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FEBRUARY 1989

VOL. 7, NO. 6



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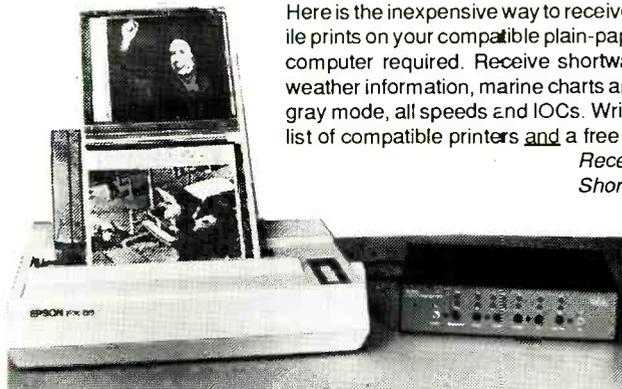
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BEAMING IN AN EDITORIAL

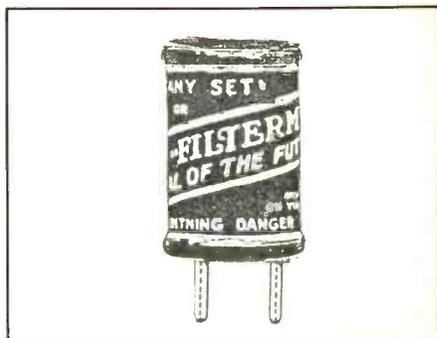
BY TOM KNEITEL, K2AES

That Was A Cold February

The wintry month of February, 1948 was my first real taste of what might be called DX. I was 15 years old and had been devoting much of the previous eight months to learning the things that might be accomplished with my Hallicrafters receiver. Despite being regularly sidelined by a ferocious noise level that at times surged through the

power lines of my New York City apartment house, I was still able to explore the world of radio.

The first really exciting station I ever heard was during the previous July and had me convinced that shortwave was definitely the hobby for me. Sounds of gunshots, explosions, people shouting and screaming



If one didn't do the job, then two would surely make the difference! And if two failed, maybe three were needed.

came pouring out of my receiver one evening as I tuned across one of the bands. I called in for my Dad to come and share this experience, for I had apparently stumbled upon one of those vestpocket wars going on somewhere. We both listened intently as people are prone to do when they suddenly realize that they have become witnesses to history in the making.

Pop was telling me to write it all down so I'd always remember what was said. I had more glorious things in mind, like the history books discussing the insurrection and how the only person to witness the incident was a heroic teenager seated at the controls of his shortwave receiver.

At 7:58 p.m. the battle faded out and there was only silence, soon broken by the stirring sounds of *La Marseillaise* and the announcement, "Ici Radio Paris, Radiodiffusion Francaise, in honor of Bastille Day, you have just been listening to a dramatic recreation of the storming of the Bastille which took place on this date, July 14th, 1789, exactly 158 years ago today."

My Dad said, "That's nice," and went back inside. After that it wasn't quite so easy to lure him away from tinkering with the TV set while he was trying to see if any stations were on the air. I had owned a shortwave receiver only one day and managed to turn off the Old Man completely. Not a bad record.

Mom was different. To Mom, I was a budding Marconi. Problem was that Mom just didn't have the proper grasp for the hobby. Like the time I first picked up *All India Radio* and hurried to tell her how happy I was about getting New Delhi. She said that she had tried that new deli last week and the potato salad didn't look fresh.

So, mostly it was a matter of sharing the hobby with a couple of friends, and doing battle with the power line hash. By fall, I figured that fate had thrust into my view a certain solution to the powerline noise. One

(Continued on page 70)



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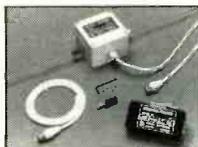
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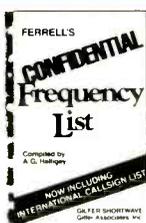


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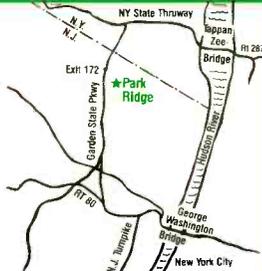
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CIRCLE 91 ON READER SERVICE CARD

MAILBAG LETTERS TO THE EDITOR

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

A Different Scanner

In the November issue Mailbag, you mentioned a Cubic Corp. military VHF scanner receiver and gave its mil nomenclature. Is this the same scanner as a military scanner called the EB-100?

Milt Schine, Bradenton, FL
No, the EB-100 "Miniprot" receiver is a military grade scanner made by Rohde and Schwarz (4425 Nicole Dr., Lanham, MD 20706). That unit weighs less than 8 lbs and is a battery operated portable that may be used as a handheld or carried with a shoulder strap. It receives the 20 to 1000 MHz band with a 30-channel memory. The keyboard programmable unit has a scan/search and channel lockouts, selectable search increments, and optional handheld directional antenna. — Editor

In His Heart, He Knew He Was Right!

Your story about Radio Free America (October '88 issue) does not treat Dr. Carl McIntire fairly. The author has a bias common in U.S. media. Anyone who supports the limited role of government as stipulated in the U.S. Constitution is described as "far right," "ultra right," "florid," "perspiring," "sweating," etc. These words were all used in the sleazy article by Don Jensen. This article was 50% technical and 50% smear against a man who has legitimate concerns about the explosions of government that is eating out the substance of a once free and courageous people. Is the author totally unaware that the people of this planet are becoming less free because of the heavy and oppressive hand of government? The growth of government is the greatest tragedy of this century.

John K. Carter, KT6R, Bakersfield, CA

OK, sure it's a tragedy, but I'd hardly compare it to the magnitude of when they cancelled Gilligan's Island. — Editor

Format Doormat

In the October issue Mailbag, a reader suggested dropping several columns and

making drastic changes in your magazine's format. Please keep POP'COMM, the way it is.

John R. Leary, W9WHM, Fortville, IN

The people that write and say, "I love POP'COMM, but please make the following extensive changes . . ." can't be serious. Don't change the format. I like it just as you do, which is the way it is now. POP'COMM's support of the monitoring hobby has finally shown DX'ing in the good light it has deserved, but had never before been received, within communications. I'm 24 years old and have been monitoring for 13 years.

Warren Rowe, KTX5FH, "The Texas River Rat," Temple, TX

The POP'COMM format is fine, except for one thing. Certain frequencies circulate within "insider" groups of monitoring enthusiasts. I am privy to much of this data and I do not feel it should be presented to the general public. Nevertheless, your magazine has repeatedly gone ahead and presented such information. I believe you should change your policy in regard to this practice.

(Name withheld by request.) Santa Clara, CA

I've always wondered why your magazine has never run propagation charts showing shortwave paths to different areas of the world at various times of the day.

Frank Broeder, Kingston, RI

While propagation charts are especially useful when planning and establishing two-way circuits between widely separated locations, they have minimal value for the majority of monitoring enthusiasts. Most monitoring hobbyists randomly tune the bands logging whatever DX they might hear, rather than being particularly interested in establishing special strategies for hearing specific areas. After tuning around a while, a DX listener figures out that frequencies below 8 MHz aren't good during daylight hours, those above 15 MHz aren't going to offer much DX after dark, that Asians come through good in the early mornings, and the several other "rules of thumb" affecting DX. So, rather than use propagation charts to occupy space primarily because they look impressive, we decided to forego the charts in favor of other things that we felt would be of more interest and/or use to most of our readers. — Editor

Seeks Paperwork

Recently I purchased a Hallicrafters Sky Champion S-20R receiver. This is a 1930's communications receiver that I obtained at a hamfest. There was no operating manual, schematic, or other paperwork with this receiver and I was hoping that perhaps one of

your readers might be able to give me some help with copies of any of these items. I've read *Popular Communications* for a couple of years now and I especially enjoy Alice Brannigan's writings about early radio.

Tom Belles, 160 Hamilton Court, Vallejo, CA 94589

Alice Too Sordid For The Saudis?

I'm enclosing a copy of the *Beaming In* page from the August '88 issue of POP'COMM. That page showed a 1910 vaudeville poster of "Alice Marconi, The Electric Mysterious Wonder." The copy of POP'COMM that I purchased at a local newsstand here was officially censored with heavy black opaque marker so that not one square millimeter of "Alice Marconi" showed through. A photo in the July '88 issue of your sister publication, CQ, was also obliterated by the government censors.

Paul Spurlock, WA4FHY, Riyadh, Saudi Arabia

The Laws Are Equal To The Lawmakers

The POP'COMM November issue editorial about Senator Kastenmeyer and the ECPA was right up there with the best writings of the national opinion-makers. Whether a proposed law is good or bad isn't really what's important. The idea seems to be to sponsor and vote for laws that bring in the campaign money and votes.

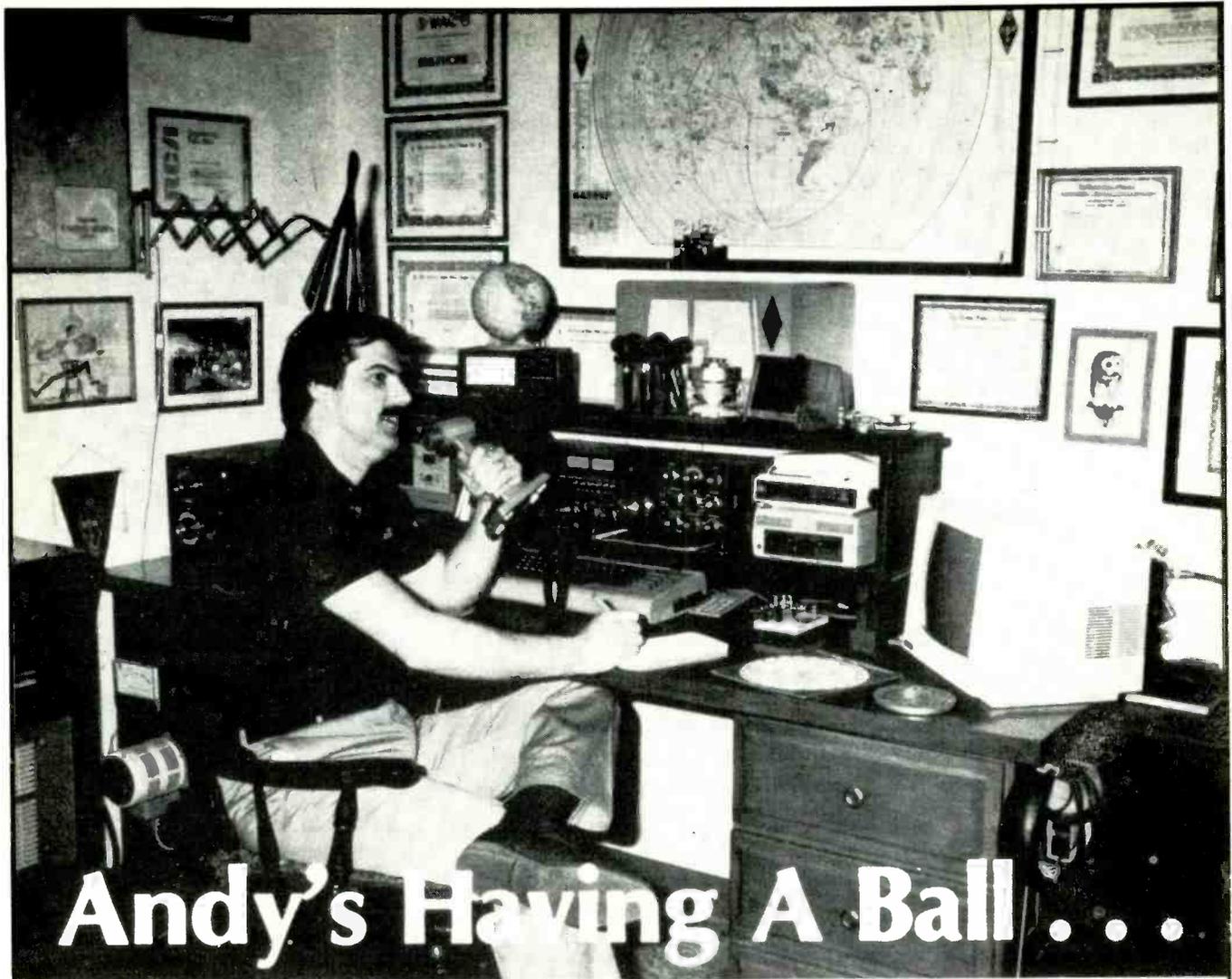
Ed Jones, Jr., WB2DVL, Somerset, NJ

Low Horsepower Radio

The AM/FM receiver in my new car doesn't pick up as many stations (either AM or FM) as the set in the five year old car I got rid of. The dealer says that the receiver is working fine. Is there any way to improve reception?

John Carver, Tupelo, MS

Chances are that the antenna is the culprit. You might try fiddling with the trimmer adjustment. This is usually located on the side or back of the receiver (if you've got a General Motors car, it's probably in back of one of the control knobs). Tune in a weak station near the high frequency end of the AM dial and adjust the trimmer for best reception. FM reception will be best with the height of the car antenna at 31 inches. If you've got a windshield antenna, you'll probably find that your reception is quite directional and is susceptible to ignition noises from your car's engine. Auto supply shops usually offer several signal boosting gizmos that may help the situation. — Editor



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OFFICIAL NEWS COLUMN OF THE SCANNER ASSOCIATION OF NORTH AMERICA

"No Code" Ham Radio Licenses Again Being Talked About Again

If we interpret the new data on ham radio licenses correctly, the new licensing plan has not been doing what it was supposed to do. The number of new beginners applying for the novice class license continues to decline. It has caused quite an increase in Technician licenses, mostly, we suspect, from current novices upgrading. However, the average age of hams continues to increase, indicating no growth and eventual decline of the service.

Most of us who are hams do not like to see that, and there is increased talk of an easy to get no code license to stimulate renewed growth. What form a proposal might take and when it might happen are hard to predict, but our guess is sooner, rather than later. Because of the large number of members who are interested in becoming Amateurs, not to mention the large percentage of our membership who are already licensed, we'll keep you informed through this column.

Forgotten Service

The exciting news this month is the rediscovery of GMRS (or class "A" CB) made formal by the FCC. It opens an exciting new era for GMRS. As we've mentioned before in this column, the biggest threat to GMRS is

that it was becoming well used by commercial enterprises, as permitted in a dual use concept by the FCC. So even if you become interested in GMRS, for communication between your car and home, for instance, the channel you were assigned was often already occupied with a hundred delivery trucks. On top of that, you might also be lectured by the dispatcher to get off "their" frequency!

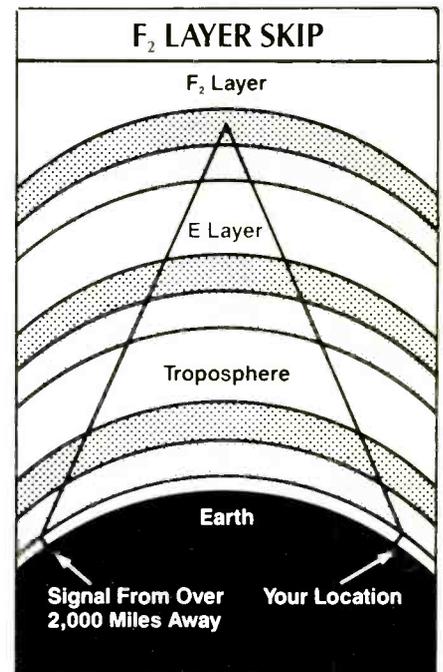
Now the FCC has changed all that. For a \$30 fee (no test of any kind) you will be assigned two channels, plus a third for travel assistance, emergencies, etc. Not only that, but the commercial users will eventually vacate those channels. Not right away, because current user licenses will be "grandfathered" for now. But no new commercial users or expansions of existing user licenses will be permitted. To find out more about GMRS, write: PRSG, P.O. Box 2851, Ann Arbor, MI 48106.

More Tips On Scanner Skip Reception . . .

Because scanner radio long distance reception lasts only for limited times, you are likely to miss many exciting listening experiences if you don't have some sort of alerting device. Here are a few ways to do it . . .

1. Monitor your TV:

You can observe sudden reception of long distance reception on unused TV



channels in your area. If you start seeing cross hatch patterns of an out-of-town TV station interfering with local TV channels, then you know skip signals are really coming in. You can correlate the scanner frequency band open (low, high, VHF, UHF-T) by comparing the frequency of the TV channel with the scanner band.

2. Using a second scanner:

A second scanner, tuned only to unused channels in your area. Select frequencies in the back of your Betty Bearcat or Cobra directory of cities that have that channel active and are approximately the correct skip distance away (see chart below). Some users hook up an alarm when one of these channels becomes active.

Incredibly, Over 20% Of Membership Contributes To Scanner Defense Fund

We have now received over a 20% response to our call for help with our Defense Fund. That's over 1/5 of the membership! Several contributed \$200, or more, each. Our thanks to each and every one of you. If you would still like to contribute, you can by sending \$5.00, or more. As a token of our appreciation, we are still offering the new SCAN Frequency Allocation wall banner with 800-900 MHz listings added. If you haven't yet contributed and wish to, we ask that checks be made out to SCAN Defense Fund. Address your envelope to SCAN Defense Fund, P.O. Box 414, Western Springs, IL 60558. You'll be helping fight unfair legislation and rulings that could have an important effect on your listening rights.

QSLs! Increase your collection faster, more efficiently with Gerry Dexter's **SECRETS OF SUCCESSFUL QSL'ING** - The Complete Guide to Reception Reporting and QSL Collecting. This highly acclaimed 128 page book gives you all the information you need to write first rate reports, pull in those tough replies and build a collection others envy! Foreword by Ian Mc Farland of Radio Canada International. Illustrated. **\$9.95** plus \$1 shipping.

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THE WORLD HAM NET DIRECTORY helps you find and monitor or participate in special interest ham groups. DX'ers, missionaries, pilots, foreign service personnel, many more. Compiled by Mike Witowski and listed by name, frequency and airtime. **\$9.95** plus \$1 shipping.

WRITE IT in Spanish, Portuguese, French or Indonesian. **LANGUAGE LAB** - The Foreign Language Reporting Guide makes it easy to send reception reports in another language. Over 800 words, sentences and phrases frees you from report forms and let you tailor your reports individually. Now available in Spanish, French, Portuguese and Indonesian editions. **\$12.95** each. Any two for **\$23**, any three for **\$33**, or get the complete set for **\$42** (Plus \$1 per book shipping).

NEWS JUNKIE? Find out how to get the news you've been missing! **MUZZLED MEDIA** by Gerry Dexter is the perfect introduction to shortwave for the news hound! Compares the news reported on some two dozen international stations with what was carried by CBS-TV the same date. 96 pages, illustrated. **\$8.95** plus \$1 shipping.

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MORSE CODE TRAINER

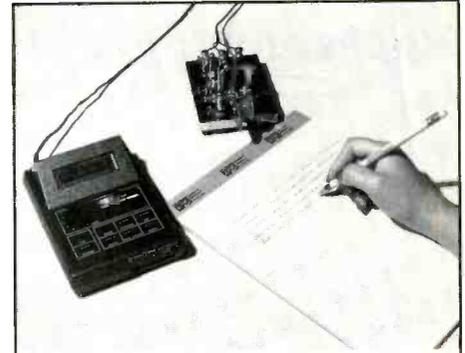
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Only—\$229.00



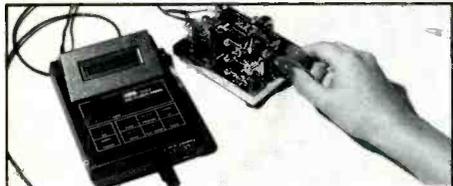
DECODER

- Input level** • 10mV to 2V RMS.
- Input impedance** • 8 to 1kΩ—600Ω typical
- Decoding speed** • 5 WPM to 30 WPM
- Audio filter** • 800 Hz ± 80 Hz
Active and PLL filters
700 Hz to 900 Hz internally adjustable.



TRAINER

- Code generator** • Random code generator
5 characters/code group
- Speed** • 5 WPM to 30 WPM
1 WPM increment



ELECTRONIC KEYS

- Paddle input** • TTL level
—LO/Actuating, HI/Stop
Contact input
—ON/Actuating, OFF/Stop
- Key input** • TTL level
—LO/Mark, HI/Space
Contact input
—ON/Mark, OFF/Space
- Keying speed** • 5 WPM to 30 WPM
1 WPM increment
- Keyer output** • Transistor switching,
Open collector type

SPECIFICATIONS

- Model** • AR-501 Radio telegraph terminal
- Power source** • DC 12V to 13.8V—165mA
- Size** • 4.5"-W x 2.24"-H x 6.25"-D
- Weight** • 12.5 oz. (358 g)
- Controls** • Power On/Off
• Random code generator On/Off
• Print-out On/Off
• Monitor speaker level
• Electronic keyer mode select
• Speed Up & Down
- Display** • LCD 32 characters—16 per line
- Indicators** • Power On—Green LED
• Tuning—Red LED
- Front connections** • Paddle—Standard/lambic
• Ordinary telegraphic key
• Headphone/Earphone
- Rear connections** • DC 13.8V input
• Audio input
• External speaker
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DX'ing The World's Focal Point

Hopscotching Around The Mediterranean for DX'itement!

BY GERRY DEXTER

Once, in the times of early Earth, it was much, much larger—its size even more startling since it was completely landlocked. From Turkistan in today's USSR to the present Danube Basin it was closed off from other bodies of water. But long before man came along, nor even had enough smarts to draw things on maps, that huge ocean had shriveled and shrunk down to what we know as the Mediterranean Sea.

The more than one million square miles of the Med separates three continents: Europe, Africa and Asia, just as it also has helped pull them together. It has served as a water passage for explorers, an avenue of commerce and conquests of, by and for nations past and present.

The Med may be much smaller than its ancient ancestor but it does enjoy one main advantage. It is no longer locked in. The Mediterranean connects with the Atlantic Ocean through the Strait of Gibraltar, just 8½ miles wide. And with the Black Sea, Maumara and Bosphorus Seas through the Strait of Dardanel, which is but a single mile in width. Man created the Suez Canal which connects the Med with the Red Sea. These three outlets are some of the most important and strategic passageways in the world!

Thanks to its irregular coastlines there are numerous other "seas" and gulfs which the Med creates as it dips in and out along its 2,200 mile length. These include the Ligurian Sea south of the Riviera, the Adriatic between Italy and Yugoslavia and several others. The Med is about 1,200 miles at its widest and 14,400 feet deep at its deepest.

The ancient Romans called it "mare nostrum" or "our sea". In the latter half of the 20th Century the Med is often called "an American lake" due to the hefty presence there of the U.S. Navy. In recent years, though, it could just as well be called the "red sea" because the Soviets now have a very significant naval presence there as well.

The Med's strategic importance for the world's two great powers, its long and colorful history as a passageway between nations, the fun-in-the-sun resorts it graces and the several troubled nations who look out upon its waters all serve to make the Med a good place around which to base a DX tour. And what better time to take it than right now!



The Citadel and Alabaster Mosque in Cairo.

These DX tours we now and then arrange very often present the SWL with an inordinate number of very difficult DX challenges. The Med tour offers a better balance. In fact, the easy targets well outnumber the tough ones. A great majority of the stations involved also offer programming in English, so there's another attraction.

SPAIN—certainly has to be considered as one of the easy ones to log. Spanish Foreign Radio (Radio Exterior de Espana) treats us to a North American Service in English daily from 0000 to 0200 on 6125 and 9630 and at 0500 to 0600 on 6125. Other programming is beamed to Europe, Africa, the mid-east, Australia and Central and South America at various hours on over 30 different frequencies.

FRANCE—Radio France International is also an easy log. But there are some pitfalls because RFI's programs come at you via relay stations in French Guiana and Gabon as well as direct from France. So you have to be a bit careful about what you call genuine if you want to avoid the relays. Broadcasts for North America, including some English, run over several evening hours. Try 9800 between 2200-0200, 11690 between 1030-1245 or a5365 from 1130 to 1600. One of these should do it for you.

MONACO—The tiny principality where a beautiful princess once lived is known everywhere for its scenery, gambling and lush lifestyle. When Trans World Radio was forced out of Tangier many years ago Monaco was TWR's choice for a new home for its station. TWR, though it uses 100 kW and has a dozen frequencies, is still a bit tough to hear in North America. Best chances are at 0730 sign on in English on 7105.

ITALY—Also beams to North America and in English. All you gotta do is understand the announcer! The broadcasts from RAI in Rome run from 0100-0120 on 5990 and 9575 (sometimes 9575 and 11800).

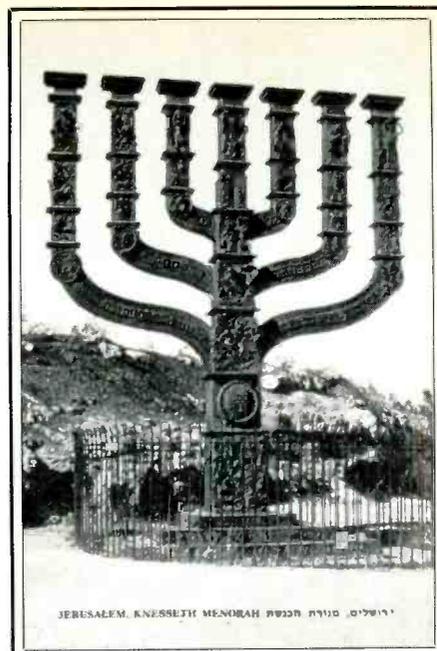
SICILY—An Italian island in the Mediterranean, is counted as a separate country by many DX'ers. The RAI station at Caltanissetta carries the domestic Radio Due (Program Two) network 24 hours a day on 7175 and from 0500 to 2130 on 9515, all in Italian.

ALBANIA—Radio Tirana, too is a pretty easy catch. It beams to North America in English at 0230-0300 and 0330-0400. Check 6200, 7065, 7200 or 9760. A bit harder to hear is the home service station Radio Gjirokaster, which is sometimes audible from its 0400 sign on in Albanian on 5057.

GREECE—The Voice of Greece offers no trouble at all to the average listener.



This building houses the shortwave transmitters of Trans World Radio, Monaco. Some of the shortwave antennas are in the background. (TWR Photo)



The Voice of Israel sends a wide variety of QSL card scenes and designs.

Check 7430 and 9420 for English newcasts at 0130 and 0340 (anyone ever wonder about or have an answer as to why this isn't at 0330 instead?)

A rather more interesting target is the former Voice of America relay transmitter at Thessaloniki which uses transmitters of just 35 kW—small potatoes in today's super power shortwave world. The Greek government owns the facility and uses it to carry home service programming. Best opportunities would seem to be on 9935 at 1000 to 2300 and 11595 from 1000-2200. All Greek to you.

Thessaloniki was replaced as a VOA relay by Kavala which throws ten—250 kW trans-

mitters on a selection of nearly 50 frequencies. Just a few of the many possibilities include 9680 from 1515-2000, 11705 from 1300-1400, 15205 from 1400-1500 and 7130 at 0430-0530 and 2200-0000.

DODACANESE ISLANDS—A part of Greece but considered as a separate radio country, there's also a VOA relay on the island of Rhodes. You can tell this one is a much older installation as it sports only a pair of 50 kW transmitters. Try 7205 from 1700-2100 or 9695 and 15150 from 1200-1400.

TURKEY—Widely heard thanks to the Voice of Turkey and its English language programs for North America aired at 2300

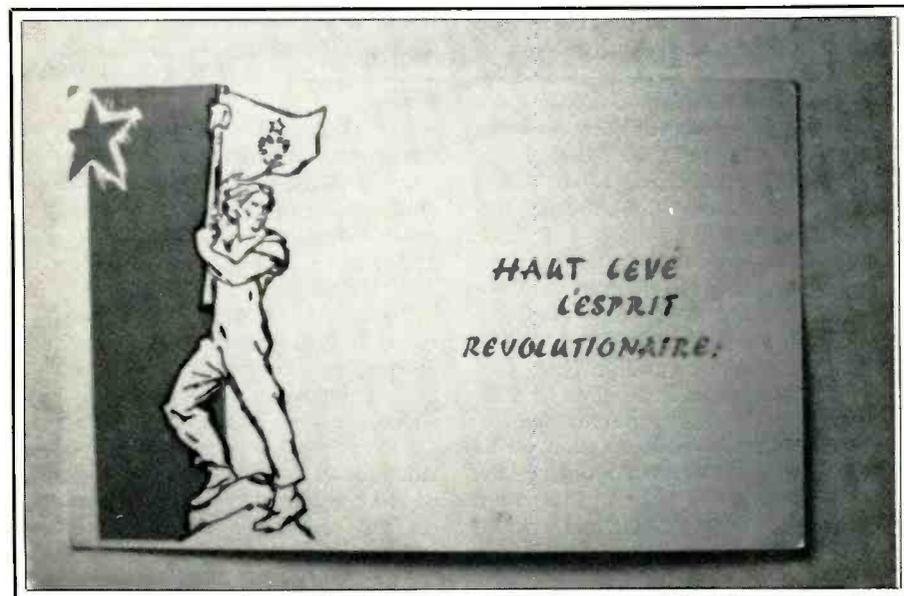
and 0400 (an hour earlier, depending on the season). Besat current frequency is 9445. Two much tougher Turkish delights are the Turkish Meteorological Station which runs a thin 2.5 kW. It can sometimes be snagged at 0400 sign on on 9600. Even more anemic is Turkish Police Radio, running just 1 kW on 6340. Even so it does show up for the determined DX'er now and again around 0500 sign on. The programming on both these stations is Turkish music and talk.

CYPRUS—Now divided into Greek and Turkish governed areas, is home to one of the several large BBC relay stations, this one the East Mediterranean Relay, which has a complex of 2-20, 4-100 and 4-250 kW transmitters running a full schedule on a great many frequencies. Some possibilities include 7160 at 0300 sign on, 11785 from 0500 and 6050 at 0200. The Cyprus Broadcasting Corporation uses the BBC facilities for weekend broadcasts at 2215-2245 Fridays through Sundays on 7205 and 9635.

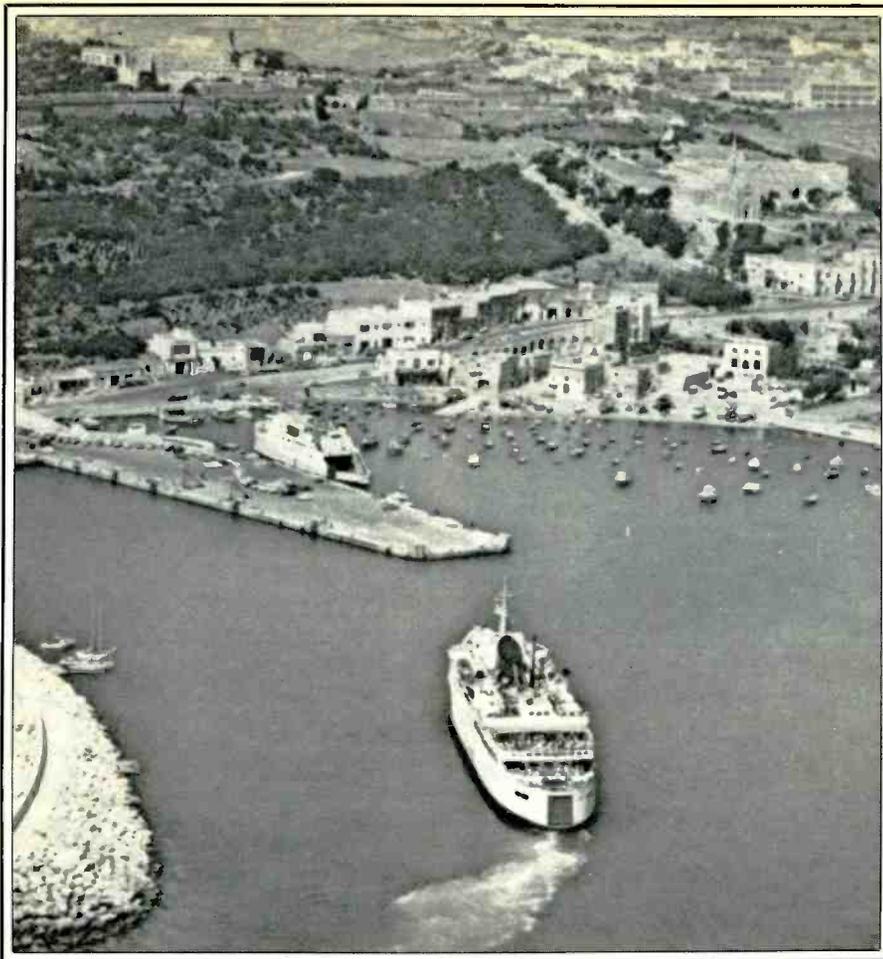
TURKISH REPUBLIC OF NORTHERN CYPRUS—Considered a separate radio country, is home to Bayrak Radio and Television, an extremely difficult North American catch. It is scheduled from 0900-2000 on 6160. The station is reported to be planning 300 kilowatts on shortwave, which should make things a tad easier.

SYRIA—Got its shortwave voice back a couple of years ago, after perhaps a decade of silence. The Syrian Arab Republic Broadcasting Service from Damascus is easily heard on four channels (perhaps because they're all out of band): 9950, 11625, 12085 and 15095. English to North America runs for an hour daily, beginning at 2110.

LEBANON—A challenge to diplomats as



Radio Tirana sends out this QSL card (Courtesy: Charles Ames, AZ)



A resort area on the island of Malta.

well as DX'ers. There are two active shortwave stations. One is the rather well-known Voice of Hope run by High Adventure Ministries and which operates on 6280 from 0300 to 2300; with Arabic from 0300, English from 0600 and Russian inserted from 1600-1900. The Phalangist party operates the Radio Voice of Lebanon on 6550 which is on in Arabic from 0400 to 2300. The Druze party is reported to have a station called the Voice of the Mountain operating irregularly on 6052 but to our knowledge no DX'ers have reported this one.

ISRAEL—Another easy log, one of the easiest from the Mediterranean area, in fact. The Voice of Israel (Kol Israel) uses a string of frequencies, many of them out of band to reach listeners in North America and much of the rest of the world. Particularly well heard are 7410, 7465, 9009, 9385, 9435, 9815, 9920, 9930, 11605, 11610, 11655 and others. Listen for English for North America at 2300, 0000 and 0100, though not on all of the above frequencies.

EGYPT—Radio Cairo usually presents strong signals to North American listeners, though the station could use some advice from a specialist in radio broadcast modulation. English for North America airs at 0200 to 0330 on 9475 and 9675.

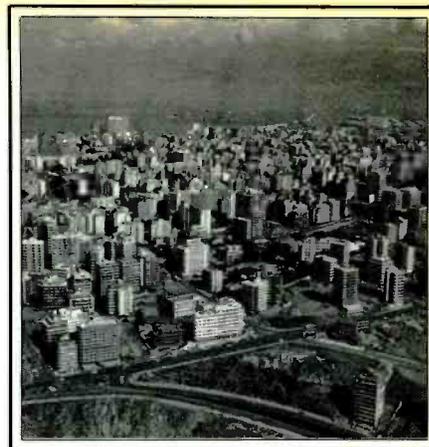
LIBYA—Government station has an

English service for North America, too, although it seems to have become a bit raggedly from what it was once and is not as well or as widely heard now. Radio Jamahiriya was most recently scheduled from 2230 to 0000 on 11815 but you might also check 6155 and 15415.

TUNISIA—One of the few on our list which doesn't carry any English on its shortwave schedule. Pity. Because Radiodiffusion Television Tunisienne often lays a strong and clear signal over North America. Try such frequencies as 7310, 7475, 11550, 12050, 15450 and 17610 during the afternoon hours in the U.S. and also from 0430 sign on.

ALGERIA—A nation also having some problems lately, is not heard as well as Tunisia but is still a pretty steady visitor. Radio Algiers carries an hour of English at 1900-2000 which is best heard on 15215 or 17745.

MOROCCO—Next door, added a minimal English service some months ago. Radiodiffusion Television Marocaine can be found with English Monday through Friday from 1630-1700 on 17595, 1700-1800 (Saturdays til 1900) on 17815 and Sundays from 1900-2000 on 11920. You might run into Abidjan from the Cote d'Ivoire (Ivory Coast) also in French on 11920 so be a little careful. Radio Mediterranee International,



Beirut, Lebanon during better days.

based in Tangiers, is on the air from a transmitter at Nador in the former Spanish Morocco, from 0600-2400 on 9574 using French and Arabic. The Voice of America relay at Tangiers—in the process of being upgraded—plays on about two dozen frequencies at different times of the day. Some possibilities include 17855 from 1500, 15245 at 1630, 11750 from 1900.

MALTA—Has quite a bit of shortwave activity, for its size anyway. But there's just one transmitting complex involved and that's the big Voice of Germany Cyclops relay station. Deutsche Welle's outlet operates on a considerable number of frequencies. For starters, try 7130 at 0700 sign on, 9735 and 11865 at 0200 and 15105 at 1430. Radio Mediterranean also uses the Cyclops facility for broadcasts in Arabic, French and English. Arabic runs from 1800-1857 daily, French 2130-2230 and English 2230-2330. The frequency is 6110. A new addition via Cyclops is the Voice of the Mediterranean, reported to be a joint operation of the Libyan and Maltese governments. This station beams programs in Arabic from 1500-1600 on 11925 and 0700-0800 on 9765. English is carried at 1400-1500 on 11925 and 0600-0700 on 9765.

YUGOSLAVIA—In the news lately as it shows signs of unraveling, is also a fairly easy log. Radio Yugoslavia has English several times per day. Best bets for reception in North America are 1530-1600 on 7240, 15249 and 15415 or 2215-2230 on 6100, 7240 and 9620.

So there's our tour 'round the Med. Along the way we covered 18 real countries and four more considered countries only for DX'ing purposes. Only three of the 22 don't air any English programming, which means 19 do and that's a pretty good percentage! An arguable number—let's say at least 13, can be considered fairly easy to hear, even on less expensive portable shortwave receivers.

Those are pluses which should help insure a "good trip" should you decide to flip on your receiver and "do the Med." **PC**

Discovering New Scanner Frequencies

It's Not Easy Filling Up a 300-Channel Scanner With Frequencies, But Here's a Start.

BY LEWIS KESEBERG, KCA6PK

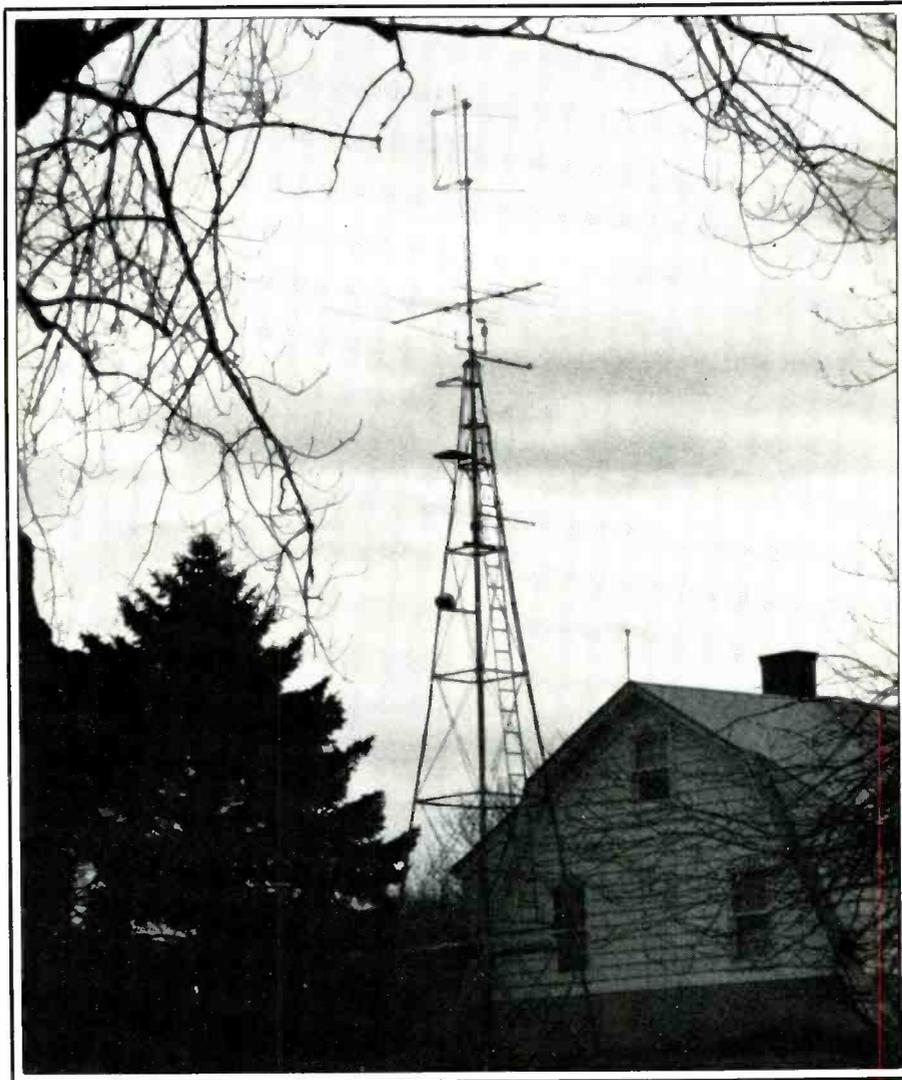
When I got my first scanner it had sixteen channels. That gave me room for all local and state police frequencies, the county sheriff, the fire channels, the hospital, plus two leftover extras that I didn't use until I eventually learned the frequency of a nearby tow truck operator and the channel used by an animal hospital in the area. That was long ago.

Since that time, scanners have gotten more sophisticated and so have I. Modern scanners can tune in on fifty, one hundred, or three hundred channels. You can even modify one three hundred channel scanner to pick up *four* hundred channels! Thinking back to my first entry into scanning, I'd say that filling out fourteen of the unit's sixteen channels made me feel that I had a grip on the situation. Programming those same frequencies into one of these newer scanners would be a different story. Fourteen channels entered into a three hundred channel scanner means two hundred and eighty six channels going to waste. That could make you wonder if you're missing something; and you probably are, no matter where you're located.

Update

Eventually, I progressed out of the realm of the sixteen channel scanner, to ones with progressively more monitoring capabilities. As I did so, so did my appetite for additional things to monitor with my newer equipment. I found that there were directories of aeronautical and railroad communications facilities, and a fantastic world of federal communications systems to tune in. Recently, I've discovered the amazing realms of monitoring cellular, cordless, and other telephone calls that take place within the frequency range of my scanner. Still, several hundred channels gives a scanner owner a lot of options insofar as frequencies to monitor.

That's when it occurred to me that there are all sorts of little nooks and crannies tucked away in the scanner bands that I might explore to see what I could come up with on my own. I have long been a firm believer in being an adventurer, and this was my time to head in that general direction.



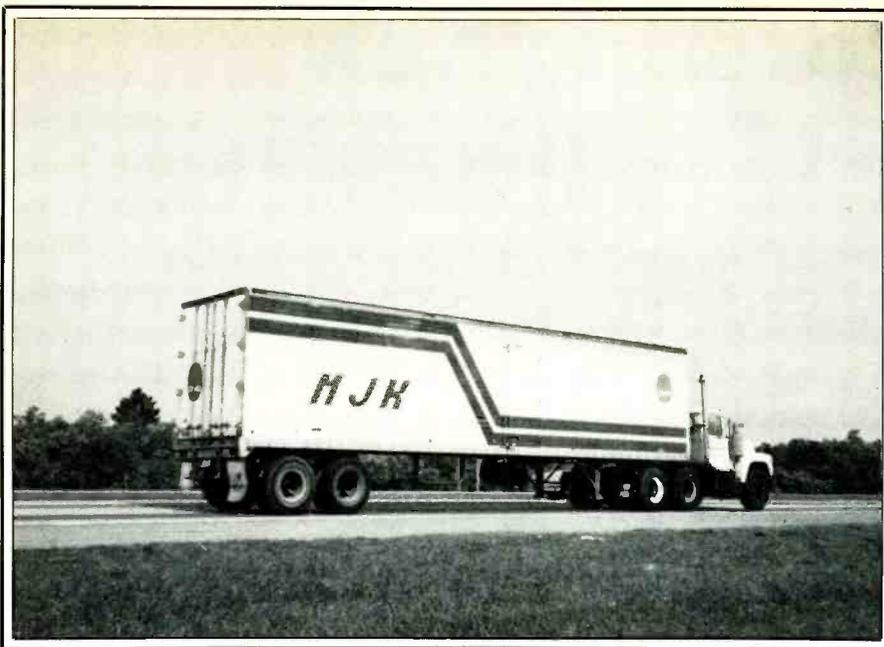
Long haul truckers on the Interstates often make use of their own little cache of communications channels that you can pick up on your scanner.

What I had in mind was, for instance, utilizing the unit's search/scan feature to explore little known areas of the bands. Also to check out individual frequencies that had the potential for producing results of interest. I'd like to share some of this with my fellow scanner enthusiasts who might be

faced with making the best possible use of all those open channels.

Nooks and Crannies

For example, I searched 460.90 to 460.975 MHz. These frequencies are reserved for central alarm companies, the



Winter means more time at home monitoring the scanner, but with modern scanners able to receive hundreds of channels, you've got to be creative in locating new ones to program in.

commercial organizations that respond to automatic break-in and fire alarms, often in coordination with law enforcement and fire authorities. This could turn up some interesting communications for you, and the closer you are to a metropolitan area, the more activity you're liable to find on these frequencies.

Right next to this band lies another group of frequencies worth searching, but only if you're relatively close to an airport that has airline flight facilities. Search/scan from 460.65 to 460.875 MHz and you are able to hear anything. These frequencies are used by low power two-way systems operated at airports by the airlines themselves. These frequencies reveal airline operations relating to baggage handling, passenger problems, mechanics' activities, gate assignments, aircraft ground service matters, and similar. By the way, if you've got a handheld scanner, bring it along next time you go to the airport, and let it search this band.

Auto club emergency communications frequencies may turn up some new frequencies of interest to you. Look for these activities by scanning 150.905 to 150.965 MHz, and (if you're near a large city) from 452.525 to 452.60 MHz.

Your area broadcasters may have two-way communications systems operating within the bands 450.05 to 450.925 MHz, also 455.05 and 455.925 MHz. Also search for them between 161.64 and 161.76 MHz.

If you haven't yet discovered the pleasure of monitoring railroad communications, search from 160.215 to 161.565 MHz. There are plenty of frequencies here. If you're near a metro area, also try listening for these stations on 452.325, 452.375, 452.425, 452.475, 452.775, 452.825, 452.875, 452.90, 452.925, and 452.95 MHz.

Newspapers operate on 173.225, 173.375, 452.975, 453.00, 457.975, and 458.00 MHz. You might hear a reporter being dispatched to a story, or calling one in for the next edition of your local newspaper.

Little known by scanner owners is the fact that long haul truckers don't spend all their time yakking on CB Channel 19. If you search the band 43.86 to 44.44 MHz, you'll find a bunch of frequencies used by truck-

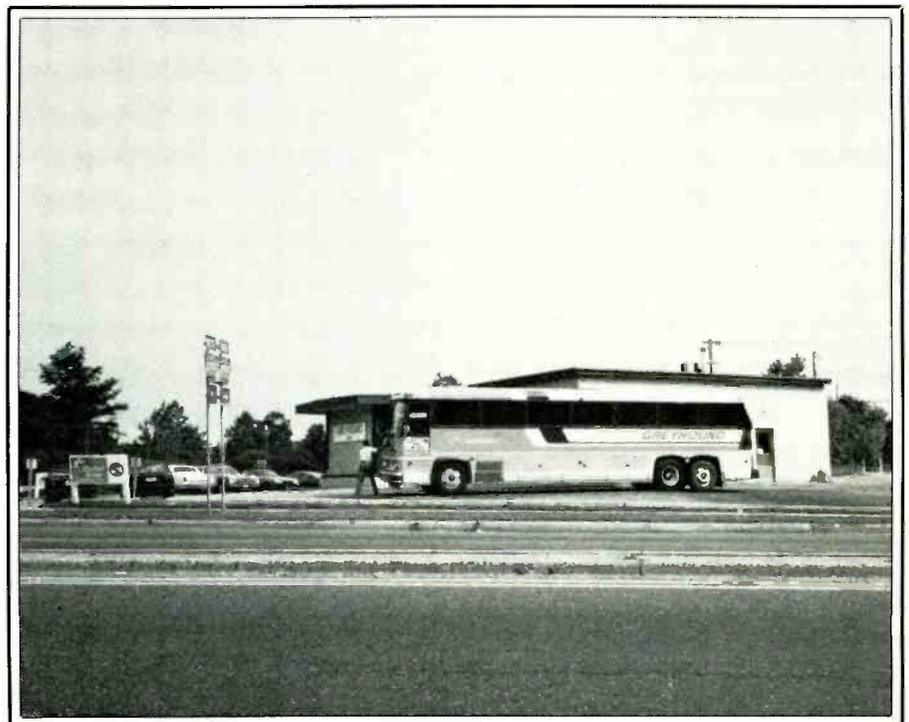
ers. While these channels are intended for dispatchers to communicate with trucks, you may hear the truckers using these channels to exchange small talk while they're on the road.

Passenger buses that travel on the Interstates also have a little-known group of frequencies. Search 43.70 MHz to 43.84 MHz and you may be surprised to find that you've tuned in on stations that are new to you.

If you're anywhere near a large city, you may find that the municipal bus system has a communications system you can monitor. Search through the 30.66 to 31.14 MHz and 44.46 to 44.60 MHz bands to see if you can find them there. I've heard these frequencies turn up routine communications relating to mechanical problems, but also accident and criminal activity reports, passenger complaints, and lots of strange things.

And speaking of passenger complaints and mechanical problems, don't forget to see what you can discover lurking between 128.85 and 132.00 MHz. This is the band used for company communications between airliners and their various offices. No shortage of communication here, although you may well hear only the aircraft's side of the conversation unless you're within about 25 miles of the ground station in contact. You'll be astonished at the number of "write ups" (mechanical complaints) that are "repeats" (have gone unattended despite prior complaints). There are also reports of passengers with lost baggage, VIP's demanding special attention, and an assortment of unfortunate incidents such as sick, drunk, or unruly persons aboard.

Let's not overlook the possibilities of the



Intercity buses even have a bloc of two-way communications frequencies. Aren't you curious what the drivers have to say about their passengers?

General Mobile Radio Service (GMRS), although it usually receives far less attention than it deserves from scanner owners. This band extends from 462.55 to 462.725 MHz and is populated by repeaters, many of them operated by REACT and other emergency squads and teams, community watch programs, and similar. Nationally, 452.675 MHz appears to be unofficially favored by REACT teams, but there are many exceptions to this. You never know what you're liable to come across in this band, and you've probably never listened there.

There are low-power bands reserved for use by business radio service licensees. While many of the stations operating the handheld transceivers authorized there are licensed, it sure sounds like many are probably unlicensed and being operated without even the slightest regard for any known set of operating regulations or procedures. Because of the short operating ranges here, you'll probably not copy much past three or four miles unless you have a good antenna and location. Search between 457.525 and 458.175 MHz, also 467.75 and 467.925 MHz for these stations. Also try 154.57 and 154.60 MHz for low power handheld units.

For fans of medical and EMS communications, a search through frequency band 155.325 and 155.40 MHz should produce communications between hospitals and ambulances that are invariably exciting. In addition, two medical emergency dispatch frequencies that should produce results are 462.90 and 462.975 MHz. Bio-medical telemetry (transmissions of patients' EKG's, etc.), and the two-way voice communications surrounding those activities also take place in the UHF band. The portable units operated by ambulance attendants and EMT's operate in the 468.00 to 468.175 MHz band. This band is made up of eight channels (25 KHz spacing) known as MED-1 through MED-8. The paired channels in this system, used by the hospitals to communicate with the portable and mobile medical bio-telemetry units, are in the band 463.00 to 463.175 MHz. These are in wide use nationally, with virtually all modern medical facilities equipped for operation on several of the frequencies discussed here.

By no means is this intended to even approach being a comprehensive listing of frequencies, merely a gentle nudge towards getting you started on the road to expanding the scope of your monitoring into areas you may have thusfar overlooked. Some of the activity you discover on these frequencies you'll probably discard, other channels you'll want to retain for additional or long term monitoring. As you can see, there's much to monitor out there, and even persons in rural areas should be able to scout up new material to listen in on, no matter how many channels their scanner has available to fill.

Don't let me hear you complaining anymore that there's not enough going on in your area to fill all of those channel slots. There is!

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Radio In Retrospect

Looking Back Into Radio's Past

BY ALICE BRANNIGAN

On August 28, 1922 the American Telephone and Telegraph Company inaugurated New York City station WEAF (610 kHz, 500 watts), and probably didn't realize that it was destined to be an American institution. By 1926, it had become the main station of NBC. It was the radio station that was located in New York's Radio City complex. Through the years, and several changes (it moved to 660 kHz, ran 50 kW, then became WRCA, and finally WNBC), it became prestigious.

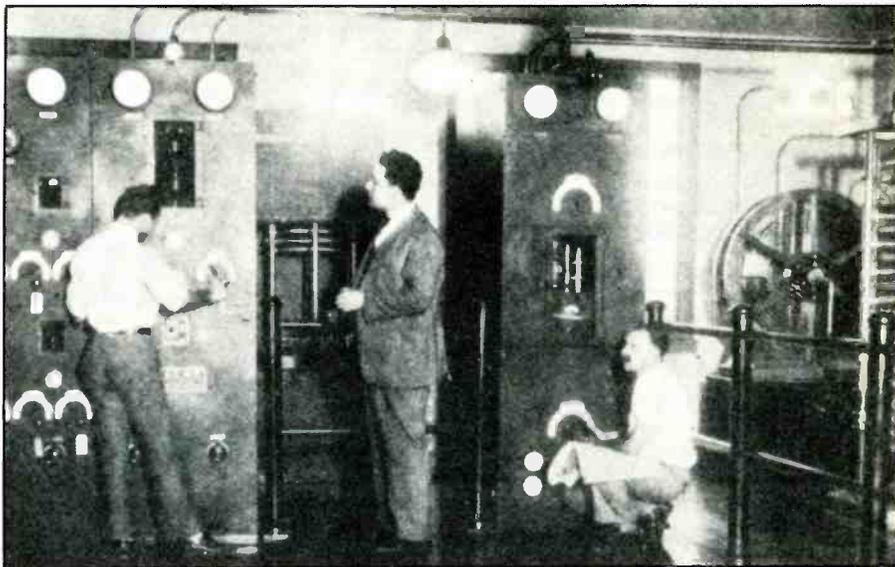
That institution came to a sad end at 5:30 p.m. EDT last October 7th when WNBC went off the air, the result of a decision by the General Electric Co., NBC's parent company, to completely vacate the radio broadcasting business.

WNBC hadn't been a major contender in the ratings battles for at least twenty years when it had an all-talk format. Some of the personalities whose names have been connected with WNBC include Long John Nebel, Murray the K, Don Imus, Howard Stern, Henry Morgan, Bill Cullen, Dr. Joyce Brothers, Big Wilson, Lee Leonard, Cousin Brucie (Morrow), and Wolfman Jack. WNBC went to a rock music format, then later switched to a more traditional pop music sound.

WNBC's vanishing from the New York dial was hardly an isolated event, not by a longshot. Actually, it seemed to be only one piece of a highly complex jigsaw puzzle that sent reverberations and changes of all sorts across the AM and FM broadcasting dials.

Within seconds after WNBC left the air, its enviable 660 kHz spot was occupied by all-sports format WFAN (ex-WHN, ex-WMGM) which had moved over from 1050 kHz. WFAN had moved to make room on 1050 kHz for WEVD, which is moving there from 97.9 FM (WEVD had been on AM 1330 kHz until 1981). Until WEVD moves in on 1050 kHz, that frequency will be occupied by interim station WUKQ, which is owned by Spanish language station WSKQ (ex-WVNI) on 620 kHz. As soon as WEVD takes over on 1050 kHz, WSKQ will leave 620 and hop over to 97.9 FM.

Still following me? There's more! Other stations with changes triggered by this tremor include WNBC's former FM outlet (ex-WEAF-FM on 97.3). For many years it has been on 97.1, although it long ago lost its identity with WNBC. It had become known as WNWS (all news), and then WNYW (country music). Now WNYW



In 1929, WEAF changed frequencies from 610 kHz to 660 kHz, by order of the Federal Radio Commission. This photo shows the actual retuning of the 50 kW transmitter to the new frequency on the auspicious occasion.

swapped dial positions with dance music outlet *Hot 103*, WQHT (ex-WTFM, ex-WAPP) on 103.5 FM. There are probably a few more changes I overlooked in this tangled web, but you get the general idea.

A few of the WNBC sales staff were retained by WFAN. Also kept on was morning man Don Imus and his staff, but more than 45 other WNBC people were dropped when the station went dark. Several former WNBC people told me that it wasn't only the fact that they lost their jobs that hurt so much, they felt that the whole thing was handled in the worst possible way. And, of course, the radio world lost a 66-year old piece of living heritage. Big business and heritage don't usually mix too well.

Speaking of Big Biz

When we came across a 1929 stock certificate for 300 shares of the Universal Wireless Communication Co., Inc., we began wondering what that was all about. The certificate was dated in June of that year. You may recall that October of 1929 (on "Black Friday") was when Wall Street layed an egg.

Reader John R. Ghrist, of Elgin, IL told me that he came across Universal's name while he was researching a book he's writing on radio history in his area. He was told that UWC had an installation in Plainfield, IL, but after a UWC company VIP was electro-

cuted (accidentally, we assume), the firm never went into operation. Ghrist notes that there is a four story fireproof building in Plainfield with the name of the company still to be seen beneath some insulation.

If anybody can confirm, or add, to this information, we're anxious to hear from you. One possibility is that whatever assets UWC might have had were taken over by Press Wireless, which was starting up at about that time, with headquarters in Chicago. During the 1930's, Press Wireless had an experimental station, W9XDH on 12862.5 kHz, in nearby Elgin, IL.

A 1938 QSL from W9XDH was thoughtfully provided by Henry Ward, Sherbrooke, Quebec. Oddly, the W9XDH veri shows a photo of the old Press Wireless transmitting at Hicksville, NY, hometown of your favorite magazine, and mine. Press Wireless operated a similar station to Elgin's W9XDH from its Hicksville facility. It was W2XGB on the same 12 MHz frequency.

Henry Ward, who presently uses a JRC NRD-525 receiver, has been a DX listener since the early 1930's. He's provided us with a number of great QSL's we'll be using as we go along.

More Midwest

Alex Durant, of Albany, NY always spots tantalizing bits of radio history to send along.



WEAF's transmitter was located in Bellmore, NY for a while in the 1920's. In those years, the station was also required to monitor 500 kHz at all times for possible distress calls from ships at sea.



For all of its historic place on the American broadcasting scene, WEAF (later to become WNBC) sent out rather plain mimeographed QSL's. This one's from the early 1930's. (Courtesy Joe Hueter.)

This time, it's a picture postcard of Chicago's North American Building, a twenty story skyscraper that was also home to the Majestic theatre. On the roof of this building was a wireless tower about 50-feet tall.

Alex wanted to know if we could figure out what station used the tower, pointing out that the card is postmarked March, 1917. This is a good four and a half years before Chicago's first broadcaster, KYW, was licensed.

That rules out broadcast stations, but, on the other hand, it does narrow things down considerably since there weren't very many commercial wireless stations in Chicago prior to the advent of broadcasting. In 1910, there was station GO, operated by the United Wireless Telegraph Company. By about 1915, this station had evolved into WGO of the Marconi Wireless Telegraph Company of America, and my guess is that it's the station located in the North American Building.

WGO was used to contact ships on the Great Lakes; it ran a 500 Hz quenched gap transmitter. In later years, WGO (operated by Marconi Wireless Company's successor, RCA) was located atop Chicago's Pick-Congress Hotel, which became the Conrad Hilton Hotel.

No Rocky Start

Dr. William Reynolds was a radio enthusiast right from the first days of wireless communications. In 1913, he began selling radio equipment, an endeavor that grew into the first major radio shop in Colorado. That was in 1922, when he took \$50,000 and incorporated The Reynolds Radio Co., Inc., at 1534 Glenarm Street, Denver. This store sold transmitter and receiver components

and also commercially manufactured equipment.

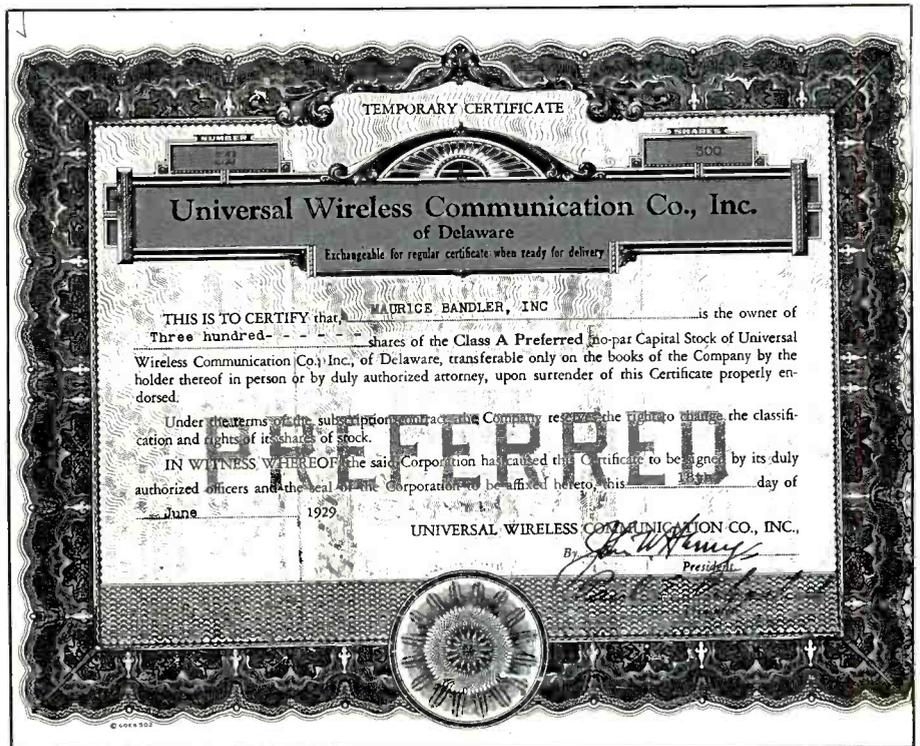
Reynolds had also been granted a transmitting license under the callsign, 9ZAF, which inspired him to also obtain a broadcasting station license for his shop. The station, under the callsign KLZ, went on the air

May 10, 1922, on 833 kHz, soon modified to 1130 kHz with a relatively mighty 500 watt signal. Not long after, KLZ moved again to 1120 kHz, then to 1063 kHz. By the time the 1930's rolled in, KLZ found a home on 560 kHz with 1 kW from studios in the Shirley-Savoy Hotel. The transmitter, by the 1930's, was in Englewood, fed into a 444 ft. vertical tower.

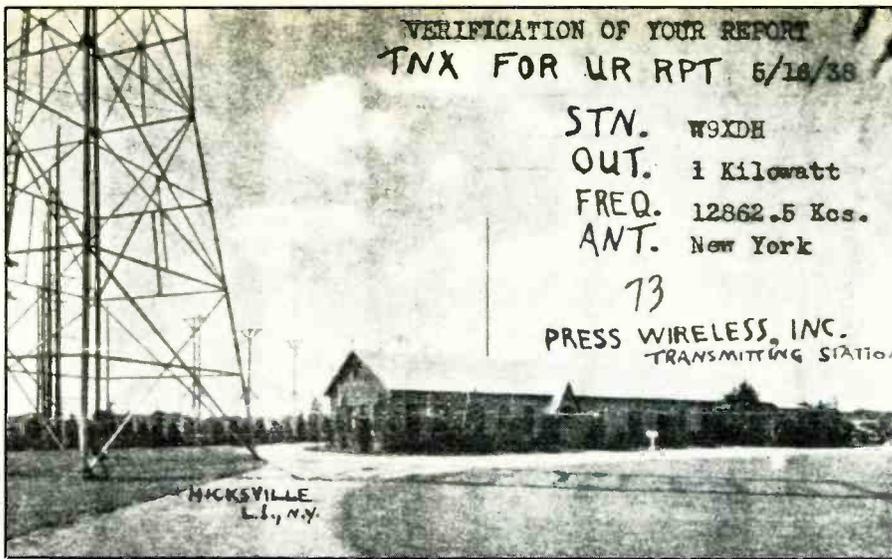
KLZ has run 5 kW for many decades, and it has stayed put on 560 kHz for almost sixty years. KLZ, co-owned with its FM sister station, KAZY, has been operated by the DKM-Denver Broadcasting Corp. since late 1986.

Two To Go

From time to time there are reports of the frequencies used at drive-up windows of various fast food emporiums, 35.06, 154.57,



Universal Wireless Communication Co., Inc. issued this certificate for 300 shares of stock in early June of 1929, just five months before Wall Street went south. What became of this company?



Possibly Universal Wireless Communication became part of Press Wireless, another radio-telegraph service headquartered in the midwest. This QSL is from a 1938 Press Wireless experimental station, W9XDH in Elgin, IL. (Courtesy of Henry Ward.)

and 154.60 MHz being popularly used for ordering those double greaseburgers with a side order fries. That made me try to find out how far back I could track the use of two-way radio at fast food places. I was surprised at what I found.

Shades of *Arnold's Drive-in* and *Richie Cunningham*, all of this traced to the early 1950's and a drive-in hamburger joint in Milwaukee, WI. *Honest!*

As early as 1951, Ace foods, Inc., of Milwaukee, had been issued license KA8931

for use by two carhops working in their 136-car drive-in's parking lot. The carhops carried 8-lb. portable VHF transceivers used to transmit customer orders to a dispatcher in the kitchen. Each order was assigned an ID number, and a card bearing that number was then placed on the vehicle's windshield. When the orders were ready, they were delivered to the vehicle by special attendants (who also collected the money owed). The radio-equipped carhops did no more than take down the orders and transmit them to the dispatcher.

The operators of the drive-in reported that in the seven hours each night the drive-in was open, there were as many as 950 customers that could be served. This was a 30% increase over the number they were able to serve before the radios were put into service, with the radios shaving about half an hour off each order.

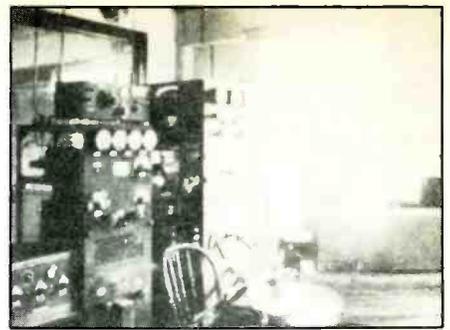
Dah-Di-Dah-Dit Dah-Dah-Di-Dah

Johnny Sandison (yes, the one who's on CKTV in Regina, Sask.) writes to ask for some help. He was a young telegraphist (radio operator) during WWII and he recalls that he probably had a CW speed of about 18 to 22 w.p.m. in those days. Johnny wonders if there are any authentic air checks or recordings of WWII CW transmissions. Although he didn't specify in his letter, I think he'd like to obtain a copy of such a recording.

Anybody who knows of such a recording is invited to contact: John Sandison, Station CKTV, Box 2000, Regina, Sask., Canada S4P-3E5

Speaking of Wartime Radio

As Europe prepared for war in the 1930's, broadcasters throughout the continent worried, wondered, made emergency plans, and performed operating drills under



Here's Chicago's coastal telegraph station WGO as it looked in 1940 when it was operating from the top of the Pick-Congress Hotel. (Photo by Ralph H.G. Mathews, via Sparks Journal.)



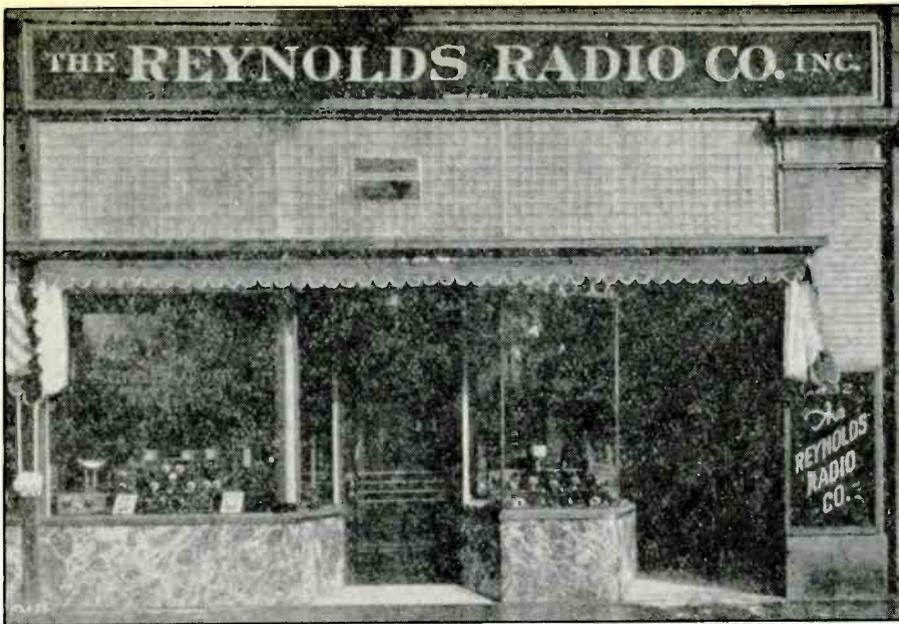
Rare photo of Dr. William D. Reynolds, 9ZAF, who became owner, operator, and announcer of Denver's station KLZ in 1922.



Note the wireless tower on the roof of Chicago's North American Building several years before broadcast stations went into operation. We think this was the tower of maritime telegraph station GO, which later became WGO on 500 kHz.



This 1931 QSL letter from KLZ, "Pioneer Broadcasting Station of the West," came from its facilities in the Shirley-Savoy Hotel on Lincoln Street. Nepotism was in effect, and the owner's XYL had become the Program Director. (Courtesy Joe Hueter.)



The back room of the Reynolds Radio Co. store on Glenarm St., in Denver was the original home of KLZ.

simulated battle conditions.

The Italian Government's popular short-wave broadcasting station, I2RO (5550, 5725, 6085, 6980, 9635 and 11810 kHz) was no exception. As early as 1937, the station management announced that it was concerned Rome might be invaded and I2RO would have to be operated under siege, or without the public electric supply, or during a poison gas attack.

During the summer of 1937, I2RO (also known as Ente Italiano Avdizioni Radiofoniche, or EIAR) was put through numerous wartime drills. Besides the usual tasks of watching power and amplifier panels, riding the gain, etc., the technicians conducted a complete inspection of the equipment from antenna to the auxiliary power supply, performing some of the operations in complete darkness. Some drills simulated poison gas

attacks, with the entire I2RO staff (including announcers) wearing full-face gas masks. Inasmuch as I2RO operated throughout the worst years of the war in Europe, sending out Axis propaganda, it appears that their preparations weren't wasted.

A Telegram For February

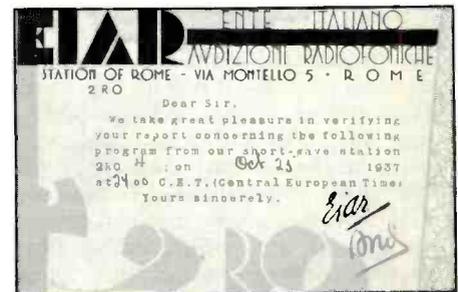
Hard to believe, but 75 years ago, people got long distance telephone calls and telegrams so rarely, that receiving either type of communication was somewhat of a status symbol for the recipient. Guess that's why a Valentine card from 1915 was designated as a *Love's Telegram*. Being that it's that time of the year again, I thought I'd not only give you a look at this interesting card, but also send a Valentines card to all of those who have so generously and enthusiastically supported this column. Don't stop!



"Two all beef patties, special sauce, lettuce, tomatoes, onions, on a sesame seed bun, 10-4?" That's the way it was in two-way radio's first test as an aid to serving fast food. That was back in 1951.



Meanwhile, back in the kitchen: "What's that? Two all beer parties? Wanna give me that order again, Hazel? 10-4?"



The fancy QSL from Rome's I2RO (also called EIAR) graced many SWL walls in the 1930's, although it was an enemy propaganda station during WWII. (Courtesy Edwin Bailey.)



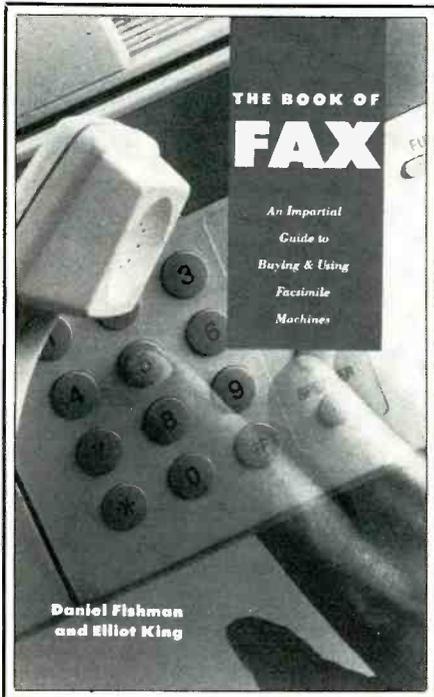
A Valentine dated 1915 was made up to parody a telegram. In those days, only the Vanderbilts, Morgans, Fords, and Rockefellers could afford to send real telegrams. Or else you got one when your cousin in Toledo needed \$50, fast.



These I2RO staffers in Rome, during 1937, weren't expressing an opinion about the station's programs, nor on the odor of lunch cooking in the station cafeteria. This photo was taken during a drill just prior to WWII when they thought the station might have to be operated during a poison gas attack.

BOOKS YOU'LL LIKE!

BY R. L. SLATTERY



The FAX . . . Just The FAX

One of the more important factors in the current communications revolution is the addition of facsimile (FAX) machines to offices, factories, homes, and even portable units that fit into attache cases and can be taken along for use with pay and car phones. With a FAX, you can send and receive copies of documents such as contracts, purchase orders, legal papers, receipts, pages from books, blueprints, and just about any other printed or written material. You can do this across town or to another continent, and the machines that perform the task are flooding onto the marketplace from dozens of companies. They come with many different features, and at prices ranging from a few hundred to more than two thousand dollars.

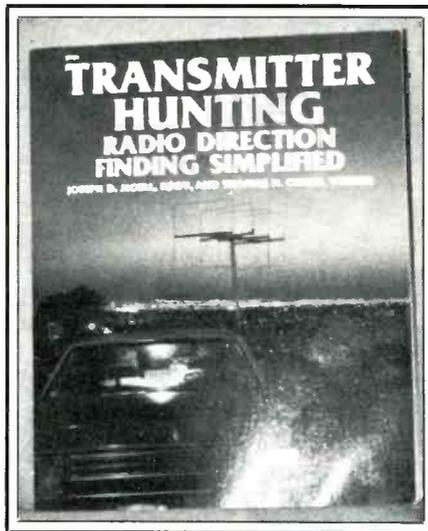
The Book of FAX, by Daniel Fishman and Elliot King, is a new book that takes the person who is thinking about buying a desktop FAX machine, and tells them what they need to know in order to buy such a device. It, (wisely, we think) assumes that the average person knows very little about what is involved and can easily be dazzled into either purchasing a useless low-end bargain price FAX that won't do what's needed, or will go out and spend a fortune on some super sophisticated FAX that's not only complicated to operate, but provides a myriad of features that will never be used.

So, it begins with the basics, and then, in an easy-to-read style, takes the reader by the hand to explore the applications, fea-

tures, and operation of FAX machines. By the time you get to the end of this 156-page illustrated book, you have a good working grasp of what's involved and how to decide which FAX features are required to meet your needs, and which are a waste of money. You'll learn about the different speeds the various machines send/receive, the types of paper they require, those that can handle photographic material, and how some machines being sold at cheap prices aren't great bargains because they operate in an outdated protocol. That's the type of information given in *The Book of FAX*. It's more than buying an answering machine!

We especially liked its frank discussion on FAX "junk mail," a rather obvious mass merchandising practice that's even more irritating than junk (computer) phone calls. FAX junk mail not only ties up a FAX machine, it also uses up the special FAX paper rolls that some machines require. In fact, the authors devote quite a bit of space to the misuses of FAX machines in offices by unauthorized and prankish personnel.

A worthwhile book for all who are, or hope to be, part of the desk-FAX generation. *The Book of FAX* is \$12.95 from Ventana Press, P.O. Box 2468, Chapel Hill, NC 27515.



Stalking The Wild Transmitter

You might think that transmitter hunting is what you do when you've got an UZI and the guy who lives next door to you is giving you TV interference. But no, it's the practice of using direction finding techniques to find a transmitter operating from a location unknown to you.

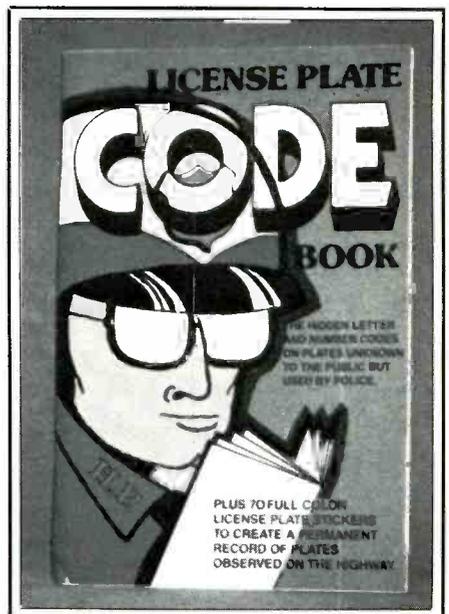
On a recreational level, hams engage in T-hunting, a group endeavor that pits the DF'ing skill of a bunch of intrepid seekers

against the sneakiness of those who are lugging around a hidden transmitter. From a more practical standpoint, DF'ing on various frequencies comes in as a useful tool when locating deliberate, or unintentional RF interference, signals from lost or missing aircraft or vessels, in search/rescue missions, and determining the locations of mystery broadcasters, pirates, and unlicensed communications stations.

The book *Transmitter Hunting: Radio Direction Finding Simplified*, by Joe Moell, K0OV, and Tom Curlee, WB6UZZ, is an explanation of proven techniques for "sniffing out the bunny." This includes the gear you'll need to equip your vehicle with, the antennas, using noise meters for additional sensitivity, etc. Their 323-page illustrated book explains details of the most effective techniques you can use, including triangulation and others.

Whether you're doing it for fun, have a serious application in mind, or just hope to know more about DF'ing for the pure pursuit of knowledge, this book should give you enough to either put to practical use or else study upon for quite a while.

This is a TAB book (#2701) available from TAB's many national dealers, or check with TAB directly at Blue Ridge Summit, PA 17214. This book is \$17.95.



It's All In The Plate

Many people don't realize how much useful, but hidden, information is contained in the license plate of a car, truck, or other vehicle. We have all seen ham radio license plates and vanity license plates, but that's only the smallest sample of what plates are really all about and the knowledge they can

reveal. ID'ing license plates and their many codes is a fascinating and even useful skill. The many codes used on the plates is a form of secret communications generally known only to law enforcement and state DMV officials.

Tom Murray's *License Plate Code Book* explains how the States code their plates. State-by-state listings let you look up vehicle plates and decipher the codes. Depending upon which state the plate is from, you might be able to tell such things as the county in which the vehicle is registered, the occupation of the owner, the vehicle's age/weight, if there are any use restrictions on the vehicle, if it's a rental car, if the vehicle has been repossessed, if it's a loaner vehicle, a state official or one belonging to a particular state department, a member of an Indian tribe, a member of the press or news media, or you can learn the first initial of the owner's last name, and much more.

A special section displays six different types of U.S. Department of State diplomatic license plates and lists the confidential two-letter codes used on those plates to let the FBI and others concerned with national

security know which nation's diplomats are driving where. Another section of the book lists all the codes used on U.S. Government plates to identify more than twenty different types of vehicles assigned to sixty agencies including the FCC, Dept. of Justice, Treasury Dept., Dept. of Defense, and others.

The book comes with 70 full-color license plate illustrations, and is made up in a handy 5-1/2" by 8-1/2" size for keeping in your vehicle's glove compartment. Useful to all motorists, invaluable to media people, researchers, and investigators of all types. If that car following you has a U.S. Government license plate consisting of the letter "J" followed by several digits, it's the FBI. Maybe you ought to pull over and see if they want to make you an offer you can't refuse. On the other hand, those very same numbers on a New Hampshire plate indicate a junk dealer.

The *License Plate Code Book* is \$6.95, plus \$1 postage/handling to addresses in North America, from CRB Research Books, Inc., Box 56, Commack, NY 11725. New York residents please include sales tax. **PC**

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CIRCLE 4 ON READER SERVICE CARD



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PC

Reception Reports: Puny vs. Productive

***For All of Your Time, Trouble, and Postage, You
Might as Well Do it Right. Besides, You'll
Increase Your Chances of a QSL!***

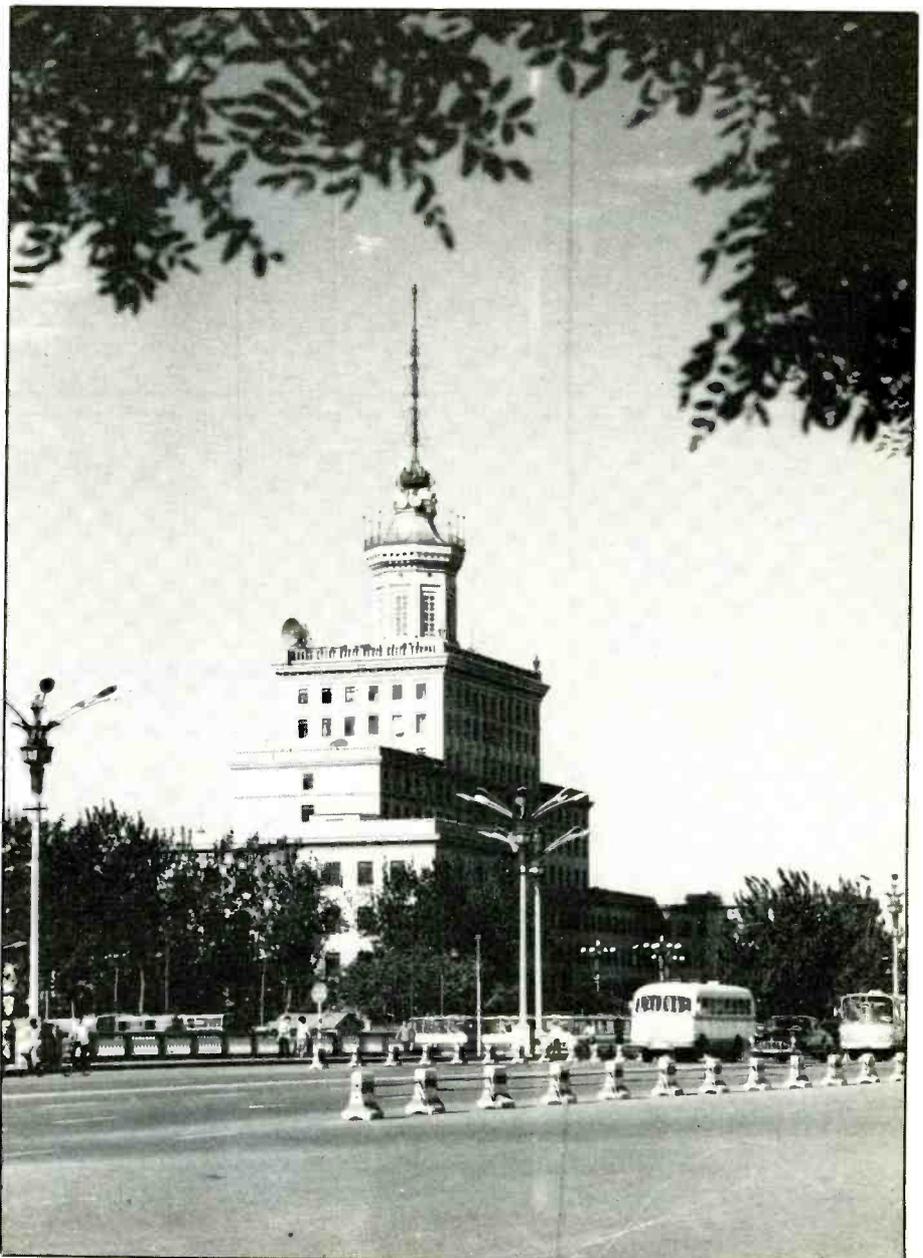
BY JOHN DONIKER, KNY2YN

To send a reception report by airmail to a broadcaster overseas, you've got to think about investing more than 40 cents in postage alone. Then, think about the value of the time you've also invested listening to and logging the station, writing up the report, mailing the letter, and so on. Although you probably have never thought of a reception report in terms of its actual value, it may well represent an investment of time and cash that means \$10 or \$15, or more, depending upon how much your time is worth.

The hope usually is that, for this investment, you will be rewarded with a verification (QSL) card or letter that confirms your reception of the distant shortwave (or even mediumwave) broadcaster. It's absolutely amazing, however, that so many overseas broadcasters think that the standard of reception reports coming from listeners in North America is not too good, being primarily concerned with seeking a QSL rather than attempting to offer the station any useful information or opinions about their programs or signals.

Stations, large and small, want to know which programs are most appreciated by listeners, they want to know if their signals are being received interference-free in their intended target areas, and if the strength of the signals is sufficient to insure their quality reception. Information received from listeners can help them shape their programming. Also enable them to shift frequencies away from interference, and utilize bands, frequencies, and transmitting times to maintain quality signals into desired reception areas. Reception reports can also alert stations to the need for increased power, directive antenna arrays, additional frequencies, or an expanded schedule.

Remember that a station has to pay for staff members to check listeners' reports against the station log and to process and mail out verifications. Many smaller stations don't have the resources to devote to this sort of thing, although many will verify if the information sent in provides information



HQ of Radio Beijing in China. Easily monitored in North America, the station is flooded with reception reports. English is OK when writing to major stations.

that is of value regarding the signals or programs.

Of course, larger stations (especially those operated by governments) usually have the staff, the resources, and the inclination to be quite liberal in their verification policies. One might come to the conclusion that promoting tourism or cultivating a national image for political reasons plays some part in this attitude.

There is, from time to time, talk within the DX'ing hobby of blacklisting stations that supposedly don't verify. I don't personally endorse such a policy, and have found that stations that are claimed to never QSL still seem to send out verifications to some listeners.

No Guarantees

With the possible exception of a few megapower propaganda stations that will send a QSL upon receipt of practically *anything* sent to them in the guise of a reception report, there are no guarantees that all reports received by all stations that normally send QSL's will produce a verification. Indeed, some listeners send out a few sample reception reports, get a poor return, and then give up on the whole idea.

Sometimes the failure to get a QSL in return for a reception report isn't even the fault of the station. Sometimes the listener takes up too much space in describing things. Some reports aren't addressed correctly and don't even reach the station, other reports don't plainly show the name and return address of the listener sending in the report. Some listeners put their return address on the envelope (but not on the report itself), and when/if the envelope/report are separated after being opened, nobody knows whose report it is.

Many reports are so vague that they are not only useless to the station, they can't even be checked against the log to see if reception actually occurred. They just say something like, "I heard your station on 9777 kHz with strong signals. Please send me a QSL." When a report like this gets no response from the station who received it, the SWL then runs around whining that so-and-so station should be blacklisted because they didn't verify his report.

A QSL should be regarded as a confirmation and certificate of appreciation from a station for valuable information that has been sent them after reception of their broadcasts.

Meaningful Reception Reports

A major consideration in sending any reception report is providing truthful information. Flattery may bring benefits in many areas of your life, but it doesn't serve any useful purpose in a reception report. If a station is received with a poor signal level, or is difficult to copy because of modulation products from another station a few kHz away, the station would rather know that than be



This is HRRZ, Radio Juticalpa, a mediumwave station in Honduras. Generally speaking, a station such as this will be expected to respond better to a reception report written in Spanish than one in English.

lied to by being advised that the signal was strong and free of interference. Fact is, such an exaggerated signal evaluation could actually work against a person, since the station may well have received other reports from listeners in your area for that time/frequency reporting poor reception and therefore be fully aware of its coverage deficiencies. A glowing report would therefore stand out like a stain on your shirt. In fact, it's a stain on your reputation, and on the DX'ing hobby.

Surprisingly enough, unlike your Uncle Harry, who never forgave you for giving him your honest opinion of his \$5 toupee, stations don't get offended by the truth about their signals. That's the information they need to have in order to know they need improvement. An excellent way to do this, by the way, is to include in your recep-

tion report signal readings (strength, fading, and interference) at different times over a 5 to 7 day period. Where stations simulcast on two or more frequencies (especially within the same band), they find it useful to know how reception on one frequency compares with the others. They also appreciate comparative reception reports that mention how signals from other stations in the same wave band, and from their same general area, are being received in comparison to their signals.

Rules of thumb to keep in mind: Most shortwave broadcasters aren't going to find reception reports from listeners closer to them than about 1,000 miles to be very useful and may QSL only those reports that are of particular interest, or represent at least a half hour's worth of detailed loggings. On the other hand, mediumwave stations, or regional shortwave broadcasters may find

NEWS
MUSIC

YOUR QSL CARD FROM

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BROADCASTING DAILY IN ENGLISH ON 15450 KMZ/19m.
SHORT WAVE FROM 18.00-19.00 HRS. G.M.T.

COMMENTS AND SUGGESTIONS ON HOW TO IMPROVE THIS
BROADCAST ARE WELCOME. WRITE TO:

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RADIO JAMAHIRIYA
P.O. BOX 333
TRIPOLI - S.P.I.A.J.

THE AFRICAN SERVICE
RADIO JAMAHIRIYA
P.O. BOX 17
HAMRUN - MALTA

INFORMATION
CULTURE

Sample Short English Language Reception Report

Chief Engineer,
Radio Nibi Nibi',
Broadcast House,
Metropolis, Nibi Nibi

Frequency: 9885 kHz.

Date/Time: 0130-0145 UTC, 22

February 1989

My equipment: Kenwood R-2000,
100 ft. longwire.

Dear Sir:

I have just had the pleasure of tuning in Radio Nibi Nibi as noted above, and I am listing details of the programs I heard. Your station's signals were running S-7 with very slow fading to S-5. At 0145 UTC it became impossible to listen further because of interference from La Voz del Manzana Cardeno on 9882 kHz which began operating at that time. If my loggings of your station (below) match with your station log, I would sincerely appreciate a verification of my reception:

- 0130 UTC Station ID: "Radio Nibi Nibi Calling."
0131 National anthem played on tuba and glockenspiel.
0133 Program and frequency schedule.
0135 World/local news headlines read by a man in English.
0140 Lecture #188 in the Series "Tourist Delights in Nibi Nibi: The Fishing Net Repair Facility." (English)
0141 A woman interviewed the President and asked about fairness in the forthcoming national elections. (English)
0142 Recording: "I Feel Good," by James Brown.

Thanking you in advance for your verification and hoping to send you another report in the near future, I am,

Yours very truly,

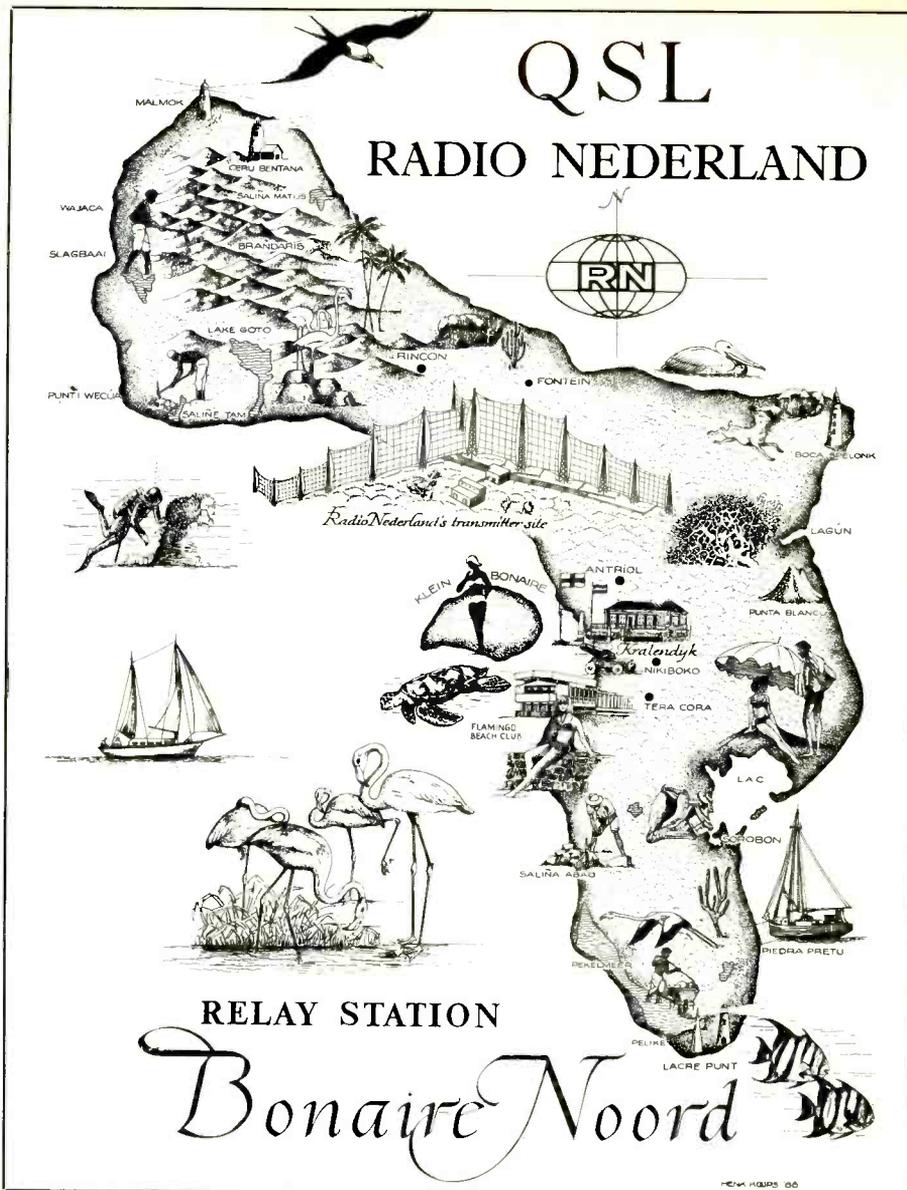
Dan D. Eckser,
9987 Main Street,
Anytown, KS 99999
United States of America

DX reception reports to be of no use or interest at all since their primary coverage area is localized.

Also, at least fifteen, but probably not more than thirty, minutes worth of program loggings should be included in all reception reports. This information should be as specific as possible, including times and details of station breaks, interval signals (describe), commercials (sponsors names?), program schedules, specific news items, musical numbers (title, or type of music), name of program, and whether the air personality was male or female.

Timely Information

The times of reception should be stated in



terms of Coordinated Universal Time (UTC) when reporting to any shortwave broadcaster, and to mediumwave broadcasters located outside of North America. UTC (same as GMT), you must always keep in mind, has a date change at 7 p.m. EST (6 p.m. CST, 5 p.m. MST, 4 p.m. PST). If you log a shortwave station at 7:05 p.m. EST on May 25th, your reception report will have to specify reception at 0005 UTC on May 26th, a day later. And note that UTC is always written with a 24-hour clock, that is to say that 11:34 p.m. UTC should be stated as 2334 UTC. And don't forget that the relationship of your local time zone to UTC changes twice each year because of Daylight Savings Time.

If you aren't certain about converting your local time into UTC, an easy way is to tune in either WWV (5, 10, or 15 MHz) or CHU (3330, 7335, or 14670 kHz) and you can quickly ascertain the present time in terms of UTC. It's also a good idea to check your station clock's accuracy against CHU or WWV at least once a month. For extra

convenience, consider obtaining an analog or digital clock made up in a 24-hour format that you can set in UTC.

When sending to stations in North America, local time (preferably their local time) should suffice, just make certain that you state the time zone (EST, PST, etc.) used in your report. Most local telephone directories have a national map showing the time zones.

Your report should include information on the type (make/model) receiver you're using as well as the antenna system. Don't go into extreme details, even though you may be proud. All you want to do is give a frame of reference so they can interpret your reception report based upon whether their station was monitored on a transistor portable with a two foot telescoping whip antenna, or a communications receiver hooked to a directional array.

The Report Itself

You can usually have an English lan-

Sample Short Spanish Language Reception Report

Ingeniero en Jefe,
La Voz del Manzanera Cardeno,
Apartado 1,
Chinche, Republica de Hijastra
Frecuencias: 9882 kHz
Tiempo/Fecha: 0145-0200 UTC,
22 Feb., 1989

Muy Estimado Senior:

Acabo de tener el gran placer de oír su estacion radiodifusora y a continuacion me permito darle la lista de unas de las muchas selecciones que me ha sido grato sintonizar. Le quedaria altamente agradecido si Ud. pudiese hacerme el favor de comprobar mi aduicion con sus radioifusiones y mandarme confirmacion de mi recepcion.

(The above/below "stock" Spanish paragraphs may be used as is. The address shown at the top of the letter as well as the frequency, date, time, equipment details, of course, should reflect details relevant to your report. Use this space in the center for inserting details of your loggings and reception. A listing of helpful Spanish words is given below.)

Anticprinnbole mis mas efusivas gracias, abrigo le esperanza de enviarle otro reporte dentro de poco tiempo y me ofrezco de Ud.

Afmo. atto. y.s.s.

Dan D. Eckser,
9987 Main Street,
Anytown, KS 99999,
United States of America



A typical sample of a short but adequate English language reception report is shown in these pages. You can, naturally, use your own words, make it longer, or add other comments in the letter if you wish. A short Spanish language letter is also shown here for those elusive Latin American stations.

Mail your report out within a day or two of the reception being reported. For privately owned commercial and noncommercial stations, it is customary for the listener seeking a QSL to include return postage with the reception report. For most nations of the world, this can be in the form of an International Reply Coupon (IRC), which can be purchased at many post offices.

Your report should (preferably) be sent by airmail, and should not be festively adorned with colorful commemorative stamp issues because you think that someone at the station would like to have them. In several nations, postal workers have a nasty habit of swiping such letters long before they ever reach their intended destinations.

You'll want to have as complete and accurate an address as possible on your outgoing reception reports, too. For this, you'll want the latest edition of the *World Radio TV Handbook*, which is the one, absolutely indispensable guide to the addresses, frequencies, schedules, interval signals, and other vital data of all of the world's short-wave broadcasters.

This information has, hopefully, given you information that will substantially increase the percentage of responses you get to your reception reports.

PC

Useful Spanish Words/Terms

Selection de orquesta (orchestral selection)
Piano selection
Marimba selection
Solo vocal (Senor) (Man singing)
Solo vocal (Dama) (Woman singing)
Coro (chorus)
Musica clasica (classical music)
Guitarra selection (guitar selection)
Musica popular (pop music)
Musica nacional (local or folk music)
Musica de baile (dance music)
Musica religioso (religious music)
Marcha (march music)

Volumen fuerte (strong signals)
QSB (signal fading)
Habla (talking)
Anuncios de la Estacion (station break)
Senal intervalo (interval signal)
Aviso (commercial announcement)
Noticias (news broadcast)
Comedia (comedy program)
Drama (dramatic program)
Programas (station schedule)
Religion (religious program)
Volumen debil (weak signals)
Volumen mediano (good signals)

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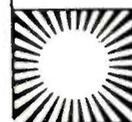
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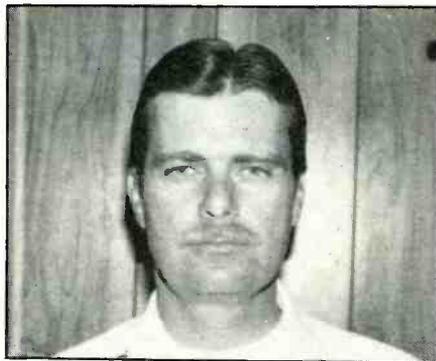
1320 Grand San Marcos
California 92069

Please send all reader inquiries directly.

Fireman Revives Boy After Pool Accident

Steve McLemore had his scanner on while he was taking a shower in his Bakersfield, California home. He heard an emergency broadcast on the scanner and, realizing it involved a neighbor's child, got dressed and swung into action.

SCAN PUBLIC SERVICE AWARD



According to an account of the incident in the *Bakersfield Californian*, McLemore found two people attempting to resuscitate a 16-month-old boy who had fallen into a swimming pool.

Although the toddler appeared to be dead, McLemore administered cardiopulmonary resuscitation. McLemore, an emergency medical technician, told the ambulance medical team that arrived that the boy would need a paramedic unit. He rode with

the child in the ambulance, continuing his resuscitation efforts.

The ambulance met a paramedic team, which began treating the child on the way to the hospital. McLemore accompanied the boy's father to the hospital. After six hours, the boy began breathing.

McLemore, a battalion chief for the Kern County Fire Department, received the Mayor's Eagle Award from Bakersfield officials for his actions.

"We're very lucky to have individuals like you," Councilman Kevin McDermott told McLemore.

"I'm most humbled by this ceremony," McLemore told a City Council meeting. "It was quite unexpected."

It "started out to be a very tragic incident, for the family and also myself. But, through the grace of God and other people's help, it had a very happy ending," McLemore was quoted as saying in the *Californian*.

McLemore also received a city medal of honor, a honorary proclamation and city Fire Department citation.

For his use of a scanner and quick action, Battalion Chief Steve McLemore will receive the SCAN Public Service Award, which consists of a cash prize and a special commendation plaque. For making the nomination, Fire Chief Phillip A. Johnston of Springfield, Missouri, will also receive a plaque. Johnston first met McLemore over 20 years ago when Johnston worked for the Kern County Fire Department. Congratulations to both of you.

Best Equipped

John Gumz of Havelock, North Carolina, likes to take his work home with him. He is a radioman in the United States Coast Guard and, as he puts it, likes to "monitor work when I am away from work." John is also an amateur radio operator and regularly listens to the high seas phone nets, utility stations and RTTY transmissions.

John uses a Regency D300 programmable scanner, Panasonic RF-4900 shortwave receiver, Hallicrafters S-38E and S-41G receivers, Cobra 135 CB, Midland CB mobile, Kenwood TS-820S amateur transceiver, ICOM 28A two-meter mobile, a handheld marine transceiver, and a GE seven-band portable.

In addition to the scanners and receivers, John has a number of antenna options, using a 50-foot tower, Ringo Ranger ARX2B,

SCAN PHOTO CONTEST WINNERS

Starduster CB and 70 and 100-foot longwires. John also uses a Commodore 64 computer, data cassette and color monitor in his radio hobby. A Microlog SWL cartridge, Wefax module and associated meters are also in use.

Best Appearing

Hal Bilodeau of Des Plaines, Illinois, writes that his radio room is "a nice private place to pursue the joys of the radio hobby." His scanning interests range from the near-

by Chicago Police to Illinois State Police, fire frequencies, classified government channels and anything in the 800 MHz band.

The equipment here includes a Realistic PRO-2010 scanner, AOR AR-800 handheld scanner, Sony ICF-6700W shortwave receiver, and a Realistic TM-152 AM stereo tuner. He also uses a Microcraft Code Star code decoder, Realistic cassette and Heathkit station clock.

A Realistic 20-176 ground plane antenna is mounted on the roof for both scanners, and a 50-foot center-fed dipole snags shortwave signals.

Hal also mentions that his interest in radio began in 1973, when he built a shortwave radio kit with the help of his uncle. Two more kits, covering aircraft and VHF high bands, followed. All were ultimately replaced by the equipment in this neat setup.



Best Equipped



Best Appearing

Becoming A POP'COMM Reporter

Be More Than A Reader! Join Into The Excitement by Sharing Your Loggings

Sharing loggings, photos, QSL information, and station information with others contributes to the betterment of your favorite interest area within the communications hobby. Actually, any hobby works best when there is a free exchange of such relevant information between participants.

Popular Communications is an excellent medium for collecting, sorting, and redistributing this material out to the largest possible audience within the monitoring community. To familiarize you with those of our columns that are especially seeking your input, here's a rundown of what is being sought.

Listening Post is the column devoted entirely to international shortwave broadcasting. Send in any schedule changes, new frequencies or stations going on the air, stations you've logged in recent weeks. Loggings should be arranged according to country name, followed by the station name, transmitting frequency, time logged (UTC), language used, general programming information.

Communications Confidential is devoted to utility station ("ute") monitoring. This includes non-broadcast (except ham and CB) stations using voice or CW on frequencies below 28 MHz. The column is headquarters for information on mystery, spy, military, press, weather, aero, maritime, radiobeacons, time signal, jammer, diplomatic, point-to-point, and numbers stations. Copies of your ute QSL's, ute station addresses, and station operating news is also sought. Intercept (logging) information is also sought, arranged according to frequency in ascending order (that is, lowest frequency first), with a double-line space between each intercept (we have to be able to cut them apart). Information for intercepts should include: frequency, identification or callsign, location (if known), language, time copied (UTC), transmission mode, other stations called or contacted, type of station or communications noted, and any comments you have.

The RTTY Column, lives up to its title, and covers RTTY, ARQ, FEC, FAX, TDM, FDM, and other ute stations utilizing teleprinter modes (except ham stations). Send the same type of intercept data that you'd send to *Communications Confidential*, but be certain to specify RTTY settings (Hz

shift/baud/polarity).

Broadcast DX'ing, especially seeks information on what you're hearing in the way of AM/FM/TV broadcasting DX, callsigns, locations, frequencies, signal levels, interference noted, skeds, test times, special programs of interest to DX listeners, names of QSL signers, etc.

Scanner Scene wants to hear from you with information on communications activities in the following bands: 30 to 50 MHz; 108 to 144 MHz; 148 to 174 MHz; 225 to 512 MHz; 800 MHz and above. This includes public safety, industrial, aero, federal, land transportation, maritime, emergency, and all of the many other services operating within these bands. Send in information about your loggings, information on frequencies used in your area by various services, etc.

CB Scene is interested in your CB experiences, activities, ideas, local gatherings, stations, QSL's, and general news of what's happening between CB Channels 1 and 40, AM and SSB.

Of course, all of the columns appreciate photos of your listening post or station, copies of your own SWL cards or QSL's you've received from stations you have monitored. They'd like your thoughts, suggestions, questions, ideas, opinions, and comments relevant to the topic of your favorite column.

Mail going to each of the columns should be sure to indicate the name of that specific column on the envelope. Send to the columns in care of *Popular Communications Magazine*, 76 North Broadway, Hicksville, NY 11801. If you have a question that needs a personal reply, please include with your letter a self-addressed, stamped return envelope.

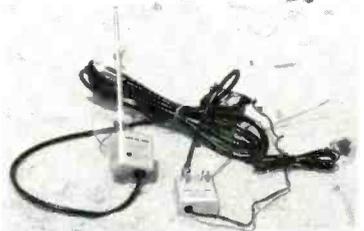
One last thought, when you send information to be used in a column, it must first be processed by the columnist, then it's edited by the POP'COMM staff. After that, it goes through various stages of production (typesetting, layout, printing, etc.). This is to say, while club bulletins and their ilk can get material into print on very short order, national publications that publish once a month require more "lead time" than club newsletters. So, please be patient and understand that this is normal for all larger national periodicals.

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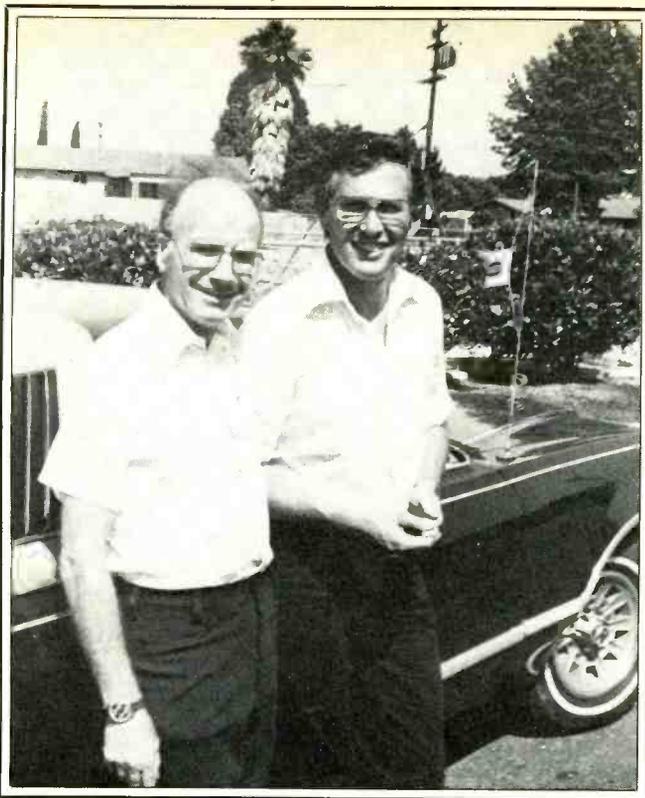
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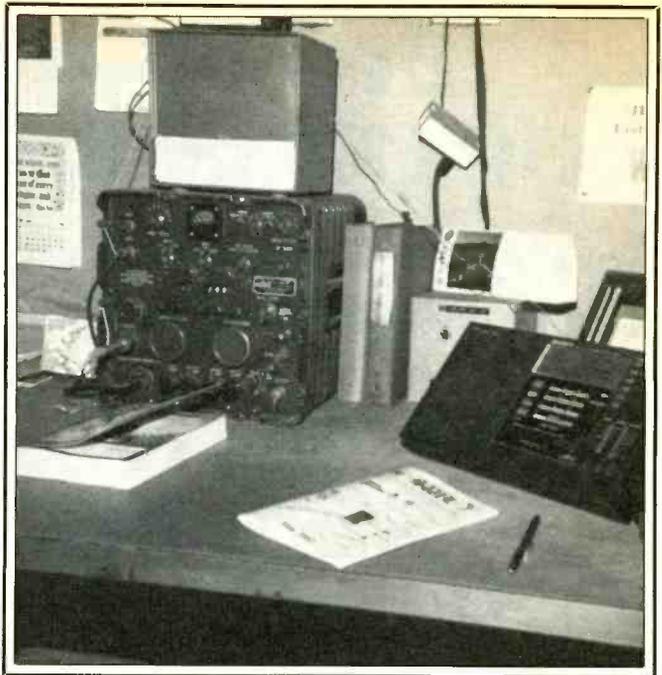
Order any product (except software) from EPI and if not satisfied return it within 15 days for a full refund (less shipping/handling).



CIRCLE 47 ON READER SERVICE CARD



ASWLC's Stewart MacKenzie (left) chatting with Tom Meyer of (Happy Station) Radio Netherlands.



Listening post at ASWLC HQ's, consisting of a Collins R-392 (left) and a SONY 2001. Paperwork on the desk looks to be a copy of the WRTH and the ASWLC's own monthly publication, "SWL."

DX Club Profiles

Want To Join A Good DX Club? Here Are A Couple Of Suggestions

There are many clubs dedicated to the monitoring enthusiast in all of his/her many aspects. Some groups are dynamic, others are less than that. We selected a dozen groups that, in our opinion, numbered among the best around. We asked them to pass along some information that we might share with our readers. Three of these groups responded to our request, and we are pleased to pass along the information for the benefit of our readers.

The American Shortwave Listeners' Club (ASWLC)

ASWLC was founded in December of 1959 when ten listeners got together and decided to exchange DX information. Now, almost thirty years later, ASWLC has more than 500 members throughout North America and around the world and has a respected position as a well established DX club.

Under the direction of veteran DX'er Stewart MacKenzie, ASWLC puts out an excellent monthly news publication called SWL. Areas of DX that are covered in each issue include shortwave broadcast stations, utility stations, and mediumwave DX'ing. Additional features covered include shortwave station program schedules and frequency changes, QSL'ing information, and occasional features of interest.

Members located within traveling distance of club headquarters in Huntington Beach, CA are welcome to attend the monthly club meetings.

Annual dues in the USA and its territories are \$17.00 (\$18.00 in Canada and Mexico). Annual dues for students under 18 years old (USA only) is \$15.00. Overseas dues are \$17.00 per year. Make membership payments out to ASWLC; all dues outside the USA are payable by postal or international money orders drawn in US funds.

Membership is available from the Ameri-

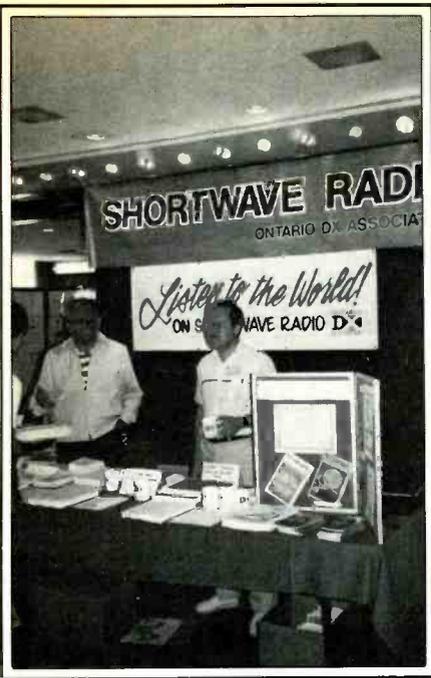
can Shortwave Listener's Club, 16182 Ballad Lane, Huntington Beach, CA 92639-2204. This club is highly recommended.

Speedx

DX'ers may not realize that the name Speedx actually stands for the Society to Preserve the Engrossing Enjoyment of DX'ing. That about sums up the intent of this non-profit group that was started back in 1971. The idea of Speedx is to bring together the diverse areas and members of the monitoring hobby and encourage active participation in DX listening by all members.

Speedx attempts to advance the cause, understanding, and enjoyment of the hobby on an international basis, and to promote good relations between DX listeners and shortwave broadcasters.

Speedx is not only the name of the club, but also the title of the group's monthly membership publication. Regular columns in Speedx cover shortwave broadcast and



At an SWL gathering, Ralph Shepherd (left) and Harold Sellers (right) man the ODXA booth.

utility station loggings, programming data, QSL data, and a technical column relating to the monitoring hobby. Speedx (the publication) has earned a well justified reputation for excellence.

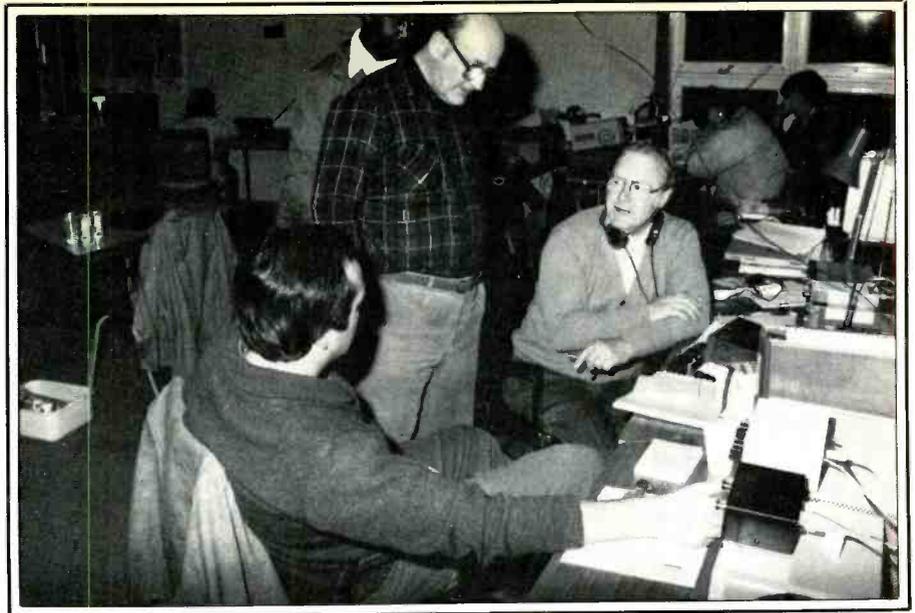
A sample copy of the Speedx membership publication is available for \$1.00. membership in Speedx is \$20.00 in the USA, Canada, and Mexico; membership (by airmail) to Europe and South America is \$30.00 per year. Memberships in other areas are also available, write to the club for details if you're in those areas. Membership fees are in American funds.

Membership is available from Speedx Headquarters., P.O. Box 196, DuBois, PA 15801-0196.

Ontario DX Association

The ODXA (organized in 1974) is primarily intended for DX listeners living in Ontario, although members from elsewhere are also welcomed. With the emphasis on quality, the ODXA's monthly publication, *DX Ontario*, normally runs about 80 pages in length and covers a wide range of DX specialties.

ODXA holds regular meetings in Toronto, and all members are encouraged to attend. These meetings include equipment displays, films, guest speakers, seminars, and discussions. There's an annual convention, too, and the ODXA also participates in the yearly Hobby Show at the International Centre each November. During the summer months, two DX camps (field day weekends) are held with members invited to attend at a location near Orillia, Ontario. Lots of portable DX'ing takes place, tall tales are exchanged, and friendships are renewed.



An ODXA camping DXpedition doesn't require too much "roughing it," but does offer some great opportunities for swapping DX tales about "the one that got away."

The group is run by a five-person Board of Directors appointed by the membership every two years. The current Chairman of the Board is Harold Sellers. ODXA is a non-profit organization, and all officers and publication staff members are unpaid volunteers.

Membership in ODXA for Ontario residents is \$25 (Canadian) per year. DX'ers in other Canadian provinces can join at the same rate, and DX'ers in the USA may join at \$20 (American). All members located outside of Ontario are designated as Associate Members. There are presently more than 580 members in Ontario, plus over 240 elsewhere.

A sample copy of *DX Ontario* is \$2 (Ca-

nadian) or \$1.50 (American). The club's address is: Ontario DX Association, P.O. Box 161, Station A, Willowdale, Ontario M2N-5S8, Canada. This is an excellent club that is well run and highly recommended for DX'ers everywhere.

In General

We invite you to participate in all of these fine groups whose efforts have always reflected well upon the DX monitoring hobby. Be certain to tell them that you are inquiring or joining at the suggestion of *POP'COMM*. Whether you join either or both, you'll find that they will significantly add to your enjoyment of DX monitoring.

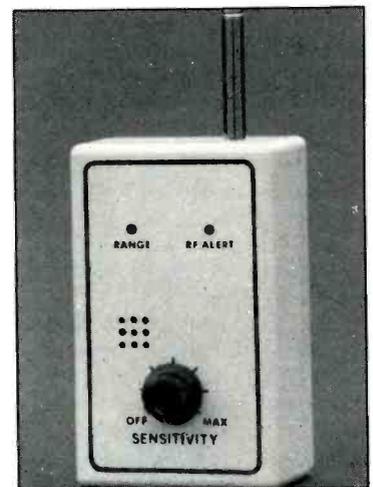
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CLANDESTINE COMMUNIQUE

WHAT'S NEW WITH THE CLANDESTINES

BY GERRY L. DEXTER

Let's catch up on some recent clandestine radio activity. The Contras seem to be fading as an effective opposition to the Sandinista regime in Nicaragua. However, the two contra radio stations aren't showing any sign of letting up. You can tune in on *Radio Quince de Septiembre*—which often announces as *Radio Liberacion*—operating on 5930 at various times during the evening hours. It's also been recently heard at 1100 UTC sign on. Radio Liberacion continues activity around 0200 and 1100 on 5889 variable. Programming on these two is often simulcast so you may hear the same Radio Liberation identifications on both stations at times. Incidentally, according to the Media Network program on *Radio Netherlands* a group of Americans is proposing to set up an anti-contra radio station!

A Palentinian station is finally active on shortwave. *Palestinian Arab Radio* (or *Radio Al-Quds*), apparently based in Syria, is scheduled on shortwave from 0600 to 1100 on 7460, 1300 to 1600 on 7460 and 160 to 1800 on 4320. The station gives out several addresses: P.O. Box 25-74, al-Shubayrah, Beirut, Lebanon; P.O. Box 1397, Aden, Democratic Yemen, P.O. Box 5092, Damascus, Syria and P.O. Box 10412 Tripoli, Libya. Unfortunately that schedule makes the station extremely difficult to hear in North America.

More easily heard—though still difficult—is the *Voice of Palestine* program which, at present, is aired over *Algerian Radio* at 1700 to 1800 on 11715 (probably your best opportunity). It's also aired on the Democratic Yemen Broadcasting Service in Aden at 1815 on 7190 and via Radio San'a in the Yemen Arab Republic at 1600 to 1630 on 9780, all in Arabic.

The Iran-Iraq war may have cooled down, but the voices in opposition to the Khomeini government have not. One of the communist outlets, *Radio Iran Toilers*, can occasionally be logged at its 0230 sign on on 10870 and sometimes also during the other part of the schedule which runs from 1530 to 1730. This latter time slot also uses 4775 and 6230.

Another communist station, the *Voice of the Communist Party of Iran* runs from 1700 to 1900 on 3840 and 4430, a time and frequency pairing which makes North American reception impossible.

Iran's *Flag of Freedom Radio* is on the air from 0330 to 0530 on 9045 and 15555 as well as from 1630 to 1830 on 11615 and 15560. This is perhaps the most easily heard of the anti-Khomeini stations, at least for listeners in North America.

Radio Iran is scheduled at 0230 to 0330 on 15650 and at 1830 to 1930 on 7075 and

IRAN LIBERATION



No. 3

News Bulletin of the People's Mojahedin of Iran Wednesday, July 30, 1986

Declaration of the National Council of Resistance of Iran on Its Fifth Anniversary

The Coming Year To Bring Crucial Events in the History of Iran

The National Council of Resistance of Iran has entered its sixth year. The past year abounded with significant events both for the people of Iran and their Resistance movement and for the detested, anti-human Khomeini regime. Thus, the coming year is pregnant with events which will be of vital importance in the history of our nation.

In his message of February 11, 1986, the President of the National Council of Resistance comprehensively informed the Iranian people of the seven-year record of Khomeini's rule, which in fact is an account of seven years of an anti-human regime's boundless killing and plundering of a nation.

Since that date, the appearance of the effects of a significant drop in oil prices, the regime's only source of foreign currency income, along with an intensification in Khomeini's hysterical warmongering and its economic and social ramifications, have brought the nation's economic situation to such a point that it is indistinguishable from the economy of an era of famine.

Increasing daily pressures, astronomical, uncontrolled prices on essential items, heightening poverty and unemployment concurrent with a multilateral spread of corruption, theft and extortion have depleted the last resources of the people. They have made life in a Khomeinist hell unbearable for

Increasing daily pressures, astronomical, uncontrolled prices on essential items, heightening poverty and unemployment concurrent with a multilateral spread of corruption, theft and extortion have depleted the last resources of the people. They have made life in a Khomeinist hell unbearable for

Continued on page 2

Mr. Rajavi Requests a Decisive and Clear UN Stance on the Khomeini Regime's Warmongering

Massoud Rajavi sends the UN Secretary General a copy of the book "Global Support for the Peace Plan of the National Council of Resistance of Iran" for ending the Iran-Iraq War, containing the signatures of 5,600 political leaders and world dignitaries.

Concurrent with the final months of the sixth year of the bloody Iran-Iraq War, on July 20, Mr. Rajavi, President of the National Council of Resistance of Iran, sent a letter along with the book "Global Support for the Peace Plan of the National Council of Resistance of Iran" for ending the Iran-Iraq War, to Mr. Javier Perez de Cuellar, Secretary-General of the United Nations.

The declaration which appears in this book has been endorsed by 5,600 political leaders and international dignitaries and more than 200 parties, associations and syndicates from 57 countries. According to Mr. Rajavi, it may be viewed as the result of an extensive international political concurrence by political leaders and dignitaries from 57 countries of the world to find a just solution to end this onerous war.

In his letter, Mr. Rajavi emphasizes the role and importance of international initiatives to end the Iran-Iraq War.

Continued on page 3

Iranian Physicians' Nationwide Strike Continues

- According to the government's new bill, the board of directors of the Iranian Medical Association will not be elected by physicians
- Government alleges physicians' strike supported by Mojahedin

The strike by physicians at Tehran's hospitals and medical centers, which began on July 14, continued over the past week. It had been launched to protest the government's ratification of new laws authorizing its takeover of the Iranian Medical Association and its allocation of the country's medical facilities to the war.

Consequently, the Tehran government's Prime Minister dissolved the Medical Association and the Interior Minister described the strike as a "counterrevolutionary" act, a charge necessitating investigation by the Revolutionary courts. Manafi, the new

Continued on page 3

Non-Oil Exports Heading for Extinction

On page 7

INSIDE:

- International Organizations Declare Solidarity with Iranian Physicians' Strike On Page 4
- Amnesty International Expresses Concern over the Arrest of Iranian Doctors On Page 5
- Iranian Associations Support Physicians' Strike On Page 5

"Iran Liberation" published by the People's Mojahedin of Iran, is just one of numerous newsletters produced by anti-Khomeini groups which also operate their own clandestine stations.

9400 and this one, too, should be fairly easy to hear in North America. All of these anti-Iranian clandestine broadcasters air most or all of their programs in the Farsi (Persian) language.

On the El Salvador scene, even though we don't hear as much on the news about this country's civil war as we once did, the FMLN's *Radio Venceremos* continues its operations. The station is currently operating at 0100 to 0200 and 0300 to 0400. Also at 1315 to 1415 except Sundays when it's at 1500 to 1600. And at 1900 to 2000 except Sundays when it's at 2100 to 2200. Frequencies in use are widely variable and generally shift around several times during each transmission. Check on 3465, 3755 and 6600.

On the Ethiopian scene the *Voice of the Broad Masses of Eritrea* is aired in various

local languages plus Arabic at 0400-0700, 0900-1100 and 1400-1700 on both 7485 and 14330 both of which may vary a bit. This is a very tough one to catch in North America but a few have managed it.

Radio Voice of Ethiopian Unity, broadcasting against the Marxist government in Addis Ababa, is nominally scheduled at 1800 to 2000 on 9425 or 9430 as well as 11180. It's been heard on all three frequencies at various times. As soon as this station appeared, it was suspected of coming via the Sudan Government radio's facilities. Indeed, the station was either off the air, or it had technical difficulties, during the recent flooding in the Sudan!

Radio Caiman, the anti-Cuban station of superior strength and mysterious backing is suffering from very severe interference lately. A very strong utility station has parked on

the 9960 frequency leaving Caiman's morning and evening broadcasts completely unreadable. We'd say it's a pretty good bet that, by now, either Caiman or the "ute" has moved somewhere else. Still, it's hard to believe that the operators of this "ute", if they checked the channel at all, would not have heard that it was in use. Personal note to reader Brian Walsh in England: Radio Caiman is the station you inquired about. The transmitter is believed to be located in Guatemala but there is no known mailing address for the station. It has no connection with Radio Cayman in the Cayman Islands.

It may, technically, be a legitimate station but we are very tempted, just the same, to begin including news on *Radio Impacto* in Costa Rica here in this column. The station, as readers may be well aware, airs a good deal of anti-Sandinista and anti-Castro programming and, though it's supposed to be a commercial operation, airs few commercials. There are persistent hints and rumors about its ownership. We'd welcome informational input on this station.

And speaking of information, a reminder that we certainly welcome whatever you can contribute on the subject of clandestine broadcasting—loggings, schedules, background information, news clippings, news letters from resistance groups, addresses, QSL copies and so on. This is one of the most difficult shortwave areas about which to glean information so your assistance is much appreciated.

More next month. Til then, good hunting!

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13665: 6VU73, Dakar Meteo, Senegal w/coded wx at 2149, 600/50R.
 13737.2: 5YD7, Nairobi Aero, Kenya w/aero w/wx & notams at 2201, 425/50N.
 13752: HZJ, Jeddah Aero, Saudi Arabia w/aero wx at 0406, 50N.
 13803: RCR78, Khabarovsk Meteo, USSR w/coded wx at 1333, 50R.
 13894.5: ADN Berlin, GDR w/nx in EE, was 50N at 1520.
 13910.3: Polish embassy in Havana, Cuba w/nx in Polish & crypto at 2222, 425/75N.
 14171: Un-ID w/73-baud crypto at 1744 in ham band.
 14362: SOO236, PAP Warsaw, Poland w/nx in Polish at 1220, 50R.
 14388: Un-ID w/RURY & faxes, 100N at 1403.
 14432: Un-ID sta w/tfc in FF at 1437, ARQ.
 14442: Un-ID meteo sta w/coded wx at 1303, 50N. Any guesses who/what?
 14490: RNK36, TASS Moscow, USSR w/nx in EE at 1314, 50R. TASS and the woodpecker were fighting it out here, and TASS ended up getting the bird, with many holes pecked into its newscopy!
 14497.5: CSY, Santa Maria Aero, Azores w/coded wx at 2253, 100/50N.
 14510: RIC75, TASS Moscow, USSR w/nx in EE, 50R at 1319. Was spared the wrath of the woodpecker.
 14576: Un-ID idling in ARQ from 1955 to fade after 0300. Wonder what good stuff I missed on other freqs while I babysat this one?
 14605: Y7K30, ADN Berlin, GDR w/nx in GDR at 1222, 425/50N. Gud sig strength but crummy copy. In EE at 1307 w/same conds.
 14625: RFLI, French Navrad, Fort de France, Martinique w/controle de voie at 1803, TDM-96A.
 14698: MFA Ankara, Turkey w/tfc (nx?) in Turkish. Was 850/75R at 1559.
 14700: RGD22, TASS Moscow, USSR w/nx in EE at 2009, 425/50R.
 14764: A9M70, GNA Monama, Bahian w/nx in AA at 1845, 75R.
 14774.1: RPTI, Portuguese Navrad, Horta, Azores w/RURY & faxes at 1528, 1000/75R.
 14775.7: SUC, Cairo Aero, Egypt w/aero wx & notams at 1528, 850/50R. Sends 1 wx item every few mins & shuts down xmtr after each item.
 14794.4: FT079AH1, AFP Paris, France w/RURY at 1615, then nx in AA, 50N.
 14800: Y2V24, ADN Berlin, w/RURY w/le brick & faxes at 1803, 425/50N. Then into nx in PP & FF to Africa.

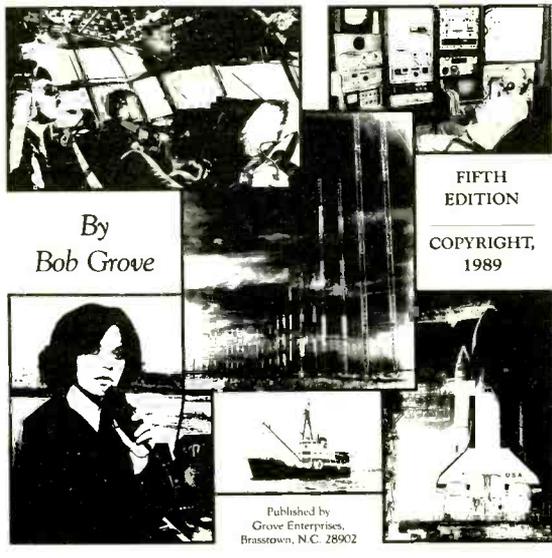
14818: Y7A60, MFA Berlin, GDR w/RURY at 1321, 100N. Was //20020 (Y7A80).
 14845.5: Un-ID w/crypto at 1829, TDM-96B. Crypto began at 29 & 57 min post each hour during 4 hours of monitoring. Suspect an ID is sent undercover because encryption is never more than 2 lines long.
 15670: HGM36, MTI Budapest, Hungary w/ZCZC Beijing (X3) de HGK26/HGM35 y! all stns ZAN pse rush start ZRY? (X2) & ZHC? RYRY... Was 400/50N at 1448. HGK26 an 13680. S/off 1509.
 15884: FSB, Intepol HQ, Paris (St. Cloud), France w/telay of tlc from Romania to FRG at 1733, ARQ.
 15693.5: ISX56, ANSA Rome, Italy w/RURY at 1708, 50N.
 15845: SUA289, MENA Cairo, Egypt w/nx in AA at 1506, 50R.
 15856.7: MFA Bonn, FRG w/msgs in GG & crypto to FRG embassy in Monagua. Was ARQ-E/96 at 1627.
 15864.7: RBK79, TASS Moscow, USSR w/nx in AA at 1531, 50R.
 15873: RFGW, MFA Paris, France w/non protege msg in FF & a 5L msg at 1533, 425/75R. Msgs sent to J5W, French embassy at Rabat, Morocco.
 15890: RB179, TASS Moscow, USSR w/nx in PP at 1559, 425/50R.
 15955.7: 3BT4, Bigara Aero, Mauritius w/RURY & aero wx compiled at FIMP (St. Seewoosagoo Ramgoolam Int'l. Apt.). Was 850/50R. Xmsn goes for 10 mins.
 15963: Y7A62, MFA Berlin, GDR w/RURY at 2033, 100R.
 16004.5: VDD, Canadian mil., Debert, NS w/fozes (no ID's) at 1238, 75R.
 16012.5: HSF212BNN, Thai embassy in Bonn, FRG w/telay of diplo tlc in EE from other missions to HSF212BKK in Bangkok. Addressed to Kantangdes BKK. Was 300/50N at 1422.
 16012.7: RFVI, French Navrad, LePort, Reunion w/controle de voie at 1315, TDM-96B.
 16016.2: Un-ID sta w/visa grants & crypto after DDDDD header, 425/75N at 1234. Tfc sent to Viena (Vienna), Parij (Paris), Brskel (Brussels), Rim (Rome), Bon (Bonn), London, Bagdad (Baghdad), Lisaban (Lisbon), & Jeneva (Geneva). In this order, to 1345. An often noted phrase was "paldjete vodni vizi." Noted again at 1435. Asked another sta to run test tape (ZRY) then ZAL 14728. Tuned to 14728 & found (at 1451) a sta running RYRY, 425/50R but under such severe QRN that it was too garbled to

catch any possible ID sent. Started w/tfc at 1501. QRN ended at 1508 & then tfc seen to be crypto. Tuning back to 16016.2 found orig sta gone. Also in op at 0507 w/tfc in RR "za Damask" (for Damascus, Syria).
 16040: RTT40, APN Moscow, USSR w/nx in AA at 0503, 100R.
 16048.2: LAS, un-ID sta, w/RURY & crypto at 1408, 425/100R.
 16050: RCE54, TASS Moscow, USSR w/nx in EE at 1658, 50R.
 16085: RND71, APN, Moscow, USSR w/nx in RR at 0515, 100R.
 16102.5: TASS Moscow, USSR w/nx in EE at 1236, 425/50R.
 16106: FPQ, DIPLO Paris, France w/nx in FF at 0518, 50N.
 16117.5: 6VK317, PANA Dakar, Senegal w/nx in FF at 1239, 425/50R.
 16134: CNM71, MAP Rabat, Morocco w/nx in EE at 1241, 425/50R.
 16136: RB172, TASS Moscow, USSR w/nx in EE at 1305, 425/50R.
 16144.5: RYW77, APN Moscow, USSR w/nx in EE at 0435 & 1248, 425/100R.
 16149.5: JAE59, Jiji Tokyo, Japan w/RURY at 1328, fall by nx in EE, 425/50N.
 16195.7: Un-ID sta in ARQ at 1254 asking, "Do you want me to find out when he next in?" (Pause for several minutes, then:) "He apparently was due in this a.m. He due in tomorrow a.m." Nothing further after this.
 16197.7: TASS Moscow, USSR w/nx in EE at 1311, 425/50R.
 16208.5: CLP1, MFA Havana, Cuba w/Piensamintex nx in SS at 0447, 425/50N.
 16213: Un-ID w/5F tfc 1625-1635, 425/75N.
 16217: Un-ID sta at s/off w/OK tks 88 88 & good night SK 73 hr link down by. Was ARQ-E/96 at 1617.
 16224: 3MA35, CNA Taipei, Taiwan w/nx in EE at 1530, 850/50R.
 16243: Y7A64, MFA Berlin, GDR w/5L msg at 0430, 425/50N. Also nx in GG at 0750.
 16250: RME22, APN Moscow, USSR w/nx in EE at 0428, 100R.
 16260: 2 stas sharing this freq at 1702. One was RME57, TASS Moscow w/nx in FF, 425/50R. The other, an un-ID was idling in ARQ-E/48.
 16265: Un-ID sta in ARQ at 1632. Sig was zapped by a USN RTTY sig squatting here.
 16275: Un-ID w/5L tfc at 1625, 50R.

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16281.6: MKD, RAF Akrotiri, Cyprus w/RYI's & faxes at 0426, 170/50N.

16299.5: NNNNONIM, USN Mars, Gulfport, MS w/MARSgrams from tome to NNNNONRO, Rota, Spain, 170/75R at 2202. Moved at 2203 16290.5 in USB.

16323.4: Un-ID sta w/crypta at 2327, ARQ-E/48.
16408.7: Un-ID on standby in ARQ, 1626-1700, then off in AA.

16678: P3QZ2, Cypriot ship *Kastara* w/telex to GKP6 at 1630, ARQ.

17020: UDK2, Muzmansk R., USSR w/telegrams in RR to ships at 2211, 50N.

17021.5: WLO, Mobile R., AL w/maritime wx advisory in FEC at 2141.

17024: SAB83, Goteborg R., Sweden wkg ships in ARQ at 1547.

17030.5: GYA, RN London, England w/freq chart at 2235, 75R.

17360: TASS Moscow, USSR w/nx in AA at 1500, 50R. A new freq.

17390: 3VA74, TAP Tunis, Tunisia w/nx in FF at 1535, 50R.

17430: 9VF209, Jiji Singapore w/nx in EE at 1428, 425/50N.

17443.2: BZG48, Xinhua Beijing, PRC w/nx in FF at 1253, 425/50R.

17451.1: Un-ID w/same msg encrypted msg & sent simultaneously on both 96 baud TDM chans at 1543. Using 2 separate decoders & video monitors enabled a comparison of both channels.

17456: Y7K38, MFA Berlin, GDR interrupting its nx for a 5L msg, then went right back into the nx again. Was 50N at 1515.

17518: MFA Bonn, FRG w/tfc in GG & crypta to Brasilia, Recife & Rio. Was ARQ-E-E/96 at 1532.

17518.5: MFA Bonn, FRG w/crypta to Addis Ababa, a msg to Khartoum, & crypta to Mogadishu, ARQ-E/96 at 1233.

17570: RBX42, TASS Moscow, USSR w/RYRY & nx in FF at 1530, 50R.

18040: TCY4, AA Ankara, Turkey w/nx in Turkish at 1242, 50R.

18045.8 18046.8: MKD, RAF Akrotiri, Cyprus w/crypta or RYL's & faxes on 4 channels, 170/50N&R.

18100: Un-ID US mil w/faxes, 425/75N at 1333 & 1727. Off at 0050.

18112: CLP1, MFA Havana w/crypta after ZZZZ header to CLP25, Embacuba Maputo, Mozambique, 75N at 1352.

18144.5: STK, Khartoum Aero, Sudan w/coded wx at 2258, 50R.

18193.5: CLN603, PL Havana, Cuba w/nx in EE at 2305, 50R.

18227.5: CLP1, MFA Havana w/Priensamintex nx in SS at 1921, 850/50N.

18242: ZRO4, Pretoria Meteo, RSA w/coded wx at 1903, 425/75N.

18248.2: CLP1, MFA Havana w/tfc to Embacuba Lima at 1406, 100N.

18271.4: Un-ID w/tfc in AA 1743-1756, ARQ

18279.2: Un-ID idling in ARQ, 1559-1615, then off w/Tks for calling. Ere QRU. Su best 73 ZBL."

18281.4: Un-ID w/AA t/c, ARQ at 1813. The nx in II at 1825; into CW to 1832, then back to RTTY to continue the nxcast & s/off in CW at 1841.

18355.5: 9MY63, Malaysian Territorial Broadcast (a/k/a Kuala Lumpur Meteo) w/CQ & RYRY at 1620, 1000/50R. Was //9143 kHz (9MY58).

18363.2: VOA Munich, FRG w/RYRY to Greenville at 1433, FDM 85/75N.

18363.4: 9PL, Kinshasa Aero, Zaire, w/RYRY at 2312, 50R.

18363: HSF212BNN, Thai embassy in Bonn, FRG w/nx summary in EE re diplo events in SE Asia. Was sent to HSF212WSN, Thai embassy in Washington, DC at 1523 & was 50N.

18388.5: 5AF, Tripoli Aero, Libya w/RYRY at 2314, 50R.

18426.7: CLP1, MFA Havana w/5F t/c at 1420, 100N.

18543.5: STK, Khartoum Aero, Sudan w/RYRY at 2326, 50R.

18627.4: Possibly AFRTS running AP/UP1 nx at 1449, FDM 85/50N.

18655.3: Embacuba Algiers, Algeria w/nx in SS to CLP1 at 1358, 425/50N.

18660.2: Un-ID USN commsta w/very quick brown faxes at 1412, 850/75N.

18669.3: AFP Paris, France w/sports nx in FF at 1408, in 350/50N.

18670.5: AFP, Paris, France w/nx in EE at 1404, 350/50N.

18690: CLP1, MFA Havana w/RYRY (no ID's) 1505-1510, then 5S t/c. Odd setting of 425/40.5R-yes 40.5 bauds. Under cloak & dagger guise at 2035 w/ID as Jaguar to Samba, then t/c in 5S & crypta at 45R.

18697.5: DFS70L3, DPA Hamburg, FRG w/nx in EE at 1359, 425/50N.

18724.5: 8WA3, Indian embassy in Rangoon, Burma w/RYRY to 8WD2, MFA Delhi, India at 1436, 170/50R. Then EE & 5L t/c. 5 days later same sta on 18725.3 from 1442 to after 1800.

18756.2: NMG, USCG New Orleans, LA w/wx info for WTEP, NOAA ship *Oceanographer* at 1831, 170/75R.

18785: FTS78, Diplo Paris, France w/nx in FF at 1417, 425/50N.

18822.5: ADN Berlin, GDR w/nx in FF at 1431, 425/50N.

18823.5: ADN Berlin again, w/nx in EE at 1430, 425/50N.

18860: ZAT, ATA Tirana, Albania w/RYRY 1625-1700 then nx in EE, 350/50N.

18965.2: RFHJ, French Navrad, Papeete, Tahiti w/tfc to RFLI in Martinique at 2109, TDM-96A&B.

18990.2: Un-ID USN commsta sending very quick brown faxes at 2139, 75R.

18993.3: SOT299B, PAP Warsaw, Poland w/nx in Polish, FEC at 1443, & SPW, Warsaw R. w/msg in Polish via ARQ at 1616.

19012: OST, Oostende R., Belgium wkg 5MDH, Liberian flag bulk carrier *M/V Bethore*. ARQ at 1808.

19203: RFLI, French Navrad, Fort de France w/cntrole de vaie, running //on both channels at 1525, TDM-96A&B.

19405: Interpol in Lome, Togo w/tfc to 50P25, Interpol, Lagos. ARQ at 1642. What's the Togo collision?

19443: Y7A77, MFA Berlin, GDR w/nx in GG at 1755, 425/50R. Foll by 5L msg to Managua.

19448: TASS Moscow, USSR w/nx in EE at 1908, 425/50R.

19700: Y7A78, MFA Berlin, GDR w/sports results in GG at 1712, 425/50N. At 1720 a 5L msg to Managua.

19747.7: Dakar Meteo, Senegal w/coded wx at 1330, 850/50N.

19800.4: Un-ID sta idling in ARQ w/slow pulses, 1329-1345.

19821.5: Un-ID sta idling in ARQ, 1315-1345.

19865.5: YZJ4, Tanjug Belgrade, Yugoslavia w/RYRY, 1355-1401 then nx in SS, 425/50R.

20020: Y7A80, MFA Berlin, GDR w/RYRY & announcing calls Y7K38 Y7A77 & Y7A78, but leaving out Y7A80! Was 425/50N at 1409.

20046: Un-ID TDM-96A sta w/crypta at 1500.

20313.3: AFP Paris, France w/nx in FF at 1452, 50N.

20413.7: CLP1, MFA Havana, Cuba w/RYRY (no ID's) to Embacuba Zaire at 1527, 425/50N. Sent a 5F msg at 1532.

20429: IRS24, ANSA Roma, Italy w/cultural nx in EE at 1519, 425/50N. This freq also home to Soviet "U" beacon.

20471: CXR, Montevideo Navrad, Uruguay w/tfc in 5S to HDN at 1533, 850/75R.

20475: GYU, RN Gibraltar w/tape looped msg to MTT, a RN sta somewhere. Was 850/75R at 1442 & other times.

20560: 5AQ88, JANA Tripoli, Libya w/nx in EE at 1645, 425/50R.

20597.7: HBD33, a Swiss embassy somewhere w/5L t/c 1551-1600, ARQ.

20715.2: Un-ID w/crypta at 1613, ARQ-E/48.

20843.5: CLP1, MFA Havana w/Priensamintex nx in 5S complaining about CIA & British MI-5. Was 50N at 1617-1634.

20962: AGA011, USAF MARS Hickam AFB, HI relaying MARSgrams from AGA8CL at Clark AB, Philippines, & AGA80S, Oson AB, Sa. Korea, to AFA2XO in FL.

22443: OST, Oostende R. Belgium w/telex via its MBX (mailbox) system to A8CW, Liberian flag tanker *Energy Progress*. Signs as Osrad B. Was ARQ at 1507.

22454.5: GYC7, RN London, England w/freq chart at 1533, 75R. ID's as GYA.

22562: GKE7, Partishead R., England w/telex to GB5A, British ship *M/V Author* at 1540, ARQ.

22565: PCH75, Schevenigen R., Holland idling in ARQ w/CW ID at 1549.

22578: GKP7, Partishead, England instructing on use of its bulletin board system.

22585.5: SVU7, Athens R., Greece w/tfc in Greek, ARQ at 1613.

22590: GKY7, Partishead R., England wkg a ship at 1619 in ARQ. A new freq. Gives call in CW.

22594: GKQ7, Partishead idling in ARQ at 1626, CW ID.

FAX Loggings By The Column Editor

2122: NPM, USN Pearl Harbor, HI w/wx charts at 1034, 120/576.

7305: JMH2, Tokyo Meteo, Japan w/wx charts at 1045, 120/576.

7530: NMF, USCG Boston, MA w/wx charts of New England areas, 1730, 120/576.

9158: WLO, Mobile R., AL w/wx charts at 2100, 120/576.

14522: FUF, French Navrad, Fort de France, w/wx charts at 1200, 120/576. Weak sig finally lost in noise level.

14570: NPM, USN Luulualei, HI w/wx charts at 1323, 120/576. New freq.

14610: RCR79, Khabarovsk Meteo, USSR w/wx charts, 90/288. Excellent sig level.

14627: Un-ID sta's FAX sig noted at 2033 but went off before it could be copied. Not listed in my references.

14692: JMJ4, Tokyo Meteo, Japan w/wx charts at 1312, 120/576.

14982.5: RBV76, Tashkent Meteo, USSR w/wx charts, 60/576 at 1416. Poor copy.

16340: ZKLF, Auckland Meteo, New Zealand w/wx chart at 1049, 120/576. Poor reception considering optimum time/freq.

16410: NAM, USN Norfolk, VA w/wx charts at 1706, 120/576.

18093: LRO84, Buenos Aires Meteo, Argentine w/poor quality wx charts at 1408, 120/576.

21837: NPM, USN Pearl Harbor, HI w/wx charts at 1856, 120/576.

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800.0200	800.1200	800.2200	800.3200
800.0300	800.1300	800.2300	800.3300
800.0400	800.1400	800.2400	800.3400
800.0500	800.1500	800.2500	800.3500
800.0600	800.1600	800.2600	800.3600
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WASHINGTON PULSE

FCC ACTIONS AFFECTING COMMUNICATIONS

Rule Suspended During The Space Shuttle Landing

The Commission suspended Section 74.24 of the Rules in the area of Edwards Air Force Base, California from September 25 to October 10 for coverage of the space shuttle landing. The suspension of Section 74.24 allowed for advanced coordination of auxiliary broadcast frequency usage. To minimize harmful interference, all Part 74 users and all Part 21 and 78 licensees sharing Part 74 spectrum were covered by the scope of this action. The affected area was within 80 kilometers of Edwards Air Force Base for terrestrial stations and 150 kilometers for any mobile stations onboard aircraft. Section 74.24 allows eligible broadcasters to operate auxiliary broadcast stations on a short-term basis, not to exceed 720 hours annually, without prior Commission authorization.

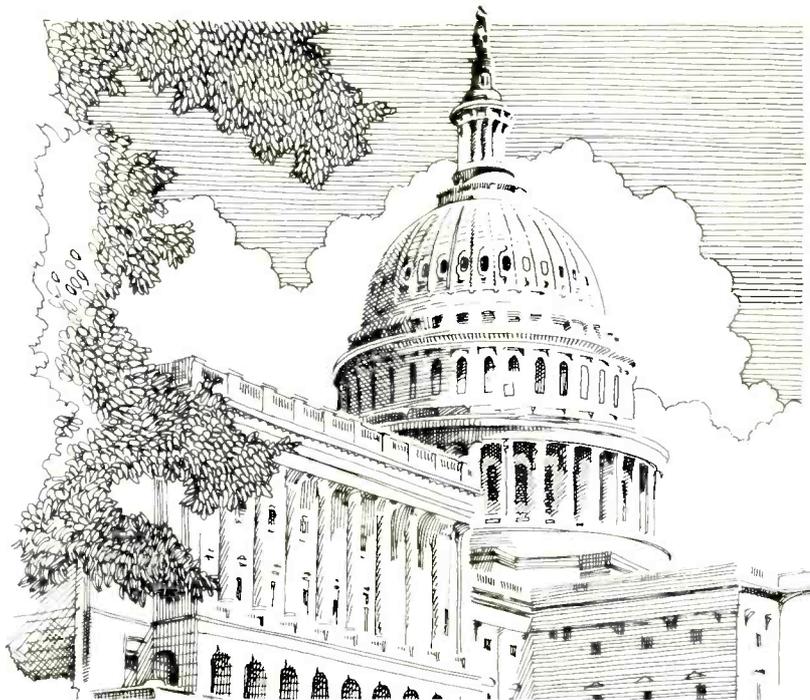
Similar action has been taken previously by the Commission to suspend Section 74.24 in New York during the events surrounding the re-dedication of the Statue of Liberty; during the 1987 visit of Pope John Paul II to the United States; during the 1987 visit of Soviet General Secretary Mikhail S. Gorbachev to the United States; during the recent National Political Conventions and during the 1988 America's Cup race. These actions were taken in view of the fact that uncoordinated use of auxiliary broadcast stations on an automatic STA basis could result in spectrum congestion and excessive interference causing less complete broadcast coverage. The Commission believes that the potential for a similar situation exists during the space shuttle landing.

The local auxiliary broadcast frequency coordinator in the specified area was designated as the auxiliary broadcast frequency coordinator during the period covered by the suspension of Section 74.24. The local frequency coordinator in Southern California is Mr. Howard Fine at KCBS in Los Angeles.

Cellular Operators Given Additional Technical And Service Freedom

The Commission significantly relaxed both technical and service restrictions in the cellular service to stimulate a new generation of cellular radio technology that should preserve today's while fostering improved service.

By this action, cellular radio carriers will have the option of introducing advanced cellular technology and of providing auxiliary mobile common carrier service in the



radio spectrum allocated for cellular service. Those operators choosing to implement advanced technology or auxiliary services will be responsible for ensuring that conventional service is available to satisfy both local and roamer conventional requirements. To avoid disruption of existing service, the FCC authorized all nonconventional operations on a secondary basis to conventional services. Therefore, when a nonconventional service interferes with a conventional service, the interference must be corrected or the service terminated.

The FCC noted that new technology may allow a substantial increase in cellular capacity, reduce the size and power requirements for portable cellular equipment, facilitate voice privacy, and enable more efficient transmission of high-speed data. It said auxiliary mobile common carrier service may allow cellular frequencies which would otherwise lie fallow to be productively used.

The FCC liberalized the technical requirements by eliminating the restrictions on cellular system emission, modulation techniques, and channeling plans. In addition, it relaxed the antenna height and power restrictions. It maintained certain key requirements such as limitations on the signal strength at the cellular service area boundaries to ensure against interference. Additionally, cellular licensees will be required to coordinate with adjacent cellular systems and to file a complete technical analysis of any potential interference before imple-

menting advanced technology or auxiliary services.

The Commission said dispatch service (i.e., communications between a dispatcher and end users not routed through the cellular switch) would not be permitted on cellular frequencies.

Finally, the FCC stated that it is premature to take action on a standard for future cellular systems at this time. However, it noted that the Telecommunications Industry Association (TIA) is in the process of developing a new standard and that it would monitor TIA's progress.

Seize Satellite Descrambling Equipment

Equipment capable of assisting individuals in the unauthorized descrambling of satellite television signals was seized from a Flushing, NY man the FCC said. The man's company, Magna Systems, was marketing the equipment which would permit unauthorized viewing of satellite TV channels without payment to the TV programmers.

The U.S. Marshal's Service, with the assistance of investigators from the FCC's New York Office, conducted search and seizure at the residence of Anthony Dobre, Flushing, NY.

The action was taken as part of the FCC's enforcement program to combat theft of satellite program services - so-called "signal piracy." Marketing unauthorized satellite

descramblers is a violation of Federal law (18 USC 2512). Maximum penalties include fines of up to \$10,000 and five years in prison.

Man Sentenced For Jamming Police Department's Channel

U.S. Magistrate Roger Curtis McKee, San Diego, California, sentenced James Earl Fike to six months incarceration and a \$5,000 fine. The sentence resulted from the jamming by Fike of a San Diego Police Department operation radio channel on February 16, 1988. On July 13, 1988, Judge McKee found Fike guilty of one count of unlicensed radio operation under Sections 301 and 501 of the Communications Act of 1934, as amended.

Judge McKee found that Fike had the knowledge and experience to cause the interference since he had been employed as the operations manager at a local radio station for 12 years.

Interference to five SDPD operations channels occurred for approximately three weeks from late January 1988 until February 16, 1988. An analysis of the interference revealed it was being intentionally generated to disrupt police communications. At times, the interference caused a loss of communications for on-going police operations. A task force of city, county, and federal agencies was formed to identify the source of the interference. On February 16, 1988, technicians of the Communications and Electrical Division of the City of San Diego pinpointed the source of the interference to be Fike's pick-up truck. On February 25, 1988, Fike was arrested at his home in Spring Valley, California. Radio transmitting and receiving devices were seized from his pick-up truck. Fike was arraigned before Judge McKee on the same date and pleaded not guilty to a one count complaint charging unlicensed radio operation.

The investigation was directed by William H. Brigsby, Engineer in Charge of the Commission's San Diego office. The case was prosecuted by Assistant United States Attorney Patrick J. Coughlin under direction of Peter K. Nunez, United States Attorney, Southern District of California.

The maximum penalty for unlicensed radio operation in a first conviction is a fine of up to \$100,000 or imprisonment of up to one year, or both.

Private Radio Bureau Continues Review Of Frequency Coordinators

The FCC's Private Radio Bureau issued letters seeking additional information from eight certified frequency coordinators as part of the Commission's continuing review of coordinator performance, pursuant to its frequency coordination procedures.

Recognizing the assistance that frequency advisory committees provide to the Commission, Congress specifically authorized the FCC to utilize the services of such

committees in the Communications Amendments Act of 1982. Consequently, the Commission adopted a new frequency coordination procedures in 1986. The Commission certified a single coordinator for each radio service and established new rules and procedures for applicants and coordinators. In addition to assisting applicants in selecting the most appropriate frequency, the coordinators were given new, broad-ranging responsibilities, including maintaining an accurate private land mobile data base, resolving post-licensing disputes, and ensuring that applications are completed accurately. The coordinators were permitted to recoup the costs associated with these responsibilities by charging for their services.

The FCC initiated an initial review of the coordinators' overall performance by requesting each coordinator to submit information detailing its frequency coordination costs, accounting procedures, fee structure, speed of service, nondiscrimination and other information concerning its frequency coordination activities. On September 19, 1988, the Bureau issued requests for additional information in response to the material provided by eight of the certified coordinators. These letters seek additional specific data on accounting methods, reasonableness of fees, speed-of-service performance, sequential processing of applications and nondiscriminatory treatment of nonmember applicants. **PC**

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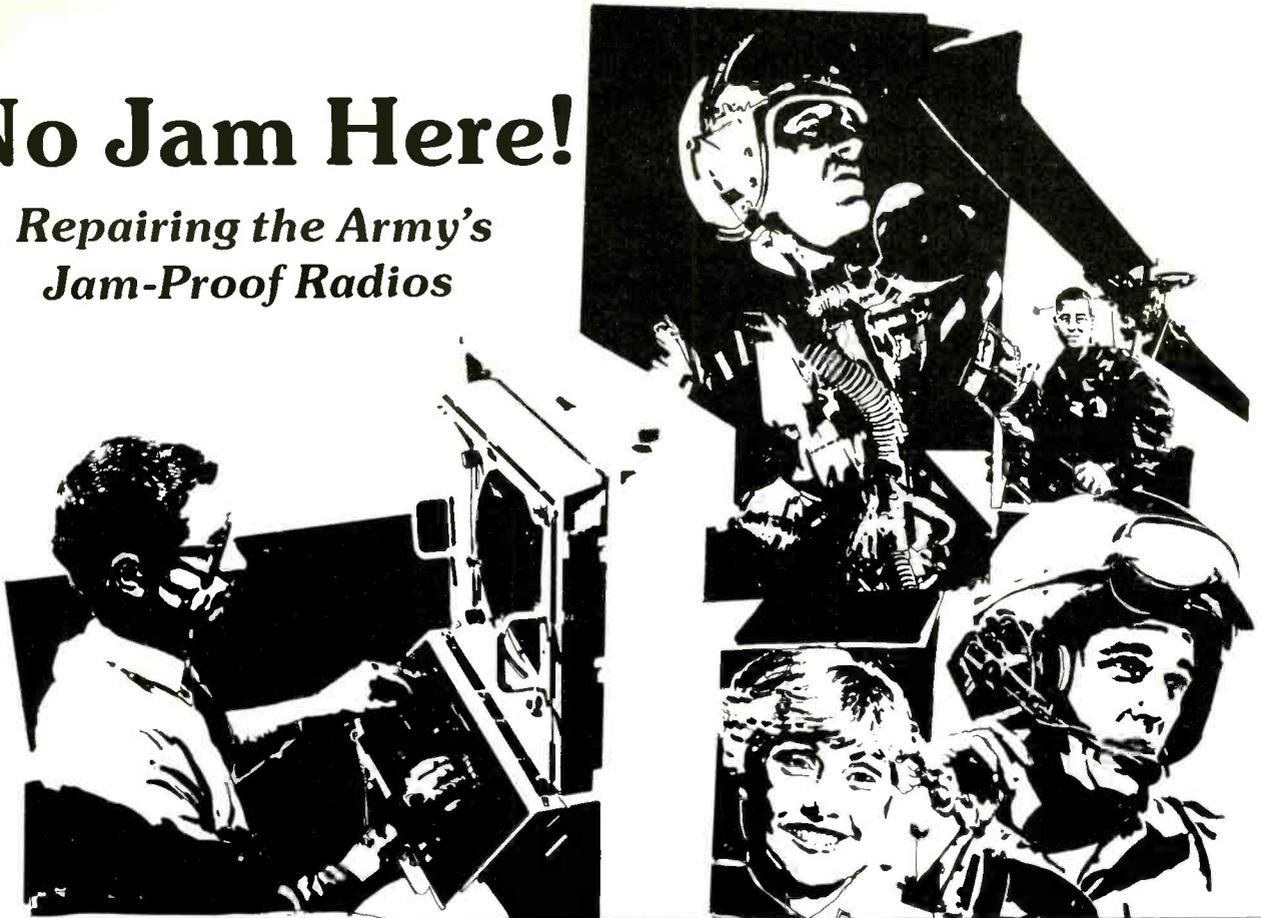
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Tobyhanna Army Depot has been designated as the Center of Technical Excellence (CTX) and prime maintenance depot for the Single Channel Ground and Airborne Radio System (SINCGARS).

SINCGARS is a family of radio sets designed to provide soldiers with jam, and detection-resistant, voice and data communications equipment, and reduce the burden on system operators.

The CTX concept was developed by the U.S. Army Depot System Command to improve the design, development, acquisition and fielding support of critically-needed weapon systems. CTX program managers are chartered by the command to assure intensive management of these systems.

"The concept allows repair depots such as Tobyhanna to get involved with Army program managers of major systems. This allows depots to get a head start on identifying, verifying and preparing the system's support requirements needed throughout the life of the program," says Herbert W. Hall, Wyoming, depot CTX program manager.

SINCGARS is designed to replace the AN/VRC-12 family of radios which was developed in the late 1950s. The new system will represent a 70 percent reduction in weight and size. It will come in manpack, vehicle-mounted, airborne and shelter con-

figurations, says Raymond Barbarevech, Duryea, depot Shop Division project coordinator.

The new system will operate on more than 2,000 channels, have a frequency-hopping capability and will be interoperable with other radios now used by the U.S. Army and NATO. SINCGARS has a whisper mode for operator-protected communications and built-in test features for isolating faults.

"A small number of prototypes have already been fielded," Hall says. "SINCGARS production radios will be fielded this summer from Red River Army Depot, Texas. As printed circuit cards and modules from the radios are returned from the field for repair, we'll initially do screening work, returning those items that need servicing to the contractor. As our repair capability increases, we'll do more work on the system at the depot. This will probably start very soon. The program will involve depot overhaul and repair facilities as well as personnel involved in special fabrications," he says.

"We'll use in-house facilities to train employees in digital, surface mount and integrated circuit technology because that is what SINCGARS incorporates," Hall says. Tobyhanna will acquire software-controlled automated test equipment for diagnosing defective modules and heated-air solder

stations used in removing and replacing surface mounted devices (microchips), he adds.

Special fabrication of items connected with the system will generate substantial work due to the amount of unique equipment and accessories that will have to be deployed, Hall says. "We've recently submitted an estimate for manufacturing unique connector-adapters," he says. "We're making 500 of them now, and just received a request from the SINCGARS project manager for another estimate to make an additional 19,500. This effort alone is worth over \$400,000."

Other possible areas of Tobyhanna involvement include manufacturing some of the alignment tooling and fabricating the vehicular installation kits. "More than 130,000 of these kits will be needed eventually," Hall says. **PC**



INSIDE THE WORLD OF SATELLITE COMMUNICATIONS

Radio Sputnik 12/13

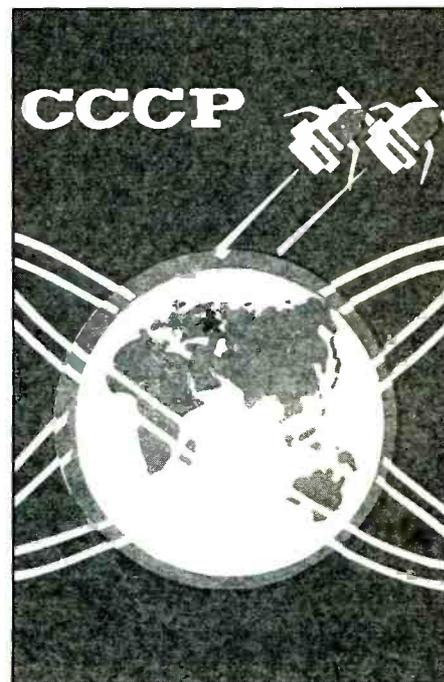
In May of 1988, I announced the Soviet's plans to launch a new Amateur Radio satellite. At that time, I promised to let you know when I had complete details about the new spacecraft. With this information in hand lets look at RS 12/13.

This satellite is almost identical to its most recent predecessor RS-10/11. RS-12/13 will be a twin transponder package carried by a host satellite. In the case of both RS-11 and 12/13 the host satellite is a polar orbiting navigational satellite.

The Soviets seem determined to maintain an active Amateur Radio Satellite service on the older and, by comparison, much lower frequency bands. Though the Soviet's choice of the 10 and 15 meter bands may seem odd, it really isn't. In the early days of the space program it was common to use the HF bands for satellite experimentation. Now, with the exception of this new class of Soviet Satellite, these days are past. There are, however, advantages to using HF bands. Using 10 and 15 meters allows a greater portion of the world-wide Amateur Radio community and SWL's to have access to space communications without the need of specialized equipment. The 10 and 15 meter bands aren't the only bands the RS 12/13 utilizes, either. The only band used by both the American and Soviet Amateur space programs is 2 meters (145 MHz). In spite of this fact, I believe that the American and Soviet programs compliment each other. Both programs serve a different portion of the communications hobby. This means that Amateur Radio communications can be conducted on the widest possible frequency spread, between 21 MHz and 2.4 GHz.

The RS satellites are a great introduction to satellite communications and can be easily heard without any special equipment on the HF band. Don't forget that the downlink will be in CW or SSB. If you are an Amateur Radio operator you may well be equipped for satellite operations through these satellites already. If you have a separate transmitter and receiver or an HF transceiver and a Shortwave receiver you're all fixed.

RS 12/13 use uplink frequencies in the 21 and 145 MHz band. Downlinks are on 29 and 145 MHz. Both RS 10/11 and 12/13 are capable of multi-mode operation. For example RS-12 can receive uplink signals on 21 and 145 MHz simultaneously and downlink them on 29 MHz. It can also take a 21 MHz uplink signal and downlink it on 29 and 145 MHz.



The Autoanswer transponders, or Robots, can take advantage of the same modes or frequency combinations as the transponders. The RS-12 robot has an uplink on

145.830 and 21.129 MHz, the downlink are on 29.454 and 145.958 MHz. RS 13 uplinks are 145.840 and 21.138 MHz, downlinks on 29.504 and 145.908 MHz.

RADIO SPUTNIK 12/13

		RS-12	RS-13
MODE A	UPLINK	145.910-145.950 MHz	145.960-146.000 MHz
	DOWNLINK	29.410-29.450	29.460-29.500
	BEACON	29.408 (or 29.454)	29.458 (or 29.504)
MODE K	UPLINK	21.210-21.250 MHz	21.260-21.300 MHz
	DOWNLINK	29.410-29.450	29.450-29.500
	BEACON	29.408 (or 29.454)	29.458 (or 29.504)
MODE T	UPLINK	21.210-21.250 MHz	21.260-21.300 MHz
	DOWNLINK	145.910-145.950	145.960-145.600
	BEACON	145.912 (or 145.958)	145.862 (or 145.908)
MODE KA	UPLINK-1	21.210-21.250 MHz	21.260-21.300 MHz
	UPLINK-2	145.910-145.950	145.960-146.000
	DOWNLINK BEACON	29.410-29.450 29.408 (or 29.454)	29.460-29.500 29.458 (or 29.504)
MODE KT	UPLINK	21.210-21.250 MHz	21.260-21.300 MHz
	DOWNLINK-1	29.410-29.450	29.460-29.500
	DOWNLINK-2	145.910-145.950	145.960-146.000
	BEACON-1	29.408 (or 29.454)	29.458 (or 29.504)
	BEACON-2	145.912 (or 145.958)	145.862 (or 145.908)

ROBOTS (Automatic Answer Transponders)

RS-12			RS-13	
MODE A	UPLINK	145.830 MHz	145.840 MHz	
	DOWNLINK	29.454	29.504	
MODE K	UPLINK	21.129 MHz	21.138 MHz	
	DOWNLINK	29.454	29.504	
MODE T	UPLINK	21.129 MHz	21.138 MHz	
	DOWNLINK	145.958	145.908	
MODE KA	UPLINK	21.129 MHz	21.138 MHz	
	UPLINK-2	145.830	145.840	
	DOWNLINK	29.454	29.504	
MODE KT	UPLINK	21.129 MHz	21.138 MHz	
	DOWNLINK	29.454	29.504	
	DOWNLINK-2	145.958	145.908	

The robots, like the transponders, can be switched between various band combinations as shown below. For example in the A, K and T modes, a single uplink and downlink band is used. In the KA mode, 2 uplinks are operational and one downlink. In KT, one uplink and 2 downlinks are utilized. This makes the satellites quite versatile.

Each successive class of Soviet Amateur Radio satellite has used higher RF output power than its predecessor. The first RS spacecraft had 1 watt RF output. RS 10/11 used 5 watts and the new RS 11/12 has an

RF output power of 8 watts per transponder. Its beacons use 450 mW and the auto-answer transponders use 1.2 watts output. Each transponder also consumes 35 watts of electrical power from the host spacecrafts power supply.

RS 12/13 is expected to have the same, or similar, orbital parameters as RS 10/11. This means it will be in a polar orbit at 1,000 km. The inclination will be 83° and the period (the time it takes to complete one orbit) is 105 minutes.

So head for the 29 MHz band to catch this

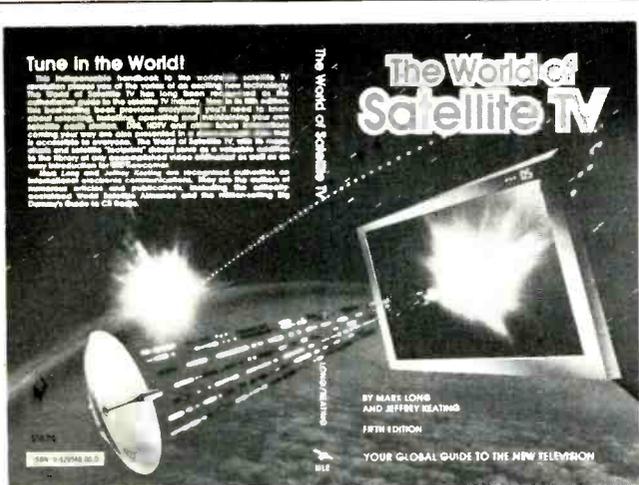
latest satellite in the Soviet's Amateur Radio space program.

STS-26

I hope last year's series of 3 articles on NASA's manned space program communications systems helped you find some interesting intercepts during the STS-26 mission (see the June, July and August 1988 issues). Prior to and during the launch, you can hear HF, VHF and UHF communications from the Cape. The HF will be from tracking ships, the VHF from observation aircraft and the UHF is direct air to ground from the shuttle. The same can be heard during a landing of the shuttle.

During STS-26, several communication tests of the new TDRS satellite and the shuttles direct downlink (more accurately air to ground) frequency, 259.0 MHz, could be heard. You will also want to keep an ear on the HF bands, MAC, and SAC frequencies during shuttle missions. It is here that you may stumble across one of several EC-135's in operation. They relay comms from both TDRS and shuttle when necessary. They were also used to keep track of the TDRS during deployment. The EC-135's also make use of FleetSatCom and TacSat satellites too.

Much of the shuttle mission was rebroadcast from both Johnson and Goddard Space Flight Centers on frequencies in the

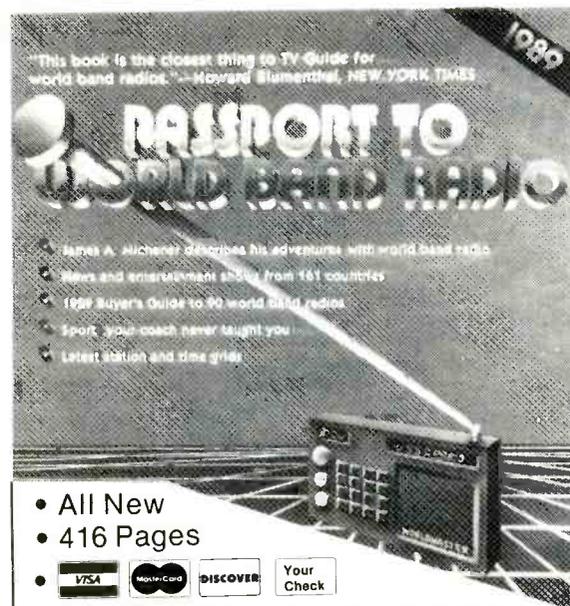


Co-authored by *former POPCOM* editors Mark Long and Jeffrey Keating, this perennial best seller places you at the vortex of the worldwide satellite TV revolution. It provides everything you need to know about selecting, installing, operating and maintaining the latest satellite TV systems and accessories. **THE WORLD OF SATELLITE TV**, with its many satellite TV program grids, wall charts, technical graphs and "footprint" maps, can serve as a valuable reference for both the casual viewer and the dedicated video enthusiast.

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Specifications

Type: Horz. & Vert.
Polarization: Twin Feed
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Front to Back Ratio:
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Side Rejection:
40-45 DB True
Back Rejection:
40 DB True
Weight: 28 Pounds
Length: 8 Feet
SWR: 1.1
Horz. to Vert. Separation:
20.25 DB
Wind Survival: 100 MPH
Power Multiplication: 40X
Audio Gain: 18 DB
Wind Load: 2.8

Specifications

Gain: Horizontal - 5.25 DB,
Vertical - 4.75 DB
Multiplication Factors:
Horizontal - 17 Times
Vertical - 15 Times
Horz. to Vert. Separation:
20 - 25 DB
Power Rating: 2000 CW,
4000 PEP
Height: 11 Feet
Weight: 10 Lbs.
Materials: Anodized
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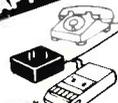
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3.860 MHz	Goddard Space Flight Center
7.185 MHz	Goddard SFC
14.280 MHz	Johnson SFC
14.295 MHz	Goddard SFC
21.370 MHz	Johnson SFC
21.395 MHz	Goddard SFC
28.600 MHz	Johnson SFC
28.645 MHz	Goddard SFC

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Location

- Ascension Island (ACN) (Atlantic Ocean)
- Bermuda (BDA) (Atlantic Ocean)
- Goldstone (GDS) (California)
- Guam (GWM) (Pacific Ocean)
- Hawaii (HAW) (Pacific Ocean)
- Merritt Island (MIL) (Florida)
- Santiago (AGO) (Chile)
- Ponce de Leon (PDL) (Florida)
- Madrid (RID) (Spain)
- Canberra (CAN) (Australia)
- Dakar (DKR) (Senegal, Africa)
- Wallops (WFF) (Virginia)
- Yarragadee (YAR) (Australia)
- Dryden (DFRF) (California)

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- S- and C-band, UHF A/G
- S-band, UHF A/G, TV
- S-band, UHF A/G
- S-band, UHF A/G, TV
- S-band, UHF A/G, TV
- S-band
- S-band
- S-band
- S-band
- S-band, UHF A/G
- C-band
- UHF A/G
- S-band, UHF A/G, C-band

The Canberra, Goldstone and Madrid stations are part of the Deep Space Network (DSN) and come under the management of NASA's Jet Propulsion Laboratory, Pasadena, Calif.

Amateur bands. It seemed that during the STS 26 mission that the transmissions were edited more closely. Most of the TDRS relays and certain othe ground station communications were excluded from rebroadcast. This may have been due to the sensitive nature of parts of this DOD mission. The only ground stations I monitored during the mission were Guam, Hawaii, and the state side control centers at Johnson and Vandenburg. I have included a list of NASA ground stations and the bands each is capable of using during a mission along with the HF rebroadcast frequencies used by Goddard and Johnson.

you continued success in your space activities, William.



TEACHER IN SPACE EDUCATION FOUNDATION

William C. Townsend
Bar Harbor, ME 04609

Letters

William Townsend of Bar Harbor, Maine sends an interesting letter. William is a regular reader of Satellite View and a fellow monitor of the Soviet space program. He's also a member of the Teacher in Space Education Foundation. William Townsend is also a member of the shuttle backup crew for the Teacher in Space program. This requires him to train each year at Johnson Space Center. During his last trip to Johnson, William trained in a NASA T-38 with Commander Hauck of the recent STS-26 mission. I am sure that Satellite View's fellow space enthusiast will join me in wishing

William reports that one of the USSR's tracing ships, the Yuri Gagarin, had been stationed just off Nova Scotia's Sable Island all last summer in order to relay communications from the Mir space complex. Thanks for another nice report William.

On a final note, Radio Moscow has announced that their space shuttle crew is already in training at Star City outside Moscow. Further they claim that their shuttle will be capable of longer flights than its American counterpart. They went on to say additional test of Energia, the launch vehicle for their shuttle were up-coming.

I would be interested in hearing about any of your shuttle or Mir intercepts, or any related items for that matter. That concludes our briefing for this go-around . . . see you next month.



PRODUCTS

REVIEW OF NEW AND INTERESTING PRODUCTS

Radio Shack Adds More Ham Training Courses

Gordon West, WB6NOA, announces two new upgrade courses soon to be added to Radio Shack's very popular West-written Novice code and theory course.



"The Radio Shack Novice code and theory course was an immediate popular success because it was available at every single Radio Shack store and the course did its job in helping newcomers to pass the test," comments Gordon West. "My thanks go out to those hams that recommended our Radio Shack course to their friends," adds West.

Shortly Radio Shack will offer a similar type training book with questions, answers, and explanations written by Gordon West, expressly for the **TECHNICIAN CLASS LICENSE**.

"Novices don't want to stop once they pass their first test—and with only a 25 multiple-choice Technician class test to go, they want Technician class study materials. My new book covers only the Technician class study materials. My new book covers only the Technician class element, and doesn't confuse the students with General class material they don't need to study for the Tech test," adds West. The suggested retail price of the new Radio Shack Technician class book is only \$3.95.

The Radio Shack General course will include another West-written book on only the General class element (Element 3B) and two audio cassette tapes to prepare for the General class 13 wpm code test.

"These two long-play tapes parallel on-the-air code copy suggestions detailed in a special code-test chapter of the General test preparation book. The tapes start at 5 wpm,

and end up with sample exams at 13 wpm. The tapes should be used with additional classroom CW practice, or CW reception with a shortwave receiver. They will dramatically increase the proficiency in increasing code speed from 5 to 13 wpm," adds West. Gordon West confirms that two single tapes played by themselves with no other CW training would be inappropriate study for preparing for the General CW test.

The new Gordon West General class code and theory course, prepared especially for Radio Shack, will retail for \$19.95. It will be available mid-summer.

"Radio Shack is very serious about their participation in amateur radio recruitment. Bob Miller, KG5AK/AE, V.P. Merchandising, just passed the Extra and knows well the fascination of amateur radio upgrading and the necessity of quality upgrade materials. Together with Leon Lutz, WB5IUW, Sr. Buyer, we have put together upgrade materials that every ham will be proud to recommend to a friend to study."

For further information, contact Gordon West Radio School, 2414 College Drive, Costa Mesa, CA 92626. (714) 549-5000.

PROCOM VHF Handheld Transceivers

Fanon Courier's Procom VHF Handheld Transceiver is now designed for recharging in a drop-in charger adaptor model DIC-1.

The DIC-1 Drop-In Charger Adaptor is used in conjunction with the CHB-7 Battery Charger supplied with each PROCOM Transceiver.

Another newly added feature is an earphone jack which allows the PROCOM user to listen with an earphone when located in a noisy environment.

The Courier PROCOM is a professional high quality transceiver with TWO WATTS of power and a range of up to three miles. It is ideal for use on construction sites, disaster sites, in factories, for emergency communications and by security personnel, indoors or outdoors.

The Courier PROCOM design specifications assures reliable performance with superior voice reproduction. PROCOM operates on business band frequencies and is available with a choice of one of the following three frequencies:

FREQUENCY A 151.625 MHz
FREQUENCY B 154.570 MHz
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Each PROCOM comes with one set of installed crystals for one of the above frequen-



cies. Also included is a rechargeable nicad battery pack, A.C. battery charger, flexible antenna and F.C.C. license application.

Courier PROCOM features include an adjustable squelch control with tone squelch ON-OFF switch, volume control with power ON-OFF switch, jacks for A.C. charger and external antenna. Courier PROCOM is housed in a sturdy, high impact, plastic textured case and weighs about 1 lb. Its dimensions are 7" H x 2 1/2" W x 1 3/4" deep. Suggested retail price \$199.95.

Optional accessories available are:

PRIVACOM-1 Plug-in DIP switch coded CTCSS tone module to exclude unwanted conversations. LIST \$84.95

DIC-1 Single drop-in charger adaptor. LIST \$29.95

CAT-12 All leather carry case with belt loop and plastic rain shield. LIST \$29.95

AUC-12 Auto cigarette lighter charger adaptor. LIST \$14.95

The Courier PROCOM is marketed through Land Mobile, Communications Equipment Specialists and Electronics Distributors. For further information, contact Murray Trotiner, Fanon-Courier.

COMMUNICATIONS FOR SURVIVAL

A Better H.T. Antenna

The little rubber antennas that are shipped with your handheld radio are generally poor performers for extended range contacts. Handheld scanners, VHF 2-way radios, ham radio handie-talkies, and any other handheld radio set that uses "rubber duckie" antennas may dramatically increase in range by switching to a better antenna system.

Single-band, 2-way, handheld radios will perform much better with a telescopic whip. Most handheld scanners will also offer a dramatic improvement on reception range by switching to the telescopic antenna. Most ham radio stores offer telescopic whips for the following popular bands:

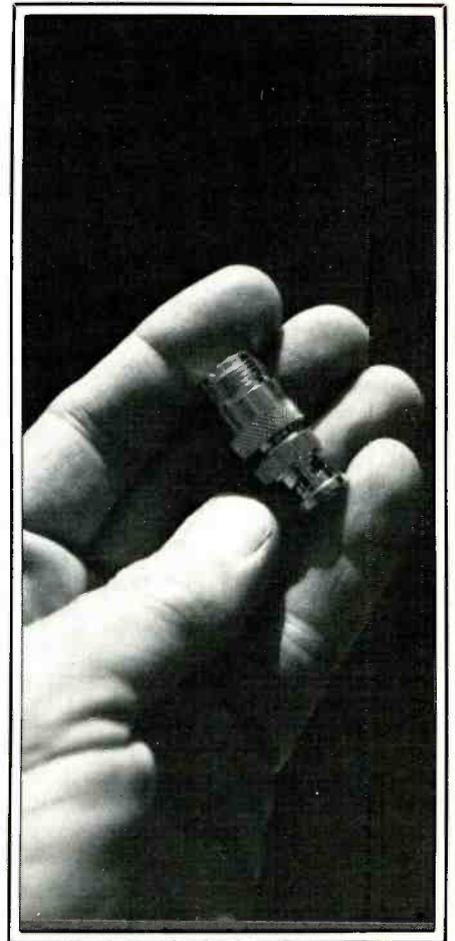
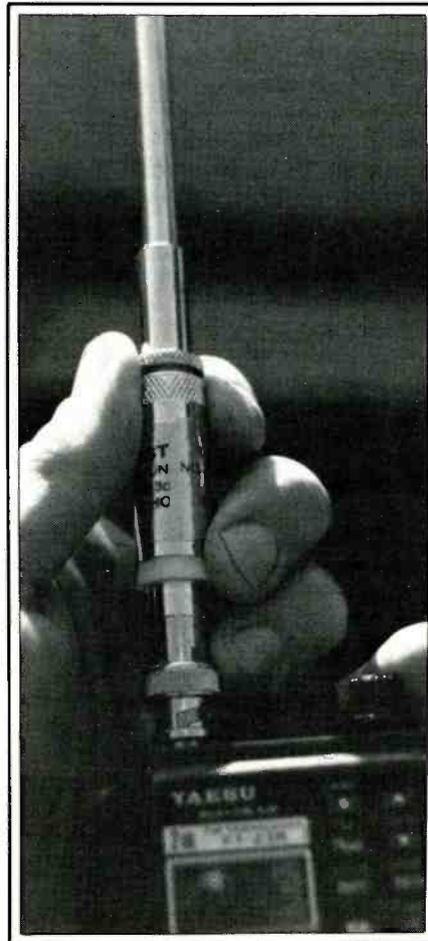
- 2-meters (140 MHz - 160 MHz)
- 220 MHz (220 MHz - 225 MHz)
- 70 cm (440 MHz - 470 MHz)

Although designed specifically for ham band use, these telescopic whips work nicely on business band and emergency band frequencies, too. Here's an example:

Lifeguards carrying VHF handhelds down at the beach were unable to communicate clearly with the local ambulance company on 155.160 MHz. They could hear the ambulance company fairly well on their H.T.'s, but the little rubber duckie antenna was not quite strong enough to get back to the ambulance dispatcher. The lifeguard switched to an AEA "Hot Rod" (Lynnwood, Washington), a popular telescopic whip interchangeable with any VHF handheld using a BNC antenna post. When the whip was fully extended to just short of a yard, excellent communications were achieved to the distant ambulance company base. For local communications, the whip was completely collapsed, and offered good range to other lifeguards up and down the beach.

The BNC antenna post is most common with VHF and UHF handhelds, as well as common with most programmable scanners. This allows you a quick change from the rubber duckie to a telescopic whip designed for the band you wish to operate on. Most telescopic whips also incorporate base-loading circuitry that keeps the antenna system in tune even though the whip may be partially or fully retracted.

The biggest problem with BNC whips is their inability to be fully collapsed *inside* the radio. An encounter with a low-hanging branch could either break off the telescopic whip, or worse yet, damage the delicate connection point to the circuit board inside the radio set. Too much flexing of the whip



may result in premature PC board failure at the antenna post. This is especially common with some ham radio 2-meter handhelds that have only a fragile connection inside the radio set. Some handhelds are easy to repair, and others are a bear. Keep this in mind when walking around with a yard-long telescopic whip fully extended.

Some commercial handheld radios feature "Motorola threads" that may allow the whip to extend inside the handheld itself. This is rarely found on ham or pocket programmable scanners. Most companies that offer sets with this type of thread will also offer, as an accessory, telescopic whips to replace the rubber duckie antenna. Switching from the rubber duck to a telescopic whip will dramatically increase range.

Telescopic whips work nicely on all-band handheld programmable scanners. I use one on my Uniden Bearcat BC200XLT.

The biggest improvement is found on low band and high band. Up on UHF and 800 MHz, the telescopic whip doesn't do much better than the provided rubber duck antenna. However, on low and high band, the reception range increase was dramatic. It didn't seem to matter whether or not I used a ham radio 2-meter or 450 MHz telescopic whip—just that extra hunk of metal, fully extended, made the difference.

Telescopic whips are available from many manufacturers, but AEA seems to offer the broadest product category. However, I also like the telescopic whips available from Ireland Antenna Company, 5101 B NW 36th Ave., Miami, Florida. Write them for a spec sheet with a self-addressed stamped envelope. (or call (305) 633-8185).

If you use your handheld set in a vehicle, an external antenna is a must. The metal

frame of your car will dramatically decrease reception range without an external antenna.

For scanners, Antenna Specialists Company (Cleveland, Ohio) offers a line of tri-band and 5-band mobile magnetic antennas. For amateur radio use, there are many types of external mobile antennas that are easy to mount and work well. Whether you choose a permanent mount, on-the-glass, or a temporary magnetic mount, an external antenna for the band you wish to operate your set on could make as much as a 15 dB gain in performance! Take *this* example:

Here in Southern California, I work through 2-meter (high band) amateur radio repeaters high atop mountains approximately 60 miles distant. My signal is only marginal, to practically unreadable, in many locations of the city using only a rubber duckie antenna atop my handheld. When I switch to an outside magnetic antenna (Metz Communications, Route 11 and 11C, Laconia, New Hampshire 03246), my unreadable signal now becomes full quieting, and the measly 3 watts of handheld power hold the repeater almost everywhere I drive.

The antenna adapter plug that converts a regular PL-259 to a BNC plug is called a UG-255. These are available from your local Radio Shack dealer. The UG-255 is a great way to convert a regular PL-259 antenna cable plug over to a BNC plug without any soldering. Unless you're an expert at soldering BNC's, don't try it—it's no fun.

I suggest you use RG-8X for a short mobile antenna run to your handheld set. While the larger RG8U, RG213, or 9913 cables have lower loss characteristics, this stiffer cable will put too much pressure on your handheld's antenna jack, and will eventually crack the circuit board connection inside your set.

BE CAREFUL OF YOUR BNC ANTENNA JACK! This is a fragile connection, and cannot take any abuse. If you detect an intermittent antenna connection, open up your set and see if you can repair the broken solder pad that connects the PCB to the antenna post.

Finally, forget about adding any type of preamplifier to extend the reception range of a handheld scanner or a handheld ham set. Your H.T. cannot accept any additional gain from any type of preamplifier. The receiver will overload, and you will hear out-of-band signals that will wipe out any or all reception on the frequency selected. You might even find that your external antenna will pull in phantom signals on frequencies not actually tuned in. This is always a big problem for handheld users in a big city with plenty of radio traffic—too many signals for your tiny receiver.

But if you are out in the open, and you need more range than what your little rubber duckie antenna will pull in, do consider switching to a telescopic whip or an external antenna for dramatically improved range.

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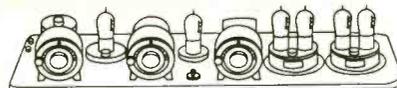
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CIRCLE 29 ON READER SERVICE CARD

LISTENING POST

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

You win some and you lose some. As you may know, the Armed Forces Radio and Television service left shortwave at the end of September. The official reason given for the departure was that renting transmitter time on Voice of America facilities had become too expensive (never mind the \$80 wrenches!) AFRTS had an extremely large shortwave audience, a good portion of which had no connection with the military.

Letters of complaint and appeals for the return of the service might do some good. Write your congressman, the respective Foreign Affairs Committee chairmen of the House and Senate, AFRTS and the Voice of America.

A couple of side notes to all this: At least one AFRTS feed remains on shortwave, over a 4 kilowatt SSB transmitter at Barford, England where there's a U.S. military base. It's been heard around 0200 on such frequencies as 5376, 9234 and 7570. Serious DX'ers who might be tempted to applaud the departure of AFRTS thinking it would leave some open frequencies for shots at needed stations are probably hoping for too much. 6030, for instance, was immediately taken up by the VOA after AFRTS left.

There's a new broadcast service on the air, operated jointly by the governments of Libya and Malta. The Voice of the Mediterranean is scheduled from 0600 to 0700 in English and 0700-0800 in Arabic on 9765 and 1400-1500 English and 1500-1600 Arabic on 11925. This is over the 250 kilowatt Cyclops transmitter also used for Voice of Germany relays and programs of Radio Mediterranean. The address is P.O. Box 143, Valetta, Malta.

The Voice of Germany now has its combined English service operating. Most of the 50 minute program runs under the title "Newsline Cologne" which features current affairs, reports, interviews, press reviews and commentaries on German and international events. English broadcasts to North America remain at 0100, 0300 and 0500.

Herald Broadcasting's WCSN (Christian Science Network) has increased the length of its Letterbox program from 9 to 14 minutes. Also, the Kaleidoscope feature has been extended to 20 minutes and has expanded its coverage. WCSN offers current frequency and schedule information by calling (617) 450-2060. They say their new half million watt transmitter in Cypress Creek, South Carolina will be on the air in 1989 beaming programs in English and Spanish to North, Central and South America.

According to the Sweden Calling DX'ers bulletin, representatives from the tiny European nation of San Marino met with Adventist World Radio in Italy and asked AWR to

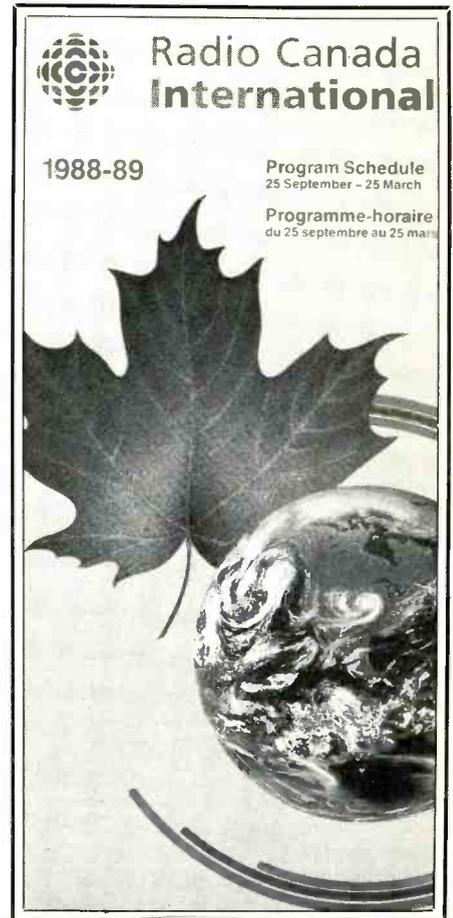
put forth a proposal for a shortwave station in San Marino. That would be a new country on the air. And a long way into the future.

Speaking of new countries, there's a committee of DX'ers now in operation which seeks to encourage that very thing, in addition to arranging shortwave activity by stations not now using the medium, extended schedules by stations not now receivable in North America and other such things. If you have any suggestions of things you'd like to see happen along these lines you can address them to the committee's chairman Mr. Richard D'Angelo, 2216 Burkey Drive, Wyomissing, PA 19160.

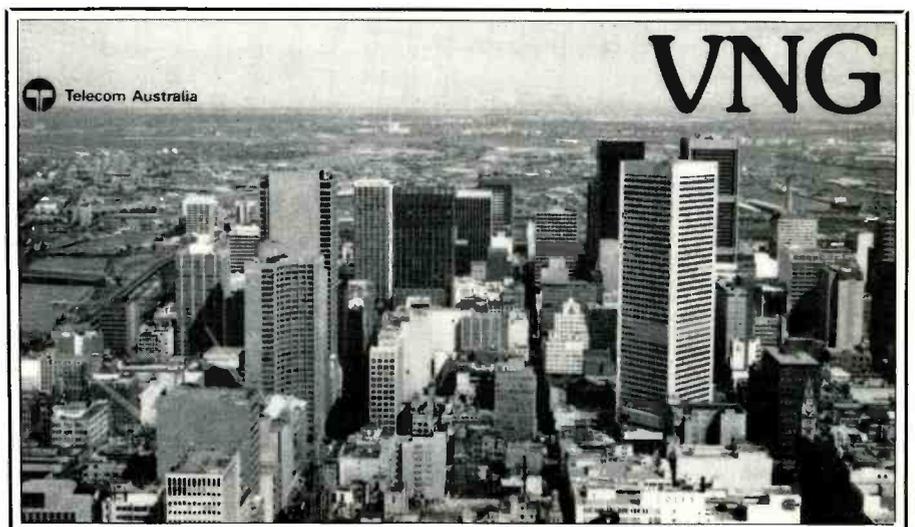
The mail brings a letter from Ken Sadahiro in Mercer Island, Washington who wonders why most of the stations are reported using the Latin languages. Ken, who is Japanese, says he's a little "sad" at seeing that language reported only in logs from Radio Japan and Radio Tanpa (NSB). He notes there are 19 other world broadcasters which offer Japanese language programming. Ken says he enjoys tuning in on languages he can't understand just to see how much he can pick out of what's being said.

Gerald Jacobs (55 Cromwell St., Providence, RI 02907) wants to make contact with Joe Bernstein of that state who was in our mailbag section back in August. We no longer have Joe's address and Gerald's interested in contacting other Rhode Island listeners. He thought he was the only SWL in the state!

QSL's from Syria and Iraq, or rather a lack of them, are a concern of John Miller in



Here's a look at the nifty cover of Radio Canada's brochure.



Australian time signals station VNG should be back on the air after a year or so of silence. Here's their nice QSL. (Thanks to Andy Johns, TX)



Some DX'ers are lucky to have what can only be called super shacks. This one belongs to J.P. Guicheney in France.

Georgia. Both of these countries have been erratic in the QSL department for several years now, John, and the only answer seems to be to keep plugging away. We just heard about one DX'er who received a reply from Syria. It would be quite an achievement in one day!

Michelle Shute in Pensacola, Florida checks in and notes that she's taking a college course called "International Broadcasting." She's just taking it to broaden her knowledge of shortwave, not as part of her major course of study.

D.J. Harrison of Toronto just returned to listening after a 40 year hiatus. Back then he used a Hallicrafters S-38 (so did we!) and remembers picking up Radio Leopoldville in the Belgian Congo back then (so do we!). D.J. is pleased with his first loggings. Let's have your reports!

Jack Linonis in West Middlesex, PA says he got a good response to his appeal for people interested in forming a local club for West Pennsylvania/East Ohio. Jack promises updates on progress.

And that'll do it. Except to note again that your reports are most welcome. Just submit them by country with some space between each listing and your last name and state abbreviation after each one. Comments, questions, shack or station photos, spare QSL's, schedules and so on are very welcome, too.

Here are the logs:

**Shortwave Broadcast Loggings
All Times Are UTC
Programs EE Except As Noted**

Alaska: KNLS, 11650 at 1800 w/American Magazine pgm. Also 1600 to Asia (Duggan, AZ).
Albania: R. Titana, 7065 at 0015 in PP (Garcia, MD); 0330 w/anthem, ID, nx (Kloth, IL).
Algeria: R. Algiers, 15215 at 1900 w/nx, mx, then nx summary 1935. ID: Radio Algiers International (Miller, GA).
Antigua: DW relay on 15410 at 0100 in GG/EE w/ID & nx (Garcia, MD).

Australia: R. Australia, 9760//11800 at 1000-1100 in JJ (Sadahira, WA); 11720 at 0720 w/IS to 0729; 17795 at 2350; 21740 at 0320 w/test xmsn to 0600 asking for reports by phone (Duggan, AZ).
VLM4, ABC Brisbane, 4920 at 1100 w/nx on the hour (Garcia, MD).
ABC Perth, 15425 at 0600 w/local football (Johns, TX).
Austria: R. Austria Int'l., 9875 at 0059 w/mx & nx in GG (Czaja, WI); 15320 at 1230 in GG, ID 1229 in EE/GG (Garcia, MD).
Bangladesh: R. Bangladesh, 15525 at 1815 w/mx & nx to 1830 s/off, tentative logging in oppo Hindi lang (Garcia, MD).
Belgium: BRT, 21810 at 1630 (Johns, TX).
Belize: R. Belize, 3285 at 0230 (Johns, TX); 0310 w/ID Radio 1, talk, U.N. Caribbean Magazine at 0330 (Johns, TX).
Botswana: R. Botswana, 7255 in Setswana at 0735 after Nigeria leaves. Presume it was a newscast (Garcia, MD).
Brazil: R. Guaba, 11785 in PP at 0005 w/slow songs, mixed with RBI (Mierzewski, PA).
R. Cultura, 17815 at 2340 in PP mentioning Sao Paulo, nx & commentary, IS (Mierzewski, PA).
R. Cultura da Para, 5045 at 0730-0900 in PP, mx, DJ w/echo effects (Sadahira, WA).
R. Baie, Manaus, 4895 at 0845 in PP w/rx pgm. OK to 0900 when La V. del Rio Atauca showed up (Garcia, MD).
R. Marajoara, Belem, 4955 in PP w/mx, commercials, ID 0815 (Garcia, MD).
R. Rio Mar, Manaus, 9695 in PP at s/on 0900, ID, time check, commercials, mx (Garcia, MD).
R. Globo, 11805 at 0030 in PP w/soccer game (Garcia, MD).
Burkina Faso: R. Burkina, 4815 at 2330 in FF w/political talks, economics nx, IS 0001, anthem 0004 (Garcia, MD).
Bulgaria: R. Sofia, 11750 at 2155, into FF 2230 (Duggan, AZ); 11950 at 2245 w/DX pgm (Willie, Alberta).
Canada: RCI, 9595 at 0830-0900 in JJ via R. Japan (Sadahira, WA); 17820 at 2140 (Neff).
Chad: R. National Tchadienne, 4904 at 0515 w/nx in FF, mx (Willie, Alberta).
Chile: R. Nacional, 15140 in SS at 2245 w/soccer from Caracas (Linonis, PA).
China: R. Beijing, 7480 in JJ at 1130-1430 w/mx, letters (Sadahira, WA); 11715 (via Mali-Ed.) w/Letter Box, IS & off 0055 (Czaja, WI); 15455 at 1330 (Neff, FL); 15600 at 0330 in CC (Mierzewski, PA).
Colombia: R. Nacional, Bogota, 15335 at 0010 in SS w/political talk (Garcia, MD).
Amonas del Caqueta, Florencia, 4915 at 1030 w/nx in SS, commercials, time checks, ID (Garcia).
La V. del Rio Atauca, Arauca, 4895 in SS w/mention of 1100 kHz & satellite xmsn, R. Sucesos & R. Cadena Nacional (Garcia, MD).
R. Bucaramanga, 4845 at 0055 in SS w/mx, time checks, commercials (Garcia, MD).
Caracal Bogota, 4755 at 0140 in SS, powerful level (Neff, FL).
Costa Rica: R. Impacto, 6150 in SS at 0200 (Sadahira, WA).

AWR/R. Lira, 9725 at 1630 w/The Quiet Hour (Miller, GA).
TIFC Faro del Caribe, 5035 at 0300 Sunday w/EE pgms (Johns, TX).
R. Reloj, 4832 at 0200 in SS (Johns, TX); at 1140 w/nx (Duggan, AZ).
R. Columbia, 4850 at 0230 in SS (Johns, TX).
Cote d'Ivoire (Ivory Coast): RTV Ivoirienne, 4940 at 0625 in FF (Garcia, MD); 6015 in FF at 0605 (Kloth, IL); 11920 at 2230 in FF (Johns, TX).
Cuba: R. Havana Cuba, 9655 at 0400 (Czaja) R. Moscow relay, 11840 at 1431 w/nx (Garcia).
Cyprus: BBC relay, 17740 at 0145 w/nx, mx (Garcia, MD).
Czechoslovakia: R. Prague, 5930 at 0125 (Garcia, MD); 11990 at 2343 in SS (Duggan, AZ).
Denmark: R. Denmark, 11765 w/s/on in Danish at 0000 (Willie, Albania).
E. Germany: R. BI, 9730 at 0000-0030 to NA (Linonis, PA); 0140 w/nx (Czaja, WI).
Ecuador: HCJB, 9610 at 0655 w/tx drama (Kloth, IL); 9870 w/nx 0035 (Czaja, WI).
Egypt: R. Cairo, 9475 at 0215 w/mx, nx (Rabinowitz, MI); 11980 at 0350 in AA (Willie, Alberta).
England: BBC (via Antigua-Ed.), 9510 at 0400 (Czaja, WI); 9825 at 0635 w/English by Radio (Kloth, IL); 12095 at 1450 w/soccer; 15070//21710 at 1455 w/house race (Garcia, MD); 15260 (via Canada) at 1735 w/classical mx (Kloth, IL).
Equatorial Guinea: R. Nacional, Bata, 9553 s/on 1700 in SS w/anthem, tx pgms (Garcia, MD).
R. Nacional, Malabo, 6250 at 0457 w/anthem, s/on in SS, mx (Garcia, MD).
France: RFI, 9790 at 0645 in FF (Kloth, IL); 9790//9800 at 0325, also 11995 at 2355 in SS (Duggan, AZ). Some may be via French Guiana relay, it's hard to be certain--Ed.
French Guiana: RFI relay, 15200 at 2345 in SS w/talks (Garcia, MD).
Finland: R. Finland Int'l., 15400 w/IS 1259, s/on 1300 (Garcia, MD); 1400 IS, ID in EE & Finnish (Linonis, PA).
Ghana: GBC-1, 4915 at 0540 w/drums, mx, YL onca (Willie, Alberta); to 0615 when switch to vernaculars (Garcia, MD).
Greece: V. of Greece, 7430 at 0310 w/Greek mx; also 9905 at 0505, both in Greek (Duggan, AZ).
Guam: AWR Asia, 11980 at 1300 w/EE ID & into Korean (Johns, TX); 1500 w/ID, freq (Miller) KTWR/Tians World R., 9785 in JJ 1200-1300 w/rx pgms from Tokyo (Sadahira, WA); 9820 at 1630 w/ID, pgm review. Anncr's handle is Larry (Miller, GA).
Guatemala: R. Maya de Borillos, 3325 in SS at 0230 (Johns, TX).
TGNA/R. Cultural, 3300 at 0300 on a Sunday in EE (Johns, TX).
La V. de Nahuala, 3360 in SS at 0230 (Johns, TX); at 1150 w/CW QRM (Duggan, AZ).
R. Tezuitlan, 3370 at 0230 in SS (Johns, TX); at 1115 (Duggan, AZ).
Honduras: La V. de Mosquitia, 4910 in EE at 0200 on a Sunday (Johns, TX).
R. Lux, 4890 at 0230 in SS (Johns, TX).
R. Luz y Vida, 3250 at 0300 w/EE on a Sunday (Johns, TX).
HRVC/La V. Evangelica, 4820 at 0200 in SS (Johns, TX); at 1135 (Garcia, MD).
Hong Kong: BBC relay, 7180 at 1100-1145 in JJ w/nx, Science Journal pgm (Sadahira, WA).
Hungary: R. Budapest, 11910 at 2335 to NA (Linonis, PA).
India: AIR, 11620 at 2025 & 2200 (Miller, GA).

Abbreviations Used in Listening Post

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

Indonesia: RRI, 11865 in Dutch & Indonesian at 1245 w/ID 1300 (Duggan, AZ); 15150 in AA to 1555 close (Garcia, MD); 11865 at 1321 (Shute, FL). The 11865 is new 250 kW xmti - Ed.

Iraq: R. Baghdad, 11775 at 0000 to NA (Willie, Alberta).

Israel: V. of Israel, 9435 at 0010 (Duggan, AZ).

Italy: RAI, 9575 at 0119 in FF (Czaja, WI); 11800 at 0106 w/nx, mx (Rabinowitz, MI); 11905 at 0355 in II (Willie, Alberta).

Japan: R. Japan, 5960 w/nx at 0100 (Czaja, WI) via Canada - Ed., 17825/21610 in JJ at 0200 (Garcia, MD).

NSB/R. Tampa, 3955//6055//9595 in JJ at 0700-1400 w/variety show, stock reports, nx, etc. (Sadahiro, WA).

Jordan: R. Jordan, 9560 at 1510 w/commentary & USA pops (Willie, Alberta).

Kiribati: R. Kiribati, 14802 (USB) at 0555 s/on w/mx, ID in Kiribatese, then EE ID under RTTY QRM. Usually improves by 0630 (Shute, FL).

Kuwait: R. Kuwait, 11665 at 2100 w/listeners' pgm (Willie, Alberta).

Lebanon: King of Hope, 6215 at 0522 w/station ID by YL (Willie, Alberta).

Liberia: ELWA, 4760 s/on at 0600 w/ix pgm (Garcia, MD); 11830 at 0730 w/ix pgm (Kloth, IL).

Libya: V. of the Greater Homeland, 15450 at 0115 in AA w/nx (Garcia, MD).

Luxembourg: R. Luxembourg, 16350 at 1935 in FF w/pops, commercials (Garcia, MD).

Malaysia: R. Malaysia, 15295 at 1530 in AA w/IS, ID. mx, possible nx (Garcia, MD).

Malta: R. Mediterranean, 6110 at 2310 w/pops, YL annci, off w/interim 2329 (Garcia, MD).

Monaco: TWR, 7105 at 0715 w/The White Tower pgm (Garcia, MD).

Montserrat: DW relay, 15425 in SS at 0400-0500 closing (Garcia, MD).

Namibia: Southwest African BC Corp., 4965 at 0715 w/Program 2 (pops) in EE & Afrikaans (Garcia, MD).

Netherlands: R. Netherlands: 6020 at 0230 (Czaja, WI).

Netherlands Antilles: R. Netherlands relay, 6165 at 0550; 9630//9715 at 0630 (Kloth, IL).

TWR, 15345 at 1230 w/ID, nx, Way To Life (Neff, FL).

New Zealand: R. New Zealand, 15150 at 0442 w/story reading, mx interlude, time check, ID (Mierzwinski, PA).

Nicaragua: V. of Nicaragua, 6100 at 0530-0600 w/NewsStream. QRM from YVTO (Sadahiro, WA); 1038 in SS (Garcia, MD).

Nigeria: V. of Nigeria, 7255 at 0549 w/national nx, mx, time check, into FF 0600 (Kloth, IL).

R. Nigeria, Kaduna, 4770 w/Channel 2 pgm at 0530, some commercials, mx (Garcia, MD).

N. Korea: R. Pyongyang, 6540 in JJ at 0900-1445 w/talks (Sadahiro, WA); 9555 at 1320 (Willie, Alberta).

Northern Marianas: KYOI Saipan, 11700 at 1200 w/commercials (Johns, TX).

Norway: R. Norway Int'l., 9590 at 0600 in NN (Sadahiro, WA); 11770 at 0445 w/ID, off 0447 (Duggan, AZ); 15180 at 2300 w/Norway Today (Linonis, PA).

Peru: R. Union, 6115 in SS at 0625 (Kloth, IL); 0700 w/mx, time, ID (Garcia, MD).

R. Andahuaylas, 4840 at 1032 in Quechua to 1035 switch to SS w/ID & Radar 87 pgm, then back into Quechua at 1050 (Garcia, MD).

R. San Martin, Tarapoto, 4810 at 0048 in SS w/mx, commercials, time checks, ID's farming tips (Garcia, MD).

R. Tacna, 9485 at 0030 w/OM annci in SS (Duggan, AZ).

Poland: R. Polonia, 7270 at 2335 w/DX pgm, nx headlines (Miller, GA); 15190 at 2100 in Polish (Linonis, PA).

Romania: R. Bucharest, 9570 at 0220 w/nx, comment, mx (Willie, Alberta).

Saudi Arabia: BSKSA, 15435 at 2230-2300 in AA w/ix svcs (Linonis, PA).

Seychelles: FEBC, 11860 at 1730 w/IS & s/on (Willie, Alberta).

Solomon Islands: SIBC, 5020 at 0830 w/island mx, local affairs; also 9545 at 0750 w/island mx in EE & Pidgin, maritime info (Garcia, MD).

S. Africa, Rep. of: R. RSA, 9580 at 0200 w/nx (Czaja, WI); 11775 at 0315; 11910 at 11520 (Duggan, AZ).

Radio 5, 4880//7160 at 0444 (Willie, Alberta).

S. Korea: R. Korea, 15575 at 2200 to NA (Linonis, PA); 2305 & 0327 (Garcia, MD).

Spain: Spanish Foreign R., 9360 at 0002 w/ID in SS; 11945 at 2300 in SS (Duggan, AZ); 9630 at 0545 w/lang lessons (Czaja, WI).

Sri Lanka: SLBC, 11835 at 1058 w/EZ listening elevator music, ID & Hour of Decision (Shute, FL).

Surinam: R. Surinam Int'l. (via RadioBros, Brazil), 17835 at 1730, nx, QRM from REE (Garcia, MD).

Sweden: R. Sweden, 11705 at 0200 in Swedish (Duggan, AZ).

Syria: R. Damascus, 15095 at 2038 w/local mx, nx, commentaries, antem 2206 & off (Rabinowitz, MI).

Tahiti: R. Tahiti, 15170 at 0305 in FF & Tahitian w/talks & island mx (Mierzwinski, PA), at 0325 (Garcia, MD).

Taiwan: VOFC (via WYFR), 5985 at 0230 w/nx (Czaja, WI); 7130//11745 in JJ 1100-1200, also 11745 at 2100-2200 (Sadahiro, WI).

Togo: RTT, 5047 at 0527 w/IS, marches, FF pgm (Micklus, VT).

Tunisia: RTT, 7475 at 0325 in AA (Willie, Alb.).

Turkey: V. of Turkey, 9445 at 0300 s/on w/nx & commentary (Willie, Alberta).

Uganda: R. Uganda, 5027 at 0556 s/on w/nx (Garcia, MD). Normal s/on around 0300 - Ed.

United Arab Emirates: V. of UAE, Abu Dhabi, 15230 at 2345, AA ID, mx to 0000 (Garcia, MD).

UAE Radio, Dubai, 15435 at 1632 w/nx, ID, AA mx (Neff, FL).

Ukrainian SSR: R. Kiev, 9710 at 2330 w/Ukraine Today pgm (Linonis, PA).

U S A: WYFR, 17615 at 1803 in SS; also 21525 at 2245 ending African svc (Duggan, AZ).

KUSW, 15225 at 1755 w/ID & rock (Neff, FL).

WINB, 15145 at 0115 w/argan mx, ID (Neff, FL).

KGEI, 15280 at 2200 in SS (Duggan, AZ).

R. Marti (via VOA), 959C in SS at 1330 (Garcia, AZ); 9455 at 0020; 17800 at 2340 (Duggan, AZ); 15410 at 1730 (Neff, FL).

WRNO, 11965 at 1522 w/ix pgm (Rabinowitz)

WCSN, 11690 at 0630 w/nx (Duggan, AZ).

WHRI, 7355 at 0400; 7400 at 0430 to Europe; 9495 at 0027 (Duggan, AZ).

U S S R: R. Moscow world svc, 9765 w/Focus on Asia at 0624; 15135 at 1730 w/classical mx (Kloth, IL); 1600 nx (Czaja, WI); 15460 at 1320 w/Inside Report (Neff, FL).

R. Peace & Progress, 17645 at 1400 w/nx, commentary, ID's (Miller, GA).

Vatican City: Vatican R., 9615 at 2219 w/nx & IS (Miller, GA).

Venezuela: R. Nacional, 9500 at 0200 in SS w/political talks (Garcia, MD).

R. Maturin, 5040 in SS at 1205, tentative (Duggan, AZ).

Vietnam: V. of Vietnam, 9840 at 1015; 12020 at 1028 (Micklus, VT); 15010 at 1330 (Johns, TX); 2130-2215 in JJ (Sadahiro, WA).

W. Germany: V. of Germany, 5995 at 0127 (Czaja, WI).

Zaire: R. Bukavu, 4939 at 0600 in FF w/African mx (Garcia, MD).

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Be sure to send us your own SWBC loggings!



PIRATES DEN

FOCUS ON FREE RADIO BROADCASTING

As I write this month's column, **RNI—Radio Sarah** had concluded a four-day appearance on the airwaves from its ship, the Sarah. According to press reports sent by several readers, the ship had passed a Coast Guard inspection, and the owners were trying to make sure all the legal loose ends were tied up. No longer in Boston Harbor, the Sarah was anchored 4½ miles south of Long Island, NY and operated on 1620 kHz until it was forced off the air by the U.S. Government. It's all in the courts now so we'll see what happens. Although there is a shortwave transmitter, it wasn't used this past time. The ship was operating under a license issued by the principality of Sealand. Send reception reports to: RNI, P.O. Box 1659, Gracie Station, NY 10028.

There's no doubt about it. If there were an award for the most active operating streak for a pirate station, **Radio Clandestine** would certainly win it because they've been very busy recently. Steven J. Rogovitch of Virginia logged them in seven separate transmissions over two evenings! Frequencies were 7414, 7415, 7420 and 7424. The usual host, R.F. Burns, was on hand with a variety of music and satire pieces.

Mike Decerbo in Connecticut adds that he recognized music from *Star Trek Four* and one of the network news programs. Terry O'Laughlin in Wisconsin noted (as do others) some apparent technical difficulties at times and some two-way conversations taking place in between broadcasts, using lower sideband or AM modes. Terry thinks that, on the occasion he monitored, the station may have blown out its modulator. Tim Tromp in Michigan heard the station several times, too, claiming to be "live and in stereo". So did William T. Hassig in Illinois. Apparently the station no longer mentions QSL's or announces any sort of mailing address. They used the P.O. Box 982, Battle Creek, MI 49016 mail drop in the past and were always good about answering reports. Whether they're in between and arranging a new mail drop or have decided to no longer reply I don't know. Perhaps Mr. Burns, if he's reading this, can give us an answer.

Several who reported **Radio Clandestine** also found **Radio Garbanzo**, which seems to appear on Clandestine's frequency right after Clandestine goes off. **Radio Garbanzo** runs rock music and calls their selections music "the FM stations used to play", according to Tim Tromp's reports. The two announcers also included humorous skits in the program. Hassig found them on 7417. He and Terry O'Laughlin both remark on poor audio quality. Terry noted them using a barking dog sound effect just



RADIO CLANDESTINE

DEAR SHORTWAVE LISTENER:

Thank you very much for your recent reception report which I am pleased to verify as accurate.

We here at RADIO CLANDESTINE are always happy to hear from our listeners. I am sincerely interested in your comments and suggestions.

I am truly sorry I am unable to answer your letter personally. This is due to the tremendous amount of mail we are receiving. However, be assured that I do read ALL my mail personally.

I hereby confirm our transmission dated MAY 12 '84 at 1430 hours GMT on 9590 Kcs. For security reasons, no other information can be given.

Thank you again for your interest in our station and I hope to hear from you again soon.

73 for now.

R. F. Burns
R. F. BURNS.

Radio Clandestine appears to have stopped giving QSL information over the air. Have they stopped QSLing, too? This QSL dates back to 1984.

before sign off. The broadcast reported by Terry began at 0400 and ran to 0450. Tim says they gave no address but that the Hilo, Hawaii mail drop has been used in the past. Zachary Bartolot in Connecticut recently got a QSL from the station with an accompanying note from the program director Fearless Fred noting that correct reports are "verified 100%" if sufficient postage is enclosed. Maybe everyone is just supposed to know, of their own accord, where to send reports.

Tim Tromp also heard **World Mission Radio** on 6215 at 0500 in English and German with Christian programming. The answer to your question, Tim, is—yes, **WMR** was being aired over **Radio Caroline's** shipboard transmitter in the North Sea. I've read that a few listeners are now getting QSL's from WMR for reports to Box 346, Corona, CA 91719 though apparently letters are then forwarded to an office in Europe. Radio Caroline, which owns the transmitter used by WMR, has still not answered any reports, at least not that I'm aware of.

Tim also reports a logging of a new station, **WFIX**—Fix-It Radio ("Where we fix your radio over the air"). This was from 2204



on 7445 with a move to 7415 at 2245. Claimed to be broadcasting from Northern Pennsylvania on the international waters of Lake Erie (it can't be both Pennsylvania and international waters at the same time!). Tim gives the station's signal a 43444 SINPO report. The station announced a return at 8 pm EST on 2 MHz but they weren't heard. Format was rock music and a parody on log homes.

Keep checking around 15039. A few months ago there were some appearances here of the **Voice of Tomorrow**. This station is one of the few politically-oriented pirates. It takes a strong National Socialist (Nazi) line and the general consensus seems to be that those behind this station aren't in this for fun. The scary impression is that they are deadly serious. Most loggings of this one have been around 1500 on Sunday mornings. It's believed the transmitter may be somewhere in the Washington, DC or Virginia area. Let me know if you log this one. A particularly detailed report would be appreciated.

15039 aside, the last year or two has seen pirate activity move fairly much out of the 7300 to 7400 range and into the 7400 to 7500 area, perhaps due to the growing number of regular broadcasters occupying the former segment. Anyway, 7400 to 7500 seems to be the most likely hunting grounds for pirate activity these days and, as always, weekends and holidays are the prime times for broadcasts to take place.

Alright. Don't forget to mail in your pirate station loggings, station news, information from station operators on facilities, formats, future plans and such, QSL copies and so on. Whether it's on shortwave, AM, FM or even TV this column is interested. Help out by contributing your information regularly.

27 MHz COMMUNICATIONS ACTIVITIES

You may be familiar with Whistler's participation in the radar detector market, but unfamiliar with the company's thusfar relatively quiet activities in the area of CB communications. We, too, were surprised to learn that Whistler produces two CB rigs that you may not know about. They're the Whistler 700 and 900.

The Whistler 700, which tags out at about \$180, is a good looking mobile rig with the standard features found on better grade units. This includes built-in SWR/RF read-out by multicolored LED's, separate switchable ANL and NB, instant Channel 9 selection, adjustable mike and RF gain controls, and a heavy duty mike on a long cord. Pretty good looking, to boot.

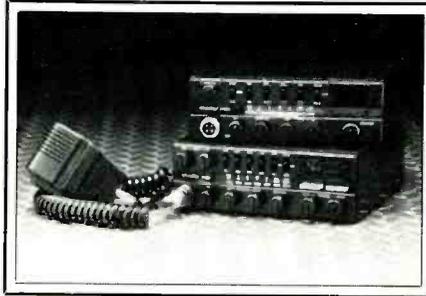
At about \$230 (list price), the Whistler 900 is certainly the more unusual of the two Whistler entries. The 900 has the unique ability to simultaneously monitor two channels, you select which two you want. Each of the two channels has its own separate squelch control and channel selector switch! Instant select transmit buttons allow the user to quickly switch the transmitting option from one channel to another.

This feature has lots of applications. You could monitor Channel 9 and 19, or your base channel and Channel 19 as you drive. You could operate cross-channel for extra privacy. If you're in a caravan you could monitor Channel 19 while gabbing with the other vehicles on some quiet channel. Has lots of possibilities and we really like the concept.

For more information on these rigs, contact Whistler, 5 Liberty Way, Westford, MA 01996. Don't forget to tell them where you read about their two transceivers.

Although we can't read Portuguese too well, the column got what looks to be some kindly words about our efforts in these pages. They came from Lauro Alves Lima, Brazilian CB'er PX6A0523 (and ham PY6LA), Caixa Postal 8202, 41821 Salvador BA, Brazil. Lauro might like to get some cards from American and Canadian operators.

And speaking of languages other than English, a letter from John H. Miller, Selersville, PA complains that REACT communications on Channel 9 are often interrupted by Spanish-speaking American stations shooting skip and conducting other non-essential comms. John's a member of REACT, as well as other emergency groups, and says he wishes that these stations would take their non-emergency communications to any other channels, or at least learn English well enough to know to vacate the channel when asked to do so by stations using the channel for its designated purpose.



Whistler's 700 on the top, and 900 on the bottom. The Whistler 900 has a unique dual-channel monitoring design that we found clever and useful.

While we're in an international mood, we were sent a photo of Irish CB'er Jim Hall that was taken while Jim was visiting the United States. Jim is the president of Ireland's Lima Victor Club and is shown in the photo with Lenny Buonaiuto, LV-2001, of Islip Terrace, NY. Lenny has also visited Ireland and met many members of this club.

Getting closer to home, DeWayne and Trish Sumlak, Medicine Hat, Alberta belong to the Alberta Rose Country Sideband Club and also the Gas City Radio Club. They ask if anybody knows the story behind the skip station they often hear coming through on Channel 6. They suspect that it might be in Georgia, and really comes into Alberta like a ton of bricks. They say the operator sounds like he is running some sort of commercial radio facility. He speaks, pauses, speaks again, but never actually converses with anyone but himself. Anybody else hear this, or know what it is?

They cast their votes, along with us, against echo boxes. In fact, they ask that we also mention that roger beep mikes "can be annoying."

The two local clubs to which DeWayne and Trish belong, hope to (again) hold *Take A Break* events for travelers on May 22 (Canada's Victoria Day) and also on September 4 (Labour Day). They gave out free doughnuts, coffee, and orange drink for drivers on the Trans Canada Highway, just north of Medicine Hat.

Several readers in the area of Fort Lauderdale, FL wrote this column to let us know that four local police officers were fired for exchanging CB communications with one another while on duty. Apparently, the officers were using their own personal CB equipment, which they regularly brought with them while driving around in patrol cars. They would talk to one another and to



Ireland's Jim Hall (standing) compares CB notes with American CB'er Lenny Buonaiuto (seated) during a visit to Lenny's shack.



DeWayne Sumlak, of Medicine Hat, Alberta sharing time with Zoomie, the cat, on the Cobra 139XLR.

some of the local CB'ers who hung out on Channel 1. The problems arose when police department brass monitored CB Channel 1 and claim to have heard the officers talking about goofing off during their shift, making racial slurs, and using derogatory terminology to describe a (female) sergeant.

The Fraternal Order of Police was appealing the four firings on the ground that the officers were engaged in private communications, that they didn't actually violate any departmental regulations, nor compromise

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88s

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XM6913001

Our QSL of the month for the February comes from Ron Cann, SSB Network member SSB-552C of Richmond, P.E.I., also known as Cobra Base on AM.

the safety of the citizens or other officers.

Maurice Cole, SSB Network member SSB-78C, of Cle Elum, WA tells us that he's always wondered why CB channels are spaced at 10 kHz intervals, but there are strange 20 kHz gaps between a few of the channels, like something is missing. There have never been Class D CB channels in the 20 kHz gaps between Channels 3 and 4, 7 and 8, 11 and 12, 15 and 16, or 19 and 20. When CB was first established in the late 1950's, these channels were set aside for radio control purposes (Class C CB) with the idea that they would be used for model aircraft control. Of course, over the years, these so-called "10 down" channels have been liberally used for unauthorized voice communications and are sometimes called Channels 3A, 7A, 11A, 15A, and 19A by



The Old Bridge PACERS, Inc. (REACT Team #4601), of Laurence Harbor, NJ has handled more than 25,000 emergency calls on Channel 9. The group has been operating since 1976, became a member of REACT in 1984.

those seeking their own private CB frequencies. Still, they remain authorized only for non-voice control tone transmissions.

There used to be a CB tall tale circulating about a famous old boy in West Texas who had staked out "Channel 15A" as his own personal stomping grounds. He'd be on the channel for hours every day ratchetjawing with dozens of friends who would check in there to talk to him. So the story goes, the FCC had sent him several warning letters to say that he was operating on a frequency to be used for the control of aircraft. He ignored all such letters, but one day the FCC walked in on him right in the midst of one of his lengthy contacts on 15A. As they came through the door, he didn't miss a beat, yelling into the mike, "Beep-beep! Turn that goldurn aer-ee-o-plane to the right, the right—can't you hear me? I said, turn right—beep-beep-beep, dammit!"

J.R. Bradley, Broken Arrow, OK asks some basic questions, such as the upper/lower frequency limits of the authorized band, and the communication modes authorized. J.R. would also like to know the frequency range of the older (pre-1977) 23-channel rigs, and if it's still legal to use them on the air (it isn't). The channels run between 26.965 and 27.405 MHz, with AM and SSB modes authorized. The old 23-channel band went from 26.965 to 27.255 MHz, also for AM and SSB modes. The majority of SSB operators use LSB mode, and

conduct the bulk of their operations on Channel 16 and above Channel 30 or 32; AM-mode operators generally avoid operating on the channels used by SSB operators.

Jim, SSB-9, of SSB Network HQ's passes along a helpful rule-of-thumb. He reminds us that TV interference (TVI) is most often the result of the front end of the TV set overloading, which is the responsibility of the TV set's owner to solve. CB TVI can also be caused by harmonics coming from the CB rig. Although modern stock CB's shouldn't generate harmonics, when they do occur, it's the responsibility of the CB'er to get rid of the harmonics.

A good basic way to determine whether a given case of TVI is front end overload, or caused by harmonics, is to tune through the TV channels while the interference is being noticed. If the interference is on all TV channels, then it's because the TV receiver's front end is overloading. If the TVI is only on certain channels, especially TV Channels 2 and 5, then the CB rig is the culprit that requires attention.

It's not the responsibility of the CB'er to pay for high pass filters or any other TVI cures made to TV sets owned by neighbors. Of course, if the guy is 6 ft. 5 in., and threatening to punch out your lights, you may want to soften your position in regard to this.

Your QSL's and photos are invited here at CB Scene.

PC

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SCANNER SCENE

BY CHUCK GYSI, N2DUP

MONITORING THE 30 TO 900 MHz "ACTION" BANDS

For those of us in the colder climes, it's time to defrost our antennas and shake the snow out of the Scanner Scene mailbox.

An anonymous reader from Missouri checks in to say that the St. Louis Police department, Emergency Medical Services and disaster operations are in the process of testing a new 800 MHz trunked radio system for communications. The system consists of 20 repeater channels with 70-watt repeaters. Half the channels will be set up at the main site with half as backup at a secondary site. A total of three satellite receiver sites will be included in a voting system that will give the system 100 receivers for full coverage. The mobile units will be 15 watts and one repeater channel will revert from trunked status to conventional repeater status in case of a failure at the central controller. The mobile units have emergency message encoders, unique ID's for each user, automatic call-back if a channel is busy and out-of-range indicators. Handheld radios will have 3 watts output power. The new system will allow telephone interconnect for phone calls by mobile units. Mobile units also will have a status encoder. For those of you in the St. Louis area who would like to try monitoring the new system while it is being installed, try the following frequencies: 856.4375, 857.4375, 858.4375, 859.4375, 860.4375; 856.4625, 857.4625, 858.4625, 859.4625, 860.4625; 856.4875, 857.4875, 858.4875, 859.4875, 860.4875; 856.7125, 857.7125, 858.7125, 859.7125 and 860.7125 MHz.

Tony Wilczynski of Philadelphia, Pa., reports that the Philadelphia Fire Department is in the process of changing from voice to data information directly to the firehouses and coded information from the fire equipment back to the fire communications center. Apparently there will be little voice transmissions with this new system, which will operate at 4800 baud. The Philadelphia Fire Department uses the following frequencies: 154.235, F-1, South Band dispatch; 153.950, F-2, Emergency Band; 154.145, F-3, North Band dispatch; 153.830, F-4, Fireground handhelds; 153.935, F-5, Fireground handhelds; 154.965, F-6, Underground and subway fires; and 170.150, Rescue dispatch.

Bill Hayes of Massachusetts passes along a news clipping that tells how Metropolitan Police in the Boston area are starting to use a 20-channel trunked 800 MHz radio system. The Metro Police have been using a VHF low band radio system, but should be fully moved to the new system by now. The new system is expected to support mobile data terminals that will allow police officers to

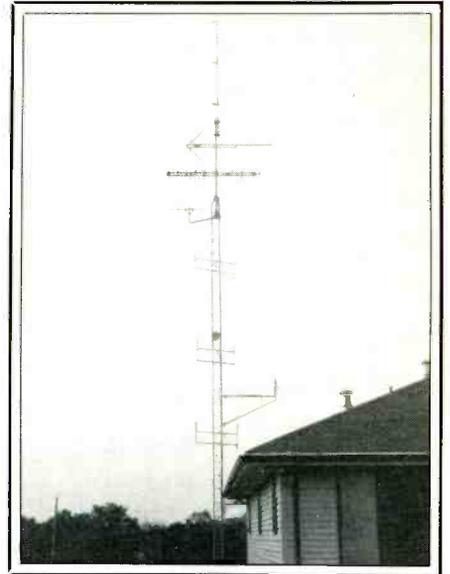


Here's the listening post of Charles L. Bloss Jr. of Lecompton, Kansas. Scanners include a Regency MX4200, Cobra SR925, Uniden Bearcat 950XLT and Regency M400. Charles has been a deputy sheriff for 14 years.

check motor vehicle information. The force also hopes to add a system that will pinpoint handheld radios' signals on a computer screen within 600 feet of an officer's location. The color-coded system also will be able to distinguish between cruisers, jeeps, motorcycles, snow plows and other vehicles. The Metropolitan District Commission, of which the Metro Police is a part of, also will allow units from the Massachusetts Water Resources Authority, Convention Center Authority and other agencies to use the new system. According to notes we have here at POP'COMM, the new 800 MHz system uses the following frequencies: 856.7125, 857.7125, 858.7125, 859.7125, 860.7125; 856.7375, 857.7375, 858.7375, 859.7375, 860.7375; 856.9625, 857.9625, 858.9625, 859.9625, 860.9625; 856.9875, 857.9875, 858.9875, 859.9875 and 860.9875.

From "Thirsty Ears" in Nanaimo, British Columbia, comes a report that WTBN, 610 kHz, Cincinnati, uses 26.25 MHz for FM broadcast relays. He also reports that the U.S. Navy Nanoose Test Range on 140.525 interferes with the Royal Canadian Mounted Police on 140.280. He says he heard Canada Department of Communications units checking this out, saying, "How do we tell different kinds of scrambling?"

From Roy Boland in Indianapolis, Ind., comes information on frequency usage in the Circle City. The Indianapolis Police Department uses the following frequencies: 460.475, Channel 1, Adan Sector, north side; 460.450, Channel 2, Boy Sector, east side; 460.400, Channel 3, Charles Sector, south side; 460.025, Channel 4, David Sector, west side; 460.050, Channel 5, traffic; 460.100, Channel 6, investigations; 460.125, Channel 7, special events and



This is the very enviable antenna system at Charles L. Bloss Jr.'s listening post. The tower supports several scanner and VHF and UHF antennas.

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SWAT. In addition, 158.820, 158.850 and 158.910 are used by animal control units and police explorers.

The Indianapolis Fire Department uses the following frequencies: 153.770, Channel 1, dispatch (repeats 154.070); 153.770, Channel 2, simplex; 154.175, Channel 3, fireground (repeats 154.830); 154.280, channel 4, mutual aid.

The Marion County sheriff's office in Indiana uses the following channels: 155.610, Channel 1, Dispatch, north and east; 155.610, Channel 2, simplex; 154.740, Channel 3, dispatch, south and west; 154.740, Channel 4, simplex; 155.010, Channel 5, information; 155.475, Channel 6, Indiana Law Enforcement Emergency Network (ILEEN).

And finally from the Hoosier State, Roy lists the frequencies used by Indiana State Police: Channel 1, 42.42 base, 42.26 mo-

bile; Channel 2, 42.26 base, 42.40 mobile; Channel 3, 42.12; Channel 4, 42.16; mobile extenders, 155.445; ILEEN, 155.475. Roy also reports that the Indianapolis Police Department is expected to switch to an 800-MHz trunked radio system soon.

Lastly, Roy describes how a signal transmitted by a police officer is routed over the Indy Police radio system. A police officer's radio on Channel 1 transmits on 465.475 to "Control" at Police Communications. The signal is received by one of 39 satellite receivers throughout Marion County and travels to police radio via phone lines. Then the signal is routed to the Channel 1 radio console in the City-County Building via more phone lines and is rebroadcast by the repeater on 460.475, which is received by other police units on the same channel. Thanks, Roy, for the detailed look at Indy. One other frequency I might add for Indy area listeners is Circle city REACT on 462.675. I've called the REACT team on several occasions when passing through Indy. We'd like to hear what other readers in the Indy area are listening to. Let us know.

For those of you with computers and who like to check in on computer bulletin boards, CompuServe now has a new section just for scanner enthusiasts. Scott Loftness of Morgan Hill, Calif., says that the HamNet section of CompuServe's Amateur Radio and Monitoring Forum has expanded to include a section dedicated to scanner enthusiasts. On HamNet, there is a wide variety of both online files of information along with thousands of regular users with whom computer operators can share information, ask questions or discuss topics of common interest. If you already are a CompuServe user, GO HAMNET from any prompt in the CompuServe Consumer Information Service will switch you into HamNet. For more information on joining CompuServe to access HamNet, call (800) 848-8199.

From Switzerland, Kurt Mueller checks in with some information on scanning in his country. He says that the sale and possession of scanners is allowed there, however, the operation of such radios is somewhat restricted. He says that it is illegal to monitor transmissions not intended for the public and that it is strictly forbidden to reveal the contents of such transmissions to third parties (even us Americans have such a law in the Communications Act of 1934). The only exceptions to the rule are amateur and aircraft communications. However, in order to monitor aircraft communications, a license from the Swiss postal authorities costing about \$30 must be obtained. Violators are subject to fines and jail up to a year.

We'd like to answer your questions here at POP'COMM. We also are interested in frequency lists, especially new frequencies that come into use. If you have any photographs of your listening post, radio towers or dispatch locations, send them along. Write to: Chuck Gysi, N2DUP, Scanner Scene, Popular Communications, 76 North Broadway, Hicksville, NY 11801-2909. **PC**

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BROADCAST DX'ING

BY KARL ZUK

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

Happy Ground Hog Day! After all it is February, but you'll need more than a good ground to pull in broadcast band DX these days. The deregulation of AM radio, combined with all the new authorizations for daytimers to broadcast at night, with double or even single digit wattages, have made a lot of the broadcast band sound like CB Channel 19 during rush hour. Don't be discouraged! There are a lot of ways to meet the challenges of the AM band, with DX catches even rarer than before. You just have to squeeze your radio and your brain a little harder!

Ride A Frequency

The easiest way to log new stations on crowded frequencies is to listen intelligently and scientifically. Camp out on one frequency for a long time and see what stations regularly come in on it. After you log all that you can during the day and evening, you will know what to null and avoid when the prime time of AM radio DX occurs: sunrise and sunset, conditions will change rapidly as the sun falls or rises over locations within your reach. A unique situation of places being in the dark, or attenuated by the sun occur that will not happen at any other time of day. It's like riding a wave and seeing where it goes. For example, at my QTH, if you sit on 860 kHz, you will hear WTEL in Philadelphia, or WSBS from Great Barrington, Massachusetts during most of the day. At this time of year, when darkness comes, WSBS gets swamped by CBH in Halifax, Nova Scotia with CBC news for a very predictable 20 minutes or so, and then trades off to CJBC in Toronto, where it will stay for most of the night. Most frequencies are much more complex, and you can generally find patterns of reception on all of them.

After you get to know the daytime, night time, and sunrise-sunset reception regulars, then you can really go hunting. Your familiarity with the frequency will make you much more of an intelligent DX'er, and you won't waste your time on stations you have gotten over and over again. The approaches to organized and scientific DX'ing, on AM or any other band, are endless. Try to get all the stations in your local area, or another area, like all the stations from Pittsburgh. Try and figure out, or call the station to find out, when they sign on and off at night. Listen when your local station is not on.

Some AM band DX'ers refuse to DX at any time except on Sunday night/Monday morning, in the wee hours when most stations perform transmitter maintenance, and an occasional program just for DX'ers. During the hours of midnight to dawn, any sta-



tion can turn on their power full force for testing, and many stations do. This might be the only time you can hear a station, if you have the patience to listen to test tones for a while until an engineer tells you what station you've got and pulls the plug. Once a month stations do frequency checks with independent engineering services, and these are quite predictable. Also, listen to WWV or WWVH on shortwave. No, I'm not asking you to give up your favorite band, I'm asking you to increase your database for DX'ing.

The National Bureau of Standards gives propagation "weather reports" every hour at 18 minutes past the hour. They will give you numbers of the K and A index for the moment. As a rule of thumb, if the K index is low, between zero and two, the chances of long-haul DX are pretty good. This would be a good time to look for that Asian or European station you've always wanted on AM. If the K index is around 3, conditions are just fair; any higher, and the conditions are considered "auroral", corresponding with the possible appearance of the Aurora Borealis, of Northern Lights. Remarkable reception can be heard at times of auroral conditions, much like E and F layer skip on FM and TV. I heard Phoenix, Arizona, one night on a portable radio, with no more than a built-in ferrite loop, during an aurora a couple of years ago. It can and will happen!

Getting Across The Pond

Don't think you are limited to just North America on AM radio. Everyone would like to say that they have heard AM radio outside of the North American continent, and you can too, and it really isn't that hard, if you know where to look. If you are east of the Mississippi River, your best bet may be Algeria on 891 kHz. I have heard this megawatt station on all kinds of "junk" receivers, and good ones as well, often with the eerie audio of chanting and their typical French and Arabic language programs. You may not be able to hear audio, but listen to WLS in Chicago around local sunset. This is the time when it is dark in Algeria and where you are. When you start hearing a 1000 hertz heterodyne whistle when nulling WLS, chances are the source of that whistle is far away in Algeria. Japan on 774 kHz, Norway on 1314 kHz, and Germany on 1593 kHz, are all regulars to most of North America. Keep in mind: when are you and your target dark and when are conditions quiet or auroral?

George Hakiel of West Islip, New York uses a QTH by the South Shore of Long Island to rake in all sorts of DX and has heard places as far away as Saudi Arabia on the good old broadcast band. He is not alone. There are many regular loggings of Africa





ROCK 'N' ROLL
Oldies
Cleveland

and Europe on the East Coast, and all over the Pacific and Orient on the West Coast, and the programming is very interesting, along with the satisfaction of a great catch. Many people make the analogy that AM radio is much like "Tropical Radio" of the 60, 90, and 120 meter bands, and it is very similar. In fact, many serious AMDX'ers use the parallel frequencies in these "Tropical" bands to compare the two frequencies' simulcast for quick verification of what they are receiving. If you think you have the Venezuelan Radio Rumbos on 570 kHz, check out 9660 kHz, where you can get it much more easily on shortwave. If they sound the same, chances are they are the same.

Use A Road Map

My antenna tower has not fallen on my head, I really mean it! A road map can be a great aid to AM DX'ing, and FM-TV DX'ing too. If you just can't identify a station by its modern call sign like Pixie 103, try a road map. Listen to the ads and tape them if you can. If Jimmy's Gas Station is a regular sponsor, and they are in Interstate 19, and it runs through Bad Axe, Michigan, and there is a station on that frequency in Bad Axe, chances are that's what you've got. Phone numbers can be used the same way. Except for large metropolises, phone number prefixes are signatures of a town, almost as much as a real ID. Listen for area codes

Call Letter Changes

WMZY 640 FL Wilwood now WHOF
WJEX 670 NY Syracuse now WNYR
WQKA 850 NY Penn Yan now WYLF
KIKM 910 TX Sherman now KBLN
KCIJ 980 LA Shreveport now KMJJ
WAKN 990 SC Aiken now WNEZ
WXXK 1010 NY Newport now WNTK
WNOK 1230 SC Columbia now WODE
WCOU 1240 ME Lewiston now WXGL
KYYN 1280 OK Poteau now KPRV
WVLW 1320 FL Coleman now WFRK
KCPX 1320 UT Salt Lake City now KEMX
WLAV 1340 MI Grand Rapids now WKLL
WKNR 1400 MI Battle Creek now WELL
WPHD 1400 NY Buffalo now WGKY
WDDY 1420 VA Gloucester now WXGM
KWFN 1460 CA Santa Rosa now KRRS
WKAY 1490 KY Glasgow now WCLU
WCLS 1500 MI Battle Creek now WOLy
KTIM 1510 CA San Rafael now KCAF
WKVL 1550 TN Clarksville now WCTZ

which are a big help, or the simple three number prefix. Check in the library, or with the information operator about what prefixes are used in Bad Axe, and you've gotten closer to catching that one you want so badly. If you have another way of narrowing down the choices of possible stations, let me know!

Try a New Antenna

As simple as it may seem, trying a new antenna can bring in stations that you haven't heard yet. If you've always used a long wire pointed east, try one running north, or maybe try a vertical.

One recent experiment that I tried was creating a helical vertical out of PVC piping and copper pipe. I used two 20 foot lengths of white PVC pipe, (it seems other colors have a tendency to conduct and destroy the effect of the antenna), and two sections of 10 foot copper pipe, and about 100 feet of wire. I connected the two lengths of PVC pipe together with a PVC collar and also bought a T fitting for the top of the antenna. I wrapped the wire around the pipe, about an inch space per wind until I got to the top. By drilling little holes in the top and bottom, I could thread the wire through the pipe so that the windings did not come apart. Leave a length of wire at the top and bottom. I drilled holes in the exact center of the two lengths of copper pipe, and with a screw and nut combination, held them onto the T-fitting. The copper pipes formed an X at the top creating a capacitive hat, lowering the angles of pick-up for long distance reception. Connect the top of your helix wind to the hat with a lug, and connect the bottom to your receiver. By using a good ground, like your town's water pipe system, or a ground system made of long wires stretching across your backyard or under the ground to create a counterpoise, you will create an antenna with excellent DX potential, with a reception pattern totally different than those you are familiar with.

There are also a variety of antennae for good AM radio reception besides the helical vertical I described and the good old long wire or Beveridge. There are "Box Loop" antennas, that you can construct, that look like a large picture frame on a swivel mount. A "Wedge" is a similar antennna that looks like a rectangular frame with points. There are oversized ferrite loop antennas, with much more pick-up power than the ones provided with your radio, and a great va-

riety of high gain amplifiers that can be adapted to strengthen the pickup of these "sky-hooks."

Phase Can Make Your Days!

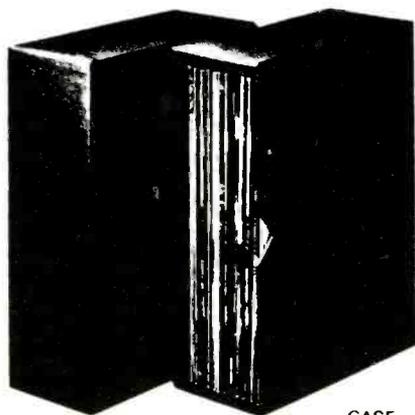
One of the most exciting new ways to receive DX is using a phasing unit. These are available for AM and FM-TV reception, and can dig stations out that you never thought you could get. Mark Connelly, an engineer from Massachusetts, developed a simple unit using inductor coils and capacitors that will take two long wire antennas and turn them into a tunable directional array, very much like what directional AM stations do with their multi-tower arrays. By tuning one antenna with another, you can null or peak in very tight directional patterns much like the effect you get when turning a simple radio with a ferrite rod antenna, except you get all the signal clout that long wires provide. A similar technique is now employed by cable television systems, and avid TV and FM DX'ers. You can employ two or more directional antennas to create crystal clear reception of stations that were just underlying noise before. One antenna is pointed at the station you wish to receive, and one antenna is pointed at the interfering station. By using a sample of the interfering station and mixing it out-of-phase with another antenna pointed at the station you want, you can generously cancel the interference and bring in a multitude of new catches.

Try The Unusual

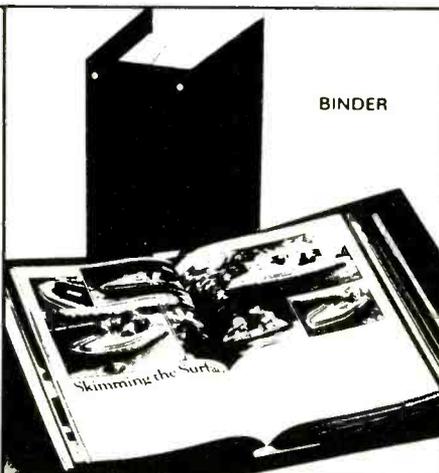
There are more stations out there if you look for them. At the top and bottom of the AM band are opportunities for rare DX excellent, if you know what to look for. Traveler's Information Stations, or TIS stations, are the lowest power stations you are likely to find anywhere. According to FCC regulations, they are generally no more than 10 watts in power and have antennas no longer than 50 feet tall. Some of them seem to cheat a little in the area of radiated power and field strength, and most of them are pretty efficient stations that can be heard for hundreds of miles given the right conditons. They will usually transmit continuous tape loops of recorded information about whatever park, highway and airport they are servicing, and almost continuously identify, making them easy to catch. Look for them on 1610 and 530 kHz, although some are located inside the AM band.

Local drive-in theaters also use very low powered transmitters like this, but are even harder to catch and ID. Imagine sending a verification report to a theater and telling them you were listening to Nightmare on Elm Street IV! I'm sure you'll have to explain to them what a QSL card is, but won't you be surprised when they reply! Also try beacon stations. These stations generally turn up on longwave, but some can be found on the top and bottom of the AM band. Some of the ones most widely heard in North America are NB in North Bay, Ontario with 500 watts on 530 kHz, and RAB from Rabinal,

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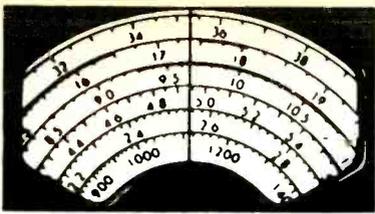
Guatemala with 1000 watts on 1613 kHz. These and other stations send AM signals with tone Morse code identifying signals continually, and are generally used for direction finding in the sea and air. Other stations transmit with as little power as 5 watts, and because they are on relatively clear frequencies, can be heard, sometimes, for thousands of miles on their QRP power. Also, don't forget CJFT in Fort Erie, Ontario on 530 kHz, with their nostalgia format. With only 270 watts, they have been heard in Europe and beyond!

And Don't Forget Your Receiver

Many radios that receive AM radio and shortwave neglect the AM band by relying on the built-in ferrite loop alone. Although you may think you are getting the most signal strength out of your antenna by simply hooking it up to the rear antenna terminals, often the increase in signal on AM is by proximity capacitive pick-up only. Take a good hard look at the schematic of your radio, or the radio itself, and see if the outdoor antenna is switched away for AM. A good example is the Realistic DX-150/160. The ferrite loop is on its own for AM, so it needs a little help, and here's how to do it. This trick will also work for radios that don't have external antenna terminals. If you don't have a fancy radio to DX AM with, or want to soup up an old clock radio you have lying around, loop a couple of turns of insulated wire, (insulated #24 telco multipair wire works well,) around the ferrite loop and draw both ends out of the set. Connect your outdoor antenna to on side of the small coil you have just wound over the ferrite loop, and for an extra push, connect the ground to the other end. Adjust the amount of turns around the ferrite loop for best pickup. It is very likely that you will overload the set with signal this way. Sometimes the signal will be so powerful that you will pick up images of all sorts of stations, including shortwave, when the front-end of the receiver is overloaded, so experiment.

I have an old clock radio that had maximum pick up with four turns around the ferrite loop and about ten feet of wire. Make sure you use insulated wire. You can DX much better when alive! Receivers can also be updated by adding simple crystal filters to the IF sections of the set, but we'll save that for another time. And don't forget that although FM and TV DX is at a low this time of year, periods of great moisture, like an oncoming storm front, can bring in excellent tropospheric skip anytime of year, especially in the early morning hours before the dew dries up. There are also mid-winter openings of E and F-layer skip that can bring in stations from thousands of miles away, so look on the lower channels, especially channels 2 and 3, and you may be surprised. I have received Florida, Louisiana, and Cuba in the mid-winter, up here in New York. Please let me know what you would like to read about in this column, and tell me your experience with DX'ing!





COMMUNICATIONS CONFIDENTIAL

BY DON SCHIMMEL

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

An interesting note in the mailbag was from Charles Nevel aboard the S/S Charleston (KNJF). He wrote in part—"I worked at WSL/Amangansett Radio for many years. In the Sept. 88 POP'COMM, page 18, is a QSL card from WSL. The manager who signed it, Carlos Cox, was probably the world expert on ship callsigns. He had a large handwritten book which he worked on most every day. He had large sources of info. Dutch Telecommunications, British Telecom, Lloyds of London, Int'l Journal of Commerce, etc. He had the call letters listed before the ships were launched. I proved this one day when I casually met him in the Southampton post office and asked if he knew what the call for the new Queen Elizabeth-2 was going to be. He came right back with GBTT. Wow!"

Mark Chinsky, NY came in with some identification data. Here is what he said. "Reference your column in the 09/88 POP'COMM. The strange transmission heard by Phil Roddey, IN on 13378 kHz came from the Ethiopian Ministry of Foreign Affairs in Addis Ababa, Ethiopia. This diplomatic radio station uses the non-ITU callsign 'ADL.' KNY44 is the US Department of State issued callsign for the Ethiopian Embassy in Washington, DC. Therefore, it appears that the main station (ADL) in Addis Ababa was attempting to contact their diplomatic mission in Washington, DC." Thanks Mark for the ident.

A report from Andy Gordon, CT indicat-

ed he had observed QRM on 4360 kHz during 0100-0200 caused by the YL/EE PAB station. "This frequency is used by Norfolk ICSB to respond to USN ships calling NAV-CAMSLANT. It is also only 5 kHz from the San Diego CSS1 freq used to respond to USN ships in the Pacific."

His report continued "During Hurricane Gilbert, an emergency channel was established by the FCC on 14325 kHz using call-sign KØIND. This was designated as 'Hurricane Watch' and there was to be no Ham operation \pm 5 kHz from 14325. I believe net control was in Phoenix, Arizona and the net connected the National Hurricane Center with stations in the affected area of Gilbert. When the storm moved NW into the Rio Grande area and weakened, the net was discontinued. During net operation there was much traffic passed but there was quite a bit of QRM from angry Ham operators who apparently felt they should not have been banned from using the frequency. I also observed other nets on the Ham bands handling hurricane related traffic out of Kingston, Jamaica on frequencies of 14283, 14287, 14263.9 and 14296 kHz." Andy concluded his report stating that woodpecker QRM has been disrupting 13286 kHz MARS frequency lately.

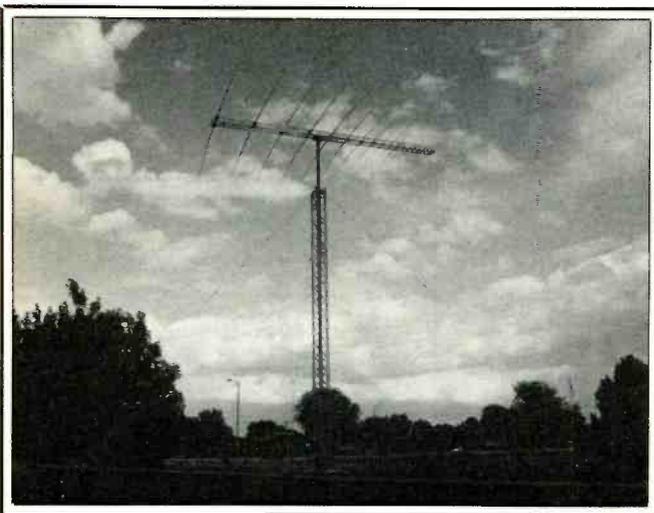
Mark Meece, Ohio says he uses a Yaesu FT-767 GX with three different antennas. A 140 foot longwire running east to west at 20 feet above ground, a Butternut HF6V all-band vertical and a 5/8 wave ground plane

NOY		
UNITED STATES COAST GUARD BASE - GALVESTON, TX		
VERIFICATION OF RECEPTION		
CALL SIGN	FREQ. KHZ	LOCATION - POSN
NOY	5130	29.20N 96.45W
DATE	TIME-UTC	ANTENNA
18APR88	0428	50' WHIP
HMTR POWER	MODE	
SUNAIR "CSB 900" XMTR 100W	USB	
SIGNATURE: <i>Steve McDonald</i>		OFFICIAL STAMP

Reception verification received by Steve McDonald, BC, Canada.

at 40 feet. He added he holds Ham ticket N8ICW, Registered Monitoring Station ID KOH8GQ, and VHF Marine Station license WTR 4612.

How's this for an interesting logging? Robert Berman, NY had his Kenwood R-5000 tuned to 5696 kHz and heard the following: At 0428 a male voice said, "VE6716 calling Coast Guard Portsmouth. Are there any Coast Guard Cutters available for an emergency?" He received no response and repeated this again about 30 seconds later. Again there was no response. About 20 seconds after the second try, he came on and said "We're going down." No further communications were heard from this unit. COMMSTA's Portsmouth and Miami called a few minutes later saying, "Call-



Shortwave antennas at Denver Air Traffic Control Center located in Longmont, Colorado. In the photo of the beam note the size comparison of the antenna with the car in the lower right portion. This is a huge antenna. Photos provided by Patrick M. Griffith, CO.

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Channels
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27 28 84
85 86 87

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SSB

Channels
4410.1 KHZ
6212.4 KHZ
8737.5 KHZ
13103.9 KHZ

WGK Radio is happy to announce the implementation of complete Automated Inbound—Outbound Direct Dial Service. Each vessel has a telephone number.

Mark Meece, Ohio forwarded a copy of the WGK card showing the frequencies in use plus the mailing address for QSL'ing. The information accompanied the QSL.

WGK

QSL

ST. LOUIS MARINE OPERATOR

CONFIRMING RECEPTION

DATE/TIME: 8/7/88 0751 CDT

FREQ/MODE: 4410.1 Kc

EQUIP/REMARKS:

Our phone patch to M/V Kevin Flowers

SIGNED: *Charles Dully*

ing unit in distress." They received no response. At about 0448 I decided to call the Rochester, NY Coast Guard Station to let them know I had monitored this distressed unit and had the call letters, VE6716, which the COMMSTA's may not have heard. The Rochester CG Unit took the info and my name and number. I returned to my receiver and at 0456 heard Portsmouth calling VE6716. Then Miami tried at 0458, Boston at 0459, and then San Juan at 0519. All attempts were negative. At 0534 a/c Gull-20 was heard on 5696 calling NMN. He told them he was a WC-130 Recon aircraft and would keep an eye out for the distressed unit and monitor 5696 for any new information. He informed Portsmouth he had detected a weak ELT signal for a short time when in the vicinity of St. Croix, Virgin Islands. NMN told Gull-20 that the call letters VE6716 sound like those of a civilian aircraft."

Robert included an additional point. "Prior to this logging, I never heard civilian traffic on 5696. I have always believed this frequency was specifically for Coast Guard and Military use, primarily in Search & Rescue operations. To me, it is interesting that a civilian a/c knew to call for help on this frequency."

When Milan Seifert, Korea received a QSL from USCG Station NRV on Guam he also received a complete listing of the schedules and frequencies in use. See Table 1.

Just prior to closing the column for this month a note was received from Andy Gordon, CT with some additional USN MARS info. Andy indicated that 20997 kHz is now in use for MARS traffic and MARS callsign NNNØ CBR is assigned to the USS Halyburton FFG-40 (regular call NOTH).

"Ufe" Loggings
All Times UTC

- 212: Beacon AWW, Winchester, IN at 2154 (Meece, OH).
- 298: Beacon HL, Cape Henlopen, DE at 1210 (Vendetti, NJ).
- 321: Beacon UR, Burlington, KY at 0354 (Meece, OH).
- 351: Beacon SI, Covington, KY at 1534 (Meece).
- 377: Beacon GKQ, Linden, NJ at 1212 (Vendetti).

- 400: Beacon FGX, Flemingsburg, KY at 2335 (Meece, OH).
- 404: Beacon IMS Madison, IN 2157 (Meece, OH).
- 512: EWWA, Soviet factory ref stern trawler Polevod in CW at 0641 wkg ESVK (McDonald, BC).
- 2716: NRVF, USS Hermitage (LSD-34) w/comms check to NKJU, USS Caloosahatchee (AO-98) at 1002-- both were riding out severe weather; NRUD, USS Safeguard (ARS-50) clg San Diego Control at 0930 & 0930; NRWS, USS Simpson (FFG-56) clg Newport Port Control at 0835 & asking for tugs/pilot. Said they needed crane to remove helo landing gear; NHPA, USS Stark (FFG-31) clg Navy New York Harbor Ops at 0900 but no joy. Stark then made radio check w/St. Johns Military in Canada & they called Navy NY by landline on behalf of Stark. Stark was the FFG struck by 2 missiles fired by Iraqi a/c in 3/87 (Gordon, CT).
- 2670: NMF, USCG Comsta Boston, MA w/notices to mariners 1st CGD, USB at 0450; NOY, USCG Galveston, TX in USB at 0831 w/same (Meece, OH).
- 3261: Various fishing boats wkg base sta WUT90 w/reports of catches, etc., in USB at 0630 (Sabó, CA).
- 4027.9: YL/SS in AM tuning 5F gras very rapidly. Finale Finale at 0613, then carrier off 2 min later (Fernandez, MA).
- 4066.1: NVFP, USS Valley Forge (CG-50) w/calls to San Diego CSS-1, USB at 0220 (Sabó, CA); NNUL, USS Constellation (CV-64) clg San Diego CSS-1 at 0250; NMFQ, USS Peleliu (LHA-5) wkg San Diego CSS-1 at 0550 w/patch to Naval Supply Center, Oakland, CA. Oakland unable to furnish so NMFQ then called Norfolk Supply (Gordon, CT).
- 4109.5: WSG4330, vessel Trail Walker in USB at 1818 w/patches thru WOO (O'Connor, NH).
- 4125: VPQP, yacht Shalimar in USB at 1809 clg yacht Sheer Terror (O'Connor, NH).
- 4500: Angry Warrior wkg Angry Warrior 7A, USB at 0515 (Sabó, CA).
- 4610.5: Units 11, 12, & 14 thru 18 relaying drilling ops & wx info to KF7012 in USB at 1210 (J.M., KY).
- 4747: AIF, Yokota AB, Japan w/alfa monitor t/c, USB at 1403 (Sabó, CA).
- 5320: NRPZ, USCGC Powpaw in USB at 0203 wkg USCG New Orleans (O'Connor, NH).
- 5571: Anti-smuggler channel YB noted active at 0625 as Fried Chicken was wkg Marlin (Sabó, CA).
- 5692: NOT, USCG Traverse City, MI wkg Rescue 1469, USB at 0622 (Sabó, CA).
- 6101: P11 w/5L grps in CW at 1647 (J.M., KY).
- 6200: YJWY6, vessel Pioneer w/AMVER t/c to NMF in USB at 0446. NMF replied on 6506.4 (Sabó, CA).
- 6273.7: UJKW, Soviet freighter Kozyrevsk clg UDEZ in CW at 0955 (McDonald, BC).
- 6276.1: UTBY, Soviet refrigerated stern trawler ship Sverdlovo clg UKA in CW at 0956; UIKL, same type of vessel, the Sokolovka clg UKA in CW at 0958 (McDonald, BC).
- 6730: Air Force 2 in LSB at 2357 to Andrews AFB regarding RTTY problems (Lamar, FL).
- 6738: AKAS, Elmendorf AFB, AK w/Skyking t/c, USB at 0633 (Sabó, CA).
- 6753: CJX, St. John's Military, Canada w/Volmet bc in USB at 0542 (Sabó, CA).
- 6767.7: 2 fishing trawler outlanders in comms re fishing. USB at 0240. Sounded like they were in Cape Cod, MA fishing area (Fernandez, MA).
- 6911: P7X w/5L grps in CW at 1647. This ID is popular w/5L grp stas (J.M., KY).
- 6998: YL w/5F grps in Yiddish, AM mode at 0409 (Sabó, CA).

- 7311: AAA9CN, AAT9OR & other US Army MARS stas in USB net at 1815 (Sabó, CA).
- 7525: 2 un-ID NASA stas trying to figure out how audio portion of a TV pgm was in their circuit, USB at 1418 (J.M., KY).
- 7535: NRVF, USS Edson (DD-946) in all modes to NAM at 1635; NXAY, USS King (DDG-41) clg NAM in USB at 1905 (J.M., KY).
- 7553: KK2XCE/Base, Sunair Enterprises, Inc., Ft. Lauderdale, FL in comms w/its Portable 1 unit, USB at 1414. The portable apparently at a trade show somewhere demonstrating a mode called Lincompex (Linear Compression Expansion, I think) to various gov't officials & foreign prospects. Sounded like USB w/tone superimposed, but resulting signal was better than standard SSB. Also used 9305 & 13881 kHz. Found the info on this station in Pop'COMM's Washington Pulse column for Jan '86. Sent a PFC to Sunair Electronics, Inc., 3101 S W 3rd Ave., Ft. Lauderdale, FL 33315. Received back info on the equipment including a photo showing the transceiver freq readout set at 13881 kHz. Good way to find out new freqs! (J.M., KY).
- 7605: YL/EE in AM mode w/VLB2 tape. This is a Mossad (Israeli Intelligence) activity (Fernandez)
- 7700: KRF265, DoE Belton, MO clg Mobile 285 in USB at 1446. This is Channel 5 in the DoE's Nuclear Transport Safeguard net (J.M., KY).
- 8170: YL in Rumanian repeating Trei Patru Sase (3-4-6) from 0000 to s/off 2035 (Mason, England).
- 8291.1: KJP52, Coral Gables, FL w/g vessel Ambassador, USB at 0153 (Sabó, CA).
- 8294.2: W5Z, Morgan City, LA wkg WRR5192, vessel Bronco Grande in USB at 0153 (Sabó, CA).
- 8364: COJR, Cuban factory fishing refrigerated stern trawler M/V Rio Cuyaguatete in CW at 0233 clg OBY2 in Peru (McDonald, BC).
- 8753: YL voice mirror in EE/JJ ID'ing as JBO, Tokyo Radio, USB at 0830 (Sabó, CA).
- 8765.4: NMO, USCG Comsta Honolulu, HI clg NRCB, USCGC Eagle in USB at 0432 'neath NMC giving a high seas forecast (Meece, OH).
- 8787: Canadian CG, Halifax, NS w/t/c list at 0130 (Willmer, MI).
- 8876: Keep yours ears here during the next hurricane season. National Hurricane Tracking Center in Miami works a/c 42 & 43 (Lockheed WP-3D Orions) while they fly around inside the eye of a storm. Active last year, should be so again this year, too (Fernandez, MA).

Abbreviations Used For Intercepts

- AM Amplitude Modulation mode
- BC Broadcast
- CW Morse Code mode
- EE English
- GG German
- ID Identifier/led/location
- LSB Lower Sideband mode
- OM Male operator
- PP Portuguese
- SS Spanish
- t/c 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)

TABLE 1

HF CW BROADCAST FREQUENCIES: NRV, GUAM

- 8150 khz (Transmitted from Guam)
- 21760 khz (Transmitted from Guam)
- 4445 khz (Remotely transmitted from the Philippines)
- 9485 khz (Remotely transmitted from the Philippines)
- 10440.5 khz (Remotely transmitted from the Philippines)
- 12876 khz (Remotely transmitted from the Philippines)

Broadcast Times - 0100, 0300, 0800, 1300, 1700 and 2200 (GMT)

HF USB VOICE BROADCAST FREQUENCIES

- 13113.4 khz Broadcast Times - 0330 and 2130 (GMT)
- 6506.4 khz Broadcast Times - 0930 and 1530 (GMT)

MF CW BROADCAST

- 466 khz Broadcast Times - 0100 and 0800 (GMT)

MF USB VOICE BROADCAST

- 2670 khz Broadcast Times - 0705 and 2205 (GMT)

VHF VOICE BROADCAST

- 157.1 mhz (ch-22a) Broadcast Times - 0900 and 2100 (GMT)

HF CW CALLING FREQUENCIES

- 8570 khz (0900 to 2100 GMT)
- 12743 khz
- 17146.4
- 22527 khz (2100 to 0900 GMT)

8912:Cajun wkg Shark 02 at 0500. Few nites later hrd Cajun to Shark 21 in anti-smuggling ops at 0328 w/many target locations, all USB (Sabo, CA). Kneitel's Government Freq Registry lists this as Channel YC-- Ed.

9027: Pele 44 to Stickler for patch to Cowpoke. Started out an 6761 khz but too weak. Hrd 0225, USB (Willmer, MI).

9150: YL/SS in AM-mode at 0431 repeating Atencion 752-08 until 0432, then 08-150 (X5) & into 5F grps (Sabo, CA).

9307: XKP854, Cardiff Radio running USB patches at 0435. Believe this is a Canadian oil rig channel (Sabo, CA).

9325: YL/GG in USB at 0830 repeating Mike November w/slow tones in background. At 0835 sent 628 (X2) 61 Gruppen Achtung & into 5F grps (Mason, England).

10180: YL/RR w/what sounded like repeats of 062 (nui-shest-dva), USB at 0403 (Sabo, CA); YL/GG in USB at 0900 repeating Juliet Delta w/slow electronic tones. At 0905 sent 534 (X2) 51 Gruppen Achtung & into 5F grps (Mason, England).

10194: CHR, Trenton Military, Ontario w/patch for Sentry 52 to Raymond 24, USB at 1819. This is an interesting freq. Listed as FEMA's F-27, & in addition to FEMA stas, I've heard SAC stas, AWACS a/c, Canadian mil, & even a numbers sta here (J.M., KY).

10898: OM/EE (American), LSB at 0313. Talking about sending huge sums of money, much XXX language. Unknown location. Drug smugglers?? (Vendetti, NJ).

11118: Bonefish w/sig check on Foxtrot 315 freq to Bellhop & Homespun at 2315 (Willmer, MI).

11233: Oskey 41 via Trenton to Trenton Base Ops w/notice that exercise completed 0730 UTC. Hrd 0055 in USB (Willmer, MI).

11396: New York & San Juan Aerodius wkg various a/c, USB at 2241-2245 (Sabo, CA).

12537: UKHD, Soviet bulk (ore) carrier Mikhail Kutuzov clg UAT in CW at 0003; UGZO, Soviet reefer ship Privolye clg UAT in CW at 0004 (McDonald, BC).

12574: USGN, Soviet factory fishing refrigerated stern trawler Mys Osipova clg UFH in CW at 0008 (McDonald, BC).

13211: Ruby Red wkg Letterbox in USB at 0301. At 0346 Ruby Red came up again w/patch thru Hardship to Archibald for "Exercise ID check." Then Tidy Sam called Ruby Red & asked for contact on Mike channel. This is SAC's BW channel (Sabo, CA).

13312: KBU6, Rockwell Flight Test wkg un-ID

a/c w/radio check, USB at 2122 (Sabo, CA).

14270: Un-ID sta in USB during last hurricane season w/emergency traffic, health & welfare messages, etc. (Miller, GA).

14325: Hurricane info net during last tropic storm season w/medical info (Miller, GA); During hurricane season, a station in Corpus Christi, TX was active day & night e/emergency t/c (Gordan, CT).

14441.5: NNNOCMW, USS Grapple (ARS-53) USN MARS sta clg any stateside MARS at 2000; NNNOCZB, USS Kittiwake (ASR-13) calling any stateside MARS at 2320; NNNONOK, Mobile Training Unit of COMFEWSG (Fleet Electronic Warfare Support Group) aboard USS Sumter (LST-1181) wkg NNNONSD at 0340. NNNONOK is a callign that can show up in use aboard various different USN vessels (Gordan, CT).

14467: NNNOCNTL, USS Mauna Kea (AE-22) wkg NNNONNTI at 1615 (Gordan, CT).

14485: USMC MARS net, USB at 0528. Sta at 29 Palms, CA wkg NNNOTUS, Okinawa w/patches (Sabo, CA).

16481.7: CGCC, Canadian CG navaid tender & light icebreaker Martho L. Black wkg VAI in USB at 2031. Was anchored near Cambridge Bay in Canadian Arctic (McDonald, BC).

16506.5: D5FV, bulk carrier M/V Akron wkg DAJ in USB at 1613 (McDonald, BC).

16724.9: 6ZBE, tanker Garyville in CW at 2137 to NMN w/AMVER report (McDonald, BC).

18027: Air Force 2, w/patches via Andrews AFB & Crown. Enroute Spokane, WA. In USB at 2046; SAM 86970 w/Secretary of State aboard, USB at 1944 (Lamar, FL).

22487: WLO, Mobile R., AL w/wx in CW at 1450 (J.M., KY).

22562: GKE7, Partishead R., England in CW at 2251 w/CW call & ARQ phasing sigs (McDonald).

22605.3: LPL21, General Pacheco R., Argentina in USB at 2102 w/voicé mixer (McDonald, BC).

23611.6: OM/RR clg Tyuratom from Sera Major. Repeated several times, USB around 1446. Missile test net? (Vendetti, NJ).

25130.8: LPD91, Buenos Aires, Argentina w/CW call marker at 1852 (Vendetti, NJ).

25329: FUM, French Polynesia in CW w/VVV tape at 0040 (McDonald, BC).

25800: Italian outbanders in LSB at 1856, working stateside outbanders & talking about visits to America (Vendetti, NJ).

28299.7: PY2AMI, Sao Brazil in CW at 1830 w/propagation beacon VVVV DE PY2AMI (McDonald)

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POP'COMM Readers Speak Out On "No Code"

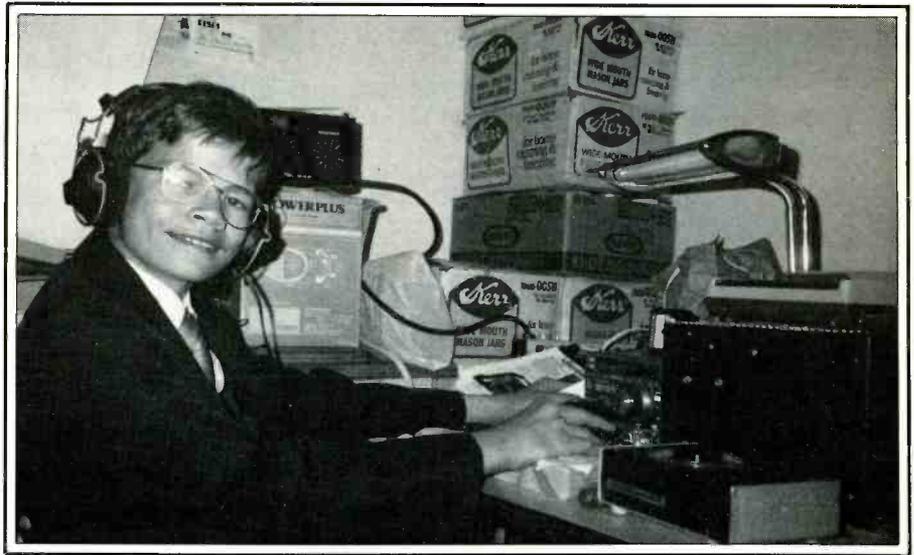
Last September's Ham Column ("Why the Morse Code, Anyway?") drew considerable reader mail. Few hams, or would-be hams, are indifferent about whether or not prospective hams should be required to learn the Morse code—and, it follows, about the question of whether or not there should be a "code-free" ham license of some sort. Here's a sampling of what POP'COMM readers had to say on no code; I've edited their letters somewhat for space and punch. The opinions that follow are not necessarily those of POP'COMM, the POP'COMM editor, the ARRL, or the Ham Column editor!

James Gnagy, Jr., North Canton, Ohio: "I have wanted to have a ham license since the 1940's—when the equipment was big, and full of vacuum tubes. I am now 57 years old and retired, and have the time and money to invest in a modern, compact rig, but I don't want to learn the code. I can handle the theory: One of my hobbies is electronics; my work at the telephone company concerned electronics. *Is there any hope that there will be a US no code license?*"

Vincent S. Ponzio, KA3NRX, of Pittsburgh, Pennsylvania: "Keep the code part of the FCC exams! CW is a powerful mode when others fail, and it keeps the riff-raff off the ham bands. Consider this analogy: When I was in college, I was required to take classes that did not appeal to me at all—for example, literature, philosophy, biology and four semesters of Spanish. I hated those classes with a passion, but I did pass them and I did graduate. My major was broadcast communications, but I had to take the prerequisites before I could get into my area of interest—just as I had to learn the code to become a ham.

"If you want something bad enough, you have to work for it. I worked for my diploma and for my ham ticket; there is no such thing as a free ride in anything, including ham radio! People who do not wish to learn the code should not become ham operators!"

Forrest and Linda Waymire, Anderson, Indiana: "We have had CB radios for decades. We've had police monitor/scanners for 25 years, and shortwave for around 18 years. For some time now, we have had an interest in getting our Novice licenses, but the thought of learning Morse code has kept us from actively pursuing our studies. We feel that the Morse code should be optional. In our opinion, the important thing to learn is proper procedure in operating a Novice station, and to show others respect on the air. In other words, we are willing to learn



Here's one guy who makes hay with Morse code: Novice Leroy S. Johnson, KB7AGY, of Hildale, Utah. Leroy used that Yaesu FT-747GX transceiver—and operating skill—to contact 250 stations during the 1988 Novice Roundup contest. He even worked the ARRL HQ station, W1AW!

everything for the normal test, but we want to skip the Morse code." (We followed up on the no-code issue by discussing Canada's proposed no-code license in the December 1988 Ham Column.)

Raleigh D. Stout, KB5FCK, San Antonio, Texas: "I am all for keeping the Morse code requirement for all US Amateur Radio license classes. The ham community cannot assume the risk of operators being unable to respond when CW emergency traffic comes up on frequency. *In allowing a no-code license, we would be ignoring our responsibility to public service and endanger lives. A ham who does not know code is simply not a responsible ham. FCC would severely hamper our emergency response posture by approving such a thing.*"

Don Griffin, Troy, New York: "I'm a member of the ARRL and the Schenectady Amateur Radio Association, but I don't have a call sign. Reason? The code—it just doesn't interest me. I'd like to be able to talk on the 2-meter band for technical information on IC's, computers, antennas, but try that on code! I respect people who practice code and use it, but they're mainly interested in HF *shortwave* operating—and I'm not.

"It seems to me that most hams today are in their 40's and 50's. If this is so, (and if the code is keeping people—particularly young ones—from getting involved in ham radio,) what condition will the hobby be in about 20

years from now? The ARRL should think about this more—a lot more. Canada has the right idea on no code."

Ed Jones, WB2DVL, Somerset, New Jersey: "Physicians are awarded special privileges in order that they may help their patients—and we are all prospective patients. High incomes and prestige are not privileges; instead, they are incentives to perpetuate the practice of medicine. Hams are awarded special privileges not so they can use their bands as playgrounds, but because hams form an international communications network—and we are all potential beneficiaries of this network. Morse code is the most reliable mode in the network. As long as hams can use that most reliable communications mode, they are an added asset to the community. Without CW, ham radio is little more than play communication—an asset of limited value to the public."

Werner H. Schmidt, KA1ONU, Yarmouth Port, Massachusetts: "Re the Morse code. I am trying to upgrade, but am having one hell of a time with the code. A good compromise would be: Make 5 WPM code mandatory, but let amateurs upgrade by passing only *technical* exams."

Robert W. Austin, Jr., WA2TNP, Stratford, New Jersey: "Increasing the number of radio amateurs should not be done without a code test, regardless of the part of the spectrum in which the resultant new hams may operate. I'm not the only one that had

to struggle with the dit and dahs, but with determination and self-motivation I did become—and remain—a licensed radio operator. I use CW and voice. It is unfair that regular men, women and handicapped people who are radio amateurs would even consider such an idiotic dream as 'no code.'"

Ed Butler, Wallkill, New York: "Read and enjoyed your article on the code, but I don't think you told the whole story. It's my understanding that the ARRL came out strongly against a no-code license, and I'm sure this was widely-published in QST and CQ magazine. I feel certain that, as a result, there was no problem in generating a barrage of opposition to FCC's no-code proposal. Probably 95% of the ham mags' readership consists of licensed hams; chances are the voting was over and "the case was closed" before most would be's and other interested parties knew what was happening. I'd like to see an unbiased survey by POP'COMM that would cover a much wider readership (hams, SWL's, scanner's, CB'ers, police communicators, and so on).

"If the number of hams shrinks, the FCC may reduce the spectrum available to hams. The ARRL should be rethinking 'no-code' and doing everything possible to increase the number of hams. Australia, Japan and Canada have gone (or are going) no code; can the situation in the US be that much different? I full believe and agree that there should be adequate testing for a 'no code' license—and also that there is a large audience out there waiting to be tapped." Ed signs himself "a would-be ham."

Greg Munda, Freeport, Illinois: "I believe there are thousands of people who, like me, want to become hams and couldn't care less if they ever use CW!!

"Soon, the 1990's will be here. Ham radio has come a long way in the past 40 years, with most of the advancement being in non-CW modes. My local ham people (the old guard) tell me the code keeps ham radio "pure"—that it will keep the CB-radio-mentality people out of the ham bands. Well, I've priced my idea of a new ham station and, believe me, anyone who can afford a CB is in for a shock when he sees the price of a new sideband ham transceiver.

"I believe that Canada's no-code license reflects a trend for the ham-radio world. New ham-radio people want to get on the air quickly with voice—not CW—privileges. If the old guard wants to keep CW, let's have a separate license for CW operation and give Novices voice privileges on several VHF bands. Let's get ham radio out of the Dark Ages and into the 1990s with classroom study courses and no CW."

Greg Munda's letter wraps up The Ham Column's discussion of a code-free US ham license for now. Remember, you can take part in The Ham Column by sending your ham-radio-related comments, questions, operating reports and shack photos me at ARRL, Dept. PCN, 225 Main St., Newington, CT 06111.

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The objective to the test was to obtain the best results on bands 13 through 90 meters, using two single wires attached to this point. In the final arrangement, one wire was 66 foot 6 inches long, and the shorter one was 31 feet long. They were separated about 90 degrees from each other. The far end of the short wire was supported at the top of a 23-foot plastic piping mast. The longer wire was constructed in an inverted-V manner with the far end coming down to a level which held the far insulator about 10-foot above ground. The two wires meet at the + side of the dipole-to-coaxial connector and, as mentioned, gain access to the inner conductor of any attached cable. The other end of the dipole-to-coaxial cable connector attaches to the metal pole and, through it, to the top of the 1-inch pipe at its base. Several wraps of #14 bare wire linked the bottom of the metal pole to the top of the 1-inch diameter 4-foot ground pipe at its base, Fig. 4. A 20-foot length of cable connects the antenna to the receiver. Its a limited space, good performing wire antenna that feeds very conveniently because it is so near to an entrance point to the house and the receiver itself.

Considerable cut-and-try was necessary to set the 1/4 wavelength, 3/4 wavelength and other odd-order resonant points on or near the shortwave broadcast bands as possible. The two wires influence each other slightly. A single, or even two wires, cannot be expected to give you super performance

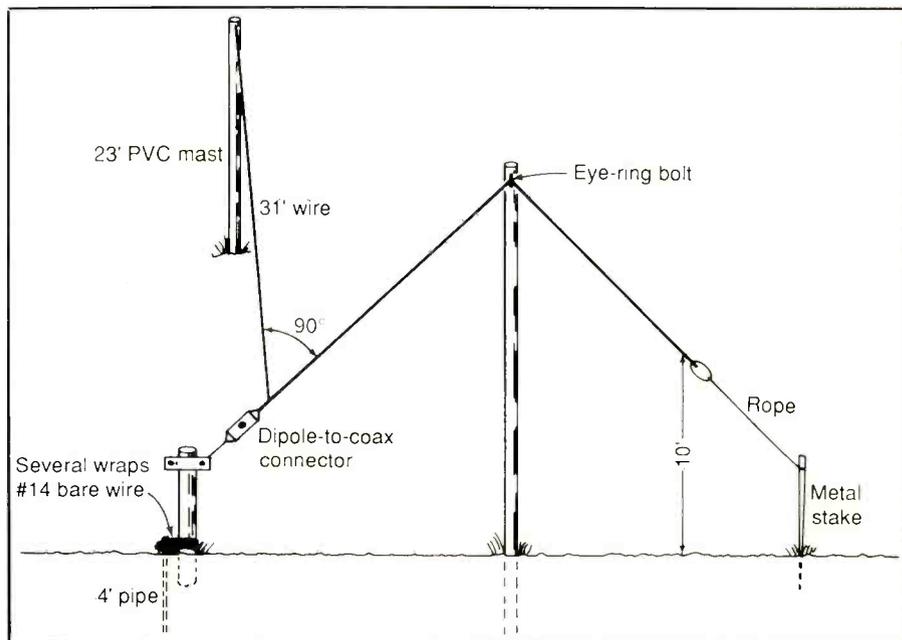


Fig. 1 Two-wire ground-fed long wires.

on each band. The wire height and ground system also have a limited influence on the proper cut, but nearly so much as the wire length. The two-wire antenna did well on 90, 75, 49, 41, 31, 21, 16 and 13 meters. An antenna bridge was used to locate the

sensitive points. Results were exciting in consideration of the limited mounting space required and the ease of erection and feed.

A single wire, 66-foot 6-inch, is, in itself, a good general all-band antenna. I liked the 66-foot 6-inch wire as an acceptable anten-

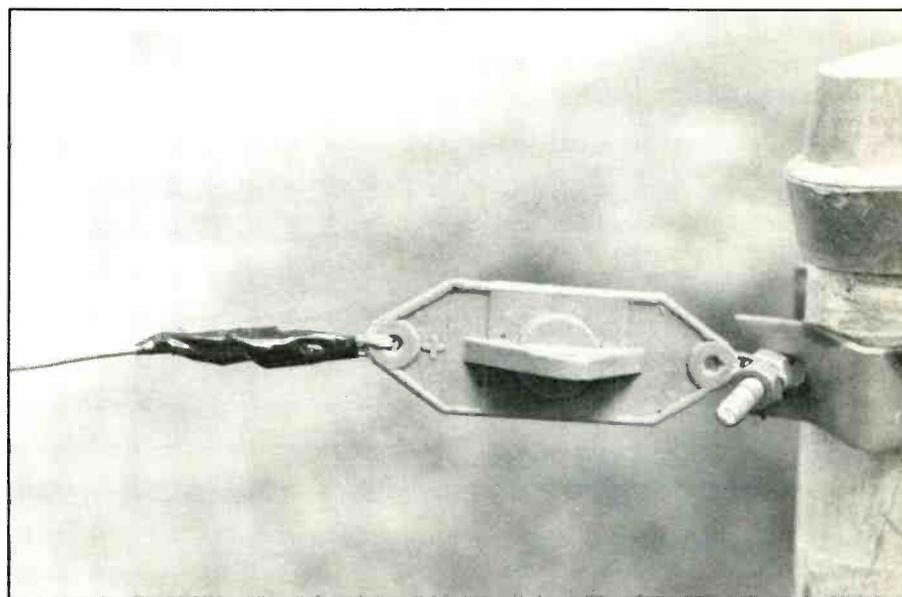


Fig. 2 Ground-level feed of single longwire.

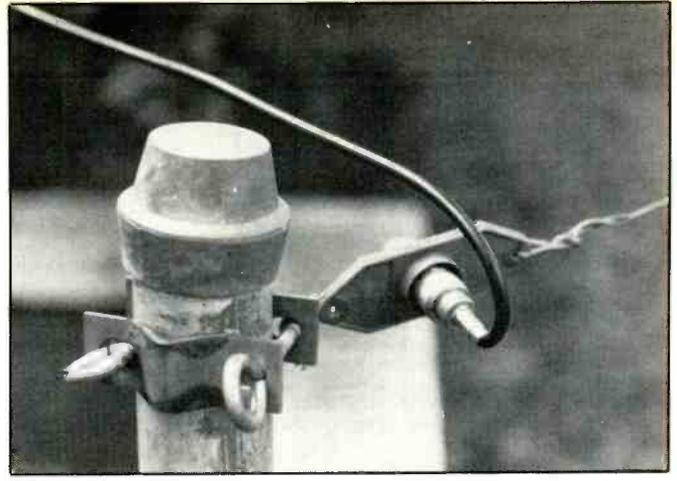
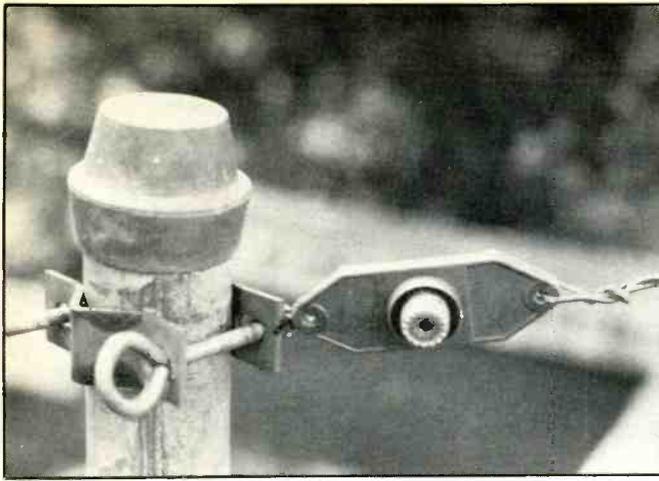


Fig. 3 Two end-fed wires (A) with short length of coaxial that feeds to receiver (B).

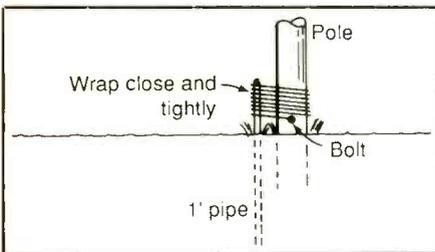


Fig 4 Ground assembly.

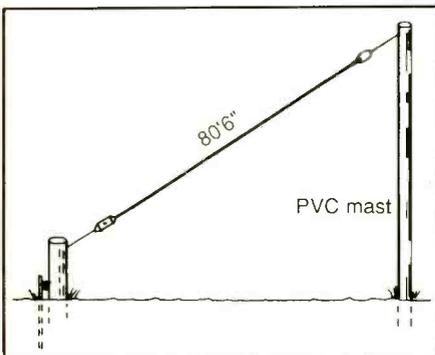


Fig. 5 Ground level end-fed longwire.

You can expect similar results with arrangements shown. However, if you wish to do some more intense experimentation, an antenna bridge does become a necessity. Don't forget to take a look at my book, "Easy-Up Antennas for Radio Listeners and

Hams", at a local outlet for electronic books. An alternative is to order the book using the Howard W. Sams Co. toll-free number, 1-800-248-SAMS (Visa or MC). Its content is almost completely dominated by homebrew, low-cost antennas. **PC**

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na with good performance, especially on 90, 75, 31, 25, 16 and 13 meters. It is just too much to expect top results on all bands, as mentioned previously. However, you can still pull in signals on all of the bands and performance doesn't deteriorate that much. Much depends on propagation conditions. We are now entering an era that will deliver strong signals to simple and relatively low antennas.

Sometimes my writings show special interest in the 19 and 31 meter bands. I peaked these two bands using a single wire version with a length of 80-foot 6-inches, Fig. 5. This antenna was hot on both 19 and 31 meters as well as 13 meters and, at the same time, was quite an acceptable antenna on the other bands.

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Beaming In (from page 4)

day, while hanging out on Broadway, a man came down the street pushing a rolling platform upon which a console radio was mounted. Stopping at the corner, he turned on the radio loud enough to attract a crowd.

Suddenly, the music was buried under loud, unrelenting, buzzing noises. He asked the crowd for a show of hands of those who had similar problems trying to listen to their favorite programs. Every person held up a hand. I did, too.

He then produced a small plastic cylinder with two prongs at one end, two slots at the other. "This *Filtermatic* is the answer to your problems, a device designed by the company that developed the Norden bombsight. Watch what it does."

Within seconds, the radio's power cord was unplugged, the cylinder inserted into the socket, and the radio plugged into the cylinder. The radio came back on, and so did the music without a trace of the awful buzzing. "Who will give me \$1 for one of these? Noises and static absolutely cannot get through the *Filtermatic* and into your radio."

Without hesitation, two dozen hands, each holding one or more dollar bills, were waving at the man in order to get one before they were sold out.

Problem was that I couldn't get it to make any difference at all with the frequent buzzing in my radio. I figured that the guy had given me a defective one, so I carried it around in my pocket for more than a month until I chanced to spot him setting up for his demonstration. I explained my situation and he understood it all too well. I was one of those poor unfortunates trapped in a building filled with too high a noise level because of hundreds of toasters, vacuum cleaners, electric clocks, electric razors, and other hazards to radio reception. To make things worse, I was using an extremely sensitive radio receiver to try and pick very feeble and fleeting signals from the other side of the world.

It wasn't that the first gizmo was defective, it was that I needed *two* of them in series to deal with the situation at my special installation. Sounded logical to me.

Taking both of them home. I plugged one noise killer cylinder into the other, plugged the radio into one end, and then stuck the entire mess into the wall with full confidence that there would never again be a singular burst of hash blasting out Big Ben or HCJB. The arrangement worked just fine, too, at least until whatever machine in the building that was generating the noise was switched on; all I heard was buzzing. So, then I carried both static smashers around in my pocket in the hopes that someday our paths would again cross.

One bitter cold day in early February I heard a familiar sound, the loud music that announced the start of his demonstration. People with gloves, hats, and heavy coats

stood around to witness his miraculous cure for buzzing radios, and to eagerly buy them at his new price of \$1.25 each.

When the crowd dispersed and he was getting ready to move on to another location, I approached and extracted both *Filtermatic* cylinders from my coat pocket. "Still getting all that noise even through *two* of these things?"

I nodded, and told him that maybe I need three or even four in order to get the job done. I explained that I had just gotten some money for my birthday and was willing to spend whatever amount was necessary.

He thought it over for a minute and speculated that I was probably living in a building with AC power. "If so," he said, "that's the problem, my friend. You didn't mention that to me when you bought these. I'm going to take them back and return your \$2. You should have told me that you had unusual power requirements. They haven't yet developed a unit that will deal with this problem, but they're working on it at Norden."

I took the \$2 and gave him back his noise killers. It had been my impression that all modern buildings in New York City had AC power, but I figured he new best.

This had slipped out of the forefront of my memory, until one day not so long ago, I stopped by a yard sale and looked over a lot of junk someone had decided to clean out of their attic. There on the table next to a faded and dented world globe sat one of those static smasher cylinders in its original box. It instantly brought back the memory of the guy with the sidewalk demo unit and that freezing February afternoon when he insisted on taking the devices back and returning my \$2.

And when I started to think about it after more than 40 years, it occurred to me that his demo radio must have worked on batteries, and the set's apparent 110 volt power cord was obviously not connected to anything at either end. Not only that, he must have been able to switch the buzzing on and off at will in order to demonstrate the noise. And why did it seem logical to me (and everyone else) at the time, that the device was developed by the company that made the famous WWII Norden bombsight? Now that I stop to think back on it, the demo, the sales pitch, and the device itself was strictly mumbo jumbo for the suckers.

Wonder what he'd say now if he found out I just paid \$5 for one from somebody's attic, and I don't even have the power line buzzes. Maybe he'd agree that's the kind of installation they work best with.

A hundred years earlier, the guy would have sold snake oil. Still, rather than take a kid's birthday money, he came up with some more mumbo jumbo in order to convincingly take back the filters and give me a birthday present of his own. Maybe he was bit of a sucker, himself; but certainly not so much of one that he didn't resell the two gizmos within the hour for \$1.25 each. **PC**

RADAR REFLECTIONS

BY JANICE LEE

RADAR DETECTORS AND THEIR USE

Louisiana Tries To Take Away Speed-Trap Incentives

Similar to legislation enacted last year in Texas, a Louisiana bill would take away the profitability of speed traps by limiting the amount of money towns can keep from speeding tickets.

Senate Bill 269, sponsored by Sen. Bill McLeod (D-Lake Charles), would allow municipalities to keep enough from fines to cover court costs, plus \$2 for every mile per hour a violator is traveling over the speed limit. Current law requires towns to turn over just \$2 from each traffic fine.

"Some communities seem to make an inordinate amount of revenue from their traffic tickets, which creates a question about whether it's a legal law enforcement tool or an abuse of their law-enforcement abilities," the senator said. "Levying of a speeding violation is a punishment for a minor offense, not a revenue-raising device."

Virginia Goes With VASCAR

Curiously, one of the two states with a radar detector ban has begun emphasizing use of a non-radar speed-enforcement device, VASCAR. In February, lawmakers approved use of two of the Visual Average Speed Computer and Recorder units by state police.

VASCAR uses a small computer to calculate time and distance, providing police with a vehicle's average speed between two points. The radio-size units are manufactured in Virginia, but the General Assembly has been reluctant to permit their use there.

"It's been frustrating for us, watching the state police try again and again to get VASCAR approved," said an official of Power Systems and Controls Inc., VASCAR's manufacturer. Lawmakers, however, finally were convinced.

State Police Lt. Col. Charles Robinson said that despite the radar detector ban the use of detectors in Virginia is widespread. He added that in addition to increasing use by Virginia residents, most commercial vehicles and about half the out-of-state cars seem to be equipped with detectors.

The state issues some 12,000-15,000 citations annually for radar detector violations.

Proponents, though, say that VASCAR can be used in situations where radar is unreliable, such as in heavy traffic.

Despite the legislature's authorization, state police are still lacking one important ingredient before implementing VASCAR. "First we have to find the money for it," said Robinson.

Ad Urges Police To Get Their Radar Fixed

We're not sure we admire them for their honesty or detest them for their perpetuation of an overworked stereotype. Nevertheless, a recent ad in a police magazine from GTE Equipment Service Center attracted our attention.

Under a photo of a line of scruffy bikers, the headline cautions, "Before you stop someone for speeding, you'd better make sure your radar gun is accurate." The ad continues:

"Good job. You just nabbed a guy for speeding. The only problem is—he wasn't. It could be your eyeglass prescription. Or that you clocked a low-flying Lear Jet by mistake. But chances are, your radar gun isn't working. Luckily, having it fixed is simple . . ."

After describing their wonderful turnaround time and exemplary warranty, GTE winds up, "So before you write out that speeding ticket, ask yourself this: 'How much do I value my incisors?'"

With all the talk by radar detector opponents about the usefulness of traffic radar, it's refreshing to see someone admitting that radar is not infallible. However, we can do without the myth of the outlaw bikes—law-abiding motorcyclists have the same image problems as radar detector owners.

Des Moines Councilman Caught In His Own Speed Trap

Des Moines, Iowa, City Councilman Mike McPherson decided something had to be done about an intersection in his ward where reports of speeding, running red lights and accidents were all too common. So he asked police to set up a radar trap there.

To the surprise of police and McPherson himself, the councilman was nabbed for traveling 45 mph in a 35 zone on the first day of the speed trap.

When pulled over, McPherson realized he didn't have his driver's license with him, but he did have a business card identifying him as a city council member. "Aren't you the gentleman who requested radar surveillance in this area?" the officer asked after seeing the card.

McPherson plead guilty to the speeding charge.



Janice Lee is the Editor of Monday, A.M., the newsletter of Electrolert, Inc.

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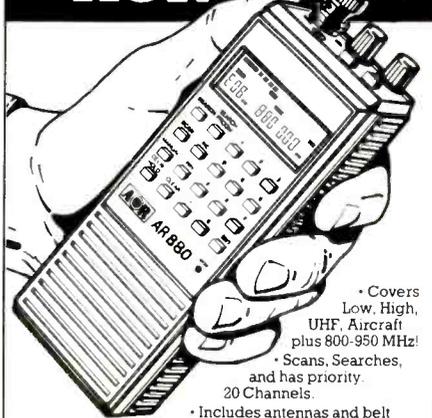
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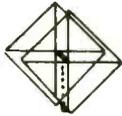
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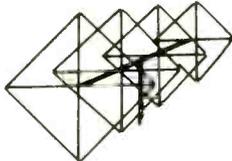
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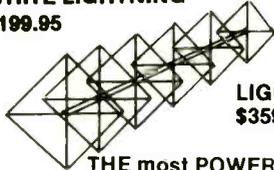


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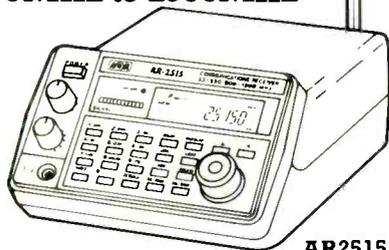
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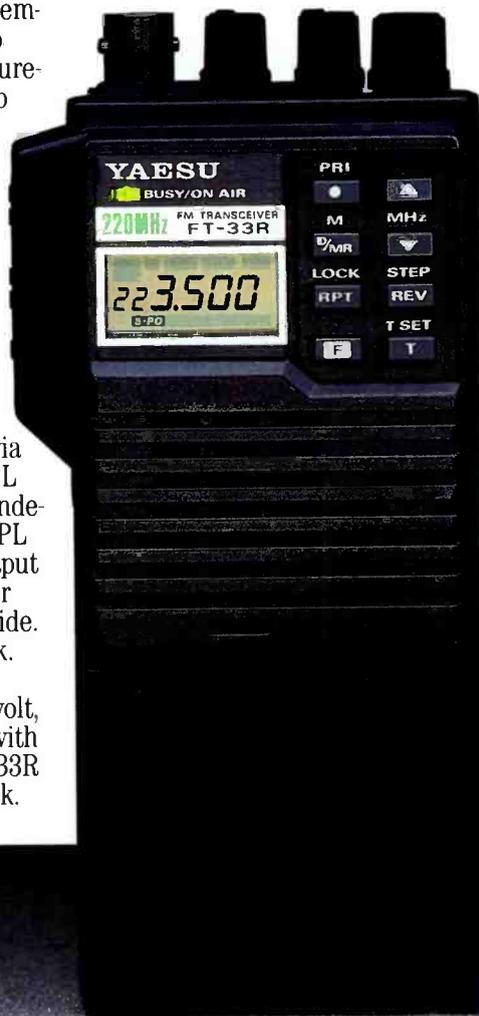
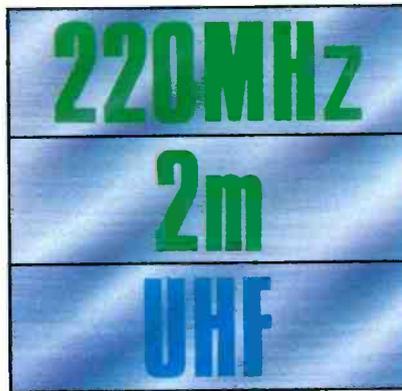
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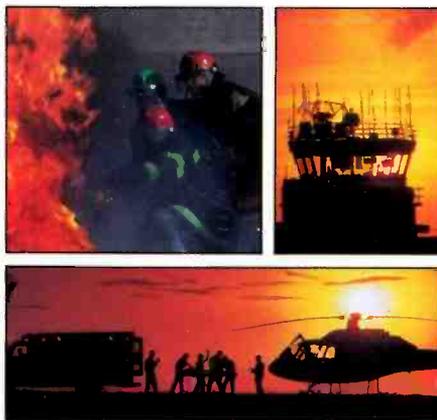


R-5000

High performance receiver

THE high performance receiver is here from the leader in communications technology—the Kenwood R-5000. This all-band, all mode receiver has superior interference reduction circuits, and has been designed with the highest performance standards in mind. Listen to foreign music, news, and commentary. Tune in local police, fire, aircraft, weather, and other public service channels with the VC-20 VHF converter. All this excitement and more is yours with a Kenwood R-5000 receiver!

- Covers 100 kHz-30 MHz in 30 bands, with additional coverage from 108-174 MHz (with VC-20 converter installed).
- Superior dynamic range. Exclusive Kenwood DynaMix™ system ensures an honest 102 dB dynamic range. (14 MHz, 500 Hz bandwidth, 50 kHz spacing.)



- 100 memory channels. Store mode, frequency, antenna selection.
- Voice synthesizer option.
- Computer control option.
- Extremely stable, dual digital VFOs. Accurate to ± 10 ppm over a wide temperature range.
- Kenwood's superb interference reduction. Optional filters further enhance selectivity. Dual noise blankers built-in.
- Direct keyboard frequency entry.

- Versatile programmable scanning, with center-stop tuning.
- Choice of either high or low impedance antenna connections.
- Kenwood non-volatile operating system. Lithium battery backs up memories; all functions remain intact even after lithium cell expires.
- Power supply built-in. Optional DCK-2 allows DC operation.
- Selectable AGC, RF attenuator, record and headphone jacks, dual 24-hour clocks with timer, muting terminals.

Optional Accessories:

- VC-20 VHF converter for 108-174 MHz operation
- YK-88A-1 6 kHz AM filter
- YK-88S 2.4 kHz SSB filter
- YK-88SN 1.8 kHz narrow SSB filter
- YK-88CN 270 Hz narrow filter
- DCK-2 DC power cable
- HS-5, HS-6, HS-7 headphones
- MB-430 mobile bracket
- SP-430 external speaker
- VS-1 voice synthesizer
- IF-232C/IC-10 computer interface.

More information on the R-5000 and R-2000 is available from Authorized Kenwood Dealers.

KENWOOD

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P.O. Box 22745, Long Beach, CA 90801-5745
CIRCLE 64 ON READER SERVICE CARD

R-2000

- 150 kHz-30 MHz in 30 bands
- All modes
 - Digital VFOs tune in 50 Hz, 500 Hz, or 5 kHz steps
 - 10 memory channels
 - Programmable scanning
 - Dual 24-hour digital clocks, with timer
 - 3 built-in IF filters (CW filter optional)
 - All mode squelch, noise blanker, RF attenuator, AGC switch, S meter
 - 100/120/220/240 VAC operation
 - Record, phone jacks
 - Muting terminals
 - VC-10 optional VHF converter (118-174 MHz)



Specifications and prices are subject to change without notice or obligation.