH)

Radio 510, 6955 at 2223 with mail drop in Switzerland. (Silvi, OH)

Jimmy the Weasel, 6955 USB, testing from Huntsville at 0027. (Silvi, OH)

Radio Free America, 6955 USB at 0054 testing audio. (Silvi, OH)

Whew! Super job folks! Keep it coming and I'll see you next month!

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January 1998 / POPULAR COMMUNICATIONS / 81

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Statement of Ownership, Management and Circulation, 10-1-97, Popular Communications, 76 North Broadway, Hicksville, NY 11801. Publication # 07333315. Issued 12 times a year, subscription price \$25.95 per year. Publisher Richard A. Ross, Editor Harold Ort, owned by CQ Communications, Inc. Stockholders Richard A. Ross, Alan M. Dorhoffer. Circulation (Average of 12 Preceding Months): Net Press Run 79,693, Sales Through Dealers and News Agents 36,707, Mail Subscriptions 21,211, Total Paid 58,414, Free Distribution 818, Total Distribution 59,232, Copies Not Distributed 2,108, Returns from News Agents 18,353, Total 79,693. Circulation (Single Issue Nearest Filing): Net Press Run 73,572, Sales Through Dealers and News Agents 34,328, Mail Subscriptions 20,715, Total Paid 55,043, Free Distribution 802, Total Distribution 55,845, Copies Not Distributed 563, Returns from News Agents 17,164, Total 73,572. s./Richard A. Ross, Publisher.

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The Loose Connection

BY BILL PRICE, N3AVY

RADIO COMMUNICATIONS HUMOR

Bill's Acting a Bit Squirrely

When a writer's favorite fountain pen leaks onto his hands, it is perhaps an omen. So it was with me while I visited my mother in upstate Pennsylvania this past week, and I'd like to think that the lovely emerald green color which my otherwise faithful Parker 21 spread across my fingertips was a sign that perhaps my readers would like to know what it was that I was doing at that precise moment.

I was clinging—some might say “for dear life,” onto a smoke-stained section of RadioShack mast, which had been well-fastened some 32 years prior (talk about your endurance) to my mother's chimney. It was my mother who had fastened it there in 1965, because she was the more adept at climbing of my two parents—always somewhere between underweight and *svelte*. It would not be fair to say that my father couldn't have climbed onto that roof and done a fine job mounting the mast onto our single-story, ranch-house chimney, it's just that my mother had absolutely no fear of height at that time in her life—a time when most others—male and female equally, begin to doubt that humans are meant to be more than two feet above some safe surface such as the lawn, a driveway, or if safely constructed and well-tested—a floor. My father, as they say of skilled horsepersons, “allowed her to have her head” as it were, and held the ladder as she climbed past the rain gutter and stepped boldly toward the chimney.

An interesting aside here, as I remember it, began when a huge puff of black, sooty, oil-burner smoke blasted my mother in the face as she stood with her chin almost resting on top of the chimney. Simultaneously, my parents shouted, “I thought you turned the thermostat all the way down,” and “Who the hell turned that thermostat up?” and it was only then that we heard my brother filling the bathtub. No one remembered that the oil-burner was also responsible for providing “domestic hot water.” My mother towed her face clean after looking like Stan Laurel for what seemed to

be a very long time. My father shut off the main power to the furnace. My brother, who was 11 at the time and had never until that day taken a bath without coercion, denies to this day that he even knew that a demand for hot water would fire up the burner.

Why, you might ask, was I fondling a 35-year-old fountain pen while clinging to a chimney which I was waaay too fat and old to cling to? I was measuring the top of the chimney to build a “cap,” as it were. Nothing fancy such as raised flagstone held in place with cut bricks and mortar, but merely a wire-mesh cover to keep leaves from drifting down the chimney and providing fuel for a chimney fire—something that can ruin anyone's day. My mother's burner-inspector had found a good supply of dried leaves at the clean-out door and suggested she have such a device installed. I climbed back down and made the thing out of half-inch hardware-cloth, then climbed back up and laced it neatly in place with fine stainless steel wire (OK, some old “high-E” guitar strings) to save the cost of a professional job.

“I almost lost my balance trying to throw a handful of acorns at the damned squirrel, who was laughing in a nearby tree.”

While I was up there, truly admiring how well my mother's antenna handiwork had survived over three decades, I checked the mast's current tenant—a three-section fiberglass CB antenna my brother had mounted there some 10 years ago. All the mechanical joints were firm, and they were all sealed with coax sealant, as were the coax connection and the ground-wire connectors. Couldn't find a flaw with the way any of that stuff was holding up. The shingles that my brother and I installed should have aged so well. When I walked around to the lee side of the chimney, I saw a small pile of sticks and leaves which seemed to be

caught between the porch roof and an inside-corner of the house's siding. “Ha!” I thought. This would be an ideal place for moisture, decay, and perhaps even bugs to get a foothold on destroying my mother's house. I then pictured her homeless, dragging her poor, decrepit dog and all her worldly goods in an endless train of supermarket shopping carts, wandering from doorway to doorway looking for a warm place to sleep and park her carts—all because I didn't take the time to remove this potential disaster from her roof.

Until that day, I had never had a squirrel run up my arm, brush against my neck, or leap squealing from my shoulder to a nearby tree branch. Just as I don't completely buy my brother's story of innocence in the 1965 smoke-puff incident, I also wonder how it was that he showed up at precisely that moment to hear me let out an uncontrolled “Aaahhaahhaa” and watch me dive to tackle the chimney with determination and tenacity that would make Joe Paterno take notice.

“He probably thought you were some kind of nut,” my mother said, appearing next to my brother to see what had him laughing so hard. I released my death-grip on the chimney and stood erect once again, brushing the leaves and “squirrel-stuff” from my jacket. I almost lost my balance trying to throw a handful of acorns at the damned squirrel, who was laughing in a nearby tree. My mother quickly took this opportunity to quote some verse about “. . . throw not acorns at a squirrel who frighteneth thee . . .” but my brother then produced a small bag of peanuts which he tossed to the squirrel in what looked like some pre-arranged payoff—which wouldn't have bothered me nearly so much if I hadn't seen the squirrel *wink* at him.

My mother is warm now, and safely tucked in for the winter. I'll remind those of you with distant parents to check on them from time to time. Make sure they're safe and comfortable. See that they're eating well, and above all—make sure they still have a sense of humor. ■

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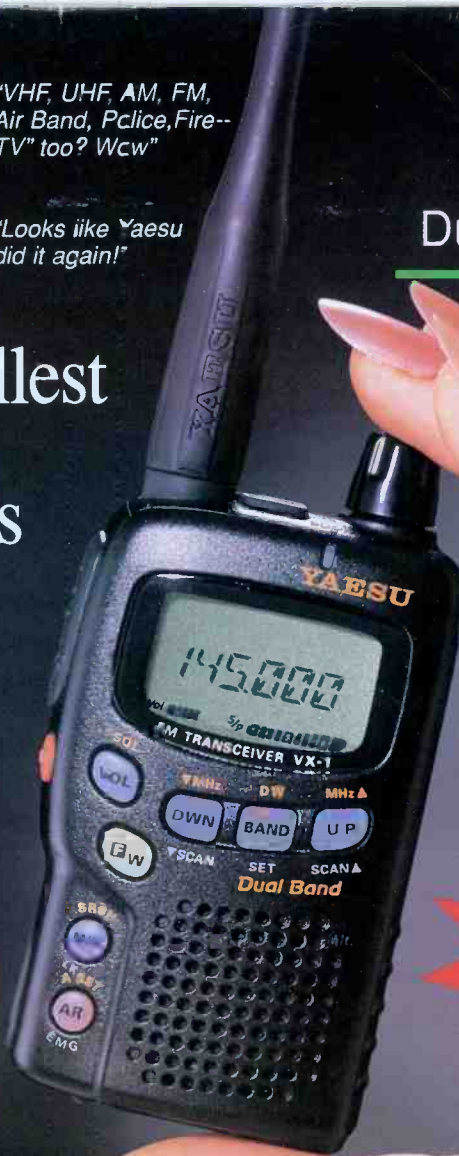
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