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# POPULAR COMMUNICATIONS

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Incorporating SCAN Magazine, The Official Publication of the Scanner Association of North America

## Radio Marti: After Four Years Still A Thorn To Castro!

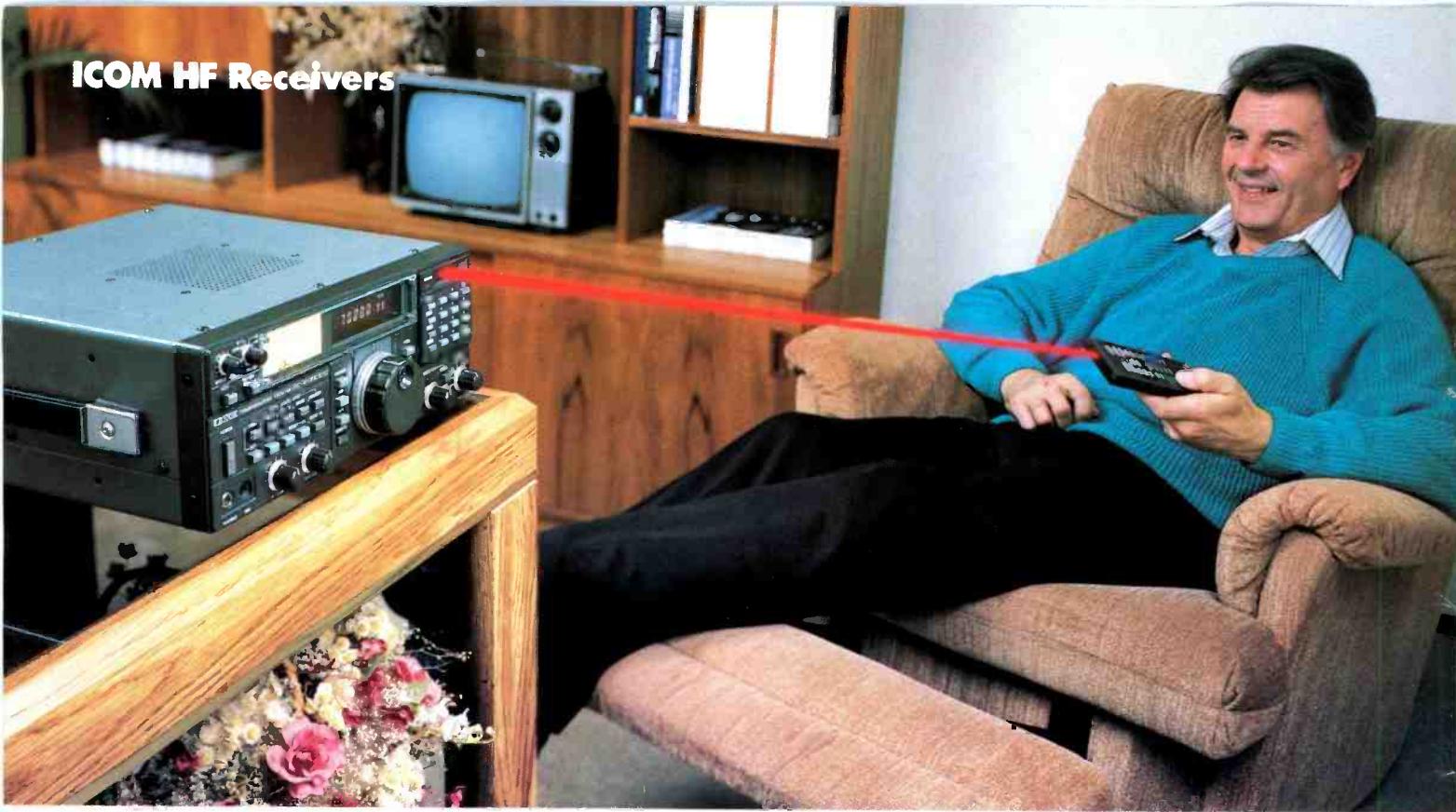
*Also in this issue:*

- **Cellular Car Phones: They've Grown Up**
- **High Rise MW DX'ing With A Ferrite Loop**
- **Selected English Language Broadcast—Spring 89**
- **POP'COMM Reviews: The New PRO-57 Scanner**

*Plus: CB, Scanners, Ham, Nostalgia And More!*



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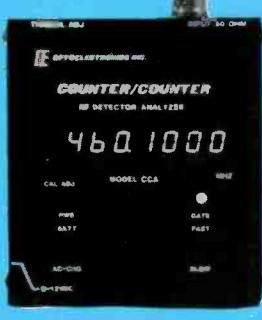
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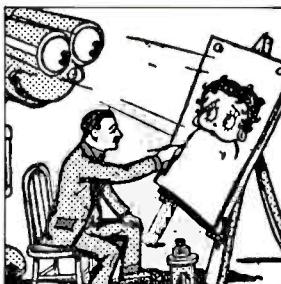
VOL. 7, NO. 8



10



14



18

## FEATURES

<b>SCAN Today</b>	<b>8</b>
Eleven years and counting!	
<b>Cellular Car Phones: They're Growing Up!</b>	<b>10</b>
More than just a status symbol, CMT's look toward new uses and development. <i>by Tom Kneitel, K2AES, Editor</i>	
<b>Selected English Language Broadcasts – Spring '89</b>	<b>14</b>
<i>by Gerry Dexter</i>	
<b>Memories Of Radio</b>	<b>18</b>
The golden era of spark gaps and superregens. <i>by Alice Brannigan</i>	
<b>A Gathering Of SWL's</b>	<b>25</b>
Good fellowship and a chance to swap DX'periences prevailed at this successful convention of DX'ers held recently in Virginia Beach, VA. <i>by POP'COMM Staff</i>	
<b>Books You'll Like</b>	<b>26</b>
Spookspeak and Connecticut Comms <i>by R.L. Slattery</i>	
<b>SCAN Photo</b>	<b>28</b>
Maybe you can win?	
<b>Radio Marti: It's Four Years Old!</b>	<b>29</b>
It took 4 years to get it on the air; now it's been operating for that long. <i>by Thurston Wainwright, KFL4PN</i>	
<b>Boston Medflight</b>	<b>30</b>
Airborne Intensive Care <i>By Francis X. Holt</i>	
<b>Racing With The Moon</b>	<b>33</b>
A whirlwind tour of "Numbers" activity. <i>by Havana Moon</i>	
<b>We Review: Radio Shack Realistic PRO-57 Scanner</b>	<b>38</b>
A good basic scanner you've probably never heard of. <i>by F.X.F., North Dakota</i>	

*This month's cover:* This month's cover: A look at the transmitter site of Radio Marti. Photo by Larry Mulvehill.

## DEPARTMENTS

Beaming In . . . . .	5
Broadcasting DX'ing . . . . .	34
Better Signals . . . . .	40
Ham Column . . . . .	43
POP'COMM Products . . . . .	44
RTTY . . . . .	45
On The Line . . . . .	49
Satellite View . . . . .	50
Clandestine Communiqué . . . . .	52
Listening Post . . . . .	54
Emergency . . . . .	59
CB Scene . . . . .	60
Telephones Enroute . . . . .	62
Communications Confidential . . . . .	64
Scanner Scene . . . . .	68
Pirates Den . . . . .	71
Washington Pulse . . . . .	72

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Wilson Antenna Company Inc.  
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Subject: Comparative Gain Testing of Citizen's Band  
Antennas  
Ref.: Rye Canyon Antenna Lab File #870529

We have completed relative gain measurements of your model 1000 antenna using the K-40 antenna as the reference. The test was conducted with the antennas mounted on a 16' ground plane with a separation of greater than 300' between the transmit and test antennas. The antennas were tuned by the standard VSWR method. The results of the test are tabulated below:

FREQUENCY(MHZ)	RELATIVE GAIN(dB)	RELATIVE POWER GAIN(%)
26.965	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
27.405	2.00	58

58%  
MORE  
POWER  
GAIN  
THAN THE  
K40

A complete description of this test is contained in file #870529. Excerpts of this report are enclosed.

Louis C. Wilcock, Antenna Engineer  
Electromagnetics Laboratory

Approved:  
*[Signature]*  
W. C. Weikel, Group Engineer  
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## INTERNAL VIEW Wilson 1000



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\* Inductively loaded antennas  
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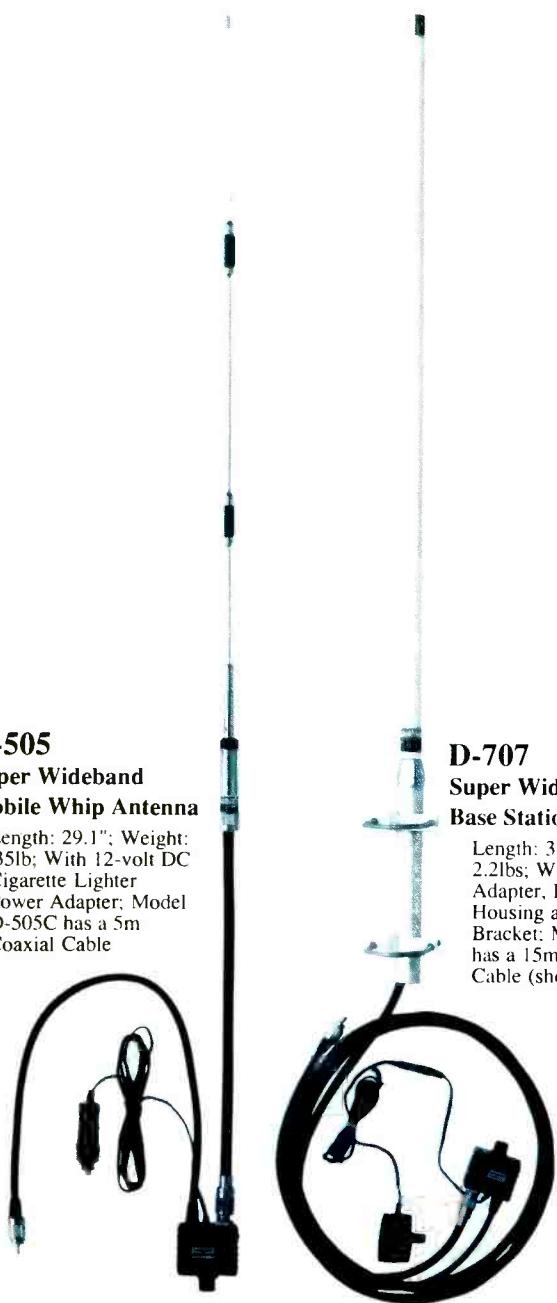
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### A Radioactive Decision With Fallout

The plucky little shipboard broadcaster, *RNI Radio Sarah* (1620 kHz, 1 kW) apparently didn't realize that after the government rattled its sabre and took the station off the air in July of 1987, the script called for it to roll over and play dead. But, as they say in offshore broadcasting circles, "He who transmits then sails away, returns to transmit another day."

About a year later, in October of 1988, *RNI* was back on the air from the same location, about four miles off the coast of Long Island, New York. This time it may well have unwittingly triggered a rather strange situation that could well have bizarre repercussions that might echo throughout all of broadcasting and communications. This due to the aftermath of the resurrected *RNI*'s appearance.

Remember, *RNI* was located aboard a vessel that wasn't flying an American flag. It was flying the flag of the Principality of Sealand, a mini-nation that registered the M/V *Sarah* as a broadcasting ship. Moreover, the *Sarah* was anchored beyond American territorial boundaries at the time (within two months after this incident, the U.S. extended its boundaries to twelve miles offshore).

Given those specifications, and the government's desire to silence the station last October, the challenge was to figure out an effective way of pulling off the mission. The way they did it in July of 1987 was for FCC and other federal agents to storm the vessel under force of arms, supported by a phalanx of Coast Guardsmen, escorting an echelon of TV reporters and newspaper photographers. It was a wonderful media event that seemed to be planned by someone who had seen one too many John Wayne movies. Everything aboard the *Sarah* that was breathing or moving (including an on-board newspaper reporter) was handcuffed and arrested. Anything on board that showed signs of voltage was either dismantled or vandalized.

In the long run, however, it was a hollow victory since the government couldn't get any of its charges against *RNI* to stick. It wasn't long before *RNI*'s owners were repairing and refurbishing the station for its second offshore appearance. The question was, other than reverting to the basic (and failed) Neanderthal approach, what strategy might be devised to silence *RNI* as soon as it went on the air again. For starters, a temporary restraining order (TRO) was obtained from the U.S. District Court in Bos-

ton. *RNI*'s crew, fearing another forced boarding, shut down the station upon receiving the TRO and decided to respond to the court.

In court, one of the government's contentions was that "numerous AM, FM, and shortwave radio stations would be subjected to interference from future *RNI* broadcasts," and the public's reliance on other stations would be "disrupted by the unlicensed broadcasts."

There is, quite obviously, no possibility at all of any programming disruption or interference from *RNI*'s 1 kW signal on 1620 kHz. The only other broadcasting stations in the entire world on 1620 kHz are in Greece (one station) and Australia (two stations that present books for the blind). In fact, there were no complaints of interference caused by *RNI*, and the "interference" grumbling is a standard and generally meaningless boilerplate gripe that's always tossed in for whatever effect it might offer.

The key word in the complaint was actually the reference to *RNI* being *unlicensed*. Under the circumstances that it wasn't located within American territorial waters, and it was flying the flag of another nation, one would have generally come to the conclusion that our government is hardly in a position to offer comments about *RNI*'s license status. Such broadcasts aren't even under the jurisdiction of the FCC.

As it turned out, U.S. District Judge John J. McNaught, of Boston, held with the government's claim and handed down one of the strangest interpretations of the FCC's jurisdiction that we have yet come across.

The Judge decided that Section 2 (47 U.S.C. 152) of the Communications Act of 1934 expressly extends coverage of the Act to all transmissions by radio which originate and/or are received within the United States. FCC jurisdiction under the Act was therefore extended beyond places over which the United States has sovereignty. The Judge noted that broadcasts from *RNI Radio Sarah* could be received within the borders of the United States, and consequently came under the jurisdiction of the FCC.

This was one of the reasons he granted a summary judgment to the government in its case against *RNI*. The *RNI* people later claimed that the Judge was under the mistaken impression that *RNI* was located aboard a ship flying the flag of the United States.

The government, therefore, has now granted itself jurisdiction over all stations with programming directed to, and which can be received in, the United States. It's like a Monroe Doctrine for the Electronics Age. It's very reassuring to know that stations at our borders whose previously uncontrolled signals assailed our fragile American ears now fall under the jurisdiction of the FCC. Like XETRA in Tijuana (690 kHz, 50 kW), CKLW in Windsor (800 kHz, 50 kW), the *Atlantic Beacon* in Turks and Caicos (1570 kHz, 50 kW). And I suppose that the North American Services of *Radio Moscow*, *Radio Havana Cuba*, BBC, and many others are now under government's newly realized jurisdiction.

Was it only coincidence that the Judge extended the FCC's jurisdiction on December 20th, and only three days later Bulgaria finally stopped jamming our *Radio free Europe* after doing it for thirty seven years? Probably the Bulgarians had second thoughts about the spectre of the FCC and Coast Guard steaming up the Maritsa River towards Sofia accompanied by Ted Koppel and Mike Wallace.

Let's just hope that Castro doesn't have Cuba's courts look into extending his own jurisdiction to cover "unlicensed" stations that can be received in Cuba. Under those circumstances, Castro could easily regard *Radio Marti* the same way Uncle Sam looked upon *RNI*. Could be interesting.

As if all of this expanded jurisdiction weren't enough to keep everybody in Washington busy, the government also pointed out to the court in the *RNI* case it has the responsibility to enforce Article 30, Section 1(1) of the ITU regulations which prohibit the establishment and use of broadcasting stations aboard ships outside the national territories. Lest anybody get the wrong idea that *RNI* had been unfairly singled out for this violation, we are now waiting to watch our government go after *Radio Caroline*, *Radio Monique*, *Starforce 576*, *Harmony Radio*, the *Voice of Peace* and all other broadcasting ships that are in possible violation of this regulation.

It's really good to see how efficient they've gotten at shutting down these dangerous stations. *RNI*'s 1 kW transmitter was silenced within days. But think back to the 1960's and *Radio Swan/Americas* which showed up on 1160 kHz with 50 kW from a

(Continued on page 70)

# MFJ SHORTWAVE ACCESSORIES

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# 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.

## He Read The Small Print

Two months ago, I accidentally let a Business Radio Service License expire. Today, I received a letter in a "window" envelope sent from Gettysburg, PA (city where the FCC licensing facilities are located) from the "Expired License Division." Stamped in red across the envelope were the words "URGENT FCC License Info Enclosed." Inside the envelope was a copy of my expired FCC license and a solemn printed notice advising me that it was a violation of FCC rules to operate a radio system without a valid license. The notice suggested that I therefore "review and correct" the copy of my expired license, and return it to the "Expired License Division" along with a "service and preparation fee" payment of \$145 so that a current license might be obtained. I then noticed that, in a smaller typeface at the bottom, it said that the "Expired License Division" was a non-government agency. This confuses me. Has the FCC given its license renewal responsibilities to another agency?

(Name withheld by request.)

Michigan

Anybody who wants to renew a Business Radio Service license (in response to the FCC's notice that arrives prior to expiration, accompanied by all necessary forms and instructions) needs only to sign/date a form and return it with a \$30 fee. Once the license has expired, an application for an entirely new license must be filed. This requires obtaining an FCC Form 400 (free), filling in a couple of basic informational questions, and then sending it to the FCC in Gettysburg with \$30. While the FCC's \$30 fee is, I think, too high, the \$145 "fee" from this private company for going through these simple motions on behalf of the applicant is laughable. There's no official or semi-official connection between the "Expired License Division" and the FCC. Someone combs through the FCC license records looking for expired licenses and then sends out paperwork that sufficiently impresses that portion of the general public that doesn't read the small print. It's legal for him to ask any fee for his good services that the traffic will bear.

Apparently the response is sufficient to make the venture worthwhile. Barnum was right. —Editor

## Reflect Upon This

My CB shack is located in the basement of my home. People I talk to over the station invariably mention that I sound as if I'm talking in an echo chamber. One person said that I sounded like I had my head stuck in a wastebasket. My transceiver doesn't do this at other locations, such as when I've used it upstairs. Please advise.

Dan Richols, "Dan In The Van,"  
Preston, ID

Looks like your basement's walls are causing the problem by reflecting the sound of your voice. You can correct the echo by deadening the room's ability to bounce sounds. Start by hanging a fully opened blanket down from the ceiling directly in back of your chair. If that doesn't do the job completely, you may have to do the same between your operating table and the wall, also at each side of the table. A throw rug on the floor at your operating position will help. It's ok to leave open about a foot at the top and bottom of the blankets for ventilation purposes. Some operators have found that cardboard egg cartons stapled to the walls or ceiling do a good job of silencing an "active" room. —Editor

## Do You Have The Code?

I obtained a used Tennelec Memory Scan minus the instructions on how to program the unit. I wrote the company that made it and they said they don't make scanners at present so they couldn't help. Can any readers help me with an instruction book for this Model MS-2 (16 channel) scanner. Would be willing to pay for this data.

Richard Shipbaugh,  
2704 Eureka Road,  
Ashtabula, OH 44004

This set was produced in the mid-1970's and was an early programmable scanner selling for about \$320. Forgetting about its many "birdies," entering frequencies into the unit was much more complex than today's direct-entry keyboard programmable scanners. The Tennelec Memoryscan came with a codebook showing each individual frequency the set could receive, as well as the multi-digit binary code for that specific frequency. This was made all the more difficult by typographical errors in the binary data given in the codebook. Without the codebook, it's a good doorstop. However, it might be fun to tinker with the thing. Any readers having a programmable codebook might wish to copy it for Richard. —Editor

# RADIO TELEGRAPH TERMINAL

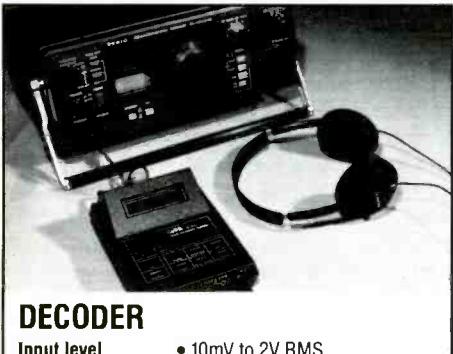
MORSE CODE DECODER

ELECTRONIC KEYER

MORSE CODE TRAINER

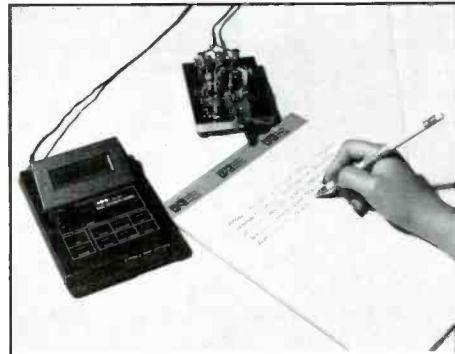
# AR-501

Only—\$229.00



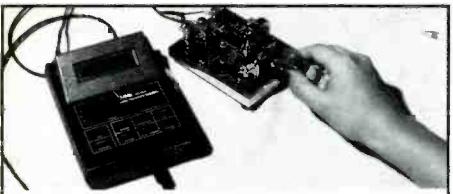
## DECODER

- 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

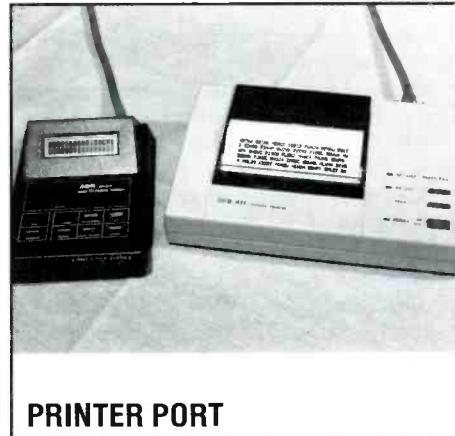


## ELECTRONIC KEYER

- |                 |  |
|-----------------|--|
| Paddle input    | • TTL level<br>—LO/Actuating, HI/Stop  |
| Key input       | • TTL level<br>—ON/Actuating, OFF/Stop<br>Contact input<br>—ON/Mark, OFF/Space |
| Keystroke speed | • 5 WPM to 30 WPM<br>1 WPM increment   |
| Keyer output    | • Transistor switching,<br>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                    |
| Display           | • Random code generator On/Off    |
| Indicators        | • Print-out On/Off                |
| Front connections | • Monitor speaker level           |
| Rear connections  | • Electronic keyer mode select    |
|                   | • Speed Up & Down                 |
|                   | • LCD 32 characters—16 per line   |
|                   | • Power On—Green LED              |
|                   | • Tuning—Red LED                  |
|                   | • Paddle—Standard/Iambic          |
|                   | • Ordinary telegraphic key        |
|                   | • Headphone/Earphone              |
|                   | • DC 13.8V input                  |
|                   | • Audio input                     |
|                   | • External speaker                |
|                   | • Keyer output                    |
|                   | • Printer output                  |



## PRINTER PORT

- Compatible with Centronics 8-bit parallel printer. At least 4K byte data buffer is required in a printer.

## BACK TO BASICS — • — But far more advanced — — • —

The AR-501, triple mode CW terminal in a small package, is a powerful gear to practice and play with. For the Novice, SWL and Amateur radio operators it detects Morse code between 5 to 30WPM. Just plug the AR-501 to your receiver to start translating the Morse code onto full 32 character LCD display. Very simple and easy to operate. You ask; for code practice?, both receive and transmit? Yes, the AR-501 does just that. It will improve your cord reception and keying technique at the speed you want. More?, it operates as an electronic keyer both standard and iambic. More Yet? How about a printer port? You bet, the AR-501 provides parallel printer port for hard copy. You can Log the QSO, and Practice. It will help you immeasurably. We even offer a standalone Nicad operated thermal printer as an option. **ACCESSORIES SUPPLIED:** The AR-501 Radio telegraph terminal comes complete with Receiver cable, DC Power cable, Miniature Phone plug, Miniature stereo phone plug, Spare fuse, Wall receptacle style power adaptor and Instruction manual. **ACCESSORIES AVAILABLE:** CC-501 Parallel printer cable — \$30.00/DPU-411 Standalone Thermal printer with 8K buffer.—\$235.00

**ORDERING INFORMATION:** For fastest service, call 800-523-6366 from 9 A.M. to 4 P.M. P.S.T. Send mail orders to: ACE Communications, Inc. 22511 Aspin Street, Lake Forest, CA 92630. VISA and MasterCard orders and certified or cashier's check or money order shipped within 48 hours of receipt. Rush service by UPS/Oversight, UPS/2nd Day Air and Federal Express is available at extra shipping charges. Purchase orders accepted from Government agencies. CA residents add 6% sales tax. COD is \$3.00 extra. **WARRANTY INFORMATION:** The AR-501 covered by One Year Warranty. Extended warranty service available at the following rates: 3 Years—\$25.00, 2 Years—\$15.00. **SATISFACTION GUARANTEE:** If, for any reason, the ORIGINAL PURCHASER, is not satisfied with the unit purchased, a full refund of the purchase price will be issued if the unit and all accessories are returned to us UNDAMAGED WITHIN 25 DAYS of the date of original purchase (Invoice date). This policy excludes any additional freight that may be incurred, and in no event modifies or limits the limited warranty.

**ACE**  
Communications

**OFFICIAL NEWS COLUMN OF THE SCANNER ASSOCIATION OF NORTH AMERICA****Your Chance To Join SCAN . . .**

Yes, it is important to have a strong SCAN membership, but often overlooked is that it is both fun and worth several times the low annual dues. Just ask any member. Chances are they'll tell you that it's added a lot to their enjoyment of scanning and has saved them more than the membership cost. For example, here are a few current things SCAN offers to members:

- Discounts of special scanner accessories, some available only through the SCAN Co-Op.
- Insider professional books on communications, most unavailable to the general public.
- Special SCAN publications, such as our famous Annual Legal Guide, the perfect summer travel companion for scanner use.
- Complete personalized membership kit, including wall certificate and wallet ID card.
- Large, updated FCC Frequency Assignment wall banner and SCAN vehicle decal included in membership kit.
- \$1,000.00 Accident Insurance Policy from Hartford Insurance with NO exclusions for police, fire, paramedic, civil defense, or other hazardous duties. (Insurance policy, with full details, is included in the membership kit. There is no additional cost for this benefit.)
- Opportunities to participate in frequency data bank updates and receive free directories.
- Special discounts for members, including car rental and other new member-only discount plans underway.
- Free special reports available for just a postage-paid pre-addressed envelope.

Plus many other activities, such as our volunteer Technical Advisory Corps for beginning scanner users.

In other words, you don't know what you're missing if you're not a member of SCAN . . . and now there is a special discount new member rate for those who already subscribe to POP'COMM. For an initial fee of just \$7.95 you can become a full-fledged member of SCAN . . . with renewals at even bigger savings. This rate does not include subscription to POP'COMM, which you should continue to renew separately as before. You must be a subscriber, however, to receive this special SCAN membership rate. Please include a recent mailing label or photocopy of the label from your subscription copy with your membership fee of just \$7.95 (U.S. dollars). Enclose money order or check to:

SCAN New Member Offer

P.O. Box 414

Western Springs, IL 60558

Welcome aboard!

**Enter Our 11th Year . . . No Less Controversial Than The First**

It hardly seems possible to those of us who were with SCAN at the beginning, but SCAN is now entering its 11th year. One thing that strikes us, is that during all those years, scanning has always been controversial for one reason or another. Time has not changed that! When SCAN started, the main controversy was with law enforcement officials. Many, if not most, officials viewed scanners as an unwarranted intrusion into police affairs. It was rare for a Sheriff or Chief of Police to recognize the value of scanner use by citizens . . . and even rarer for such an official to be willing to go public with their views. Actually, the problem was much deeper than that, with a reluctance of officials to recognize the value of citizen involvement and support. The value of programs, such as "Neighborhood Watch" sponsored by the National Sheriffs' Association, were not universally recognized. SCAN worked closely with not only the National Sheriffs' Associations (NSA), but also with the International Association of Chiefs of Police (IACP), to help solidify

the concept of citizen involvement to help local law enforcement efforts. Included in this project were a number of jointly sponsored TV public service spots, a 10-minute color video tape, and a new Neighborhood Watch manual. All incorporated scanner use by citizens to help local law enforcement agencies. Both NSA and IACP are now on record as favoring citizen use of scanners.

At that point, it would have been easy to claim victory, except that some local law enforcement agencies and governments hadn't gotten the word, or were being run on past prejudice. Most notable was the example of Philadelphia, where scanner radios were actually confiscated from retailer shelves after sales were made to "undercover" police. They even arrested an 80 year old part time clerk at one store. Seems hard to believe, doesn't it? SCAN entered into a long and costly legal battle that eventually resulted in the Philadelphia law being declared unconstitutional. It became clear, however, that it would be impossible to take such action in each and every case. SCAN did not have—and still doesn't have—the financial and manpower resources to duplicate that effort. Instead, we supply support materials to those scanner users able to organize local action . . . this has proven to be very successful in many states and cities. Recently, with the help of contributions to the SCAN Legal Defense Fund, we have been able to add professional help in Washington, D.C. to monitor proposed legislation and assist with legal filings. But controversy continues . . .

The overriding concern the last several years, of course, has been an entirely new controversy—the infamous Electronic Communications Privacy Act (ECPA). Yes, ECPA did become law. But it could have been much worse. Much to the surprise of the pro-ECPA gang, our friends in law enforcement supported the right of freedom to listen to the airwaves and pointed out the value of citizen monitoring to aid law enforcement. Many others also supported the traditional American right to freely listen to the airwaves. Even the FCC was opposed to ECPA! The end result was that, instead of rallying a ground swell of support for "ban the scanners," the sponsors of the bill were left virtually isolated with a patch-work narrow piece of legislation . . . and when they tried to bend the meaning to ban manufacturer of scanners with certain frequency ranges, the FCC said firmly "no."

In order to get the ball rolling we are holding a contest for the development of ACSB scanners and converters that are cost effective, high performance, and retain the scanning features we've come to expect. We'll have more details on the contest next month. In the meantime, those of you with a technical inclination might want to start working on block diagram concepts and circuits. No entries yet, please. Watch next month's column for details.

**Also Next Month**

We'll have an update on several SCAN projects due for completion in 1989. We're sure you'll be interested in at least one of them . . . and we have plans to make them readily available with special discounts for members. In the meantime, we could use more entries into our Public Service Award program. Surely there is a deserving individual in your area you've heard about through newspaper reports or maybe even first hand. Take a minute and send us the details, even if it's only a newspaper clipping. We'll take it from there. Please address entries to "SCAN Public Service Award" at our regular mailing address: P.O. Box 414, Western Springs, IL 60558.

**ACSB Scanners . . . Who Will Be First?**

The United Parcel is pushing hard for an early start to the first large scale Amplitude Companded Single Sideband (ACSB) on a portion of the 220 MHz ham band reassigned to them. Whatever your thoughts about the wisdom of such a reassignment, ACSB does present a new technological challenge for monitoring.



# America's Communications Leader Presents Its All-New 10-Meter SSB/CW Mobile Transceiver

Realistic, America's premier brand of scanners, CB radios and satellite TV systems, introduces the HTX-100. It's the perfect first rig for a beginning Ham and a superb 10-meter mobile radio for any amateur. Compact, yet loaded with "big rig" features you want.

## Pushbutton Memory Tuning

An easy-to-program memory stores 10 favorite frequencies and

mike-mounted pushbuttons permit safe and easy up/down frequency selection while you drive. A front-panel lock control prevents accidental frequency changes. You can fine-tune reception with the  $\pm 1.5$  kHz RIT control. Coverage is 28.0 to 29.6999 MHz, USB or CW. Convenient semi break-in keying and CW sidetone are built in.

## Selectable Power Output

You can select 25-watt or 5-watt QRP power output from the front panel. The HTX-100 has a backlit LCD frequency display with mode and tuning-step indicators. You also get a 5-step LED signal/RF power meter, noise blanker, hefty 3-watt audio output, high-quality built-in

speaker, front-panel headphone jack and a rear-panel jack for adding an external speaker.

## Join the Action on "10"

With improving band conditions and new Novice voice and digital privileges, the 10-meter fun is just beginning. Be a part of it with this affordable, top-quality transceiver! #19-1101. Only \$259.95, available today at our store near you.

**Exclusively at**  
**Radio Shack**  
**The Technology Store™**

A DIVISION OF TANDY CORPORATION

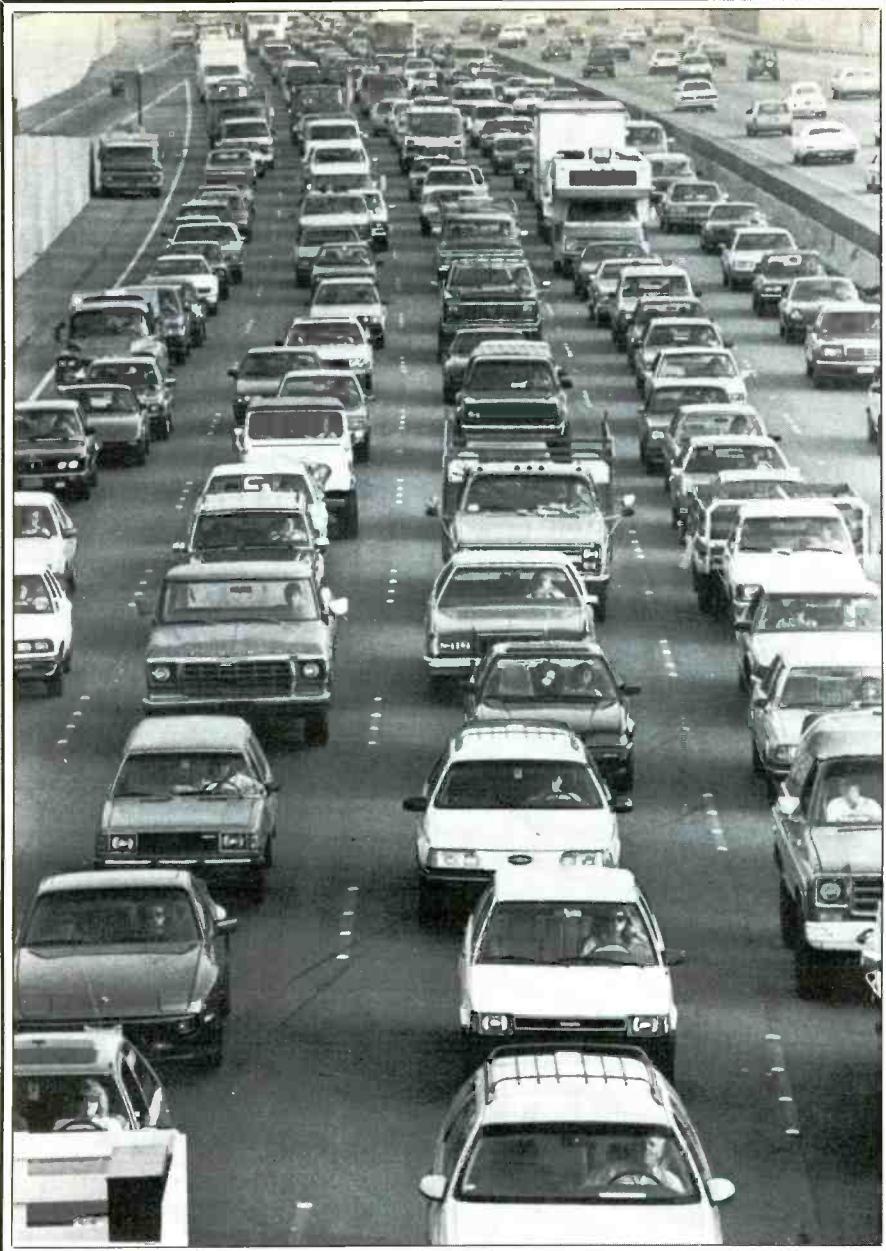
Price applies at participating Radio Shack stores and dealers



Ultracompact and includes everything you need for underdash installation

**FREE 184-Page Radio Shack Catalog! Write Dept. 427, 300 One Tandy Center, Fort Worth, TX 76102**

CIRCLE 66 ON READER SERVICE CARD



**T**ime was when users of Cellular Mobile Telephones (CMT's) seemed to fall into several primary categories: 1) Married guys driving around Corvettes who wanted to phone their girlfriends; 2) Doctors Driving Mercedes who wanted to impress other doctors at the country club; and 3) Drug dealers. These people are still there, to be sure, but the service has grown up around (and despite) the rather tacky first impression they departed to the car phones.

CMT's have become so popular that not long ago the band was expanded to 832 channels covering the 869 to 894 MHz band. When you consider that the first CMT system went on line (in Chicago) in 1983, that they needed 5 MHz more spectrum space in only six years is rather amazing. Now they're not only in cars, but also in briefcases, on boats, and in trains.

During the past few months, 108 new CMT systems went on line in 62 new markets with a total of 420 CMT systems in the U.S. A survey taken last summer showed that there were more than 1.6-million CMT's in use, almost twice as many as had been in use a year earlier. At the beginning of this year, there were about 2-million CMT's in operation in the U.S. In Dallas, there are 70,000 CMT's, and Los Angeles has more than 150,000.

#### ***Highway Safety Role***

In Ventura County, CA they're going to be installing 391 cellular callboxes on the Ventura Freeway, the Pacific Coast Highway, plus Routes 23, 33, 118, and 126. The \$814,000 project is being performed by Cubic Communications, at Oceanside, CA and will have boxes placed along these major thoroughways at intervals of 1.5 miles.

To operate, a motorist need only pick up the handset of the cellular callbox and a call will automatically be placed to the California Highway Patrol and identify the callbox from which the call is being transmitted. The CHP dispatcher will then be able to have voice communication with the police agency. Although solar powered, the cellular callboxes may be used at any hour of the day or night. They're being installed at a rate of fifty per month at an average cost of about \$2,082 each.

Los Angeles County has also recently tested these devices on the busy 405 Freeway, and if the results of the tests prove satisfactory to county officials, the cellular callboxes might replace the older ones there that use underground telephone lines. Cubic Communications hopes that this new concept in emergency roadside communications will become popular from coast-to-coast.

#### ***Cellular On The Go***

But callboxes aren't CMT's only safety role on the nation's highways. Drivers with CMT's appear ready and willing to report accidents and also motorists in distress to

# **Cellular Car Phones: They're Growing Up!**

***More Than Just A Status Symbol,  
CMT's Look Toward New Uses  
and Development.***

**BY TOM KNEITEL, K2AES, EDITOR**



These cellular callboxes were recently tried in Los Angeles. Some 390 of them are already being put into use on the main highways in Ventura County, CA.

law enforcement agencies. In the past year and a half, CMT calls placed to the CHP's 9-1-1 emergency system number increased by 700 percent. Of those calls, 98 percent were classified as "valid 9-1-1 calls," as compared to only 38 percent of the calls that came in from landline telephones.

### **Smashup On Interstate 5**

One motorist reported that she was driving on I-5 north of Sacramento when she rounded a bend and came upon a bad acci-

dent that had happened only moments earlier. She pulled over to the side of the road and quickly keyed 9-1-1 into her CMT. This connected her to the CHP and brought ambulances and other emergency vehicles pronto.

So pleased has the CHP been with the participation of CMT owners in emergency situations, that the agency is distributing a brochure entitled *Cellular Phone Safety Hints* at twelve of its offices in the southern part of the state. The brochures, which instruct CMT users on safety uses of their communications equipment, were provided by the L.A. Cellular Telephone Co., City of Commerce, CA.

### **The Professionals, Too**

In Pittsburgh, PA there's been an accident on one of the hilly roads. That brought paramedic William Jenkins to the scene. After checking the condition of the victim, he reached for his CMT in order to call a nearby hospital and speak to a doctor about life-saving procedures to be taken.

Jenkins considers the CMT one of his most important tools. There's no waste of precious minutes during the ambulance ride, and the patient is stabilized even before reaching the hospital. William Jenkins is a volunteer paramedic for the Pleasant Hills Ambulance Service, and also a part-time paid paramedic Medical Rescue Team South.

The CMT has come in handy on numerous occasions, reports Jenkins. Not that the ambulances didn't already have built-in two-way radios, they did. But the hilly terrain of the area didn't offer Jenkins the reliability and quality of communications he felt he required. He complains that the regular ambulance radios sounded scratchy and



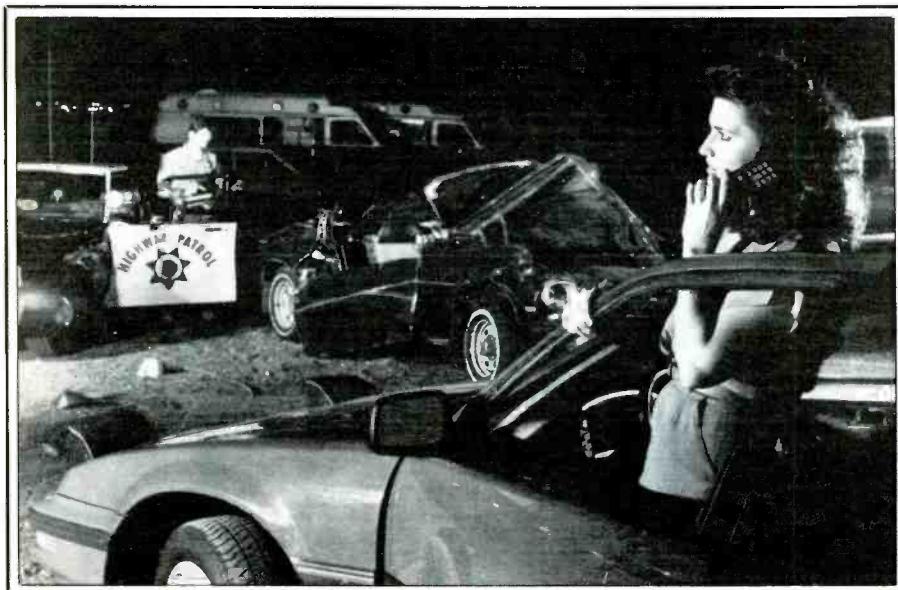
Philips Telecom recently entered the market with this European-styled CMT.

that's not what he wanted to hear when seeking a doctor's permission to perform certain on-scene emergency procedures.

Jenkins notes that other paramedic with whom he works have also latched onto the CMT concept. At his volunteer job, he uses his own CMT, but at his paid job, that ambulance is now equipped with its own CMT.

### **Coast-to-Coast**

These are typical examples of how CMT's are being pressed into emergency service from coast-to-coast. In a recent history, out of the 188 responding companies providing CMT service, 129 reported that they offered 9-1-1 service. Of the remaining systems, one-third are in the implementation stage. One-third don't have the 9-1-1 service available locally, and the remaining third are experiencing difficulty in routing emergency calls to the appropriate local channel.



Dialing 9-1-1 from your CMT can alert the police to road hazards, highway accidents, and criminal activity. Many areas of the nation have 9-1-1 calling capabilities on their cellular systems.



The Audiovox CTX-2500 offers one-touch dialing.



*Audiovox's CTX-1500 is a straightforward unit CMT for those who don't require lots of fancy frills and want to keep the price down.*



*Nokia-Mobira's new M-10 portable CMT. This American company is a subsidiary of Finland's largest corporation.*

## New Services, Too

Among the many new subscriber services available in some systems are ones such as *Star Jam* and *Star Find*, offered by L.A. Cellular in California.

*Star Jam* lets drivers get up-to-the-minute routes and specific traffic information over their car phones direct from a Metro Traffic operator. *Star Find* connects callers to an operator able to pinpoint the driver's location and provide the most convenient directions to restaurants, hotels, hospitals, tourist attractions, and other frequently visited destinations in the area.

Users of the *Bell Atlantic* system in Baltimore, MD; Washington, DC; and Pittsburgh, PA may take advantage of the *Mobile Messenger* service. Bell Atlantic acts as a personal communications center for its CMT subscribers with this service. If a sub-

scriber is out of the car, the *Mobile Messenger* answers the calls and stores the messages until they are retrieved by the subscriber. A personal passcode insures that only the subscriber can access the messages. The system can store as many as 40 5-minute messages for two weeks for individual subscribers. Even after listening to a message, it can be stored for an additional month.

This service (which costs about \$6 per month) also has an outgoing message fea-

ture that allows corporate users to send the same message out to an entire group of users simultaneously.

All recording is done in digital format (like a CD). The hardware was manufactured by Octel Communications Corp., Milpitas, CA. Look for this type of service on other CMT systems in the coming months.

## New CMT Equipment

What with CMT's being gobbled up by a communications-hungry public, a wide



*The top of the Audiovox line is the new CTX-4000 deluxe CMT.*



*Less than \$700 gets you into the world of CMT with this handheld unit from Satellite Technology Services.*



*The first cellular "base station" telephone is now available from OKI Telecom, and quite a nifty unit it is, too.*

## THE CELLULAR BOOM

YEAR    '84    '85    '86    '87    '88

### NUMBER OF SUBSCRIBERS

92,000

340,000

682,000

1,200,000

2,000,000

Courtesy: L.A. Cellular and the Cellular Telecommunications Industry Association

Last year ended with a total of about 2-million CMT's in operation. Presently, about 63,000 new CMT's per month go into service.

range of new cellular products are constantly streaming into the marketplace. Philips Telecom Equipment, a subsidiary of the famous N.V. Philips of the Netherlands, has now begun offering its first CMT, the Model 9210.

The 9210 is both mobile and transportable, full featured with last number redial; recall of the last five different dialed numbers; last digit correction; a 60-number memory; hands-free use. When using its internal rechargeable batteries, it offers up to three hours of talk time. Its European styling gives it a distinctive look.

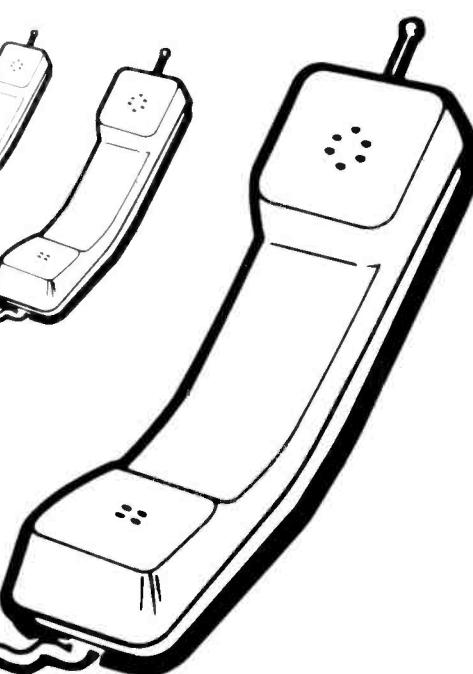
Audiovox, a leading CMT manufacturer, recently brought out a new line of phones with a sleek, lightweight look, a large LCD display, bold keypad graphics, and overall more compact design than earlier units.

The first in the new Audiovox series is the CTX-2500, which offers one-touch dialing for the three most often called numbers. Retail price is about \$1,095.

The Audiovox CTX-1500 is a basic CMT in this new line. Top of the line is the CTX-4000, providing one-touch dialing as well as voice activation. The CTX-1500 sells for \$995, with the CTX-4000 tagged at \$1,495.

Audiovox may be reached at 150 Marcus Boulevard, Hauppauge, NY 11788.

Wallet-friendly is one of the main features of the CP-832, recently announced by Satellite Technology Services. This attractive handheld wears a \$695 price sticker, which



can put up a decent enough directional antenna, you can take it to your mountain cabin.

OKI Telecom is at 4366 Shackleford Road, Norcross, GA 30093.

Nokia-Mobira Inc., just introduced its Model M-10, an economically priced portable CMT that provides up to four hours of standby, or 20 minutes of talktime on a single battery charge. A one-hour quick-charge provides 80 percent of the power. The M-10 can also be operated from a vehicle's cigarette lighter.

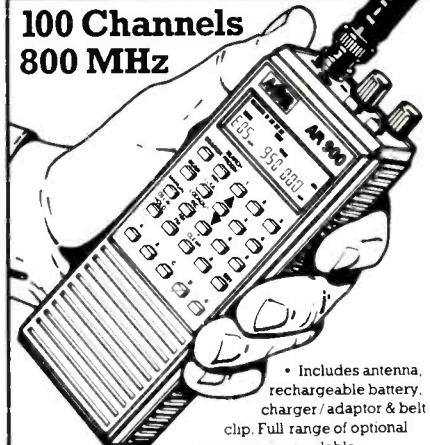
This model offers hands-free operation and A/B system select. There's an LCD and keypad in the handset, an electronic lock, scratch-pad memory, unanswered call indicator, and one-button redial. The transmitter is rated at 3 watts.

Nokia-Mobira, Inc. can be contacted at 2300 Tall Pines Drive, Suite 100, Largo, FL 34641.

As you can see, cellular is growing up in many ways. New units are going into service at a rate of 2,100 each day nationwide. Each user spends an average of seven minutes per day on their car phone. Next time you're driving on the Interstates, notice that you are now beginning to see cars, trucks, vans, and RV's sprouting two whip antennas, one for CB and the other for a cellular. The statistics seem to show this is a definite trend.

PC

## New Scanner by AOR



- Includes antenna, rechargeable battery, charger/adaptor/belt clip. Full range of optional accessories available.

- Covers 27-54 MHz, 108-174 MHz, 406-512 MHz, and 800-950 MHz.
- 5 Scan Banks and 5 Search Banks.

- 25 Day Satisfaction Guarantee. Full Refund if not Satisfied.
- No Frequencies cut out.
- Size: 2" x 5 3/4" x 1 1/2" wt: 12 oz.

**AR900**

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**\$299.00**

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(COD slightly higher)

In Indiana 317-849-2570 Collect FAX (317) 849-8794

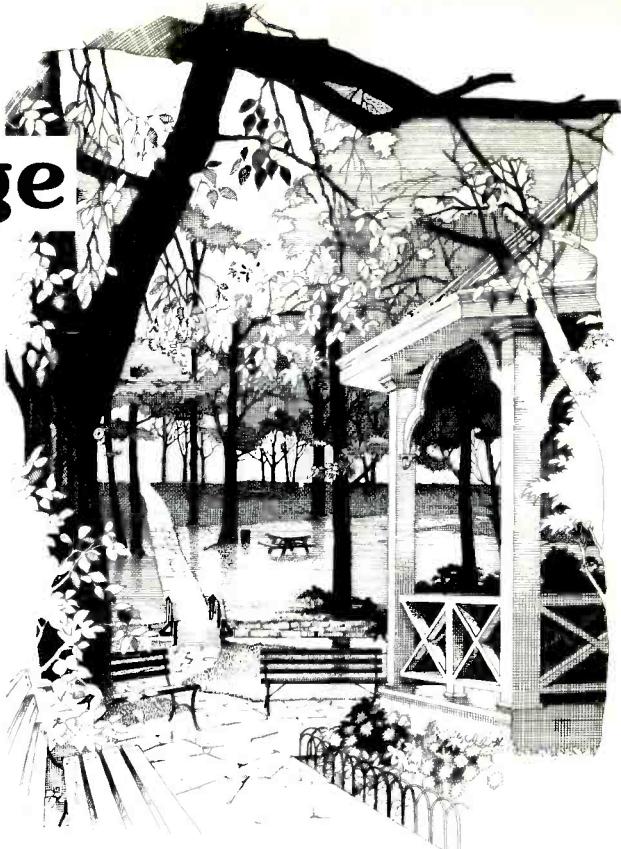
CIRCLE 34 ON READER SERVICE CARD

# Selected English Language Broadcasts

**Spring 1989**

BY GERRY L. DEXTER

**N**ote: There are hundreds of broadcasts aired in the English Language every day on the shortwave broadcast bands, many of them directed to North American audiences. This is a representative listing and not intended to be a complete reference. The listing is as accurate as possible, however, stations often make changes in their broadcasting hours and/or frequencies, often with little or no advance notice. Some broadcasters air only part of the transmission in English, or may run English into the following hour or may have altered schedules on weekends. Numbers in parenthesis indicate a start time for English that many minutes past the hour. All times are UTC.



Time	Country/Station	Frequencies	Time	Country/Station	Frequencies
0000	R. Austria International (30)	9875	0200	R. RSA, South Africa	9580, 9615, 11760
	BRT Belgium (30)	9675, 9925		R. Sweden (30)	9695
	Radio Beijing, China	9655, 9665, 9770,		WSHB, S. Carolina	13760
		11715, 15455		RCI, Canada	9535, 9755, 11845,
	Vatican Radio (50)	6150, 9605, 11780		RBI, E. Germany	11940
	WSHB, S. Carolina	11980, 13760		R. Portugal (30)	6080, 1890
	WCNS	9850		Kol Israel	6060, 9680, 9705
	WRNO	7355		R. Bucharest, Romania	7460, 9385, 9435
	REE, Spain	9630, 11880		RAE, Argentina	5990, 6155, 9510,
	RCI, Canada	5960, 9755		R. Netherlands (30)	9570, 11830, 11940
	RBI, E. Germany (45)	6080, 11890		SRI, Switzerland	11710
	R. Luxembourg	6090		VOFC, Rep. of China	6020, 6165, 9590,
	R. Budapest, Hungary (30)	6110, 9520, 9585,			9895
		9835, 11910, 15160			6095, 6135, 9725,
		9700, 11720			9885, 12035, 17730
	R. Sofia, Bulgaria	9655			5985, 9680, 9765,
	RHC, Cuba	5980, 6020, 6200,			15345
	R. Kiev, Ukraine (30)	7165, 11790, 13645,		Radiobras, Brazil	11745
		15180, 15455		V. of Nicaragua	6100
	HCJB, Ecuador (30)	9720, 11775, 15115		R. Cairo, Egypt	9475, 9675
0100	R. Yugoslavia	5980, 9620, 9660		RHC, Cuba	6140, 9655, 9770
	RFPI, Costa Rica	7375		R. Tirana, Albania (30)	7065, 9760
	R. Prague, Czechoslovakia	5930, 6055, 7345,	0300	R. Beijing, China	8425, 9770, 11715,
		9540, 9740, 11990			11860, 15180,
	R. Budapest, Hungary	6110, 9520, 9585,			15290, 15455
		9835, 11910, 15160		Vatican Radio (10)	6150
	KVOH	13695		R. Prague, Czechoslovakia	5930, 6055, 7345,
	R. Baghdad, Iraq	11775			9540, 9740, 11990
	Kol Israel	7460, 9385, 9435		R. Finland (30)	11755
	RAI, Italy	9575, 11800		R. New Zealand (30)	15150, 17705
	R. Japan	11905		TWR Bonaire	9535
	Voice of Germany	6040, 6085, 6145,		V. of Turkey	9445
		9735, 11865		HRVC, Honduras	4820
	Voice of Greece (30)	7430, 9420, 11645			
	R. Moscow	6000, 6045, 6115,			
		9700, 9720, 9765,			
		11710, 12010			

<b>Time</b>	<b>Country/Station</b>	<b>Frequencies</b>	<b>Time</b>	<b>Country/Station</b>	<b>Frequencies</b>
	R. Bucharest, Romania	5990, 6155, 9510, 9570, 11830, 11940		TWR, Monaco SIBC, Solomon Is.	7105 5020, 9545
	R. Japan	5960, 11870	0800	WSHB, So. Carolina KNLS HCJB, Ecuador KUSW R. Australia TWR, Guam (05)	9495 6065 6130, 9745, 11925 6135 9580 11805
	V. of Greece (40)	7430, 9395, 9420			
	R. Kiev, Ukraine	5980, 6020, 6200, 7165, 11790, 13645, 15180, 15455			
	V. of Germany	6085, 6130, 9545, 9605, 9700	0900	V. of Germany R. Afghanistan R. Korea RCI, Canada	6160, 9650, 11945 6085, 15255 9570 5960, 9755
	RFI, France (15)	9800, 11670			
	R. Tirana, Albania (30)	7065, 9760	1000	KYOI, Saipan WSHB, So. Carolina V. of Vietnam RBI, E. Germany R. Netherlands (30) KSDA, Guam R. New Zealand WYFR SLBC, Sri Lanka	11900 6150 9840, 12030, 15010 9665, 11890 6020, 9565 9465 6100, 9850 5950 11835
	R. Yerevan, Armenia (50)	11790, 11860, 13645			
	BBC, England	5975, 6175, 7325, 9590, 9660, 9915, 12095			
0400	R. Austria, Intl (30)	6015, 6155, 15410			
	R. Bucharest, Romania	5990, 6155, 9510, 9570, 11830, 11940			
	R. Sofia, Bulgaria	7115, 11720, 11735, 11765			
	HCJB, Ecuador	6230, 9720, 11775, 15155			
	R. Beijing, China	8425, 15180, 15290	1100	R. Beijing, China AIR, India (35)	9665 7110, 9610, 9765, 11850, 15320
	R. Norway (Sun)	9650, 11760			
	WSHB, S. Carolina	6005, 9455			
	WCSN	9870			
	KVOH	11960			
	WRNO	6185			
	WMLK	9465			
	RBI, E. Germany	9620, 11785			
	R. Lesotho	4800			
	RAE, Argentina	11710			
	SRI, Switzerland	6135, 9725, 9885, 12035			
0500	R. Beijing, China	9770, 11860			
	KUSW	6175			
	REE, Spain	9630			
	ELWA, Liberia (55)	4760			
	V. of Nigeria	7255	1200	R. Austria Int'l. (30) R. Beijing, China R. Ulan Bator, Mongolia R. Finland R. Sweden (30) WSHB, So. Carolina WCSN	6155, 13730, 15450 9665, 15110, 17710 9615, 12015 11945, 15400 9565, 15430, 17780
	R. Japan	5960, 11870			
	R. Netherlands (30)	6185, 9715			
	Kol Israel	9435, 9815, 11585, 11655, 11700			
	V. of Germany	5960, 6120, 6130, 9635, 9700			
	V. of Nicaragua	6100			
0600	WSHB, S. Carolina	6005, 9455			
	WCSN	7365			
	WRNO	6185			
	R. Korea	6060, 9570			
	GBC, Ghana	4915			
	WMLK	9455			
	RHC, Cuba	11760			
	RCI, Canada	6050, 6140, 7155, 9740, 9760, 11840, 15235	1300	BRT, Belgium (30) R. Beijing, China FEBC, Philippines R. Yugoslavia R. Finland R. Norway (Sun)	17555, 21815 11600, 11660, 15280 11850 11735, 15325, 15380 11945, 15400 6035, 9590, 15310, 21705
0700	KUSW	6135			
	VOFC, Rep. of China	5985			
	HCJB, Ecuador	6130, 9610, 9745			
	WYFR	11580			
				V. of Vietnam (30) RCI, Canada	9840, 12030, 15010 9625, 11855, 17820

<b>Time</b>	<b>Country/Station</b>	<b>Frequencies</b>	<b>Time</b>	<b>Country/Station</b>	<b>Frequencies</b>
	AIR, India (30)	9545, 11810, 15335		V. of Nigeria	11770, 15120
	R. Jordan	9560		BBC, England	11775, 15260
	R. Pyongyang, No. Korea	9600, 11335, 11735		Radiobras, Brazil	15265
1400	R. RSA, So. Africa	11925, 21535, 21590, 21670		R. Jamahiriya, Libya	15450
	R. Finland	11945, 15400		Africa No. 1, Gabon (55)	15475
	R. Norway (Sun)	15190, 15250, 15310, 21700		V. of Greece (40)	11645, 15630
	R. Sweden	15345, 17860	1900	R. Norway (Sun)	6015, 9590, 15225
	WSHB, So. Carolina	17640		V. of America	15410, 15445, 15585,
	WCSN	13760		R. Afghanistan	15600, 17785
	KVOH	17775		RCI, Canada	9635, 9655
	R. Korea	9750, 15575		R. Algiers, Algeria	15260, 17820
	R. Australia	9580		VOIRI, Iran (30)	9640, 15215, 17745
	Peace & Progress, USSR	9790, 11655, 13700, 17645		RCI, Canada	9022
	V. of Mediterranean, Malta	11925		HCJB, Ecuador	5995, 7235, 11945, 15325, 17875
1500	V. of Greece	17565	2000	WSHB, So. Carolina	15225, 17750
	KYOL, Saipan	11900		WCSN	9495
	WRNO	11965		KUSW	15580
	KNLS	7355		AIR, India	9910
	R. Jordan	9560		V. of Indonesia	15150
	R. Japan	5990, 9505		V. of Nigeria	11770
	V. of Nigeria	11770		BSKSA, Saudi Arabia	9705, 9720
	BBC, England	11775, 15260		Kol Israel	9435, 9855, 11605
	R. Veritas, Philippines	11760, 15220		WINB	15185
1600	R. Norway (Sun)	11760, 15310, 21705		R. Damascus, Syria (05)	12085, 15095
	R. Pakistan	9475, 9775, 11615, 13675		R. Cairo, Egypt (30)	15375
	UAE Radio	11730, 11955, 15435, 17865	2100	RFPI, Costa Rica	13660
	WCSN	21460		WRNO	15420
	KUSW	15580		RCI, Canada (30)	11880, 15150, 17820
	RTVM, Morocco	17595		R. Baghdad, Iraq	9770, 15230
	RFI, France	6175, 11705, 15360, 17620, 17795		R. Damascus, Syria (10)	12085, 15095
	BSKSA, Saudi Arabia	9705, 9720		KVOH	17775
1700	R. Norway (Sun)	9655, 15220, 15310		V. of Nigeria	15120
	WMLK	9465		SRI, Switzerland	9885, 13635, 15570
	BBC, England	11775, 15260		HCJB (30)	15270, 17790
	V. of America	9760, 11760	2200	R. Austria Int'l (30)	5945, 6155, 9870, 11780
	R. Moscow	5905, 5980, 6095, 9655, 9875, 9898, 11840, 12050		BRT, Belgium	5915, 9925
	RHC, Cuba	9760		R. Yugoslavia	5980, 7130, 9620, 9660
	R. Africa, Eq. Guinea	9553		R. Finland	6120, 9670, 11755
	R. Surinam Int'l (40)	17840		WSHB, So. Carolina	15205, 17640
1800	KVOH	17775		RBI, East Germany	9730
	RCI, Canada	15260, 17820		R. Mediterranean, Malta	6110
	R. Kuwait	11665		R. Sofia, Bulgaria (30)	9700, 11720
				Kol Israel	9435, 9855, 11605
				RAE, Argentina	15345
				RCI, Canada	9760, 11945
				RHC, Cuba	6165
				R. Polonia (30)	5995, 6135, 7125,, 9270
			2300	R. New Zealand (45)	17705
				RCI, Canada	9755, 11730
				R. Pyongyang, No. Korea	11735, 13650
				R. Korea (30)	15575
				R. Vilnius, Lithuania	5980, 6020, 6165, 9800, 11790, 11860, 13645
				V. of Turkey	9445, 9685
				R. Prague, Czechoslovakia	6055, 9740
				R. Tirana, Albania	6200, 7065, 9760
				V. of Vietnam	9840, 15010
				V. of Greece (35)	7430, 9395



PC

# uniden

## \$12,000,000 Scanner Sale

Uniden Corporation of America has purchased the consumer products line of Regency Electronics Inc. for \$12,000,000. To celebrate this purchase, we're having our largest scanner sale in history! Use the coupon in this ad for big savings. Hurry...offer ends September 30, 1989.

### ★★★ MONEY SAVING COUPON ★★★

**COUPON**

Get special savings on the scanners listed in this coupon. This coupon must be included with your prepaid order. Credit cards, personal checks and quantity discounts are excluded from this offer. Offer valid only on prepaid orders mailed directly to Communications Electronics Inc., P.O. Box 1045 - Dept. UN16, Ann Arbor, Michigan 48106-1045 U.S.A. Coupon expires September 30, 1989. Coupon may not be used in conjunction with any other offer from CEI. Coupon may be photocopied. Add \$1.00 for shipping in the continental U.S.A.

Regency TS2-T	\$259.95
Regency INF5-T	\$79.95
Regency R2060-T1	\$114.95
Regency UC102-T	\$109.95
Regency RH606B-T	\$419.95
Regency RH256B-T	\$294.95
Bearcat 200XL-T	\$249.95
Bearcat 100XL-T	\$184.95
Bearcat 800XL-T	\$249.95
Uniden HR2510-T	\$229.95
Uniden PRO500D-T1	\$32.95

**COUPON**

### ★★★ VALUABLE COUPON ★★★

#### Bearcat® 760XL-T

List price \$499.95/CE price \$244.95/SPECIAL 12-Band, 100 Channel • Crystalline • AC/DC Frequency range: 29-54, 118-174, 406-512, 806-956 MHz. Excludes 823.9875-849.0125 and 868.9875-894.0125 MHz. The Bearcat 760XL-T has 100 programmable channels organized as five channel banks for easy use, and 12 bands of coverage including the 800 MHz. band. The Bearcat 760XL-T mounts neatly under the dash and connects directly to fuse block or battery. The unit also has an AC adaptor, flip down stand and telescopic antenna for desk top use. 6-5/16" W x 1-1/8" H x 7-3/8" D. Model BC 590XL-T is a similar version without the 800 MHz. band for only \$194.95. Order your scanner from CEI today.

#### NEW! Regency® Products

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R4020-T Regency 100 ch. handheld scanner	\$189.95
R4010-T Regency 10 channel handheld scanner	\$114.95
R1800-T Regency 100 channel mobile scanner	\$244.95
P200-T Regency 40 channel CB Mobile	\$38.95
P210-T Regency 40 channel CB Mobile	\$65.95
P220-T Regency 40 channel CB Mobile	\$79.95
P300-T Regency 40 channel SSB CB Mobile	\$137.95
P400-T Regency 40 channel SSB CB Base	\$174.95
PR100-T Regency visor mount radar detector	\$54.95
PR110-T Regency "Passport" size radar detector	\$114.95
PR120-T Regency "micro" size radar detector	\$144.95
MP5100XL-T Regency 40 Ch. marine transceiver	\$139.95
MP5510XL-T Regency 60 Ch. marine transceiver	\$159.95
MP6000XL-T Regency 60 Ch. marine transceiver	\$209.95
MP2000XL-T Regency handheld marine trans.	\$189.95

#### Regency® RH256B-T

List price \$799.95/CE price \$299.95/SPECIAL 16 Channel • 25 Watt Transceiver • Priority The Regency RH256B is a sixteen-channel VHF land mobile transceiver designed to cover any frequency between 150 to 162 MHz. Since this radio is synthesized, no expensive crystals are needed to store up to 16 frequencies without battery backup. All radios come with CTCSS tone and scanning capabilities. A monitor and night/day switch is also standard. This transceiver even has a priority function. The RH256 makes an ideal radio for any police or fire department volunteer because of its low cost and high performance. A 60 Watt VHF 150-162 MHz. version called the RH606B-T is available for \$429.95. A UHF 15 watt, 16 channel version of this radio called the RU156B-T is also available and covers 450-482 MHz. but the cost is \$454.95.

### ★★★ Uniden CB Radios ★★★

The Uniden line of Citizens Band Radio transceivers is styled to compliment other mobile audio equipment. Uniden CB radios are so reliable that they have a two year limited warranty. From the feature packed PRO 810E to the 310E handheld, there is no better Citizens Band radio on the market today.

PRO310E-T Uniden 40 Ch. Portable/Mobile CB	\$83.95
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PRO500D-T Uniden 40 Channel CB Mobile	\$38.95
KARATE-T Uniden 40 channel rescue radio	\$53.95
GRANT-T Uniden 40 channel SSB CB mobile	\$166.95
MADISON-T Uniden 40 channel SSB CB base	\$244.95
PC122-T Uniden 40 channel SSB CB mobile	\$119.95
PRO510XL-T Uniden 40 channel CB Mobile	\$38.95
PRO520XL-T Uniden 40 channel CB Mobile	\$56.95
PRO530XL-T Uniden 40 channel CB Mobile	\$79.95
PRO540E-T Uniden 40 channel CB Mobile	\$97.95
PRO640E-T Uniden 40 channel SSBCB Mobile	\$137.95
PRO710E-T Uniden 40 channel CB Base	\$119.95
PRO810E-T Uniden 40 channel SSB CB Base	\$174.95

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Buy the finest Uniden radar detectors from CEI today.	
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RD7-T Uniden visor mount radar detector	\$99.95
RD9-T Uniden "Passport" size radar detector	\$114.95
RD9XL-T Uniden "micro" size radar detector	\$144.95
RD25-T Uniden visor mount radar detector	\$54.95
RD500-T Uniden visor mount radar detector	\$74.95

### Bearcat® 200XL-T

List price \$509.95/CE price \$254.95/SPECIAL 12-Band, 200 Channel • 800 MHz. Handheld Search • Limit • Hold • Priority • Lockout Frequency range: 29-54, 118-174, 406-512, 806-956 MHz. Excludes 823.9875-849.0125 and 868.9875-894.0125 MHz. The Bearcat 200XL-T sets a new standard for handheld scanners in performance and dependability. This full featured unit has 200 programmable channels with 10 scanning banks and 12 band coverage. If you want a very similar model without the 800 MHz. band and 100 channels, order the BC 100XL-T for only \$189.95. Includes antenna, carrying case with belt loop, ni-cad battery pack, AC adapter and earphone. Order your scanner now.

### Bearcat® 800XL-T

List price \$549.95/CE price \$259.95/SPECIAL 12-Band, 40 Channel • No-crystal scanner Priority control • Search/Scan • AC/DC Bands: 29-54, 118-174, 406-512, 806-912 MHz. The Uniden 800XL-T receives 40 channels in two banks. Scans 15 channels per second. Size 9 1/4" x 4 1/2" x 12 1/2". If you do not need the 800 MHz. band, a similar model called the BC 210XL-T is available for \$178.95.

### Bearcat® 145XL-T

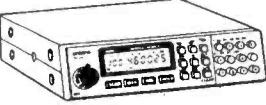
List price \$189.95/CE price \$94.95/SPECIAL 10-Band, 16 Channel • No-crystal scanner Priority control • Weather search • AC/DC Bands: 29-54, 136-174, 406-512 MHz. The Bearcat 145XL is a 16 channel, programmable scanner covering ten frequency bands. The unit features a built-in delay function that adds a three second delay on all channels to prevent missed transmissions. A mobile version called the BC580XL-T featuring priority, weather search, channel lockout and more is available for \$94.95. CEI's package price includes mobile mounting bracket and mobile power cord.

### President® HR2510-T

List price \$499.95/CE price \$239.95/SPECIAL 10 Meter Mobile Transceiver • Digital VFO Full Band Coverage • All-Mode Operation Backlit liquid crystal display • Auto Squelch RIT • Preprogrammed 10 KHz. Channels Frequency Coverage: 28.0000 MHz. to 29.6999 MHz. The President HR2510 Mobile 10 Meter Transceiver made by Uniden, has everything you need for amateur radio communications. Up to 25 Watt PEP USB/LSB and 25 Watt CW mode. Noise Blanker. PA mode. Digital VFO. Built-in S/RF/MOD/SWR meter. Channel switch on the microphone, and much more! The HR2510 lets you operate AM, FM, USB, LSB or CW. The digitally synthesized frequency control gives you maximum stability and you may choose either pre-programmed 10 KHz. channel steps, or use the built-in VFO for steps down to 100 Hz. There's also RIT (Receiver Incremental Tuning) to give you perfectly tuned signals. With receive scanning, you can scan 50 channels in any one of four band segments to find out where the action is. Order your HR2510 from CEI today.

### NEW! President® HR2600-T

List price \$599.95/CE price \$299.95/SPECIAL 10 Meter Mobile Transceiver • New Features Delivery for this new product is scheduled for June, 1989. The new President HR2600 Mobile 10 Meter Transceiver is similar to the Uniden HR2510 but now has repeater offsets (100 KHz.) and CTCSS encode.



**BC760XL-T**  
800 MHz.  
mobile scanner  
**SPECIAL!**

### ★★★ Facsimile Machines & Phones ★★★

FAX3300-T Pactel Fax machine with phone	\$1,099.95
XE750-T Uniden Cordless Phone with speaker	\$99.95
XE550-T Uniden Cordless Phone	\$79.95
XE300-T Uniden Cordless Phone	\$69.95

### ★★★ Extended Service Contract ★★★

If you purchase a scanner, CB, radar detector or cordless phone from any store in the U.S. or Canada within the last 30 days, you can get up to three years of extended service contract from Warrantech. This service extension plan begins after the manufacturer's warranty expires. Warrantech will perform all necessary labor and will not charge for return shipping. Extended service contracts are not refundable and apply only to the original purchaser. A two year extended contract on a mobile or base scanner is \$29.99 and three years is \$39.99. For handheld scanners, 2 years is \$59.99 and 3 years is \$79.99. For radar detectors, two years is \$29.99. For CB radios, 2 years is \$39.99. For cordless phones, 3 years is \$34.99. Order your extended service contract today.

### OTHER RADIOS AND ACCESSORIES

BC55XL-T Bearcat 10 channel scanner	\$114.95
BC70XL-T Bearcat 20 channel scanner	\$159.95
BC175XL-T Bearcat 16 channel scanner	\$156.95
R2060-T Regency 60 channel scanner	\$149.95
TS2-T Regency 75 channel scanner	\$269.95
UC102-T Regency VHF 2 ch. 1 Watt transceiver	\$114.95
BPSS-T Regency 16 amp reg. power supply	\$179.95
BC205-T N11-Cad batt. pack for BC200/BC100XL-T	\$49.95
B8-1.2 V AA Ni-Cad batteries (set of eight)	\$17.95
FBE-T Frequency Directory for Eastern U.S.A.	\$14.95
FBW-T Frequency Directory for Western U.S.A.	\$14.95
RFD1-T Great Lakes Frequency Directory	\$14.95
RFD2-T New England Frequency Directory	\$14.95
RFD3-T Mid Atlantic Frequency Directory	\$14.95
RFD4-T Southeast Frequency Directory	\$14.95
RFD5-T N.W. & Northern Plains Frequency Dir.	\$14.95
ASD-T Airplane Scanner Directory	\$14.95
SRF-T Survival Radio Frequency Directory	\$14.95
TSG-T "Top Secret" Registry of U.S. Govt. Freq.	\$14.95
TTC-T Tune in on telephone calls	\$14.95
CBH-T Big CB Handbook/AM/FM/Freeband	\$14.95
TIC-T Techniques for Intercepting Communications	\$14.95
RRF-T Railroad frequency directory	\$14.95
EEC-T Embassy & Espionage Communications	\$14.95
CIE-T Covert Intelligence, Elect. Eavesdropping	\$14.95
MFF-T Midwest Federal Frequency directory	\$14.95
A60-T Magnet mount mobile scanner antenna	\$35.95
A70-T Base station scanner antenna	\$35.95
A1300-T 25 MHz.-1.3 GHz. Discone antenna	\$109.95
USAMM-T Mag mount VHF ant. w/ 12' cable	\$39.95
USA-S-T 1/4" hole mount VHF ant. w/ 17' cable	\$35.95
Add \$4.00 shipping for all accessories ordered at the same time. Add \$11.00 shipping per radio and \$4.00 per antenna.	

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# Memories of Radio

## The Golden Era of Spark Gaps and Superregens

BY ALICE BRANNIGAN

**I**t was a question of "show me" when it got right down to trying to figure out which station was the very first broadcaster in Kansas City, MO. Prof. William J. Ryan (of the Department of Communication and Fine Arts at Rockhurst College in Kansas City) examined the various contenders for the title in a recent edition of the Missouri Historical Review, publication of the State Historical Society of Missouri. Readers Zel Eaton and Frederic J. Zuccheri, both of Missouri, sent in copies of Prof. Ryan's excellent article.

Prof. Ryan noted that two very early non-commercial stations (that later became broadcasters) were stations 9ZH (Reorganized Church of Jesus Christ of Latter Day Saints, at Independence), and 9XAB (McCreary Radio Supply Co., at Kansas City). Station 9ZH got its license in February of 1917, with 9XAB sometime around late 1920 or early 1921.

The RLDS station began its days as a two-way voice communications station between the organization's offices in Independence and Lamoni, Iowa. The McCreary station, 9XAB, was operated as an adjunct to Kansas City's only radio supply house. When its owner, Arthur R. McCreary hooked up with furniture manufacturer O.F. Mehornay, in 1922, they formed the Western Radio Company. By March 10th of 1922, they had obtained the first commercial broadcasting license in Kansas City. The callsign of the station was WOQ.

RLDS was planning on opening a 1 kW station in Kansas City and invited its radio expert in Lamoni, Arthur B. Church (ham 9WU), to come to town and work on the project. According to Prof. Ryan, he arrived and took out license 9AXJ under the name of his Central Radio Company and Central Radio School, although the RLDS was

closely involved in the station. In the winter of 1921-1922, 9AXJ was constructed at 9th and Grand and in late March the local media announced that weekly sermons would henceforth come from this station. In April, 1922, the station became licensed as station WPE with 22 watts.

WOQ (which alternately used its old 9XAB callsign) continued in operation, with one of its regular programming contributors being the Unity School of Christianity. Some other programming was also supplied from a studio in the Kansas City Star building over the 50 watt transmitter located at 6 West 14th Street. Meanwhile, the Kansas City Star was putting together its own radio station and utilizing McCreary's 9XAB callsign to test the installation.

Ryan observes that by June 5th of 1922, the Star's own station (WDAF) received a license for operation with a 500 watt trans-



January 10, 1931

Jos. Hueter  
1610 N. 16th St.  
Philadelphia, Pa.

Dear Mr. Hueter:

Your courtesy in writing us in regard to the test program which we broadcast early the morning of December 23 is certainly appreciated. We are very glad to verify your report, and also to send you herewith a copy of our regular broadcasting schedule. We are having new schedules printed within a few days. Should you care for one, please let us know. We hope that you can tune in on many of our regular programs, and also that you will hear the next two special programs which we expect to broadcast from 12:30 to 2:00 a.m. on January 12 and 26.

Are you familiar with our periodicals? We are sending you a sample copy of Weekly Unity and shall be glad to send you free sample copies of any of our other periodicals upon receipt of your request.

At any time that we can serve you in any capacity possible, please let us know.

Yours very sincerely,

UNITY SCHOOL OF CHRISTIANITY  
Radio Department

LB:B



Dear Listener:

The Star desires to thank you for your communication, just received. We are pleased to know that you tune in on our station and are enjoying our broadcasting.

WDAF is one of the world's largest broadcasting stations. It is a 500-watt Western-Electric transmitter, using two 200-watt tubes in series in the modulator circuit, and two in series in the oscillator circuit. Its speech amplifier is the regeneration type, and it employs in addition a 50-watt speech amplifier tube in the transmitter. Fourteen watts of filament and 9.500 ohms of impedance are generated from motors run off the Star's own dynamo.

The Star wants you to consider this a personal invitation to visit its building and equipment, as well as WDAF, its studio and operating rooms, whenever you are in Kansas City. We invite you to feel welcome here any time.

WDAF is dedicated to the people of the Southwest, and to the country generally. Its purpose is to broadcast entertainment, education and amusement for those people, and if they find those things in this station, The Star will feel that its mission in installing a radio station has been fulfilled.

Thanking you again for your interest in WDAF and trusting to hear from you in the near future, we remain,

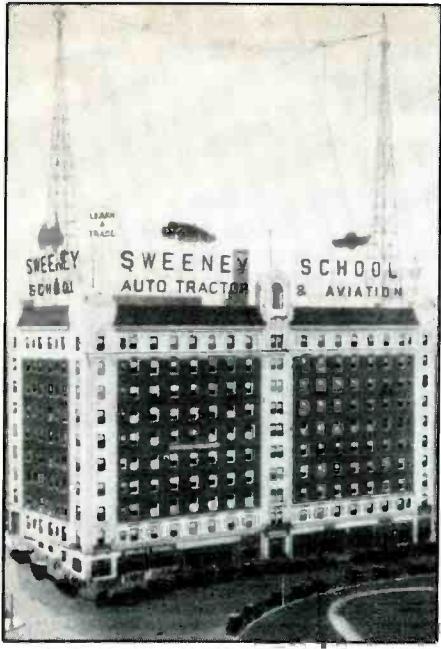
Very sincerely yours,  
The Radio Department,  
THE KANSAS CITY STAR.

By \_\_\_\_\_

P. S. A Schedule of our broadcasting hours is enclosed.

The Star began programming over WOQ but soon opened its own station, WDAF, which became popular with DX'ers. (Courtesy Larry Flegle, KC4AXQ.)

WOQ appears to have been the very first broadcaster in Kansas City. This 1931 letter came from WOQ's new owners. (Courtesy Joe Hueter.)



WHB started out early in Kansas City when it was owned by an auto and aviation school.

mitter. The station's Nighthawk's program and other novelty features brought it to quick fame.

Still, station WHB, of the Sweeney Auto-

mobile School, remains to be fit into this historic scene, as pointed out Prof. Ryan. According to which of several sources are to be believed as accurate, WHB was operating in April or May of 1922, which would place it in line ahead of WDAF. Ads for WHB started appearing on June 11th.

There has always been some air of controversy and confusion about the exact chronological order in which these stations went on the air because of early experimental and other non-commercial transmissions that had been made. The Department of Commerce listed WOQ first, with WPE, WHB, and WDAF following in that order. In the early days, all of them operated on about 620 and 833 kHz. By June of 1922, all were in operation.

The Unity School of Christianity purchased WOQ in 1924, but in 1934, the station was forced off the air to make room on the frequency for KFH in Wichita. Under different owners, WDAF and WHB remain in operation. KMBZ is a descendant of WPE which had moved back to Independence and became KFIX, then KLDS. By 1928, KLDS moved back to Kansas City as KMBC, then became KMBZ.

Which specific Kansas City station is to wear the mantle of honor will always be a topic of discussion, although all four local stations must be recognized as true pioneer broadcasters. We were most fortunate to

have Prof. Ryan's material from which to draw. Thanks to the readers who made sure that we saw the Missouri Historical Review, July '88 issue.

### An Early Seagoing Broadcaster

Bruce L. Werner, WB8TVD, of Big Rapids, MI passed along a 1970 QSL from seagoing broadcaster *Radio Veronica*, and notes that he's long been interested in this breed of station. In fact, he has tapes of some of these stations he has logged.

Although Bruce doesn't mention it, the vessel shown on the QSL is actually the *M/V Veronica II*, which is the second ship from which *Radio Veronica* had broadcast. The station first went on the air in April of 1960 and was then located aboard the converted 485-ton German lightship *Borkum Riff*. In 1966, the station took up residence aboard the *M/V Veronica II*.

This station, beginning as it did in 1962, was the first of what might be termed the wave of 1960's seaborne mediumwave broadcasters, although *Radio Caroline South* (later called *Radio Caroline North*) began on March 28th, 1964 and usually gets credit for being the first of these stations.

*Radio Veronica* was located 3.5 miles off the Dutch coast between Scheveningen and

### W H B Broadcasting Co.

SUITE 254-255 HOTEL BALTIMORE  
TELEPHONE HARRISON 0388  
KANSAS CITY, MISSOURI

December 10, 1931.

Joseph Leo Hueter,  
1602 W. Columbia Ave.,  
Philadelphia, Pa.

Dear Sir:

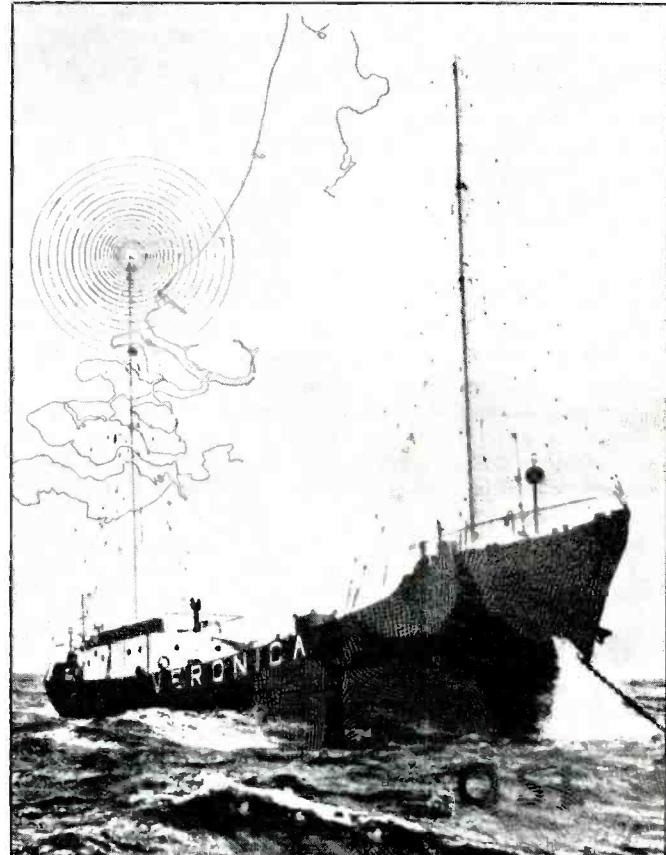
This will acknowledge the report of our reception on December 6th. Your report checks with our records and we are pleased to verify your reception herewith.

We shall be pleased to have you report receptions of WHB in the future.

Yours very truly,  
*John T. Schilling*, Director.  
W H BROADCASTING COMPANY.

JTS:T

A 1931 QSL letter from WHB gives its address as the Hotel Baltimore. (Courtesy Joe Hueter.)



*Radio Veronica* began its offshore broadcasts in 1960, making it the first of the North Sea floating pirate stations. (Courtesy Bruce L. Werner.)

# Television Station At Watsontown Planned By Visual Radio Corp.

Special to The Sun

Washington, Oct. 29.—Arguments in favor of establishment of an experimental television station in Watsontown, Pa., will be submitted to the Federal Radio Commission next Thursday by officials of the Visual Radio Corporation, which has recently moved its extensive Laboratories from Philadelphia and abandoned plans for erecting a Visual broadcasting transmitter at Atlantic City, N. J.

An initial application of this firm for permission to construct its experimental plant on the famed Steel Pier at the New Jersey coast resort was amended a few weeks ago after the Visual Broadcasting Corporation had defaulted in connection with a previous hearing. The new application is based on the belief that Watsontown would prove a more satisfactory area for experimental operation, that the transmitter would cause less interference with other stations if built at that location, and that the station should be situated nearer the laboratory and manufacturing plant. Visual Broadcasting Corporation has been actively engaged in research for more than six years and claims credit for making notable

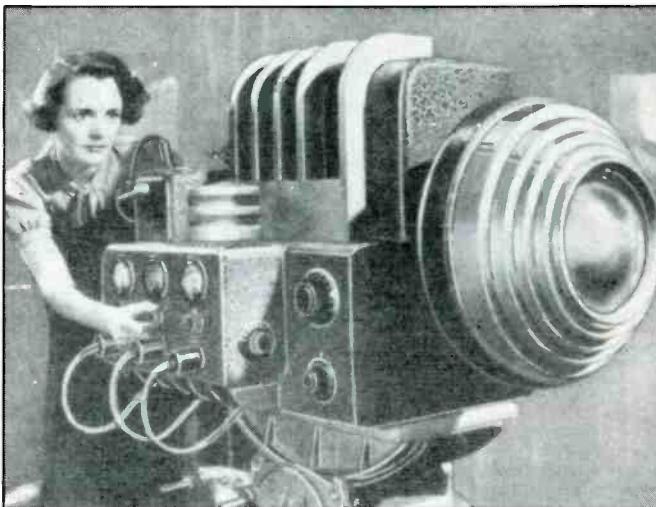
contributions to the art of television. The nature of future experiments in this field have not been disclosed but are expected to be indicated at the hearing Thursday.

Tentative plans call for a \$15,000 transmitter, \$6,000 studios, and \$6,000 worth of projection equipment. Permission to conduct preliminary experiments with a transmitter using only 10 watts power has been granted in order that scientific data may be obtained which will be valuable in designing the permanent station which would employ 1,000 watts power. The projected station will be ready for operation 60 days after construction is begun, the application contains, and it is planned to begin work about three months after the requested construction permit is granted.

Watsontown, Oct. 29.—The Visual Radio Corporation, which proposes to establish an experimental television station here, moved part of its equipment to Watsontown about two months ago and occupied a building on 1st Street between Fifth and Sixth Streets. The building was formerly used by the Watsontown Boy Scouts.

A very odd 1932 newspaper report told of building a \$25,000 experimental TV station in a town so small, that the milktrain probably didn't even stop there. (Courtesy Al Berger.)

Actress Mary Astor displays Hollywood's fantasy conception of a TV camera in her 1936 movie "Trapped by Television." It would be another ten years before TV became a practical reality for the general public.



the Hague with a primary audience in the Netherlands and the Flemish speaking part of Belgium. After Radio Caroline closed down in March, 1968, Radio Veronica attracted a large British audience.

This station ran 10 kW into a T-type antenna, double wire, length 2 X 24 ft., 66 ft. high. Veronica was on 1562 kHz and managed to operate for more than ten years.

The Dutch Government laws against offshore broadcasting went into effect in December, 1964, but Radio Veronica wasn't affected by them. Those laws were mostly aimed at Radio Nordzee (located on an artificial platform mounted on steel stilts in the sea bed six miles northwest of Noordwijk) and any future stations that might be set up on gas and oil drilling rigs built on the Netherlands part of the North Sea Continental Shelf. The Dutch laws couldn't be written to apply to unlicensed stations operating from ships outside the territorial waters, such as Radio Veronica.

This station was owned by the Verweij Brothers of Hilversum. The studios were in Hilversum, with all the programs taped there and then transported out to the ship.

## Early TV

No, we have not forgotten about early TV, nor made a deliberate attempt to ignore the topic. It's just the press of so many other areas that manages to push it aside from time to time. Thanks to the several readers who took the time to ask me to mention early TV at least once in a while.

As it turns out, reader Al Berger of Mon-

toursville, PA submitted a rather odd early TV item that appeared more than fifty six years ago in the October 29, 1932 edition of the Williamsport Sun-Gazette, under the headline "Television Station at Watsontown Planned By Visual Radio Corp."

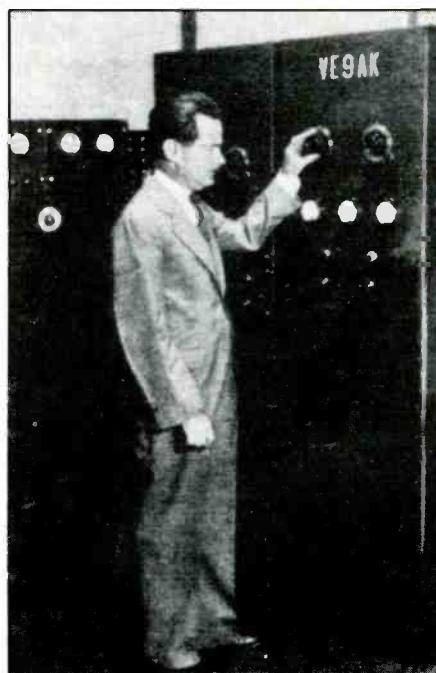
According to this story, the Visual Radio Corp. had recently moved its "extensive laboratories" from Philadelphia and abandoned plans to build an experimental TV station at the famous Atlantic City (NJ) Steel Pier. Instead, VRC was asking for a license for the proposed \$25,000 TV facility that they decided to install in a building formerly occupied by the local Boy Scout Troop in Watsontown, PA. Initial plans called for getting started with a 50 watt transmitter and later going to 1 kW.

Al Berger wondered what this was all about, commenting that the entire story seemed rather amazing in view of the fact that Watsontown (which is near Williamsport) is "about as big as your average garage sale." He notes that, even today, larger Williamsport has no TV station except for what the cable brings in from the other side of the mountains. Al asks why Watsontown was preferred over the Steel Pier, and if the station was ever licensed.

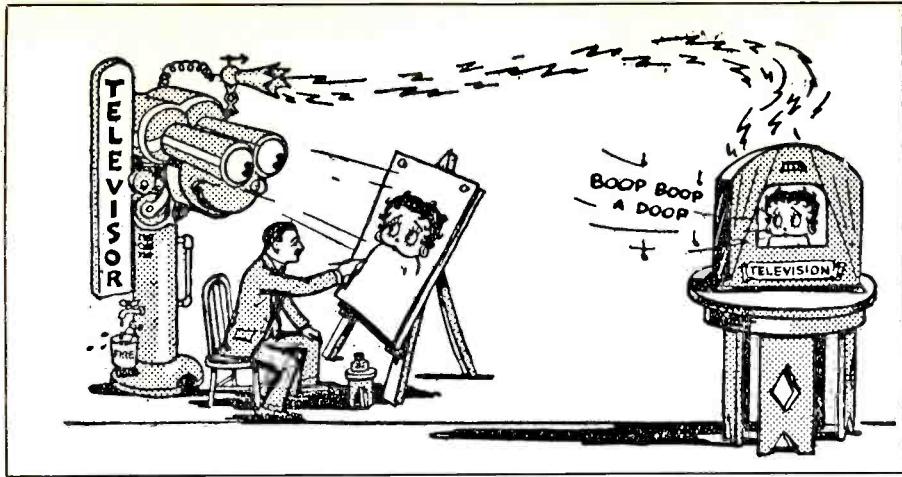
At this point its worth getting a perspective on the status of TV in those years. Throughout most of the 1930's, the public considered TV as an experimental curiosity in terms of its use in futuristic motion pictures such as *International House* ('33), *Transatlantic Tunnel* ('35), *Murder by Television* ('35), *Trapped by Television* ('36), *Things to Come* ('36), *Raffles* ('39), *Televi-*

*sion Spy* ('39), and a host of science fiction serials such as *Phantom Empire* ('35).

From a practical point of view, the 1929 unofficial standard of a 60 line picture had been improved to 120 lines of bluish color image on a 3" by 4" CRT screen. (For the record, in 1934, the technology standard



Here's the transmitter at VE9AK, one of Canada's pioneer experimental TV station's of the 1930's.



Betty Boop's 1933 appearance on TV was a historic first. This tongue-in-cheek illustration of that event was drawn by Betty's creator, Max Fleischer, for use in the 1934 book "Gateway To Radio."



A 1935 screening of Betty Boop on a "scanning disk" TV set of the era.

had moved to 240 lines, in 1936 to 343 lines, in 1937 to 441 lines, and then formally standardized in North America in 1941 at the present 525 line system. Proposed HDTV systems will use 1125 lines.)

Although commercial TV broadcasting in the U.S. didn't begin until 1941, there were more than twenty experimental stations authorized in the U.S. (and several in Canada) as far back as the early 1930's. But in 1932, a person would have to spend \$2,000 for a TV receiver. That was during the great Depression when \$2,000 was the price of three cars, or a small house, or a year's worth of work at a good office job. Most TV sets were owned by electronic labs, engineering firms, the government, scientific and industrial exhibitions, manufacturers, and the broadcasting industry itself. Relatively few sets were owned by individuals.

This makes the VRC's \$25,000 station located in Watsontown all the more astounding. A station at the Atlantic City Steel Pier would have generated a million dollars worth of publicity, but what would a station

in Watsontown have given the VRC? It doesn't appear that the Watsontown license was ever granted, and that leads us to be as puzzled as Al Berger. Maybe one of our readers can provide some answers.

### Flicker Flashback

Harris Rosenberg, Vancouver, BC is another reader who wants to know about TV. Specifically, Harris is interested in finding out the name of the first animated cartoon character used in the TV medium. The question could be read to mean the character in the first animated cartoon made for use on TV, or the first character invented for the specific purpose of being used solely in TV cartoons.

There may have been an earlier one, but I couldn't locate any information on any designed-for-TV animated cartoon character older than Winky Dink, star of CBS-TV's *Winky Dink and You*, which began its run on October 10, 1953.

According to the book *Gateway to Radio*,

by Major Ivan Firth (The Macauley Company, New York, 1934), the first animated cartoon ever televised was also the first cartoon specifically made for TV use, although it starred an old favorite. This took place in 1933 at the World's Radio Fair, held in New York City's Madison Square Garden.

In describing the event, Firth wrote, "The most successful of all our programs was that in which Max Fleischer, creator of Betty Boop, Popeye the Sailor, Koko the Clown, and a host of other pen and ink stars, appeared in person in a presentation of the first animated cartoon to be televised.

"Standing in front of the brilliant light, Fleischer, while carrying on a running commentary, drew with rapid, sure strokes, the character known to millions as Betty Boop. Suddenly, Betty came to life, rolled her eyes, blinked her famous lashes, and then opened her pouting mouth and sang her Boop-a-doop song. So successful was this feature, that it was selected as the only program to be televised on the ten-foot screen at Madison Square Garden. Although scheduled for only one performance, the program was repeated nearly thirty times."

A few incidental bits of trivia might be added to this account. Of the several actresses who supplied the voice of Betty Boop over the years, Mae Questel's voice was the one heard most of the time - and Mae Questel was also the voice of Winky Dink when it went on CBS-TV in 1953.

### Good Time Station

In the early days of broadcasting, time-keeping was the least of the worries for many stations. Local programming tended to be informal and end several minutes before or after the hour or half hour mark. It wasn't until networks of stations began to appear that there seemed to be any pressing need to get programs to start or finish at precisely the same moment. Overseas, however, things remained rather informally timed for many years, although by the mid-1930's, there was a definite trend among some of the better shortwave stations to improve their image with more strict attention to timekeeping chores as they related to scheduling.

Buenos Aires (Argentina) shortwaver, Radio *El Mundo* was just such a station. Not only was it new, but it was also the largest and most modern broadcasting facility in South America. That's why it installed fancy IBM self-regulating electric clocks developed especially for broadcast station use. These were the same clocks used at major American network stations, such as Philadelphia's WCAU, and many others.

This timekeeping system automatically checked its own accuracy hourly against the clock at the Naval Observatory. A master clock in the station's control room would then send out correcting pulses to remote clocks located throughout the studios and offices.

*Radio El Mundo*'s owners, Empresa Editorial Haynes, publishers of *El Mundo* (a

## B U E N O S A I R E S — A R G E N T I N A

19 FEB. 1936



We thank you for your report on reception of our signals  
on 23.ENE..1936.

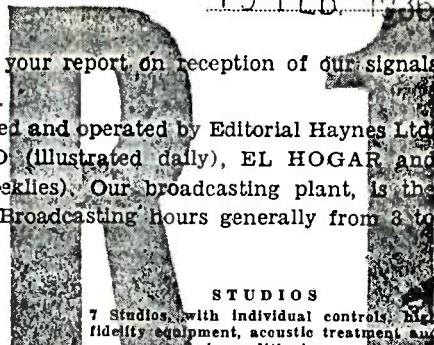
This station is owned and operated by Editorial Haynes Ltd.,  
publishers of **EL MUNDO** (illustrated daily), **EL HOGAR** and  
**MUNDO ARGENTINO** (weeklies). Our broadcasting plant is the  
largest in South America. Broadcasting hours generally from 3 to  
24 daily, Argentine time.



TRANSMITTERS  
50 K.W. on 1.070 K.C. (LR 1)  
5 K.W. on 0.9580 K.C. (LRX)  
and on 15.290 K.C. (LRU)



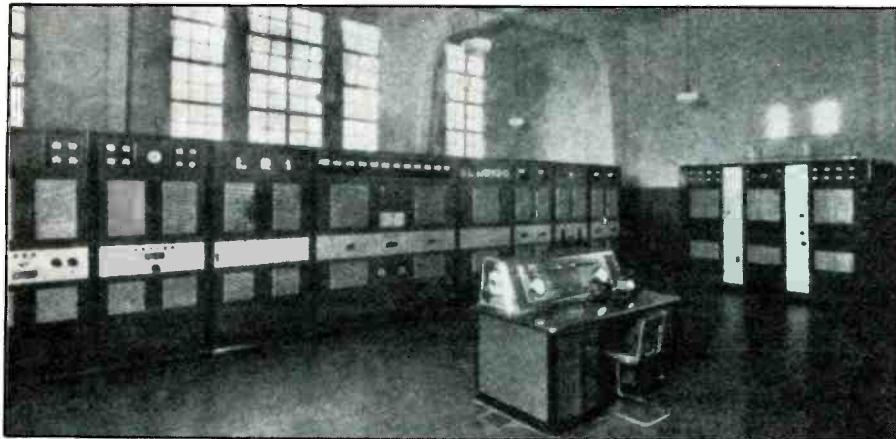
S T U D I O S  
7 Studios, with individual control, high  
fidelity equipment, acoustic treatment, and  
air-conditioning.



## R A D I O E L M U N D O

CALLE MAIPU 555 — BUENOS AIRES

Argentina's Radio El Mundo (LR-1) issued these QSL's in the 1930's. (Courtesy Joe Hueter.)



Radio El Mundo's mediumwave transmitter in 1936.

daily newspaper with a circulation of more than 250,000), built this station to operate on 1070 kHz with 75 kW (station LR-1). The shortwave relay transmitter (under the callsigns LRU and LRX) operated on 15290 and 9580 kHz with 10 kW. RCA transmitters for all frequencies were installed at San Fernando, F.C.C.A., Province of Buenos Aires, on a 10,000 acre site.

Radio El Mundo (LR-1) still operates on 1070 kHz, although now with 25 kW and different ownership. The two shortwave stations, LRU and LRX now operate on 15290 and 11755 kHz as part of the *Radio Nacional Buenos Aires* group of stations (connected with mediumwave station LRA1 with 100 kW on 870 kHz).

### Rail Force 1

Those who tune the scanner and utility bands have no doubt encountered Air Force 1, the official Presidential aircraft, as it goes

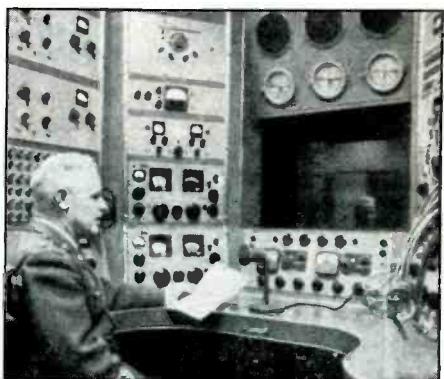
about its business here or abroad. But what about the days before someone came up with a specially outfitted Presidential aircraft? The days when rail transportation was felt to be safer and more reliable than air, and would provide many opportunities for stopping along the way to press the flesh and meet the public?

When you're talking about Presidents in the days of Franklin Roosevelt, Wilson, and Harding, the usual method of Presidential transportation was the iron horse, same as it was in the era of Lincoln and Teddy Roosevelt. Although there was a major, but little known, increase in the sophistication of all this during the final year of the Truman Administration. At the beginning of 1952, President Harry Truman shelled out \$119,000 for a communications-filled railroad car that would ride the rails as part of his Presidential train.

The rolling radio communication facility was what passed for state of the art almost



Control desk for Radio El Mundo's short-wave operations.



You saw it here first, although thirty eight years after the fact! It's the elaborate communications car that was outfitted to be part of the Presidential railroad trains beginning in 1952. That was before Air Force 1.

forty years ago, including the ability to put the President in direct two-way contact with world capitals or any point in the continental United States. The equipment provided voice (including scrambled), FAX, and RTTY on numerous HF frequencies. VHF was available for mobile telephone calls, for security two-way, and for intercommunication between cars of the Presidential train. Lastly, the President had the capability to use the facility to make speeches that could be fed to local broadcasting stations or over all of the networks.

Remember that this was before compact and miniaturized solid-state equipment was available, so all gear was of the big, heavy, vacuum tube type mounted in racks. No wonder it filled up a railroad car. In the (previously unpublished) photo we have of the operating position of this station, we can see four Hammarlund SP-600 receivers (the two at the extreme right are hard to make out), a control board, and three station clocks displaying different time zones. A Signal Corps officer (either Major or Lt. Colonel) is at the mike.

That'll be a wrap for April. We appreciate receiving old timey QSL cards, veri letters, station photos, picture postcards, news clippings and other relevant items for use in these pages. I'm out of here till May!

PC

# A Gathering Of SWL's

**Good Fellowship and a Chance To Swap DX'periences  
Prevailed at This Successful Convention of DX'ers  
Held Recently in Virginia Beach, VA.**

BY POP'COMM STAFF

**T**hey came from all compass points to converge on The Pavilion in Virginia Beach, VA. Not only was it the occasion of the traditional ARRL Roanoke Division Convention and computer show, it was also time for the East Coast Listeners' Conference which was held in conjunction with the ARRL event. The ECSWLC, held under the sponsorship of the Old Dominion DX Association, brought SWL participation to this important communications hobby event that occupied 65,000 square feet of display area.

And it was a roaring success, was it ever! Packed, wall-to-wall in The Pavilion were hams, SWL's, computer enthusiasts, and exhibitors that included familiar names such as Gilfer Shortwave, The Ant Farm, ICOM, Trio-Kenwood, POP'COMM, MFJ, Palomar, and many others. Door prizes were awarded by CRB Research Books, Inc., and several other companies familiar to communications hobbyists.

## Honored Guests

Among the honored guests were Jonathan Marks, host of Radio Netherlands' Media Network. Marks spent the entire weekend at the convention and even gave a most engrossing slide presentation on developments in shortwave radio. Then, Marks interviewed several convention participants for inclusion in one of his Media Network broadcasts. One of those interviewed was DX'er Tom Sundstrom, who is a regular loggings contributor to POP'COMM columns.

Other features of the convention included forums and lectures presented to enthusiastic attendees by hams, SWL's, and even a representative of the FCC. For those non-SWL's who accompanied those attending the convention, there were bingo games, and an opportunity to sightsee in the interesting Norfolk area.

Perhaps one of the most popular convention events was the wild and woolly flea market which offered thousands of items ranging from dusty old vacuum tubes to late model computers; vintage SWL receivers to odd pieces of homebuilt equipment of uncertain purpose. Items were priced from 25 cents to several thousand dollars, and were



Jonathan Marks (center of photo), of Radio Netherlands, was a popular guest at the ECSWLC who seldom found himself alone. (Photo by Rich Anland.)

selling as fast as they could be placed on the tables. One chap bought a veteran DX-150 receiver for \$5, and it worked!

## A Successful Idea

The ODDX had attended the ARRL Roanoke Division Convention during two previous shows as an exhibitor with a display booth. But the interest in their SWL-oriented display was so strong that they de-

cided to see if the ARRL Roanoke Division would permit ODDX to take a more active and direct participation in the gathering for their 1988 convention. After some discussion with the Roanoke Division people, permission was obtained in the hopes that it would bring the ham and SWL communities closer together.

Actually, ODDX had visions of attracting SWL's primarily from the mid-Atlantic region. They were pleasantly surprised when registrations came in from as far away as Texas and Illinois in the United States, and overseas from Ireland and Switzerland.

Although the number of SWL's that attended the ECSWLC didn't approach the ham population at the gathering, it was a great start and ODDX will again be an active participant in this lively show this year. This year the ECSWLC will take place on September 16th and 17th, and continued vigorous and enthusiastic support from within the SWL community is expected and hoped for.

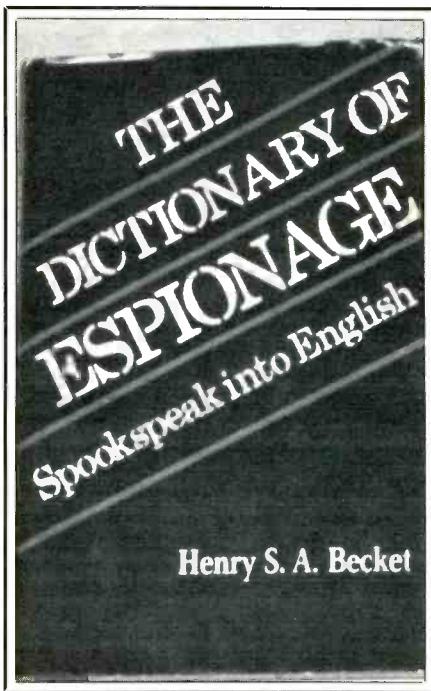
For more information on the 1989 ECSWLC, you are invited to send a self-addressed, stamped, long envelope to ODDX, Box 9645, Norfolk, VA 23505-0645. Be sure to mention that you read about it in POP'COMM! See you there! **PC**



Some of the SWL's who attended the ECSWLC gathering stopped long enough to be recorded on film. (Photo by Ron Young.)

# BOOKS YOU'LL LIKE!

BY R. L. SLATTERY



## Tradecraft Lingo

As groups of people work together they soon develop a verbal shorthand for use in communicating with one another. To outsiders, it often sounds like doubletalk, or an attempt at concealing what they're talking about. So whether you're a doctor, a lawyer, or an Indian Chief, a ham, a scanner fan, CB'er, or a professional thief, you've probably acquired a large vocabulary of words and terms convenient for use when chatting with your peers.

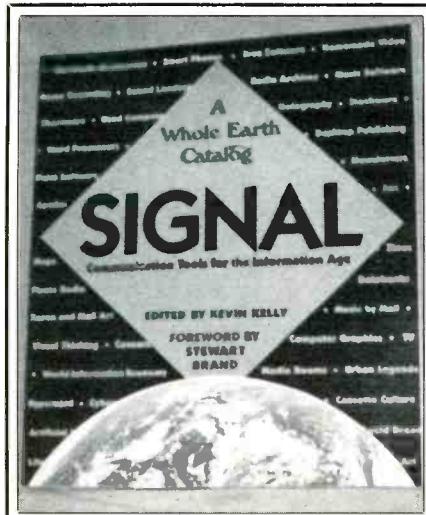
Even though real intelligence agents usually don't bear much relationship to James Bond or Harry Palmer, they have their own colorful and private language. These expressions have been compiled and explained in detail in a 202-page hardcover book entitled, *The Dictionary of Espionage: Spookspeak Into English*.

Author Henry S.A. Becket actually provides far more than promised because, in addition to giving excellent definitions of simple words and phrases, he delves into many organizations and institutions (past and present) connected to espionage and intelligence gathering. For instance, it discusses Camp Peary, the CIA's training facility near Williamsburg, VA. Becket's book also gave me my first information on a WWII British strategic monitoring posts, staffed by 1,500 volunteer ham operators, located throughout England.

But, the heart of Becket's book is explaining spookspeak such as *moonshine*, *probe microphone*, *rolling up a net*, *cousins*, *discard*, and similar. Good stuff here, much of

a humorous nature, especially if you like jocular humor. Like the term *measles*, which means killing someone so discreetly, that it appears as if they passed away from natural causes.

*The Dictionary Of Espionage* is a \$17.95 book that you should be able to obtain through most book stores. It's published by Stein and Day Publishers, Scarborough House, Briarcliff Manor, NY 10510.



## The Information Age

It's apparent from what's going on around us that we are heading deeper and deeper into the Age of Information. All around us are developing devices and networks for evaluating, creating, collecting, modifying, recording, generating, using, amplifying, exchanging, and networking information. Doing this with grace, economy, and maximum efficiency can incorporate a myriad of devices, plus the knowledge of where to get them and how best to utilize them for your purposes. Let's face it, riding on the crest of this new wave gets more difficult each day as new devices and technologies are made available.

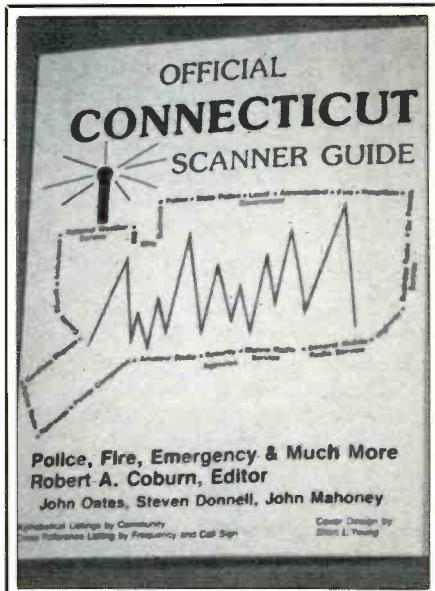
A new giant (10-1/2 by 12-inch) format 226-page book called *Signal: Communications Tools For the Information Age*, by Kevin Kelly, heads fearlessly and head on into this "information frontier" of personal information networks and devices. It ends up as a rich sourcebook of more than 900 products, publications, and software programs devoted to making your excursions into this Age as worthwhile, interesting, economical, and painless as possible.

*Signal* offers straight-talk, opinionated, plain-English recommendations about more than 200 categories of information tools, how and where to get them, and use them to your own best advantage. This includes computers, software, hacker stuff,

satellite TV, packet radio, low power broadcasting, pirate radio, voice mail, CPB's, FAX, cellular radio, the cassette underground, shortwave radio, mind circuits, and everything else from codes to cybernetics.

The huge book is jam packed with hundreds of photos and illustrations, names and addresses, things to send away for (some are free). It's the information sourcebook for the 1990's, just issued and as fascinating as it is useful.

*Signal* is \$16.95 (plus \$2 postage/handling to addresses in USA/Canada) from CRB Research, P.O. Box 56, Commack, NY 11725. Residents of NY State please include Sales Tax.



## Connecticut Comms

The *Official Connecticut Scanner Guide* is now available, offering more than 300 pages of scanner frequencies, callsigns, and licensee names in the Nutmeg State. Put together by Bob Coburn, W1JJO, and a group of Connecticut scanning mavens, this hefty volume looks to be about the largest and most comprehensive collection of VHF/UHF data for Connecticut yet attempted.

Covering police, sheriffs, ham repeaters, security agencies maritime, GMRS, highway repair, business, ski patrols, medical, fire, NWS, and much more, there are also maps and code signals given. In fact, Coburn appears to have left no stone unturned and has rooted out lots and lots of information. The major portion of the book contains listings according to station location (Andover to Woodstock), then another section lists everything in order of frequency (27 to 939 MHz).

What more can I say? If you're in Connecticut, or within earshot via your scanner, it's

## Jo Gunn Enterprises

- CB Antennas

- Mobile Antennas

- 10 Meter Antennas

- Coax



### JG - 4 CONVENTIONAL

TYPE: Horz. or Vert.

Polarization

GAIN: 15.5 DB

FRONT TO BACK RATIO:

45 DB True

BACK REJECTION:

45 DB True

WEIGHT: 20 Pounds

LENGTH: 12 Feet

SWR: 1.1

WIND SURVIVAL:

100 MPH

POWER MULTIPLI-

CATION: 50X

AUDIO GAIN: 19 DB

WIND LOAD: 3.0

### JG 4 + 4 STAR

TYPE: Horz. & Vert. Polarization

Two Feed

GAIN: 15.5 DB

FRONT TO BACK RATIO:

45 DB True

SIDE REJECTION:

45-50 DB True

BACK REJECTION:

45 DB True

WEIGHT: 34 Pounds

LENGTH: 12 Feet

SWR: 1.1

HORZ. to VERT. SEPARA-

TION: 20-25 DB

WIND SURVIVAL: 100 MPH

POWER MULTIPLI-

CATION: 50X

AUDIO GAIN: 20 DB

WIND LOAD: 3.7

**ALL CANADIAN INQUIRIES CONTACT:**



Call or send \$2.00 for Complete Catalog and Pricing of Antennas.



Route 1 - Box 32C, Hwy. 82  
Ethelsville, AL 35461  
**(205) 658-2229**  
Hrs: 10am - 6pm (CST)

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# Firefighter Rescues Boy From Burning House

A Staten Island, New York, firefighter climbed up a fire ladder to rescue a three-year-old boy as flames engulfed the building's second floor and fire escape.

Firefighter Joseph Dudley, a resident of Staten Island's Rosebank community, arrived at the scene of the fire with other firefighters of Ladder Co. 77. They found Theresa King, a resident of the burning building, in the backyard holding a seven-week-old daughter and the hand of a four-year-old son, according to an account of the incident in the *Station Island Advance*.

## SCAN PUBLIC SERVICE AWARD

John W. Kelly, Battalion 21 chief, was in charge at the scene of the fire. "Upon arrival, we heard the woman screaming in back. 'My child's still in there,'" he told the *Advance*.

At that point, another resident of the building, Frank Williams, appeared at his second floor window and shouted to firefighters that Mrs. King's other son, Paul Staubitz, was with him.



Dudley put up the ladder and climbed to get Paul. He got the boy out as flames shot from the window, then passed the three-year-old, who was limp in his arms, to firefighters waiting on the ground. Dudley then climbed up the ladder again to help Williams reach the ground safely.

By the time the boy and Williams had been rescued, flames had burned through much of the building and heat and smoke

had engulfed the second floor.

According to the *Advance*, several people were treated for smoke inhalation, but no one was seriously injured. Flames destroyed the two-story apartment building and half of an adjoining structure. The fire was brought under control in 45 minutes. Three families were left homeless by the blaze. Ms. King and her three children were taken to Staten Island hospital where they were treated and released.

The fire was started by three-year-old Paul, who was playing with a cigarette lighter on a bed in one of the apartments. After the fire started, he ran upstairs to Williams' apartment.

Dudley, 46, has served 10 years as a police officer and 12 years as a firefighter. The father of three said he was glad to be able to make a difference.

"It makes you feel good," he told the *Advance*. "That's what your job is, but it makes you feel good."

Lt. Thomas Gallahue will reportedly recommend Dudley for a departmental medal.

For his rescue, Firefighter Joseph Dudley will receive the SCAN Public Service Award, which consists of a commendation plaque and a cash prize. For making the nomination, MSG Harold Ort, now serving in Germany, will also receive a plaque. Congratulations to both of you.

## Best Equipped

An interest in scanning led to an amateur radio license and an interest in shortwave listening for Dennis Wolfe of Marietta, Georgia. Since he lives in the metropolitan Atlanta area, Dennis writes that there is a lot of activity on the local police frequencies. A nearby Air Force base also provides some listening targets.

Dennis uses a Yaesu 9600 combined with a Commodore 64C computer. This system provides on-screen display of frequency, name and address of service, signal strength and time. A discone antenna made for the Icom 7000 is used with the Yaesu.



## SCAN PHOTO CONTEST WINNERS

A Sony 2010 connected to a 66-foot dipole is used for shortwave listening. A Kenwood 215A two-meter handheld and Realistic PRO-2021 and PRO-32 are also used frequently.

A cassette recorder, extension speaker, wireless headset, antenna tuner and cordless telephone round out the equipment list. That's a good amount of equipment, but Dennis writes that he "sure could use a Nite-logger." Well, Dennis, you're going to get your chance!

## Best Appearing

Alfred P. Callazzo of West Chester, Pennsylvania, acknowledges that he doesn't have a lot of equipment, but this attractive shack would be a nice addition to almost any home.

Alfred writes that his "excellent performers" are a Regency Z-30 scanner and Realis-



tic DX-400 receiver. He hopes to tie the DX-400 in to his Tandy 1000 computer for RTTY and CW reception. Other plans include the addition of an active indoor antenna and an improved aerial for the Z-30.

Alfred, an insurance agent, writes that he has always been fascinated by radio, but only purchased a receiver two years ago. The scanner followed, and Alfred spends an average of two nights a week at his listening post. He subscribes to a number of publications, including POP'COMM. He also says that his shack demonstrates that it is not necessary to spend large sums of money to enjoy scanning and shortwave listening. That's very true, Alfred!

# Radio Marti: It's Four Years Old

***It Took 4 Years To Get It On the Air;  
Now It's Been Operating For That Long.***

BY THURSTON WAINWRIGHT, KFL4PN

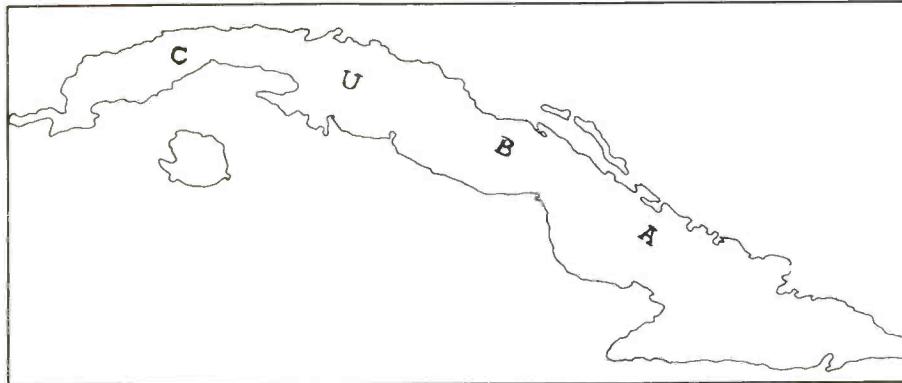
Our government has long wanted to beam mediumwave broadcasting into Cuba, the apparent hope being to maintain some direct contact with the residents there. An early clandestine experiment known as *Radio Swan* (later called *Radio Americas*) ran 50 kW on 1160 kHz from Swan Island, but was shut down after a run of several years.

Within a few months of the advent of the Reagan Administration, the idea again surfaced with the concept that all VOA programming directed towards Cuban audi-

ences would negatively impact their own operations.

It was decided to construct a new transmitting site in the Florida Keys, and that was under way during the summer of 1982. Cuba responded by filling seven medium-wave frequencies with high powered English language programming on several nights. Still, *Radio Marti* progressed and a frequency of 1180 kHz was set for the station.

On October 4th, 1983 some \$14-million was appropriated for this station to operate in 1984, with \$11-million for the following year. President Reagan put his signature on the law, to complete the outrage of Castro.



ences be known as *Radio free Cuba*. Soon after, this had evolved to the point where such programming would be separated from the VOA and operated under the auspices of a specially dedicated agency. The transmissions, which would be called *Radio Broadcasting to Cuba*, would primarily deal with news about Cuba that hadn't shown up in the government-controlled Cuban media.

As the idea continued to progress, it was dubbed *Radio Marti*, the start-up cost was pegged at \$10-million, and it was proposed that its programs would be presented from somewhere in Florida. Fidel Castro was not at all pleased with these developments.

Some broadcasters in Florida volunteered their facilities for this operation which (rumors said) were proposed for 1040 kHz. Castro, amidst threats of jamming *Radio Marti*, was also attempting to take legal steps through international agencies to thwart the station's inception. Meanwhile, American broadcasters on 1040 kHz were also expressing concern about how interference

He continued to announce possible plans to jam the signals.

Several on-air target dates went by the boards as the *Radio Marti* staff continued to be hired and organizational problems were settled. By the beginning of 1985, the station was not broadcasting, amidst a rising tide of complaints from many quarters about the lengthy delays in getting started.

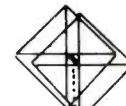
By May of 1985, with a staff of one hundred and twenty, *Radio Marti* was finally ready to commence operations. On the 20th of May, programming began on 1180 kHz; these programs were also being broadcast on shortwave through the facilities of the VOA. Programming consisted of news, drama, sports results, comedy programs, and commentaries.

As we approach the fourth birthday of this station, we are now in the midst of a controversy concerning the possible establishment of a station to be known as *TV Marti*, to be transmitted from a tethered balloon flown at high altitudes.

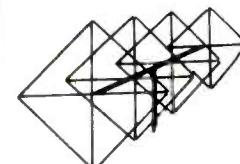
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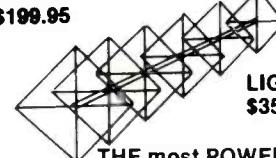
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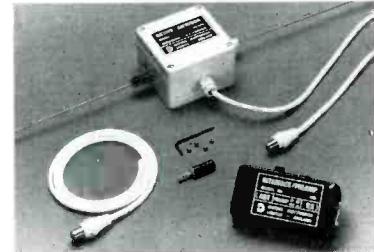
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# Boston MedFlight: Airborne Intensive Care

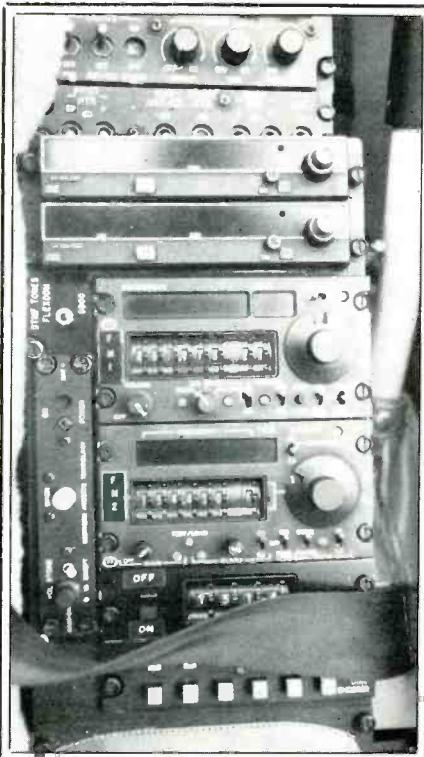
BY FRANCIS X. HOLT

Anyone who has ever watched M\*A\*S\*H is familiar with the whirring sounds of helicopters bringing the sick and injured to medical assistance. Since June 1985, the folks in the Greater Boston Area do not have to view reruns to get the same effect. Eight regional trauma hospitals joined forces to launch Boston MedFlight, the first critical care transport helicopter service based in the Hub. A flying Intensive Care Unit, whose response area covers the entire Northeast, the creation of Boston MedFlight is the first of several steps which are going to revolutionize the transportation of critically ill and injured patients. For scanner listeners, it also signifies the beginning of new listening experiences.

Alasdair Conn, MD, FACS, is the Medical and Executive Director of Boston MedFlight. A surgeon specializing in trauma and emergency surgery, he was also the recipient of the 1985 Public Service Award from the United States Department of Transportation's National Highway Traffic and Safety Administration. Conn is also a visionary.

There are three models for providing medical helicopter service. The public service model, with which most people are familiar, has the state (in some form or at some level—county, city, etc.) providing the transport. The hospital-based model, which premiered in Denver in 1972, has the helicopter responding from and returning to a specific hospital in much the same way as its surface ambulances would. Boston MedFlight is an example of the third model; it is supported by a consortium of regional hospitals and flies out of a central location. In this case, the hospitals are University Hospital, New England Medical Center, Massachusetts General Hospital, Massachusetts Eye and Ear Infirmary, Boston City Hospital, Brigham and Women's Hospital, Boston Children's Hospital, and Beth Israel Hospital. The helicopter is based at the Eastern Airlines Hangar in Logan Airport.

"The helicopter makes sense for a lot of reasons," says Conn. He points out that the notorious Boston traffic situation is only one compelling argument for flight. The straight line travel available to pilots and not to ambulance drivers is particularly useful when dealing with patients from the Cape Cod area. Summer traffic can mean a 5 or 6 hour drive from Provincetown, on the tip of the cape. Boston MedFlight can bring the same patient to a Level I Trauma Center in 18 minutes! In fact, Dr. Conn feels that, in the



The Wulfsberg synthesized radio gives MedFlight crew members the capacity to talk directly with any emergency service forces in their large response area.

## Boston Medflight Massachusetts CMED Frequencies

### Med Channels:

Med 1	463.000	468.000
Med 2	463.025	468.025
Med 3	463.050	468.050
Med 4	463.075	468.075
(“call” channel)		
Med 5	463.100	468.100
Med 6	463.125	468.125
Med 7	463.150	468.150
Med 8	463.175	468.175
Med 9	462.950	467.950 *
Med 10	462.975	462.975 **

\* (also known as "Tac 9", used for special events)

\*\* (also known as "Tac 10", or "City-wide", used for most ambulance dispatching in Boston.)

Boston MedFlight: 155.295

Call letters: "MedFlight 271" (routine); "Life-guard 1" (urgent)

near future, ambulance rides over 50 miles will be a thing of the past.

As anyone familiar with the Greater Boston Area knows, there are literally hundreds of jurisdictions within a short drive of the city itself. (Cliff, the mailman on *Cheers* is fond of noting that "Some 83 towns and cities comprise the Greater Boston Area.") From a communications point of view, this could have nightmare potential. In fact, when you figure that the \$1.4 million BK117 helicopter's range is around 350 miles, you're talking about covering a lot of ground. How does MedFlight keep in touch?

For one thing, Massachusetts is divided into six CMED (Central Medical Emergency Direction) regions. Boston MedFlight is dispatched from Boston CMED in much the same manner as surface ambulances. The Boston CMED, located in Boston Police Headquarters, dispatches EMS services for both the city and the region. It was actually easier for MedFlight's communications set-up, because there was so much regionalization already in place. Having such a large area tuned into a single network also allows for maximum utilization of the helicopter's services. While an information packet about the initiation of MedFlight was sent to every health care facility in Massachusetts, Rhode Island, Maine, New Hampshire, and Vermont, the entire Boston CMED region knew of its existence (and the fact that it can carry an incubator and other sophisticated medical devices) almost immediately. This was most important because the vast majority of MedFlight missions are in the 100-120 mile range.

So . . . how does Boston MedFlight get from here to there? And how do they keep in touch with the folks on the ground?

Although Boston MedFlight has applied to the FCC for a dedicated frequency, it is currently "borrowing" 155.295 from Boston CMED. After following standard communications procedure with Logan tower using the call letters "MedFlight 271", MedFlight can remain in direct contact with Boston CMED for quite a distance. Michael Mangini, Director of Communications for Boston EMS, reports that, with the helicopter most often cruising in the 1500-2000 foot range, it is not unusual for Boston CMED to maintain radio contact as far away as Hartford, Connecticut or Portland, Maine. The helicopter transmits with ten watts of power and basically follows the regional CMED communications protocol.



The Boston MedFlight chopper is quartered at the Eastern Airlines hanger at Logan International Airport.



Flight nurse Patti Railsback, RN.



Flight medic Mary O'Brien completes pre-flight equipment check.



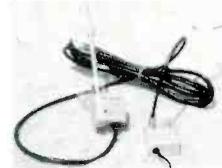
The BK 117 carries a crew of three. It has room for two patients and lots of medical gear

This involves the use of ten UHF "Med Channels" which are paired frequencies in a duplex configuration (see box). The "call" channel is #4, which is 463.075 (paired with 468.075). From there, the helicopter will go to whatever channel assigned it by the regional CMED dispatcher. While MedFlight can keep in touch with Boston CMED on most of its missions, it will, as a matter of both courtesy and safety, make contact with any CMED region it traverses in its flight: "Be advised, this is Med Flight 271. We are transitioning your EMS area on the way to... for an interhospital transfer."

On longer or out-of-state missions, Boston MedFlight is under FAA control. They must file a flight plan and be flight followed throughout, using FAA protocol. If the helicopter was responding to an "off-the-scene" incident (as opposed to an interhospital transfer), they would have their CMED dispatcher contact the local jurisdiction for frequency information and permission to broadcast directly to the police, fire, or EMS units at the scene. Using a Wulfsberg synthesized radio, MedFlight has the technical capability to speak with ground units. Says Dr. Conn, "The way that we basically want it is: any police, fire, rescue squad, or EMS unit in New England, we want to be able to speak with them directly. CMED will always know how to contact us, and, if we are on the ground at an off-the-scene incident, that contact may well have to be made through one of the local emergency units. However, we do not want to surprise anyone by just popping up on their frequency. We have been involved in many communications planning sessions, so that we work with whatever existing frequencies and protocols people are already using in their areas."

Multiple transmissions on several frequencies simultaneously is also a common event in helicopter transport of the sick and injured. The pilot will be taking care of business with the appropriate tower or FAA center, while the paramedic or flight nurse will be in contact with the receiving hospital, talking about what is going on with the pa-

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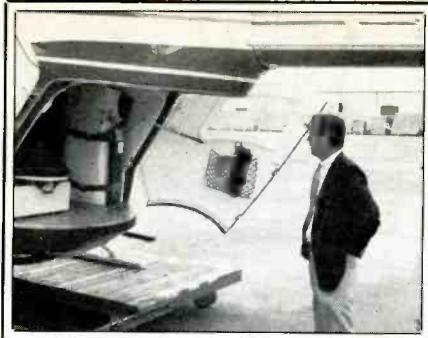
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CIRCLE 33 ON READER SERVICE CARD



Boston MedFlight Director Alasdair Conn, MD, checks the interior of the BK 117. The "clamshell" doors at the rear of the helicopter allow greater access for two stretcher-borne patients.

tient. Even if the FAA is not involved in following the flight, the pilot still has his hands full with aviation related communication, so this capability is a necessity. For shorter flights, incidentally, Boston CMED does the flight following at all times.

How much work does Boston MedFlight do? They are averaging a flight a day now, but Dr. Conn anticipates that, as the emergency services community in the region becomes aware of MedFlight's existence and capabilities, this number will increase. "We expect that, in our first year, we will do 500 missions, 400 of which will be interhospital transfers. Nationally, medical helicopters average about 1.5 to 2 runs daily. If we reach 1000 missions—over 3 missions a day—we will have to seriously consider a second ship." Now, if MedFlight gets a call to be "re-directed" from a routine transfer to an emergent off-the-scene incident, there is a possibility of getting some backup from a smaller medical helicopter based in Worcester, some 40 miles to the west of Boston. At 160 miles an hour, 40 miles is a very viable alternative.

Local experiences with MedFlight will lead to greater utilization in the "boonies." Last August, hotel magnate John Willard Marriott, Jr., was burned in the explosion and fire of his boathouse in the Marriott family compound in Tuftonboro, New Hampshire. Stabilized at a community hospital, he was flown to Massachusetts General Hospital by MedFlight in well under an hour. The incident, because of the individual involved, made headlines throughout the country. This type of event (which had a happy outcome, by the way, with the excellent burn treatment available at Massachusetts General Hospital) goes a long way to publicizing the service.

What happens after the second helicopter? Dr. Conn says that the second phase of medical evaluation is fixed-wing aircraft. In New England, the further reaches of northern Maine are beyond the flight radius of medical helicopters. Fixed-wing aircraft are appropriate for this type of situation.

The next phase, says Conn, involves Lear jets. An obvious use of the jet is one which has already been done in a few cases:

## Flight Nurse: One Tough Job

Ask Patti Railsback, RN, what the most demanding part of her job as a flight nurse with Boston MedFlight is. She won't tell you about the 12 hour shifts, or about the personal weight limits in each flight crew member's contract, or about learning to drive the tractor which pulls the BK 117 out of the hangar, or about the classes in flight theory, crowd control, and aircraft safety. She won't even tell you how part of her training involved going through "maneuvers" to do away with any fear of flying!

What Patti Railsback talks about is the constant need to "keep up" on things. "We never know what we're going to be called into—it could be a cardiac case, a burn, an obstetrical case, or a neonatal ICU run with our airborne incubator. In hospital nursing, you generally have a narrower focus to your daily practice." Patti and the other four flight nurses on Boston MedFlight never had any flight experience before this. Dr. Conn specifically looked for nurses without flight experience so that they could be molded into a cohesive team.

But flight experience seems to be the only thing they didn't have! What they did have is impressive, to say the least. Some of the letters after each of the flight nurses' names include CEN, CCRN, EMT, and ACLS. A minimum of five years experience in Intensive Care Unit or Emergency Room nursing (preferably both) is required as is the ability to work



Flight nurse Patti Railsback readies for a mission to Danbury, CT. Flight time from Boston takes only 55 minutes.

independently, remain physically fit, teach, do public speaking, and display a good deal of stamina.

Ask Patti Railsback about the best part of her job. "After the other members of the MedFlight team—who are all super people—I'd have to say that access to the eight hospitals of the consortium is the best. These are some of the best medical centers in the world, and we have access to their experts, their libraries, their educational offerings. For a professional nurse, that has to be exciting." You said it Patti: *Professional* is the word to describe the crew from Boston MedFlight!



When hotel magnate John W. Marriot, Jr. was burned in this boat house fire in Tuftonboro, NH, Boston MedFlight had him safely in Massachusetts General Hospital in less than an hour's air time.

transport of donor organs to needy recipients. However, a lesser known anticipated use of jet delivery of medical services is that of returning a sick traveler from abroad. Dr. Conn envisions a time when travelers would take out insurance which would cover their quick return to the states in the event, say, "of a road accident in Morocco or some such place where the medical care would not be the same as in this country."

And, after Lear jets? Why, the Space Shuttle, of course! With a perfectly straight face, Dr. Conn tells you that, in twenty or thirty years, there will be orbiting space stations, power cells, and all manner of manu-

facturing enterprises in space. "There will be a lot of workers up there. Some of them will get sick or injured. It is quite naturally cheaper to bring them back to earth than it is to build an orbiting hospital!" This kind of efficiency is the same which recommends regional use of helicopters for medical service now. Not every town and city can have a CAT scanner, a neonatal intensive care unit, or a pediatric endocrinologist. But helicopters can get patients who need these services to the cities where these services are located. As Dr. Conn says, "When it comes to emergency medical transport, they sky is not the limit!"

PC

# Racing With The Moon

## A Whirlwind Tour Of "Numbers" Activity

BY HAVANA MOON

### Response From Germany

A German reader (whose name will be withheld) really has a few things to say about those of us in the US of A that report on and monitor "numbers" transmissions. Here are just a few portions of this letter.

"... I recognize that much of the articles ("numbers") deal with speculations and assumptions about just from where these transmissions originate."

The writer of this letter further states that some "number" writers in the U.S.A. SEEM TO KNOW (emphasis mine - HM) that here is at least one "numbers station" in the world that identifies itself correctly before starting transmissions.

The West German PTT (Deutsche Bundespost), according to this German correspondent, operates the transmitters DFC 37 (3370 kHz) and DFD 21 (4010 kHz). This station, according to my source, is located in Frankfurt, West Germany, and regularly transmits "numbers" in the evenings, following a five minute section on the hour. This ID consists of an announcement in German ("Hier ist DFC37" resp. "Heir ist DFD21") and a sequence of 20 musical tones much like an interval signal.

I obviously find the above German report very interesting. I also have a few words to add (I usually do.) I will point out on several occasions that these stations have been mentioned. I have even written of them.

I also seem to remember a QSL being issued from one of these stations many, many years ago.

There are, however, opposing views to this German observation. Another source has told me that he believes these are not legitimate Deutsche Bundespost "callsigns!" This source also claims these are illegal (whatever that means) transmissions.

Readers are reminded that 4010 kHz is very often active with five-digit Spanish transmissions. Slavic language transmissions are also often heard in the 4020 to 4040 range.

Any further comments or clarifications from our European readers?

### Burst Transmissions

In Harry Helm's "Great Shortwave Rid-

dles," (POP'COMM/December 1988) mention is made of "burst" transmissions. He (Helm) states that while living in Manhattan, "burst" type signals in the 7400 to 7500 kHz range were once noted. Helm stated that these "burst" transmissions were definitely ground wave in origin.

A Florida source (Jupiter/Tequesta area) informs me that two or three years back, "burst" type transmissions in the 3090 to 3340 kHz range were frequently monitored in the Jupiter/Tequesta area. My source also tells me that these transmissions were ground wave in origin. Just who from Jupiter/Tequesta? And - just as importantly - why and to where?

"Burst transmissions were first used by the Germans as far back as 1943. At that point in time, "burst" transmissions enable the Germans to elude Allied RDF units. The principle of "burst" transmissions is simple enough. A message (voice or otherwise) is "compressed" at the normal speed then transmitted at a very high speed. These high-speed devices electronically "squeeze" the message into a time period of seconds.

My sources tell me that the HF frequencies continue to abound with "burst type" transmissions. These types of transmissions ("burst") are a most valuable back-up when propagation conditions are less than ideal or when propagation might interfere with voice transmissions.

Why not try recording a few numbers groups at a slow speed on your tape recorder and then play them back at a higher speed? This—in a very, very elementary way—is somewhat akin to a "burst" type transmission.

### The Russian On Your Radio

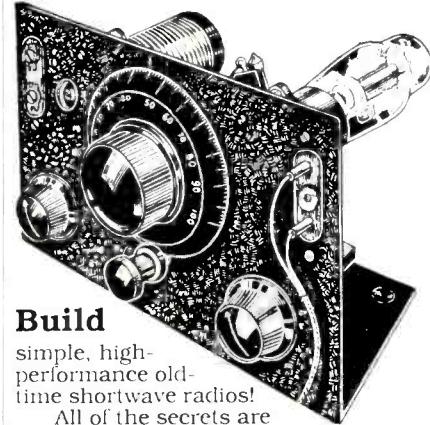
Check 6675 kHz at 0000 UTC for a Slavic (Russian?) "numbers" transmission. A drum and bugle intro utilized before actual transmission. This YL in the AM mode is (as of this writing) widely heard in Southern Florida.

Time now for a Tecate and . . .

HAVANA MOON  
21082

Assisting in the preparation of this article:  
Dr. John Santosuoso, John Fulford and  
Diane H. Thanks to one and all.

## Official 1934 SHORT WAVE RADIO MANUAL



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Included are circuit diagrams, photographs, and design secrets of all shortwave receivers being manufactured in 1934 including some of the most famous: SW-3, the SW-5 "Thrill Box", the deForest KR-1, the Hammarlund "Comet Pro", and many more.

Also included is a new chapter showing how you can use transistors to replace hard-to-find vacuum tubes. You'll even see the circuit that was lashed together on a table top one night using junk box parts, a hair curler and alligator clips. Attached to an antenna strung across the basement ceiling and a 9 volt battery, signals started popping in like crazy. In a couple of minutes an urgent message from a ship's captain off Seattle over 1500 miles away was heard asking for a navigator to help him through shallow water!

These small regenerative receivers are extremely simple, but do they ever perform! This is a must book for the experimenter, the survivalist who is concerned about basic communication, shortwave listeners, ham radio operators who collect old receivers, and just about anyone interested in old-time radio.

Great book! Fun to read! One of the best old-time radio books to turn up in years. Heavily illustrated! Order a copy today! 8 1/2 x 11 paperback 260 pages only \$15.70 postpaid!

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# BROADCAST DX'ING

## DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

BY KARL ZUK

**D**x'ing will never be the same! You'll never have to listen to a half an hour of static and fading just to hear a tentative ID. You'll never have to tune around a band and guess what frequency is best to hear your favorite show. You'll never have to tune in WWV or CHU again for the exact time. All you need is RDS!

It sounds like a dream from the twenty-first century, but RDS is here today. RDS is the Radio Data System developed by the British Broadcasting Company in London, along with Swedish Telecom and German Radio. The system will make broadcast DX'ing very simple. It provides you with an instant alpha-numeric readout of what station you are listening to, as programmed by the broadcaster. It could say "WHTZ" or "Z-100." The system also transmits a code that identifies the type of program material and the specific show you are listening to.

For example, you are travelling across the country and trying to listen to Larry King. You would enter the appropriate code for the Larry King Show, and the radio would tune to the best signal where Larry King could be heard. It will constantly scan the band, without interrupting your listening, and switch to a better frequency if one becomes available. It also will provide you with the exact time, seen on the display on the front panel of the RDS radio.

The system will offer you 16 choices of format, and will advise you how many stations are available with, for example, rock music. Using the radio's keypad, you can try any of the stations at random, or it will scan them for you. In a couple of years, features such as using your radio to download information and programs into your home computer, and advance programming by light pen and bar codes will be added. On your RDS car radio, messages will appear on the display telling you where an accident has occurred, and speak this information to you, as well, by voice synthesis. Should you take your English speaking car to French Canada, the radio will translate the information from French to English, and speak to you in your native tongue. According to Mark Saunders at the BBC, every country in Europe has agreed to become part of this system, and from the positive response it received at a trade show in Washington, D.C. in March, North America is not far behind.

The Radio Data Service is already in place in Great Britain, and it has been a great success. The data is transmitted on an FM subcarrier of 57 kHz, which is three times the FM stereo subcarrier of 19 kHz. The data is sent from the transmitting station to RDS capable radios at a rate of 1187.5 bits per second. Your RDS radio constantly

gathers information from the FM broadcasters, and passes it on to you. It is very similar to the ARI traffic alert system that has been in use for several years in the United States, except it is much more elaborate and useful. The BBC is also considering developing a similar system that would be compatible with medium wave AM broadcasts, using a subaudible audio signal to transmit simple data, such as station ID's.

There are many other amazing things being transmitted on the piggyback subcarriers of FM broadcasters in North America. Ralph Craig, of Troy, Ohio, wrote to tell us about the RADAIR system. Using a network of FM broadcasters nationwide, the RADAIR system transmits weather information, gathered from the National Weather Service's 80 radar sites around the country, to onboard computers, in general aviation aircraft. The information is graphically displayed on a five inch color video monitor, showing maps of current weather conditions, just like very expensive color radar systems aboard commercial aircraft. You must occasionally retune your RADAIR receiver, since its range is limited to about 200 miles.

### Hidden Signal DX'ing

How do you run a radio station in New York City if you are not an American citizen? Ask Okyu Kwon, General Manager of KBC Korean Radio, operating on a subcarrier of WQXR, New York, and WPGC, Washington, D.C. For \$100,000 a year, he rents the right to put his broadcasts on their subcarriers, and broadcasts exclusively in Korean. KBC also sells and rents special radios to receive the broadcasts to their listeners. Look for these radios in almost every Korean market in Manhattan! If you speak Greek, Italian, Portuguese, Russian, Chinese, or even French-Creole, there are subcarrier broadcasters trying to reach you in many cities around the country.

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ENOUGH?-  
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### Money Radio Affiliates

KMNY	1600	Los Angeles, CA
WWXX	1400	Alpharetta/Atlanta, GA
WAZS	980	Summerville/Charleston, SC
WBES	1560	Clemson, SC
KDB	1490	Santa Barbara, CA
KYCA	1490	Prescott, AZ
WWBZ	1360	Vineland, NJ
KCKY	1150	Coolidge/Phoenix, AZ
KIXT	1420	Hot Springs/Little Rock, AR
WSSG	1300	Goldsboro, NC
WDSG	1450	Dyersburg/Memphis, TN
WIZO	950	Franklin/Nashville, TN

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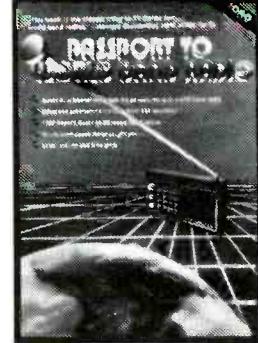
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## Call Letter Changes

### FM changes

WVOB	AL, Dothan	91.3	new
WIDO	AL, Eutaw	104.3	new
KODS	CA, Carnelian Bay	103.7	was KHTZ
KCHV	CA, Coachella	93.7	was KRCK
KOQO	CA, Fresno	101.9	was KFRE
KXXX	CA, Shingle Springs	102.1	new
KLIQ	CA, Shingle Springs	102.1	new
KTLF	CO, Colorado Springs	89.7	new
KSQI	CO, Greeley	96.1	was KISF
WNLT	FL, Clearwater	95.7	was WLLT
WSUV	FL, Ft. Meyers Villas	106.3	new
WURG	FL, Orlando	98.9	new
KECH	ID, Sun Valley	95.3	was KWRU
WREZ	IL, Metropolis	105.5	new
KOTE	KS, Eureka	93.5	was KNPA
WQXY	LA, New Orleans	95.7	was WBZY
KLXK	MN, Minneapolis	93.7	was WAYL
WBSS	NJ, Millville	97.3	was WMVB
WMNK	NY, Montauk	104.7	new
WMYY	NY, Schoharie	97.3	new
WRLT	TN, Franklin	100.1	was WWRB
WNOX	TN, Jefferson City	99.3	was WJFC
KJZY	TX, Denton	99.1	was KWDC
WZST	VA, Appomattox	102.7	new
WJFK	VA, Manassas	106.7	was WBMW

### AM changes

CHRX	BC, Vancouver	600	was CJOR
WJEX	NY, Syracuse	670	was WNYR
KBPI	CO, Denver	710	was KNUS
KRDA	UT, Springvale	780	new
WUTK	TN, Knoxville	850	was WIVK
WWKO	FL, Cocoa	860	was WCKS
WLJD	VA, Falmouth	890	new
WTGE	LA, Baton Rouge	910	was WQXY
KOOK	CA, Modesto	970	was KHVY
KBBQ	CA, Santa Barbara	990	was KKSB
KKSD	AK, Anchorage	1080	was KASH
KAZN	CA, Pasadena	1300	was KWKW
KWKW	CA, Los Angeles	1330	was KFAC
WGNA	NY, Albany	1460	was WOKO
KRRU	CO, Pueblo	1480	was KAYK

### AM DX Chart when to listen for what

Transmitter Site	Receiver Location	
Northern South America, Central America, The Caribbean	East North America Year round, best in mid-winter	West North America Year round, best in mid-winter
Deep South America	Summer best	Summer best
Australasia	Spring best, Fall possible	Spring best. Summer at sunrise good.
Asia	Fall best, Spring possible.	October to December best.
Europe, North Africa	Fall through Spring best	Late Fall and early winter. Quite rare.
Southern Africa	Spring best. Sometimes in summer.	Nearly impossible.

Programmable radios, that resemble scanners, can bring you up-to-the-minute sports, financial and agricultural information, that you read off their build-it LCD displays. Of course, Seeburg and Muzak still transmit their "music to drill teeth by" services on subcarrier, and several networks exist that read news and literature to the blind. If you have a subcarrier receiver, look for these programs mixed at 67 and 92 kHz, on FM carriers, nationwide.

Ingenious methods of broadcasting don't exclude AM. Consider KIPA, 620 kHz, on Big Island in Hawaii. Originally they transmitted with 5 kW from Hilo. The famous mountainous landscape of active volcanoes may be wonderful for tourism, but not for radio reception. KIPA could only cover the eastern shore. The station applied for, and received, permission to construct two more transmitters: one at Keahole Airport, in the west, and another at South Point, at the southern tip of the island. All three now operate synchronously on 620 kHz with 5 kW each. Each station has its own extremely stable crystal controlled frequency standard to minimize subaudible beating and "mush" between transmitters. Digital audio delays are used so their programs don't seem to echo when you are between transmitters and pick up more than one transmitter at a time. KIPA now covers all of Big Island quite effectively.

### High Flying DX

"Why can't you use FM radios on airplanes?" Jack Belck, of Mt. Pleasant, Michigan asks. Well, your radio is primarily a receiver, but it also contains a local oscillator, usually operating at 10.5 MHz. If you tune to 92.3 MHz, your radio is transmitting a weak signal at 102.8 MHz, by mixing the broadcast signal with the oscillator.  $92.3 + 10.5 = 102.8$ . Listening above 97.5 MHz, your radio will transmit a signal into the VHF aircraft band, just above the FM broadcast band, which can effectively jam navigation beacons and air to ground transmissions.

FM radio does reach the clouds quite nicely. Although most stations use multi-bay antennae to make their radiations hug the ground, to gain more terrestrial range, some energy does travel upwards and can be received airborne. The RADAIR system depends on this phenomenon. Airborne DX'ing FM is restricted more by co-channel interference than by range. Imagine all the stations you could receive in a plane at 30,000 feet! Flying provides you with the world's greatest antenna tower! Pilots and navigators usually frown on operating FM radios on commercial craft, so remember, always check first.

### Swinging Into Spring

Springtime has finally come, but AM DX never leaves, if you know where to look. The Spring and Summer are often the best times to DX the deep south: South America, Australasia, and Southern Africa. Look

# WLW

Long Island Public Television

for these indicator stations: The Caribbean Beacon from Anguilla on 1610 kHz, ZIZ on 555 kHz and Radio Paradise on 825 kHz, both from the island of St. Kitts, Radio Cayman, on 1555 kHz, from Georgetown, Cayman Islands, and Mexicans XEQ on 940 kHz, and XEX on 730 kHz.

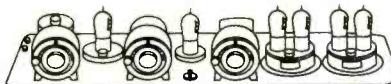
Surprising receptions continue to be heard from a group of Australian stations that serve the handicapped, each with only 500 watts. Look for them on 1620 and 1629 kHz, around your local dawn, especially on the West Coast. When any of these stations are strong, look around the band for heterodynes of those rarer split frequency stations you really want. Check out The World Radio and Television Handbook. Also listen to WWV at 18 minutes past the hour for their propagation forecasts. If the K-index has been quite low for some time, look for stations from Asia and Europe. K-indexes over 4 corresponds with auroral conditions that favor South American stations.

You don't need good conditions to receive Radio Taino, La Tur-emisora de Cuba. Fidel and friends are using transmitters estimated at 300 kW, with directional antennas pointing north. This service can be heard on the simplest of radios all across North America. It broadcasts feature programs in English and Spanish, hopefully luring you to vacation in Cuba. Look for it on 1160 kHz before 0500 UTC. It has also been heard on 1040 and 830 kHz occasionally.

## Money Talks

It's money that matters at KMNY, 1600 kHz, in Los Angeles, and their newly formed 12 stations Money Radio Network. It broadcasts 24 hours a day with America's first all news and talk network specializing in business, financial, and investment matters. They feature a very comprehensive and ambitious format of informative talk and call-in programs about the financial world. Why didn't Donald Trump think of this first?

Please send your questions, comments, suggestions, requests, bumperstickers, or anything else you would like to see in this column to: Broadcast DX'ing, Popular Communications, 76 North Broadway, Hicksville, New York 11801. This column is here to serve your DX'ing needs, so let us know how we can help you! Write today! Until next month, best of DX and 73s. **PC**



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CIRCLE 25 ON READER SERVICE CARD

# We Check Out: The Radio Shack Realistic PRO-57 Scanner

*A Good, Basic Scanner You've Probably  
Never Heard Of*



**W**hen I first saw the Realistic PRO-57 scanner I went to check it in the Radio Shack catalog. It wasn't in the catalog since this desktop scanner is so new that it came out after the catalog was issued.

Opening the carton, I found that the PRO-57 was a straightforward ten-channel job offering coverage of the following frequency ranges: 30 to 54 MHz; 138 to 174 MHz; and 380 to 512 MHz. This is a programmable unit providing two-second scan delay, and individual lockouts. The display is via LCD's, and the entire unit is housed in a compact gray plastic cabinet with a detachable telescoping metal antenna.

Programming frequencies doesn't come

any easier than on the PRO-57, a simple task matched by the overall ease of operation on this scanner. That makes this set especially well suited for use by persons getting started in scanning, or who aren't looking for some of the more sophisticated features such as search/scan, multimode operation, dual speed scanning, hundreds of memory channels, frequency coverage, etc. The trade off is that, at \$139.95, the PRO-57 is a relatively inexpensive scanner.

The actual performance specs are quite respectable with 1 uV sensitivity (20 dB S/N), and selectivity of  $\pm 10$  kHz at  $-6$  dB. It scans at 8 channels per second and has a 10.7 MHz IF. The PRO-57 operates

from a separate 117 VAC power supply (included) that plugs into the rear of the unit. With a size of 2" by 8" by 7", and weighing only 24 ounces, you can find a spot for the PRO-57 just about anywhere.

This is an ideal beginner's scanner, or as an extra or backup scanner for the more advanced scanner enthusiast. It's so small and unobtrusive that you could stick one in your desk draw at the office to lighten up your lunch hour. What with the tendency of scanners to become more and more complex and sophisticated, the PRO-57 is a pleasant little surprise that should find a number of unique applications.

Reviewed by F.X.F., North Dakota



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**KENWOOD R5000** is the new high performance receiver from the leader in communications technology. Designed with the highest performance standards in mind, the KENWOOD R5000 will bring you all the excitement of shortwave listening! 150 kHz to 30 MHz. 100 memories. Keyboard entry. AM, FM, USB/LSB, CW, FSK. VHF 108-174 Opt VC20.

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# BETTER SIGNALS

BY ED NOLL W3FQJ

ANTENNAS AND SIGNAL IMPROVING ACCESSORIES

## High Rise MW DXing With A Ferrite Loop

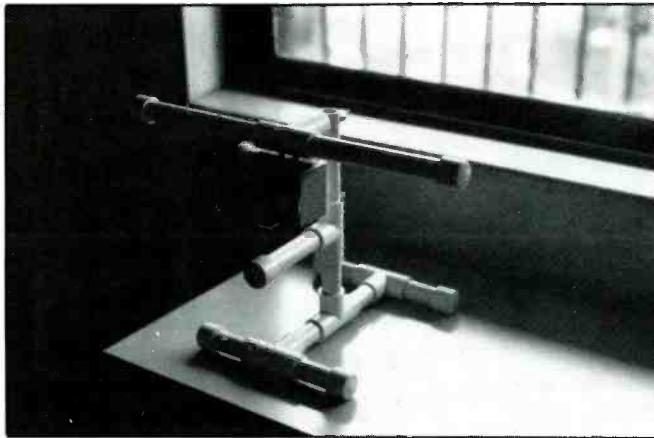


Fig. 1 - Radio West loop atop filing cabinet with rod broadside to window.

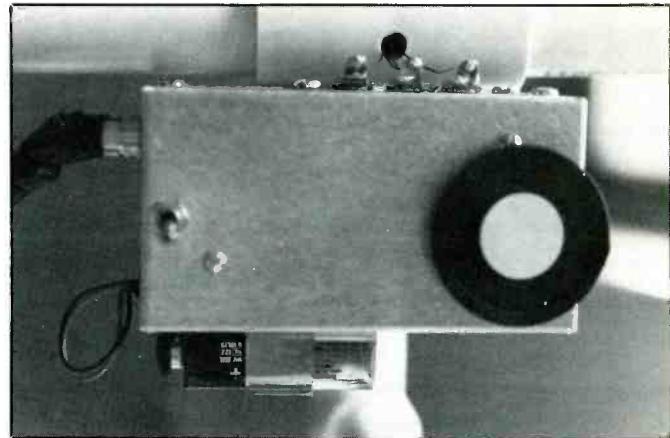


Fig. 2 - Ferrite loop amplifier case showing frequency control, switch and battery.

Here on the fifth floor of a modern eight-floor apartment, incoming radio signals are low as compared to what they were at the antenna farm. However, they are usable and things can be done to improve results. We'll be working on some projects with the hope that we can give some assistance to many of you who are similarly surrounded with girders. Meanwhile, write to us about the success of your own indoor installations. Send along a clear drawing and all important dimensions. Maybe we can print some suitable ones in this column.

Our first surprise was how well a Radio West ferrite loop with amplifier, Fig. 1, performed when positioned in front of a window atop a two-drawer filing cabinet. The ferrite rod mounted atop the assembly was in the clear in the window area. While sitting on the chair of the operating table, I can tune the loop amplifier, Fig. 2, and orient the ferrite rod for maximum signal. The loop pattern itself is far from ideal surrounded by so much metal.

The maximum signal directivity of a ferrite loop is broadside to the rod, as shown in Fig. 3. There is minimum pickup on either side of the line of the rod as indicated. When the loop is in the clear and isolated from metallic surfaces, maximum and minimum pick-up directions are perpendicular to each other as shown in Fig. 5, 3B and C. Example B shows a maximum toward station 1. When loop is set for minimum reception for station 1, it may be possible to hear a weak station 2 broadcasting on the same frequency as shown in C.

When closed in by girders and other metallic surfaces, things are less than ideal. The maximum signal broadside holds up well because of the very broadness of the loop pattern. However, the minimum signal is often not true and frequently is not exactly perpendicular to the best broadside reception. In fact, there can be very substantial departures from the true line minimum direction, suggested by the position of the rod.

The advantage of the loop, however, for

indoor use is that it can be oriented for maximum signal pick-up. Furthermore, the included amplifier provides significant build-up of whatever signal is present before it is applied to the receiver input. Often, when noise is present, the loop can be oriented to obtain maximum signal-to-noise ratio.

The loop amplifier, Fig. 4, consists of a differential balanced input amplifier using two field-effect transistors followed by a bipolar common-emitter follower. Note that

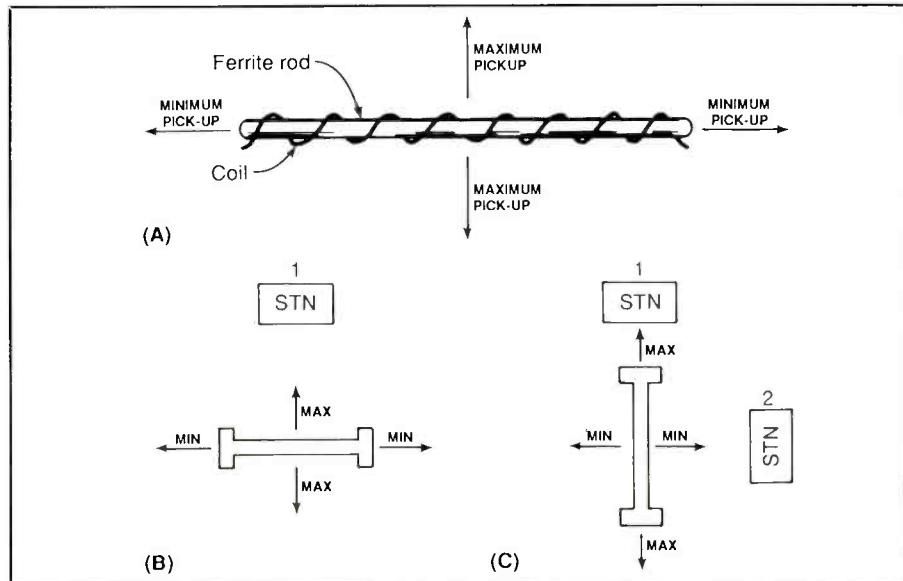


Fig. 3 - Directional characteristics of loop.

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**Some Notes On Its Development**

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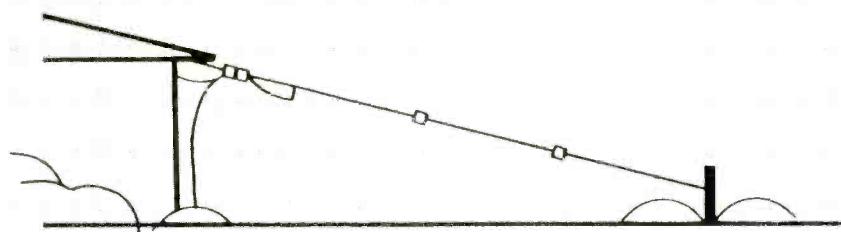
What does transmitting experience have to do with shortwave reception? Plenty! If a transmit antenna is not designed to precise parameters, it will not pass the RF "smoke test"—there will be burned connections, shorted components, high standing waves and generally lousy performance. On the other hand, a receive-only antenna of shoddy design can go unnoticed—except by your receiver and the weak DX signal you're trying to receive. DX-SWL antennas are used daily in 2 kw transmit service, as well as for world class reception.

- We recognized early on that a Sloper can outperform a dipole at the same height, for many incoming wave angles. The Sloper really shines on weak, low angle DX signals. A Sloper also requires only a single, elevated support—it's easier to install than a dipole.
- The model DX-SWL is designed with specially coated 12 ga. solid copper wire elements which are 25% greater in diameter than the more commonly used 14 ga. wire. Engineers know that a larger diameter yields less resistance, and thus less loss per unit length. Even though 14 ga. wire is cheaper, it is not acceptable for use in any Alpha Delta antenna.

- Because DX-SWL antennas are used worldwide in less than ideal environments, only high quality stainless steel hardware is used. Even though it is more costly than plated hardware used in other cheaper brands, we know that you want to put an antenna up once, and forget it. Climbing great heights to replace rusted connections is no fun. Due to the direct sun, high heat environment of some DX-SWL installation sites, we use only specially selected white coil form material. Black forms used by other brands are not acceptable due to heat absorption and possible coil distortion.
- Before you buy any shortwave antenna, check out the design details and transmit capabilities thoroughly—even if you're not going to transmit. We don't want your investment to go up in smoke!

Model DX-SWL Sloper Antenna is available for \$69.95 at your **Alpha Delta Dealer**. For direct orders send \$69.95 plus \$4.00 shipping (USA only). Call for export order prices.

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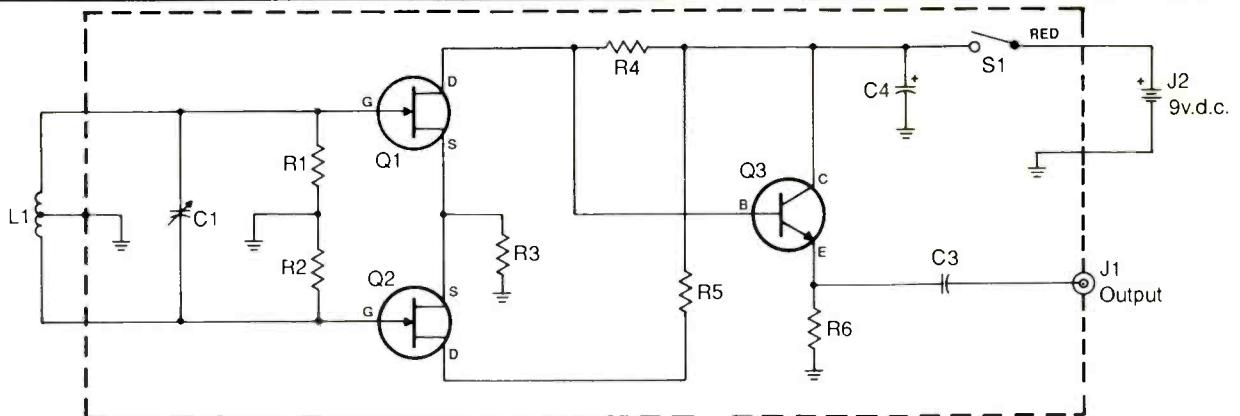


Fig. 4- Loop amplifier.

the input is fed push-pull, gate-to-gate, by the two ends of the ferrite coil. Ground is centered; however, the FET output drains are connected in parallel and applied to the base of the emitter-follower which acts as an impedance transformer to match the output coaxial line.

When the ferrite rod is positioned broadside to the arriving signal, the signal phase at each end of the ferrite core is the same and maximum signal appears on the output drains, base of the transistor and the coaxial line input. If the ferrite rod and its coil is oriented in line with the arriving signal, the coil ends have out-of-phase signal compo-

nents that are fed to the gates. Hence, with perfect balance there is zero drain output, indicating that only a minimum signal is transferred to the receiver.

The input amplifier is positioned at the center of the ferrite rod. It is tuned to resonance with capacitor C1. The on-off switch S1 is at the left of the preamplifier case. Above is the output jack. The battery mounts beneath the amplifier.

DX'ing. First, there is its tuned amplifier which can build up whatever signal level is available. Then you can orient the loop to take best advantage of that signal at the position you mount the loop. If the amplifier is tuned carefully, it is also an aid in cutting back on splatter and interference components from frequencies off of the frequency of the station you are receiving.

Indoor installations often deal with a variety of electrical noises. Sometimes you can orient your loop for minimum noise and improve listening quality of the station you wish to hear and identify. The same applies to a nearby broadcast station that may be giving you trouble at various places on the dial or, a strong adjacent channel station that gives you trouble in receiving a weaker station just 10 kHz away.

A special application is to use the loop to zero or minimize one station on the channel so as to identify another station that is occupying the same frequency simultaneously. This is helpful at dawn, dusk and during nighttime hours when stations are fading in and out. As you know, more than one stations, and sometimes hundreds of stations are assigned to a single frequency.

A problem with using a loop indoors in a shielded structure such as a high-rise is the weak MW signals it must handle. Consequently, there can be interference from other electrical or electronic devices. One of these is a television receiver which generates a series of interference components on the broadcast band because of the harmonic make-up of its pulses and other recurrent waveforms. It helps to position the loop and receiver as far as possible from a TV set.

Nevertheless, a loop can be a good reference for checking out other indoor antennas you may wish to try. It is a compact unit with its 16-inch rod positioned about 10 inches above its base. The less shielded the dwelling, the better will be your loop results. There is a chapter on limited space and indoor antennas in my book, "Easy-up Antennas for Radio Listeners and Hams" which is available from the Popular Communications Book Shop, or by calling the Sams' toll-free 1-800-428-7267 number.

## Where's the Beam?

There's an 11 meter antenna with real DX punch hidden in this picture. You can't see it, and your neighbors can't either. But the DX hears it anyway. Or how about a low profile DX grabbing monobander that looks like cable TV feed? It even fits in your attic. Either one fits the pocketbook-only \$39.95 + \$5 post.

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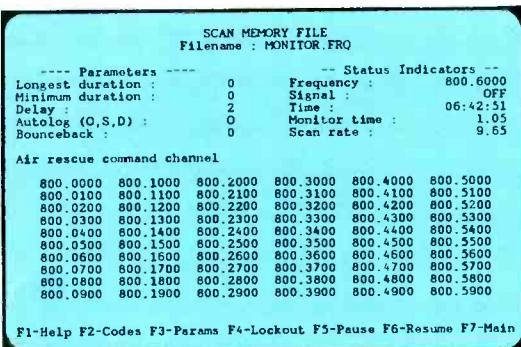
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## GETTING STARTED AS A RADIO AMATEUR

### What is Ham Radio, Anyway?—Part Two

Last month, POP'COMM reader Ed Bateman, got us started in trying to describe ham radio to people who hadn't been exposed to it. Next, in providing extensive lists of ham activities and topics for future Ham Column topics, Pete Dillon and Al Fant, Jr., approached Amateur Radio from a "show us enough trees and we'll see the forest" angle. This month, we begin with the Federal Communications Commission's definition of ham radio. (After all, if Part 97 of the FCC's rules—the federal regulations that provide for the existence of Amateur Radio in the US—don't define ham radio, what does?) The basis and purpose of Amateur Radio is set down in Section 97.1:

The rules and regulations of this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary, noncommercial communications service, particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

(c) Encouragement and improvement of the amateur radio service through rules which provide for advancing skills in both the communication and technical phases of the art.

(d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.

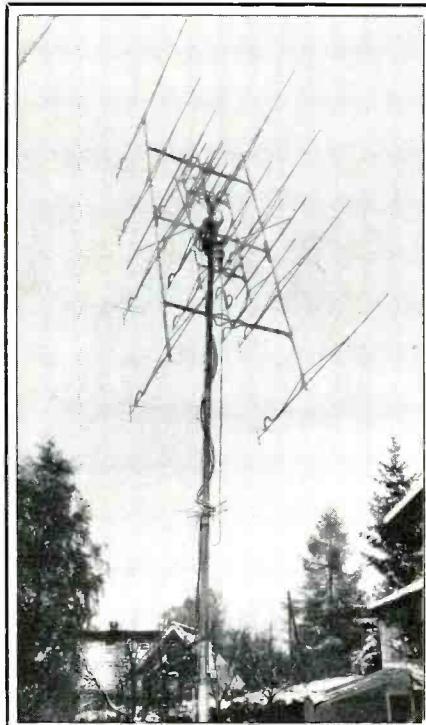
(e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

This text (and the rest of Part 97) explains the basis for and purpose of Amateur Radio as we know it; how about an official definition of ham radio? Section 97.3 of the FCC rules sets forth over 40 definitions of ham radio terms; the first two are what we're after:

(a) *Amateur radio service.* A radio communication service of self-training, intercommunication, and technical investigation carried on by amateur radio operators.

(b) *Amateur radio communication.* Non-commercial radio communication by or among amateur radio stations solely with a personal aim and without pecuniary or business interest.

Translation: Hams are people involved with radio solely for the enjoyment of radio.



Place: Menziken, Switzerland. Ham: Dan Gautschi, HB9CRQ. Specialty: Moonbounce! Also known as earth-moon-earth (EME) communication, moonbounce involves what its name implies: Radio contact between two points on earth by bouncing radio signals off the moon. You don't need high power and an antenna like this to have fun with EME, though: Recent advances in moonbounce technology allow stations running as little as 100 W into a single Yagi antenna to make contacts via the moon!

That enjoyment can take the form of public service (emergency communications, and so on); technical investigation (learning the how and why of radio and telecommunications technology, putting such knowledge to use, and/or developing new radio/telecommunication ideas "because they're there"); and personal communication (everything from telling your spouse you're caught in a traffic jam to contesting, awards-chasing and DXing).

If the FCC's big-picture view of Amateur Radio seems relatively unspecific, that's intentional: Hams can't be very creative—or have much fun, or communicate effectively during emergencies, or develop new com-

munication technologies—if their every move is prescribed by law.

Is ham radio a closed society? Last month, Ed Bateman compared international broadcasting and Amateur Radio, saying that SW broadcast stations sound like they're trying to get their audience to listen, and ham stations don't. Well, Ed, that makes sense to me: Hams aren't broadcasters. On the air, hams talk to other hams—not to a general listening audience! Is this surprising? If you sit down on a park bench beside two friends who are happily involved in an enjoyable conversation, can you fault them if what they say isn't directed at you?

Ed Bateman further opines that ham radio has "an image problem": "Before I knew any better, I thought Amateur Radio was just something for shut-ins, or else seemed to be a haven for the retired or those who are so technical that they don't know how to relate to people in human terms (nerds). Your articles need to overcome this image problem, and identify for a reader reluctant to make the effort those things that would give them the incentive to try." Gee. Yes, Ed, there are many confined hams, retired hams and nerdy hams. And there are also "normal" hams and "geeky" hams; hams of every race, creed and color; young and old hams; married hams and single hams; male hams and female hams; gay hams and straight hams; hams heading for the stars and hams who are stars in entertainment and the arts; hams at the head of states and hams at the head of grade-school classes! Well. If that's a closed society, I'd want in—if I wasn't already a ham!

I'd want in, that is, if I wasn't already a radio amateur and I liked radio—which I do. I admit it: People who don't like radio may feel out of place in Amateur Radio. It's also possible that some people who like radio may feel out of place in Amateur Radio. No problem: Like skydiving, macrame, stamp collecting, sailing and a zillion other avocational pursuits, ham radio isn't for everyone. That's okay! As I see it, the purpose of The Ham Column is to talk about ham radio doings in a way that might interest people already interested in radio—hams, "pre-hams" and nonhams—in doing ham-radio things. If you're such a person, or think you might be such a person, The Ham Column is for you!

Comments, questions, photos, suggestions? Write The Ham Column, ARRL, Dept PCN, 225 Main St., Newington, CT 06111.

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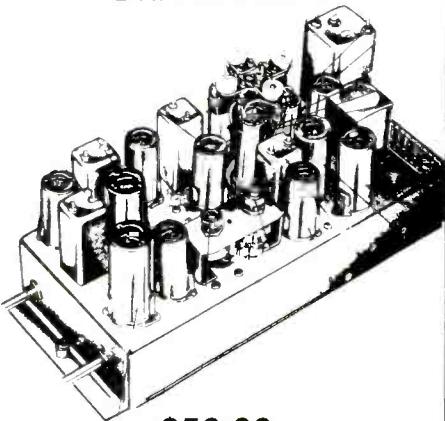
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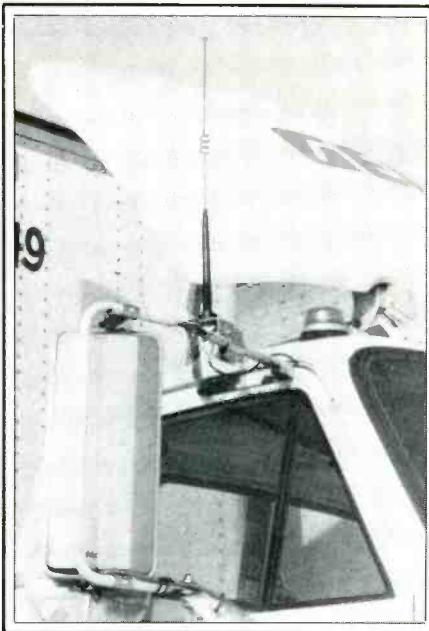
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## REVIEW OF NEW AND INTERESTING PRODUCTS



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A new 3 dB gain mirror or side body mount antenna, Model ASPD913, designed for trucks, vans and motorhomes is available now from The Antenna Specialists Co. The high performance antenna's elevated-feed-point configuration, originally designed in cooperation with Bell Laboratories, provides omnidirectional coverage in any clear mounting location. Just 24 inches long, the antenna is ground-plane-independent, allowing installation on horizontal or vertical mirror supports or the side of a cab. The antenna's radiator, spring and mounting hardware are constructed of stainless steel with a contemporary black DURA-COAT™ finish that resists abrasion. Included is a 17' RG-58/U cable with a mini-UHF male (ASPD913M) or TNC male (ASPD913T) installed. For more information contact: The Antenna Specialists Co., 30500 Bruce Industrial Parkway, Cleveland, OH 44139-3996, Tel. No: 216/349/8400, or circle number 101 on our readers service card.

### Amateur Radio Accessories Catalog

MFJ Enterprises, Inc., the company that sells more ham radio accessories than anyone else in the world, brings you their latest 16 page Amateur Radio Catalog.

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To receive your free copy call toll free 800-647-1800 or 601-323-5869, or write MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762 or circle number 102 on our readers service card.



### Signal Intensifiers Improved

Electron Processing, Inc. announces the first models of a new line of "Premium" signal intensifier receiver preamplifiers. The RFP-40 model answers the need for a high quality, yet inexpensive, preamplifier that covers from MF to UHF frequencies. RFP-40s provide 15 db of gain from 1 MHz - 1300 MHz with a low 2.8 db noise figure. Available with choice of BNC, UHF (SO239), or F connectors and powered by choice of either 110 VAC or 12 VDC, these models are easily tailored to almost any installation. For an additional \$5 per unit, the following are available: N, SMA, TNC, Motorola, and Mini UHF connectors and 24 VDC power.

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Prices for RFPs with BNC, SO239 (UHF), and F connectors start at \$69.95 with quantity discounts available. To order or for additional information, contact the Sales Department, Electron Processing, Inc. at PO Box 708, Medford, NY 11763, or circle 103 on our readers service card.

# THE EXCITING WORLD OF RADIOTELETYPE MONITORING

**A** U.S. Navy station was found recently on 19000 at 1610 using the ID of "SESEF." The meaning of the abbreviation could not be immediately ascertained. The ID was on a test tape with the "very quick brown fox" and ran at 850/75R. A similar transmission, using the SESEF ID, was seen on 16160.5 at 1652. That frequency is used by many U.S. Naval facilities, including NAM, Norfolk, Virginia, which might be considered a chief suspect for the transmissions.

Another station was spotted sending "the quick brown fox," plus a 10 count and "DE ALPHA 1." This transmission was on 13532 from 1743 to 1836, and on 14760 at

1925. Surprisingly, this continuous run of foxes was not via RTTY, but by CW! I have also seen RY's tapped out in Morse Code in the past. In both cases the tests were automatically sent and not hand keyed.

CLP1, MFA, Havana, Cuba, usually does not send its callsign when transmitting RY's to a Cuban embassy, but twice recently it did. Last month, we reported the CLP1 ID on 17416.5 at 1600, 425/50N. Since then, I have logged RY's with "Y2007 Y2007 Y2007 DE CLP 1" on 17412.3 at 1558, 350/50N.

On the latter occasion CLP1, after making contact, sent a few brief messages in

Spanish, plus a few ZPL's, QSA's and QSL's, but nothing more. So it appears it was acting as a recipient of messages rather than the sender. The callsign Y2007 has been seen in recent months but the location of this presumed East German diplomatic post has not been determined yet.

Nine channels of an FDM transmission between 7930.8 and 7932.4 showed foxes and "TEST DE PMS," which is some type of station, possibly naval, in Surabaya, Indonesia. The transmission occurred at 0627 and all channels were operating at 170/75N

A station identifying itself as "NDO" was

J 10

# KYODO 野球 NEWS

1998年7月30日(星期日)

(中日)セ・リーグ  
中 日 0 1 1 0 1 0 1 1 0 5  
セ・カントン 0 1 0 0 0 0 0 0 0 0 0 1  
監小松 12 試合 8 勝 4 敗 国尾在 12  
衆 28 8 勝 8 敗 國野 3 勝 5 敗  
号(尾形)ダービー 13号(尾形)暮  
合 21号(尾形)  
  
中田が今季初の首位に  
中田が序盤から小刻みに細点  
して逃げ切り4連勝、巨人を抜  
いて今季初の首位に躍り出た。  
先発の小松は立ち上がりこそ  
粗筋に苦しんだが、中盤園子を  
上げて6勝目。七回二死で登板  
した郭は、七人をノーアットに  
抑える好リリーフだった。  
ヤクルトは尾花の不調、四番  
デシンドとの矢場が暴いて、こ  
のカードを連敗。  
  
**広島 9 勝 8 敗**  
**巨人 8 勝 9 敗**  
**阪神 0 0 0 3 6 0 0 2 0 X 5**  
**福岡 6 勝 6 敗**  
**西武 5 勝 7 敗**  
**中日 4 勝 8 敗**  
**横浜 4 勝 7 敗**  
**日高 3 勝 6 敗**  
**東京 2 勝 6 敗**  
**千葉 2 勝 6 敗**  
**中日 1 勝 7 敗**  
**福岡 1 勝 7 敗**  
**横浜 1 勝 7 敗**  
**日高 1 勝 7 敗**  
  
**四番・小早川が躍進をはじめる**  
打点、ホームランを別格が完投で8  
勝田をマーク。本塁打がいい形で  
優勝戦のスタートを切った。  
巨人は中端が2打席連続本塁  
打して1点差を詰め、上げた直後  
の七回の守りがすべて、躍進も  
喜びだった。  
  
**CBA(9 勝 8 敗)** 田子廣  
**大 阪 3 0 2 0 1 1 1 0 0 0 0 7**  
**神 0 0 0 1 0 0 0 0 0 0 0 1**  
**福岡 3 0 1 0 0 0 0 0 0 0 0 0**  
**横浜 2 0 0 0 0 0 0 0 0 0 0 0**  
**阪神 2 0 0 0 0 0 0 0 0 0 0 0**  
**中日 1 0 0 0 0 0 0 0 0 0 0 0**  
**西武 1 0 0 0 0 0 0 0 0 0 0 0**  
**千葉 1 0 0 0 0 0 0 0 0 0 0 0**  
**日高 1 0 0 0 0 0 0 0 0 0 0 0**  
**横浜 1 0 0 0 0 0 0 0 0 0 0 0**  
**福岡 1 0 0 0 0 0 0 0 0 0 0 0**  
**阪神 1 0 0 0 0 0 0 0 0 0 0 0**  
**中日 1 0 0 0 0 0 0 0 0 0 0 0**

JJC, Tokyo R., Japan, used radiofacsimile to send newspapers like this to ships. Arnold Carmody of New York bagged this one in 17069.5 (17071.7 LSB) at 1600, 60/388.

DE ETD3 ETD3 ETD3  
RYRYRYRYRYRYRYRYRYR  
RYRYRYRYRYRYRYRYRYR  
HOW DO YOU READ ???  
REQ QRK AND LR IMI  
DE ETD3 ETD3 ETD3  
RYRYRYRYRYRYRYRYRYR  
RYRYRYRYRYRYRYRYRYR  
HOW DO YOU READ ???

*Addis Ababa Aero, Ethiopia, was logged by the RTTY column editor sending this test tape on 5187 at 0220, 85/50R.*

with RY's from 1650 to 1651. It also sent a message containing three groups of five digits, and an other message with six groups of five digits, ending the transmission at 1652. One might wonder if these short messages had anything to say or if they were, in fact, dummy messages. RTTY seems to be an expensive way to send traffic that runs less than a minute long.

"NDO," which has appeared before on this frequency, could be the same station or a cousin to "YBU," which is usually seen on the neighboring frequency of 17489. "YBU" is thought to be the East German Embassy in Havana, Cuba.

A weather station somewhere in Mexico has been sending plaintext weather in Spanish for the country on at least two frequencies. It has been noted on 20100 at about 1615 and 7933.4 at about 0250. There is an indicator of "MET. FAM. DM." given, which leads me to believe this station is in Mexico City. "DM" could mean the Federal District of Mexico, where the Mexican capital is located. Mexico is divided into federal districts just as the United States is divided into states.

When the hurricane season begins in a few months you can get updated reports of hurricane movements by tuning to the Hurricane Watch net on the amateur radio bands. Last November, as tropical storm Keith spearheaded toward Florida, I came across the net on 14117. KOIND was sending several advisories pertaining to Keith to members of the net at 1623, 170/75N. At the conclusion of RTTY traffic the net shifted to 14313 for USB voice communications.

RTTY column loggings contributor J.M. of Kentucky continues to send us material of unusual activity that he's monitored. This month he reports about the Bell Telephone National Security Emergency Preparedness net he's intercepted on 7554 at various times between 1540 and 2015. RTTY settings were 170/50R, 170/100R, 170/110 or ASCII, and with Packet.

Stations monitored were WNFT417, Bell

Communications Research, Morristown, NJ; WNGQ469, New York Telephone, Linlithgo, NY; WNHN755, Michigan Bell, Southfield, MI; and WNIM867, Southwest Bell Telephone, St. Louis, MO. Also WNHP857, South Central Bell Telephone, Gadsen, AL; WNUH799, Southern Bell Telephone, Atlanta, GA. Another participant in the TTY training exercises, J.M. says, was KGD34, National Coordinating Center, Arlington, VA.

Michael Ricks of Pennsylvania shares his observations of Soviet maritime RTTY with us. He says that 12522.5 and 16703.5 are the weather channels found in use daily at 1645. A Soviet ship wanting to send weather data "runs RY's with call sign (and) frequency pair, and indicates that traffic is sent blind, requiring no response. Then a traffic list is sent followed by weather reports for specific ships," Michael says.

"I've also found an active pair of ship-to-ship RTTY/CW frequencies used by Soviet Academy of Sciences SESS tracking ships. From 0430 onward, the Soviet spaceflight tracking ship Akademik Sergei Korolev (UISZ) transmits RTTY kriptogrammas on 12523 and 12524 to several tracking ships at retrofire positions in the South Atlantic and Gulf of Mexico. Control of the ship-to-ship communications is handled on 8418 and 8417 CW as an answer back channel," Michael says.

From Saudi Arabia comes word from Paul Spurlock of some intriguing RTTY traffic, regarding U.S.-Iran relations, he encountered on 14104.4 USB (14106 center frequency—Ed.) in the amateur radio band at 1410, with a setting of 110 baud ASCII. One teletype operator complained of QRN garbling his copy and asked for many WA's and WB's, which mean "word after" and "word before." Another common abbreviation was CCN, which might mean "correction," but I'm not sure of that. "UN HQS," or United Nations headquarters also was seen in the text.

Paul asks for an ID on this station, but

none of my references, including those of the ITU, can shed any light on this mystery. Maybe one of our readers overseas has some information to share with us.

Until recently it cost thousands of dollars to be able to view slow-scan television over amateur radio. Software Systems Consulting of California has developed software for the IBM PC and compatible computers that will receive TV images, and costs \$149.95.

SSC will provide an SSTV FSK demodulator, an SSTV FSK modulator, digital signal processing software, image capture utilities, an instruction manual, and a tutorial cassette tape with sample TV images. The system will be able to send and receive formats in 8, 17, and 34 second black and white; and 12, 24, 36, 48, and 72 second color, with all color images displayed in black and white.

Here's what you'll need to receive SSTV:  
An IBM PC with 640KB of memory, a CGA, EGA, VGA, or Hercules video card, serial port, parallel printer port, audio tape recorder, HF SSB receiver, and an optional printer. I should add that a 10MB or 20MB hard disk drive would be useful for saving images, although the company did not specify the need for one. No mention was made of which DOS version is needed, it's probably PC-DOS and MS-DOS 2.1 or higher, as that's what was recommended for use with its FAX reception system (see below).

SSC recommends the following printers as an option, Okidata 92, 93, 192 and 193, Epson FX-80, IBM Printer, and Panasonic 1080. If you have another brand of printer, ask the company if it's compatible.

The FAX system for the IBM PC and true compatibles requires the same configuration as for the SSTV system, but needs only 384KB RAM. PC HF FAX costs \$79.95 and includes software, instruction manual, tutorial tape cassette with sample FAX images, demodulator and interface cable, and WEFAX frequency list.

Weather FAX pictures can be displayed in monochrome, or in 4 and 16 colors. Up to 16 shades of gray can be viewed on a monochrome video monitor.

For more details about the SSTV and FAX software, contact Software Systems Consulting, Radio Group, 1303 S. Ola Vista, San Clemente, CA 92672.

## RTTY Loggings

- 2306.2:** AAR2BV, ARMY MARS sta w/RYRY,  
foxes & MARS circulars at 0233, ASCII 170/110N  
(Tom Kneitel, NY).

**2345:** Un-ID sta w/foxes, test & count at 0242,  
850/75R (Tom Kneitel, NY).

**2772.7:** AP/UPI nw in EE at 0247, FDM 85/75R  
(Kneitel, NY).

**3272.2:** AAR2HD, US Army MARS in net  
w/AAR1BC, AAR1ON, AAR1CE/A, AAR1BX at  
0018, 170/45N (Kneitel, NY).

**5240:** 4OCZ, TANJUG Belgrade, Yugoslavia w/nx  
in EE at 0011, 50R (Ed.).

**6690:** Un-ID w/5L rfc at 0713, 425/50R (Ed.).

**6906:** AFF2, Carswell AFB, Ft. Worth, TX  
w/coded wx at 031C, 170/75N (J.M., KY).

**7521.1:** FDY, French AF, Orleans, France w/le  
brick at 0111, 425/50R (Fried Heilherington, FL).

**7646:** DDH7, Hamburg Meteor, FRG w/coded wx  
at 0737, 425/50R (Ed.).

**7658:** YZD, TANJUG Belgrade, Yugoslavia w/nx  
in EE at 0813, 425/50R (Ed.).

### Abbreviations Used In The RTTY Column

AA	Arabic
ARQ	SITOR mode
BC	Broadcast
EE	English
FEC	Forward Error Correction mode
FF	French
foxes	"Quick brown fox..." test tape
GG	German
ID	Identification/led
MFA	Ministry of Foreign Affairs
nx	news
PP	Portuguese
RYRY	"RYRY..." test tape
SS	Spanish
tfc	traffic
w/	with
wx	weather

lasting about 2 sec. This then repeats (E.R., VA). This is ARQ-E in 48 and sometimes 96 baud, though this is always idling when I tune it in-- Ed.

11638: DDK8, Hamburg Meteo, FRG w/RYRY at 0000, 425/50N (Manthey, NY).

11668: UN-ID USN commsta w/very quick brown foxes at 1355, 850/75R (J.M., KY).

12063.3: RFL1, French Novrad, Fort de France, Martinique w/uncles mil tlc in FF at 2040, ARQ-E/72 (Ed.).

12065: EPD, Teheran Aero, Iran w/RYRY at 2344, 425/50N (Manthey, NY).

12124.5: CSY, Santa Maria Aero, Azores w/aero wx at 1857, 850/50N (Ed.).

12174: ET3D, Addis Ababa Aero, Ethiopia w/RYRY at 2334, 170/50R (J.M., KY).

12184: UN-ID USN commsta w/very quick brown foxes at 1355, 850/50R (J.M., KY).

12185.7: 5AQ62, JANA Tripoli, Libya w/nx in EE at 1805, 425/50R (Ed.).

12284.7: RKU74, TASS Moscow, USSR w/nx in EE at 1734, 425/50R (Ed.).

12520.5: UYGG, Soviet naval survey ship Antares at Port Agadir, Morocco w/tfc for UFB at 2208, 170/50R (Michael Ricks, PA). Note Mike's observations re Soviet maritime RTTY in the text portion of this month's column-- Ed.

12524: UISZ, Soviet spaceflight tracking ship Akademik Sergei Korolev w/criptogrammos for other ships at 0342, 170/50N (Ricks, PA).

12528.5: UUYZ, Soviet spaceflight tracking ship Nevel, off Buenos Aires w/tfc for Science 1 (Nauka Odin) via URD, was 170/50 at 2302 (Ricks, PA).

12693: ZRH, Cape Town Novrad, Finsanteekraal, RSA w/hi seas wx from Pretoria Meteo at 2013, 170/75R (Ricks, PA).

13440: YZJ5, TANJUG Belgrade, Yugoslavia w/nx in EE at 1112, 425/50R (Manthey, NY).

13505: RUZU, Molodezhnaya Base, Antarctica w/coded wx at 0213, 425/50N (Williams, CO).

13935.3: Un-ID w/nx in SS re Argentina. May be Dyn, tho no ID when I was receiving them. Was 50 baud at 0040 (E.R., VA). Was LF081, TELAM Buenos Aires-- Ed.

13571: HBD20, MFA Berne, Switzerland w/review of Swiss press in FF/GG at 1000, ARQ (Hetherington, FL).

13580: HMF36, KCNA Pyongyang, N. Korea w/nx in FF at 1215, 170/50N (Tom Sundstrom, NJ).

13647.5: OL15, CTK Prague, Czechoslovakia w/nx in EE at 1526, 425/50N (Ed.).

13656: VNA Hanoi, Vietnam w/nx in Vietnamese at 1424; EE at 1434, 500/50R (Ed.).

13676: Un-ID USN commsta w/very quick brown foxes at 1625, 850/75R (J.M., KY).

13914.8: Un-ID idling in ARQ, 1433 then sez "bibli" (Ed.).

13940.1: CLP65, Embacuba Managua, Nicaragua w/cables in SS to CLP1 at 2130, 550/75N (Ed.).

14369.8: Swedish dipole tlc to Managua from un-ID sta/loc, maybe Washington, DC at 1504, 425/75R (Williams, CO). I've also monitored this one, Dallas, but at FEC/425 or 1654. Telexes in Swedish sent to Managua & signed Cabinet UD Stockholm, which means MFA in Stockholm-- Ed.

14373.9: CLP1, MFA Havana & CLP65 exchanging msgs at 2014, 425/50R. Some xmsns interrupted occasionally by 2 OM's chatting in SS on 14372.5 USB (Ed.).

14434: FJY4, Marin de Vivies Meteo, St. Paul & Amsterdam Isl. w/coded wx foll by CQ & ID, was 425/75N at 0318 (Williams, CO).

14574.4: CNM59, MAP Rabat, Morocco w/nx in EE at 1205, 425/50N (Sundstrom, NJ).

14547.4: JAL44, KYODO Tokyo, Japan, w/nx in EE at 1015, 850/50R (Hetherington, FL).

14604: BAC24, PTT Beijing, PRC w/RYRY at 1353, 425/50N (Williams, CO).

14666.5: MFA Bonn, FRG w/tfc to FRG embassy in Ankara at 1429, ARQ-E/96; to Beirut at 1434 (Ed.).

14690: UN-ID USN commsta w/very quick brown foxes at 1926, 850/75R; also foxes w/o the word very at 1700 (Ed.).

14720: RKB58, TASS Moscow, USSR w/nx in AA at 1653, 425/50R (Ed.).

14722.3: TNL, ASECNA Brazzaville, Congo w/RYRY at 1911, 425/50R (Ed.).

14764: A9M70, GNA Manama, Bahrain w/nx in EE at 350/75R at 1529 (Ed.).

14785: ATP65, MEA New Delhi, India w/nx in EE at 1542, 500/50N (Ed.).

14786.4: 9PL, Kinshasa Aero, Zaire, w/NOTAM's at 1855, 425/50N (Ed.).

14909.7: Egyptian embassy, Tunis, Tunisia w/tfc in AA to MFA Cairo, ARQ at 1615 (Ed.).

14918.7-14920.8: Poss VER, Canadian mil, Ottawa w/foxes & RYRY DE RCCCAP. Was on 9 channels, FDM 170/75N, at 1711 (Ed.).

15633: HMF26, KCNA Pyongyang, N. Korea w/nx at 0440, 250/50N (Patrick Sullivan, CA).

15845: RBK79, TASS Moscow, USSR w/nx in FF at 1634, 850/50R (Manthey, NY).

15890: RBL17, TASS Moscow, USSR w/sports scores in PP nx at 1637, 425/50R (Manthey, NY).

15898: OLS4, CTK Prague, Czechoslovakia w/nx in EE at 1515, 425/50N ("Bunkly," IL).

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CIRCLE 14 ON READER SERVICE CARD

April 1989 / POPULAR COMMUNICATIONS / 47

**15925:** RPT32, TASS Moscow, USSR w/nx in FF at 1202, 425/50R. At 1520 on un-ID USN sta w/very quick brown foxes, 850/75R (J.M., KY).

**15966:** CLP1, MFA Havana w/circulars in SS at 1207, 425/75R (J.M., KY).

**16015:** Un-ID sta in RR or crypto. Of several msgs, I had ZA TIRANA in the header, another had FM MOSKVA. Was 550/75N (Ed.).

**16016.1:** A long-time logged but un-ID sta in RR noted with this almost-EE xmsn at 1424...possibility of sending an obzwirvi to dw ministerial miting of dw liadeh fegosie#xwnz komiti... Then into RR tfc, 550/75N (Ed.).

**16136:** TASS Havana, Cuba w/RYRY 1751 then RR tfc at 1814, 350/50R. Tape ID'd as CLN451 & CLN530, but neither call is assigned to this freq (Ed.).

**16046:** PTT Havana, Cuba w/telexes to Soviet ships at 2000, 425/50R (Hetherington, FL). Could be CLN520, PTT Bauta on 16050-- Ed.

**16136.2:** BZR66, XINHUA Beijing, PRC w/nx in EE at 1300, 425/75R (Ed.).

**16136.7:** Egyptian embassy, Washington, DC w/relay of 5L tfc from embassy in Caracas to MFA Cairo, ARQ at 1753. Then sent report from embassy at Montevideo at 1804 (Ed.).

**16171.6:** Egyptian embassy, Rome, Italy w/tfc in ARQ at 1641; FEC at 1649 (Ed.).

**16226:** TASS, un-ID loc in USSR w/nx in EE, 425/50R at 1808 (J.M., KY).

**16243:** Y7A64, ADN Berlin, GDR w/nx in GG at 1400, 425/50N ("Bunk," IL).

**16302:** DFZG, MFA Belgrade, Yugoslavia w/RYRY at 1505, 425/75N (Manthey, NY).

**16380.3:** MKK, RAF London, England w/foxes & SYI's at 1726, 850/75R (Ed.).

**16397:** FTQ39, DIPLO Paris, France w/nx in FF at 1300, 425/50N ("Bunk," IL).

**1616.5:** Un-ID coastal sra w/nx in SS at 2056 in FEC mode. Items re S. America (Ed.).

**16703.5:** ERET, Soviet hydromet weather ship Georgiy Ushakov w/wx info sent "in the blind" for Soviet ships at 1645 daily. Was 1/12522.5 kHz. Other hydromet vessels noted were ERES, NISP Victor Bugayev, & EREV, NISP Ernst Krenkel (Ricks, PA).

**16969:** NMF, USCG Boston, MA w/wx in FEC at 1713 (J.M., KY).

**17198:** GKE6, Portishead R., England w/telex to SNCO in FEC at 1528 (Ed.).

**17219.5:** IDR6, Rome R., Italy in ARQ & CW (Hetherington, FL). Time not given-- Ed.

**17368:** GG text at 0024, 300/100N (Kneitel, NY).

**17400:** 5ST83, Antananarivo Aero, Madagascar w/coded wx at 0345, 1200/50N (Williams, CO); BBE52, PTT Shanghai, PRC w/RYRY to CLN565 at 2323, 425/50R (Manthey, NY).

**17403:** BAL32, PTT Beijing, PRC w/RYRY at 1433, 425/50N (Williams, CO).

**17435:** Y2V37, ADN Berlin, GDR w/RYRY at 1155, 425/50R (Manthey, NY).

**17456:** Y7K38, MFA Berlin, GDR w/RYRY at 1158, 425/50N (Manthey, NY).

**17557.3:** YWMI, Maracaibo Navrad, Venezuela w/unclas tfc at 1934, 850/75N (J.M., KY).

**18052.9:** DMP80 (un-ID sta) w/RYRY, faxes & 5L crypto at 1509, 170/96 (Ricks, PA). Could be on FRG embassy somewhere-- Ed.

**18068:** NBA, USN Balboa, Panama w/RYRY & SGSG at 1717, 850/75R (J.M., KY).

**18125:** RND70, TASS Moscow, USSR w/nx in EE at 1346, 425/50R (J.M., KY).

**18193.5:** CLN603, PL Havana, Cuba w/nx at 2145, 425/50R (Sullivan, CA).

**18316:** Indonesian embassy, Teheran, Iran to MFA Jakarta at 1351, 425/50N (Ed.).

**18388.6:** 5AF, Tripoli Aero, Libya w/RYRY at 1340, 425/50R (Ed.).

**18496.1:** CNM80, MAP Rabat, Morocco w/nx in EE at 1336, 425/50R (Ed.).

**18543.5:** STK, Khartoum Ait, Sudan w/RYRY at 2205, 425/50R (Kneitel, NY).

**18600.1:** RWN72, PL Moscow, USSR w/nx in SS at 1323, 425/50N (Ed.).

**18614:** Un-ID w/nx in SS at 1459, 425/50N (J.M., KY). Believe this is CLP1 w/Piensaminrex nx-- Ed.

**19058.3:** OBC, Callao Navrad, Peru w/unclas Ejercicio XX at 1414, 850/75N (Ed.).

**19226.6:** An Egyptian embassy somewhere w/AA tlc at 1545, ARQ (Ed.).

**19227:** MFA Belgrade, Yugoslavia w/nx in Serbo-Croat at 1509, 425/75N (Ed.).

**19390:** Y7A76, MFA Berlin, GDR w/RYRY at 1352, then 5L grps at 1355, 425/50R (J.M., KY).

**19400.1:** WVD69, New Delhi Meteo, India w/wx data for Bangkok at 1415, 170/50R (Hetherington).

**19747.5:** 6VU79, Dakar Meteo, Senegal w/RYRY at 2210, then coded wx of 2215, 425/50R (Kneitel).

**19821.5:** Un-ID idling in ARQ at 1617 to 1654 off (Ed.).

**19822.5:** 5AF, Tripoli Aero, Libya w/its WMO location indicator of HLLT w/RYRY at 1502, 325/50R (Williams, CO).

**19885:** Y7A79, MFA Berlin, GDR w/RYRY at 2039, 425/50R (J.M., KY).

**20050:** CLP1, MFA Havana, Cuba w/Piensaminrex nx & circulars at 1625, 500/50N (Williams, CO).

**20194.5:** Possibly AFE71, USAF Cape Canaveral, FL w/RYRY to Ascension Isl & Antigua at 1247, FDM 85/50R w/bit inversion (Ed.).

**20259:** PL nx in EE at 2025, 425/50R (Kneitel).

**20348:** Un-ID USN sta w/very quick brown foxes at 1534, 850/75R (J.M., KY). Izit NBA?-- Ed.

**20472:** CXR, Montevideo Navrad, Uruguay w/foxes, RYRY & SGSG at 2000, 850/75N (Bret Aguilar, CA).

**20482.5:** VOA La Union, Philippines w/RYRY at 2357, 425/75N (Kneitel, NY).

**20605:** HBD68 w/short msg & callsign in ARQ at 1432 (J.M., KY). This is Swiss embassy in Guatemala City (Ed.).

**20850:** NBA, USN Balboa, Panama w/RYRY & SGSG at 2155, 850/75R (J.M., KY).

**20994:** AGA6TR, USAF MARS Travis AFB, CA w/tfc at 1830, 170/75R (J.M., KY).

**22487:** WLO, Mobile R., AL w/wx in FEC at 1447 (J.M., KY).

**22454.5:** GYA, Royal Navy, London, England w/freq chart at 1927, 850/75R (Ed.).

**22497:** UDK2, Murmansk R., USSR w/RYRY, telegrams in RR, tfc list, & crypto at 1929, 170/50R (Ed.).

**22728:** JMG, Tokyo Meteo, Japan w/coded & plaintext wx at 2130, 850/50R (Aguilar, CA).

**22955:** Y7A87, MFA Berlin, GDR w/nx in GG at 1729 w/RYRY at 1759, 325/50N (Williams, CO).

**23651:** YZH4, TANJUG Belgrade, Yugoslavia w/nx in EE at 2225, 500/50R (Williams, CO).

**23691.9:** DFX69H6, MFA Bonn, FRG w/nx in GG at 1350, FEC-A/96. This xmsn was about 6 kHz below usual freq (Ed.).

#### FAX Intercepts

**5093.3:** LZJ2, Sofia Bulgaria w/wx charts at 0420, 120/576, poor sigs (Sundstrom, NJ).

**5325:** RND79, Moscow Meteo, USSR w/wx chart at 2330, 60/576 (Ed.).

**6874:** LRB79, AP Buenos Aires, Argentina w/nx pix at 0000-0100, 60/288 (M.W.M., FL).

**6950:** RBQ74, Alma Ata Meteo, USSR w/wx chart at 0350, 120/576 w/gud sigs (Sundstrom, NJ).

**7880:** DDK3, Hamburg Meteo, FRG w/wx chart at 0643, 120/576 (Ed.).

**8080:** NAM, USN Norfolk, VA w/wx chart at 0320, 120/576 (Sundstrom, NJ).

**9970:** JMH3, Tokyo Meteo, Japan w/wx chart at 1325, 120/576 (Ed.).

**10865:** NAM, USN Norfolk, VA w/wx chart at 2305, 120/576 (Sundstrom, NJ).

**11118:** KAWN, Caiswell AFB, TX w/wx chart at 2048, 120/576 (Sundstrom, NJ).

**14782.5:** RBV76, Tashkent Meteo, USSR w/wx chart at 1724, 60/576 (Ed.).

**17069.5:** JJC, Tokyo, Japan w/JJ text at 0000, 60/288 (M.W.M., FL); same at 2326 (Kneitel, NY).

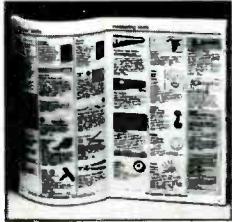
**20736:** LSA600, AP Buenos Aires, Argentina w/nx pix at 0000, 60/288 (M.W.M., FL).

**22440:** Un-ID w/Cyrillic text at 1300, 60/288. Masthead of newspaper shows picture of a ship (M.W.M., FL). Is UJQ in Kiev, USSR w/TASS rx via Southern Fisherian newspaper for fishing fleets-- Ed.

**22542:** JJC, Tokyo, Japan w/JJ newspaper at 0000, 60/288 (M.W.M., FL).

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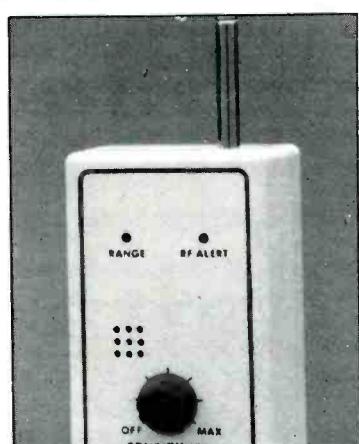


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# ON THE LINE

NEW AND EXCITING TELEPHONE TECHNOLOGY

BY JULIAN MACASSEY, N6ARE

## Party Line Does Not Mean What It Used To

**A**nyone that watches TV or reads publications aimed at the singles market have seen the "Party Line" ads. If you have ever been near the homosexual community, you will be very familiar with the "Gay call in lines." They usually are on a 976 number, or in some states a 900 number. The advertising usually states "\$2.00 plus tolls."

Very rarely do the owners of these services state who they are, or give an address where they can be contacted. The charges are via your phone bill and they don't state who the money goes to either. When a 976 type call is made, the phone company takes a percentage of the service charge and gives the rest to the supplier of the service. In the U.S., there are a few businesses that can operate in anonymity, the purveyors of these services seem to be unapproachable. If you dig, you can get names and addresses. The companies providing these services are not large corporations, some are operated out of apartments.

In areas where the phone company provides 976 service, there is a Central Office (Telephone Exchange) that the 976 prefix is served from. In Los Angeles, this happens to be Downtown. The phone company will supply the 976 lines to a service provider in the Central Office area. This means anyone providing "party line" service, or any other 976 offering, will have to have a location in the Downtown area.

In that Downtown location there is a telephone company interface, usually called an RJ-21X. An interface is a point where the phone company gives up responsibility for the wire and equipment and the customer takes over. This is analogous to the electricity meter service point. The phone company will sometimes refer to this as the "demark" meaning demarcation point. In residential service, this usually is a box on the wall of the house or in the basement. The 976 service provider will run the phone wires from the demark to a conferencing system.

Most of these conferencing systems are homebuilt devices. The system consists of two parts, the telephone circuits and a computer as a control system. The telephone end of it is usually made from telephone Integrated Circuits such as SLIC's (Subscriber Line Interface Circuit). At the other end of the SLIC's is a line running to a computer. The computer detects when a call has come in and pairs one call with another, or, in some systems, bridges it with all other lines currently in use. The computer also runs a

timer circuit so when the three minutes or so is up, the line will be dropped. How long the connection lasts, whether it is disconnected at the end of the time period or just billed for a further time period depends on the phone company rules and regulations—called Tariffs in telephone speak.

The computers that take care of all of this are not large fancy mainframes like the computers used by phone companies and other utilities. The computers are usually something like a Commodore Vic-20. This small computer and its bigger brother the Commodore C-64 are good computers capable of the tasks set for them. They are certainly not the monsters you would expect to be used to run a business that could be earning up to \$100,000 per month.

If you decide to call one of the services, what can you expect? Some promise you a talk with lovely ladies. TV advertisements often show nymphets in bikinis, breathily saying that they are, "waiting for your call." In reality, the person you get to talk to for your \$2.00 plus toll for three minutes is often a paid employee. The employee gets paid up to \$8.00 per hour and somewhat moderates the conversations. Some of these people are sitting in offices drinking coffee from styrofoam cups. Others do their party line work via a leased line to their home. So the sultry voiced siren of your

dreams could be changing diapers while she tells you how cute you sound. To expect to talk to the person you saw on TV when you're actually calling one of these services is somewhat naive.

Obviously the operators of these services make money, but the phone companies make a fair chunk, too. In fact, when you consider the cost of the call, if it was a local call, the phone company gets the hog's share. The 976 party line providers are usually garage operations. Very profitable garage operations, but still small companies.

In order to prevent unauthorized use of these services many phone companies offer 976 blocking. If you do not want people calling these services, you can, in many areas, ask the phone company to "Block 976." This means any attempt to call a number with a 976 prefix will fail. Some local prefixes offer 976 blocking, or custom calling features, but not both. In Philadelphia, all subscribers have 976 numbers blocked by default. If you want any 976 services in the city of Brotherly love, you have to ask the phone company to let you do it.

The 900 number party line services that are advertised in New York are provided by various long distance carriers. Some 900 numbers are owned by AT&T and some are owned by long distance carriers you may never have heard of.



# WASHINGTON PULSE

## FCC ACTIONS AFFECTING COMMUNICATIONS

### **FCC Shuts Down Unlicensed Radio Repeater Station Using U.S. Government Frequencies**

FCC electronic engineers shut down an illegal radio repeater station that was using frequencies reserved for the U.S. Government.

At 1:10 AM, engineers from the FCC's New York office inspected the radio station at the residence of William Matos, in downtown Manhattan, after monitoring the operation in the 148.0-149.9 MHz band. These frequencies are reserved for use by the U.S. Government for fixed, mobile, and satellite communications.

The unauthorized radio station was being used for personal communications by an estimated dozen individuals in the New York area.

Unlicensed radio operation is a violation of Section 301 of the Communications Act. Unlicensed radio operators may be subject to fines of up to \$100,000 and/or one year in prison.

The New York office of the FCC is responsible for managing the radio and television spectrum for the New York Metropolitan Area. The FCC investigates and resolves interference problems with its radio direction finding network.

### **Licensing Of Automated Maritime Telecommunications System Ship Stations**

Currently FCC Form 506, Application for Ship Radio Station License, does not specifically provide for the licensing of frequencies in the 216-220 MHz band which are allocated to Automated Maritime Telecommunications Systems (AMTS). When the first AMTS began operations in 1987, the Commission stated that it would consider ship stations which are licensed to operate in the maritime VHF band (156-158 MHz) as authorized to operate in the 216-220 MHz band when a service agreement with the AMTS license is associated with the ship station license. It was expected that a new Form 506 and a new computerized ship station application processing system specifically providing for the use of the 216-220 MHz band would be implemented by September 30, 1988.

In a Notice of Proposed Rule Making (NPRM), Gen. Docket No. 88-372, 3 FCC

Rce 4736 (1988), however, the Commission proposed to amend Part 80 (Stations in the Maritime Services) to include a system licensing concept which would preclude the need for individual licensing of ship stations participating in the AMTS.

In view of this pending rule making proceeding, the Commission will continue to consider ship stations that are licensed to operate in the maritime VHF band as authorized to operate in the 216-220 MHz band when a service agreement with the AMTS licensee is associated with the ship station license. This policy will be in effect until a final decision is reached in Gen. Docket No. 88-372.

### **More Frequencies Proposed For Trunked Technology In The Private Land Mobile Radio Services**

The Commission has proposed expanding trunking and intercategory sharing in the private land mobile frequency bands above 800 MHz.

The purpose of this proceeding is to examine ways to increase the opportunities for trunked systems in the private radio frequency bands above 800 MHz. One possibility would be to allow trunking on the 150 conventional frequencies at 800 MHz that are currently available only for conventional operation. The FCC said that the public interest would best be served by allowing trunking on the 150 conventional frequencies because it is a more spectrum efficient way of operating. The FCC proposed trunking as an option and not a requirement. The FCC believes the public interest is best served by allowing licensees the flexibility to use frequencies in the manner that best suits their needs.

Trunked systems, currently permitted only in the 800 MHz and 900 MHz bands, use multiple frequency pairs, usually five or more. In a trunked system, a computer automatically gives a user the first available channel or places the user in a waiting line to be served in turn. This operation generally results in reduced waiting time for access to a channel and more efficient use of the spectrum. A conventional system requires the user to select a channel manually.

Private land mobile radio services represent the largest group of licensed radio users regulated by the Commission and include public service entities, railroads, large industrial concerns and small businesses. De-

mand for these facilities has grown steadily and frequencies are extremely congested, especially in the major urban areas. In 1980 there were nearly 760,000 authorized stations, and now there are approximately 1,300,000 authorized stations.

Trunking technology was first introduced in the original 800 MHz allocation. Because of equipment scarcity and high cost, trunked operation was slow to develop. As trunked equipment became more readily available and less expensive, the increased efficiencies became apparent causing a rapid increase in its use, particularly from SMR operators. The FCC has taken several actions to alleviate the congestion problem, including allocating a portion of the 900 MHz reserve spectrum. It also has encouraged more efficient spectrum use through improved technology.

To provide some additional relief to 800 MHz private land mobile users, the FCC proposed the following:

- To allow, under certain conditions, fully loaded trunked systems access to the 150 conventional frequencies at 800 MHz for system expansion;
- To allow, after six months, new trunked systems on the 150 conventional channels;
- To allow, under certain conditions, existing users on the conventional channels to combine with other users on those frequencies or with conventional users in the service categories to form new trunked systems;
- To expand, under certain conditions, the intercategory sharing rules to allow entities to access out-of-category frequencies that are in use; and
- To expand intercategory sharing provisions at 900 MHz to include the SMR Category.

### **Propose Conditional Authorization Procedures For Private Land Mobile Radio**

In an effort to encourage greater and more effective use of radio by allowing applicants to immediately fulfill their communications needs, the Commission has proposed amending its rules by expanding its temporary licensing procedures for "add-on" users of community repeaters, to applicants for new Private Land Mobile Radio (PLMR) stations operating below 470 MHz.

Under the proposal, an applicant for a new PLMR station below 470 MHz could operate for up to 180 days upon self certification that certain conditions have been

met. Those conditions are that: 1) the proposed station does not require frequency coordination with Canada; 2) no waivers have been requested; 3) the proposed antenna or tower does not exceed 20 feet above ground, unless previously cleared by the Federal Aviation Administration; and 4) the proposed station has no environmental impact in accordance with FCC rules.

Currently, applicants are prohibited from operating until the Commission completes the application process and grants a license. This process takes approximately 20 to 45 days. The Commission believes that the concept of conditional authorizations would be in the public interest because it would allow license applicants with immediate communications needs to commence operation upon filing with the Commission, a properly completed and coordinated application.

Therefore, comments are requested concerning the ultimate design and implementation of this conditional licensing procedure. Specifically, comments are sought as to whether this proposal is consistent with the public interest and whether further restrictions or conditions, other than those stated, should be imposed as part of such a procedure for new PLMR stations. Comments addressing whether this process should be applied to operations above 470 MHz will also be considered. Comments supporting conditional operation above 470 MHz should be specific as to suggested procedures that should be implemented.

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CIRCLE 53 ON READER SERVICE CARD

# CLANDESTINE COMMUNIQUÉ

## WHAT'S NEW WITH THE CLANDESTINES

BY GERRY L. DEXTER

A Colombian guerrilla group has put a new clandestine station on the air. Radio Patria Libre began broadcasting in mid-November and it's being received in much of the U.S. with surprisingly good signals. Identifications are also heard for La Voz de la Patria Libre and La Voz de Nueva Colombia. The station is apparently an effort of the Fuerzas Armadas Revolucionario de Colombia (FARC) or Colombian Revolutionary Army Force, which is the armed wing of the Colombian Communist Party and which, along with the M-19 group, is one of the two major Colombian resistance groups. The station is using a frequency varying around 6765 and is on the air in Spanish from 0030 to 0100 UTC. The station has been heard making mentions of FARC, though the Danish Shortwave Club International reported that the station was backed by the ELN (National Liberation Army).

Two earlier Colombian clandestines, *the Voice of the Resistance (FARC)* in March, 1988 and *Radio Macondo*, apparently sponsored by M-19, had very limited schedules, powers, coverage and longevity and were barely heard even in the U.S.

Radio Free Afghanistan, aired over the facilities of Radio Free Europe/Radio Liberty is still going strong. The latest schedule shows broadcasts in Pashto at 0230-0300 on 6115, 9555, 11825 and 1330 to 1400 on 11970, 15445, 17775 and 21500. Programs in Dari are at 0300-0330 on 6115, 9555 and 11825 and at 1400-1430 on 11970, 15445 and 17770. An attractive QSL card is sent by this station—which is actually just a program service. Reports should go to the Engineering Department at Radio Free Europe/Radio Liberty, 1775 Broadway, New York, NY 10019.

Hideharu Torii in Japan tells us that the various anti-Chinese clandestine stations, often reported as defunct, are indeed still active. These include the *Voice of the Liberation Army*, which is heard irregularly on 7185 at 1400, 1415 and 1430, though it's frequently covered by Radio Moscow in Chinese. Also heard are *Radio October Storm* at 1445, 1500 and 1515 on 9270 and *Radio Sparks* and the fake "Central People's Broadcasting Station" at 1400 on 7525. Torii notes that these stations are believed to be transmitted from a ship in the East China Sea. Many thanks for updating us on these on these long-running but seldom reported stations. Note, also, the brevity of most of the broadcasts (normally about 7 minutes). Pacific Coast monitors will have the best shot at hearing these.

Radio Farabundo Marti, which plays second banana to Radio Venceremos, contin-

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October 27, 1988

Gerry L. Dexter

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ues to be active, though on a lesser scale than its bigger comrade. Broadcasts are scheduled at 1200 and 2300 but the frequency is widely variable. You'll have to search the entire range from 6600 up to 6700 or higher. The two stations sound a lot alike and both make frequent mentions of "Farabundo Marti." If you have two receivers it will help to follow Venceremos on one while you look for RFM with the other.

According to news releases the National United Party, a Burmese opposition group, planned to set up a clandestine station in Karen State. Initially programs were to be in Burmese and English, with Burmese minority languages to be added later. NUP expects financial aid for the station to come from Burmese living overseas. There's no indication as to when such a station might actually go on the air or whether it would be on mediumwave or shortwave. Some years ago, the Karen had their own clandestine station, but it never operated for very long

stretches and, to our knowledge, the signal never made it out of Asia.

Jim M. Smith in Missouri notes *Radio Quince de Septiembre/Radio Liberacion* at around 1100 to 1200 and later. He hears positive IDs for both stations at various times on a frequency he says stays "pretty steady" at 5929.6. A march selection is usually played around 1200. He also hears *Radio Liberacion* on its own on 5889.2 at 0219.

Jim finds *Radio Venceremos* signing off at 0340 on 6600.5 and at 0101 on 6634.6 and notes the latter may have been just after a move from 6643.5 where he noted a similar signal at 0053. Both *Radio Venceremos* and *Radio Farabundo Marti* continue to play jumping jacks through this area almost every night, Jim.

Robert Ross in Ontario has been busy at the dials and has picked up some interesting stations. *The Voice of the Khmer* was heard on 6325 around 1200 airing local string music and announcements in presumed

Khmer. He hears Radio SPLA of the Sudan People's Liberation Army on 11710 at 1343 to 1352 in Arabic with march music and many mentions of the Sudan. The Voice of Democratic Kampuchea, backed by China and aired over their facilities, was noted in Khmer on 15110 at 0420 with many mentions of Kampuchea, instrumental march and local music. Bob also found the Voice of the Libyan People on 9500 at 2123 in Arabic and suffering from jamming. There was a fanfare, march and then sign off at 2148. This station, about which little is known, appears to be backed by the Chad government and to broadcast from within that country. Chad and Libya currently seem to be trying to patch things up so the future operation of this station may be in doubt.

Please let this column have your clandestine station news! That includes your loggings (separate from those for Listening Post, please), QSL and address information, background material from or about stations and the groups which back them which you may see in news articles and your questions and comments. We can keep your identity secure if you desire. Clandestine hunting is one of the most challenging and fascinating areas of radio's secret world so why not join us here each month and contribute what you can!

Thanks, and until next month—good hunting!

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CIRCLE 19 ON READER SERVICE CARD

April 1989 / POPULAR COMMUNICATIONS / 53

# LISTENING POST

BY GERRY L. DEXTER

## WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

**F**or months now, it seems every edition of this column has mentioned one or more new relay stations coming on the air. And if it wasn't that it was some new time exchange arrangement between broadcasters half a world away from each other. Now it seems there may be yet one more such arrangement brewing.

Norway has offered time on its transmitters to Denmark. This may be a prime and rare example of shortwave "good samaritanism" since Radio Denmark has had ongoing problems over the past few years that seem to defy solution and might even threaten the existence of the shortwave service.

Ecological considerations are restricting the 100 kW transmitter purchased a few years ago to use at just 50 kW. Funding approval for 500 kW was granted some years back, but an ecologically suitable location can't be found in Denmark. The result is a shortwave service that finds it more and more difficult to keep its signal strength competitive. Radio Norway's offer sounds like a real boon to Denmark's shortwave service. Incidentally, it's going on 20 years now since Radio Denmark had regular English language broadcasts!

One African station not to be found in most DX'ers logs is Radio Hargeisa in Somaliland which is very seldom heard in North America. In fact, it's apparently been off the air for some months, perhaps even longer than that. But it is active again on its former 7120 frequency. It was last scheduled with transmissions in Somali at 0958-1230 and 1500-1800, including some relays of the main government station, Radio Mogadishu. When all the planets are lined up just right this one may be heard around 1230 sign off or 1500 sign on.

POP'COMM gets read in some interesting places. We've received a letter from the National Telecommunications Union of the government of the Philippines in response to a comment we made in this column last September. We mentioned then that the Voice of the Philippines wasn't being logged by anyone and had disappeared from the WRTH listings. Now Jose Louis A. Alcuaz, NTU Commissioner, advises that efforts are being made to get the station back on the air as soon as possible. We appreciate the response!

Everyone has probably heard of the cessation of jamming of Radio Liberty's Russian language programs beamed into the Soviet Union, the first such break in this deliberate interference since the 1950's. Even though most readers were not in the area targeted by the jamming we should all be noting some reduction in overall QRM lev-



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### FREQUENCY (KILOHERTZ/METRES) CONVERSION CHART TABLE DE CONVERSION DES KILOHERTZ EN MÈTRES

49 M	41 M	31 M	kHz METRES				
5950 — 50 42	7100 — 42 25	9500 — 31 58	9755 — 30 75	11890 — 25 23	15250 — 19 67	17730 — 16 92	21495 — 13 96
5955 — 50 38	7105 — 42 22	9505 — 31 56	9760 — 30 74	11895 — 25 22	15255 — 19 66	17735 — 16 92	21500 — 13 95
5960 — 50 34	7110 — 42 19	9510 — 31 55	9765 — 30 72	11900 — 25 21	15260 — 19 66	17740 — 16 91	21505 — 13 95
5965 — 50 29	7115 — 42 16	9515 — 31 53	9770 — 30 71	11905 — 25 20	15265 — 19 65	17745 — 16 91	21510 — 13 94
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5975 — 50 21	7125 — 42 11	9525 — 31 50	9780 — 30 68	11915 — 25 18	15275 — 19 64	17755 — 16 90	21520 — 13 94
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6200 — 48 38	7350 — 30 77	9750 — 30 77	10005 — 25 26	12140 — 25 00	15505 — 19 40	17980 — 13 80	21750 — 13 79

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Radio Canada International provides this kiloHertz to meters conversion chart.  
(Thanks to Leonard B. Dalton)

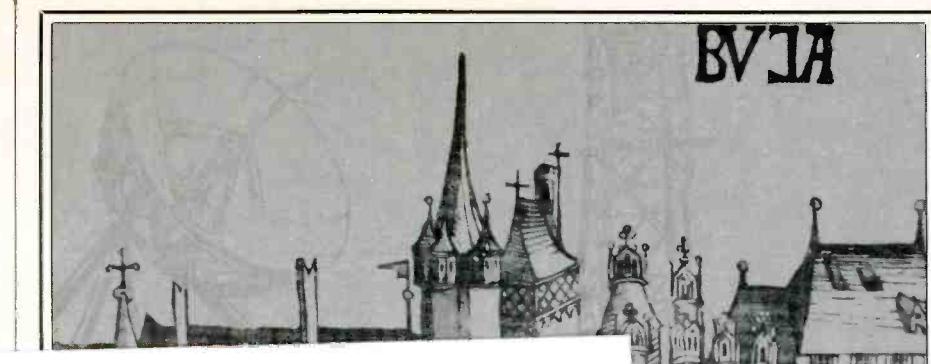
els. The Voice of Israel and Deutsche Welle also had jamming against them lifted. Thank you Mr. Gorbachev! Bulgaria and Czechoslovakia are the only two East bloc countries still engaging in jamming.

Radio Nacional Venezuela's foreign service which has been trying to get off and running on a consistent basis for quite sometime now is back on the air. It's been heard with English programs around 1100 on 9540.

Radio Netherlands Media Network program reports that an Africa Number One type operation is to be set up in the Cape Verde Islands as a combined private and government ownership arrangement. Air time will be sold to the highest bidders and

three high power transmitters will beam to Africa and Latin America. The station still exists only on paper so you don't have to start trying for it just yet.

Pan American Broadcasting in Cupertino, CA is asking for reception reports on the religious programs aired over KUSW in Salt Lake City. There are about 20 such shows, the majority of which went on the schedule in early December last year. Reports on these individual programs should be sent to the individual program producers with a copy sent to the station as well. If you report a minimum of five such programs you can get a free KUSW T-shirt. More information is available from Pan American

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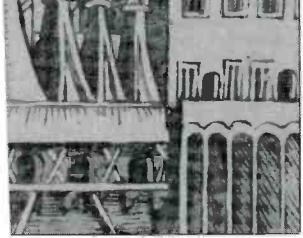
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This stylish holiday card was sent last Christmas by Radio Budapest, Hungary.



Post in Berlin, DDR.

t, Tennessee. David notes that wan has a regular newsletter and that Radio Japan issues QSL cards. Radio Australia, is been sending calendars and tion and Australia.

d Adelheid Schroter write ne in Berlin, East Germany photo you see featured this re avid broadcast DX'ers and e glad to have them as regu-

Leonard B. Dalton for sending n Radio Canada Internation his wife stopped for a tour of anssmitter plant.  
 Jerry Jr., in Mattapan, VA is the SSB VOA signal he hears

on 7650.9. He hears one foreign language service there on the lower sideband and something entirely different on upper sideband. What gives? This is one of the VOA feeder frequencies, feeding programs to relay sites. By using the two sidebands to carry two different feeds one transmitter can do the work of two.

Joseph also asks how novice listeners can tell when they are listening to a relay station or transmitter time exchange when that isn't announced on the air. Experienced listeners (and editors!) have the same problem, Joseph, and it's getting more complicated all the time. Sometimes you can at least suspect a relay is involved when the signal seems to be too strong to be coming direct. But mainly you need to have access to current station schedules, along with *The World Radio TV Handbook*, 1989. Even so armed it's sometimes still hard to be sure.

Ross Comeau of Andover, MA wonders about using SINPO codes and UTC (normally discouraged when writing to smaller stations) on larger Latin stations such as Radio Nacional in Chile, Ecos del Torbes in Venezuela and so on. You can't pass any blanket rules here, Ross. UTC may be more widely understood at these larger stations but SINPO may still be a bit questionable. Mostly this is one of those gray areas when you just have to make your own choice.

Show yourself—We need photographs of you in your listening shack for use as illustrations in the column. Extra QSL cards for which you have no use are also sought for the same purpose. And, of course, we also need your loggings as regularly as you can send them in. The only condition attached is that you leave some space between each logging and include your last name and state abbreviation after each item. Questions, comments, news items, clippings and anything else related to shortwave are also very welcome! Let's hear from you next month!

Here are this month's loggings:

**SWBC Loggings  
All Times Are UTC  
English Except As Noted**

**Algeria:** R. Algiers, 9510 at 1906. OM w/nx, then wstrn mx. Prol sigs (Comeau, MA).

**Ascension Isl.:** BBC on 15400 at 2115 (Neff).

**Australia:** R. Australia, 15140 at 0027, OM anncr (Comeau, MA).

**Belgium:** BRT, 9925 at 0030 w/start of EE xmsn (Gilbert, CA).

**Benin:** ORTB Cotonou, presumed to be the sta on 4870 at 2249 w/FF/OM talk & pops (Comeau).

**Botswana:** R. Botswana w/usual barnyard IS on 4820 of 0352. Into nx, but quality so poor could only guess it was EE (Smith, MO); 0358 w/IS (Comeau).

**Brazil:** R. Cultura do Para, Belem, 5045 at 0237-0302 in PP, ID's as **Radio Cultural** (Mierzwinski, PA).

**Radiobras,** 11745 at 0202 w/sports nx (Gilbert).

**R. Educadora da Bahia, Salvador,** 6020 in PP at 0810 w/mx, promo & ID's (Berman, WA).

**Bulgaria:** R. Sofia, 9700 at 0058 at s/off in EE w/IS (Gilbert, CA).

**Cameroon:** R. Cameroon, 7205 at 0645 w/talks & mx (Comeau, MA).

**Canada:** RCI, 5960 w/nx at 0158; 11835 in Eur svc 2100-2130 (Parish, PA).

**CFRX Toronto,** 6070 at 0800 w/oldies w/oldies mx & CFRX ID (Berman, WA).

**Chad:** R. Nationale, 4904.5 at 0500 in FF w/mx & ID (Mierzwinski, PA); 4905 at 2133 w/talks by OM (Comeau, MA).

**China, People's Rep.:** R. Beijing, 11835 w/nx at 0300 (Parish, PA).

**Colombia:** La V. del Rio Arauca, 4895 at 0350 in SS (Saldana, NM); 0425 w/pops, nx, full ID anthem & bye-bye at 0500 (Berman, WA).

La V. del Cesar, 4865 at 0930 in SS (Gilbert, CA); 0258 to ID 0409, mostly latin mx & nx (Smith).

Caracol Bogota, 4755 at 0323 to 0400 ID, live sports in SS, nx (Smith, MO); 0920 (Gilbert, CA); 0608 w/ID (Comeau, MA).

**Costa Rica:** R. for Peace Int'l., 13663 at 0136 w/talk, ID, T-shirt deal (Tuchscherer, WI).

R. Impacto, 5030 at 0715 w/mx & talks in SS (Gilbert, CA); 0200-0235 EZ listening mx w/OM annce in SS, ID 0200 (Mierzwinski, PA).

TIFC Foro del Caribe, 5055 at 0330 (Smith, MO); 0303 w/freq info, ID, pgm info (Mierzwinski, PA).

**Côte d'Ivoire:** RTV Ivoirienne, 6015 at 0558 w/anthem & s/n in FF at 0600 w/Id Abidjan (Gilbert, CA); 11920 in FF at 2345 w/African pops, ID (Berman, WA).

**Cuba:** R. Havana Cuba, 9700 in SS 2030-2100 (Parish, PA); 11800 at 2015 (Neff, FL).

R. Moscow relay, 4767 in RR at 0349 (Smith)

**Czechoslovakia:** R. Prague, 5930 at 0112 w/ID & cultural info (Neff, FL); 7345 at 0352 (Gilbert, CA).

**E. Germany:** RBT, 21540 at 1410 (Neff, FL); 11890 at 0253 to 0328 close w/nx, ID's, mx, talks, Letterbox (Tuchscherer, WI).

**Ecuador:** R. Quito, 4920 at 0003 in SS w/ID & talk (Comeau, MA).

R. Nacional Espejo, Quito, 4680 at 0520 w/drama, anncts, ID's (Berman, WA).

HCJB, 15155 at 0230 w/excellent DX Party Line SWL pgm (Neff, FL); 15250 at 0006 in GG (Gilbert).

**Egypt:** R. Cairo, 9900 at 2145. Signed on 2115 (Pannone, CT).

**England:** BBC World Svc., 15400 w/nx 0100-0200 (Parish, PA).

**Finland:** R. Finland, 9835 at 0327 w/mx, YL annce in FF w/EE ID 0330, nx (Tuchscherer, WI).

**France:** RFI, 9800/11670/11995 of 0317 w/nx (Cafferky, MA); 17620 at 2243, nx in FF (Ford, TN); at 1305 in EE/FF (Neff, FL).

**French Guiana:** RFI relay, 9800 at 0520 in FF (Gilbert, CA).

RFO Cayenne, 5055 in FF at 0650 w/commentary, sports scores, wx ID (Berman, WA).

**Gabon:** RFI (via Africa #1), 4890 at 0420 in FF. Pops, OM & YL anncts (Tuchscherer, WI)

Africa #1, 4830 in FF of 0520 w/African pops & dance mx, ID (Berman, WA); 15475 in FF 1828, then EE 1858 (Comeau, MA).

**Ghana:** GBC, 4915 at 2219 in apparently local dialect, then rx in EE 2245 (Comeau, MA).

**Greece:** V. of Greece, 9420 at 0130 w/nx. In Greek before 0130 (Pannone, CT).

**Gum:** KTWR, 11805 at 1005 w/SWL pgm (Micklus, VT).

**Guatemala:** TGNA R. Cultural, 3300 at 0410-0430 w/tx pgm in SS, abrupt off 0430 (Mierzwinski, PA).

R. Tezulutlan, 4835 at 0133 in SS, instrum mx w/x/ylo or similior (Comeau, MA). Probably mriimbo-Ed.

**India:** AIR, 9910 at 2212 to close 2230 w/nx, talk, mx (Tuchscherer, WI); Close EE 0115 (Gilbert, CA); 11620 at 2003 w/nx, ID (Neff, FL).

**Indonesia:** R. Republik of Indonesia, Palangka,

3325 at 1200 w/nx & ID (Berman, WA). In Indonesian-- Ed.

RRI Pontianak, 3345 at 1205 w/nx & ID in Indonesian (Berman, WA).

**Iran:** VOIR!, 9022 at 0404 w/chanting & talk in presumed Farsi (Gilbert, CA).

**Iraq:** R. Baghdad, 9515 at 0315 w/OM onces (Gilbert, CA).

**Israel:** Kol Israel, 9435 at s/on 0000, nx, ID, Mailbag, DX pgm (Neff, FL).

**Italy:** RAI, 9575 at 0500 in II, into EE 0100 (Gilbert, CA).

**Japan:** R. Japan (via Sockville, Canada), 5960 at 0129 w/business nx (Cafferky, MA); 0138 w/nx & JJ language lessons (Ford, TN).

**Jordan:** R. Jordan, daily at 0950 at 1800 w/nx, mx, wx (Tuchscherer, WI).

**Kuwait:** R. Kuwait, 11665 at 1950 w/talk about ix festival; 15345 at 0531 w/nx, ID, talks (Neff)

**Lesotho:** BBC relay, 9515 at 1720-1745 close. Very good level w/comedy show (Tuchscherer, WI).

**Malaysia:** R. Malaysia, Sarawak, 4950 at 1410 w/stok market report, full ID 1415 (Berman, WA).

**Malta:** R. Mediterranean, 8765 at 0640 w/Man & the Mediterranean, nx 0650, into AA 0700 (Comeau, MA); 0603 w/ID, "Monica" w/intro, Panorama & mailbag pgms (Neff, FL).

**Monaco:** TWR, Monte Carlo, 6220 at 2003-2031 close in FF w/talks & hymns (Tuchscherer, WI).

**Morocco:** VOA Tangier relay, 5995 at 0003-0155 (Micklus, VT).

**Nepal:** R. Nepal (presumed), 5005 at 1415 w/ID & chanting (Berman, WA).

**Netherlands Antilles:** TWR, 11815 at 1230, world nx & The Way of Life (Neff, FL).

**Netherlands:** relay, 9590 at 0312 w/Tom Meyer (Neff, FL).

**Nigeria:** V. of Nigeria, 7255 at 0547 w/Commentary & News About Nigeria (Gilbert, CA); 0557 going into FF at 0600 (Neff, FL).

**N. Korea:** R. Pyongyang, 11735/13650 at 2315 (Pannone, CT).

**Norway:** R. Norway, 15310 at 1316 w/Sunday pmg in EE (Neff, FL).

**Paraguay:** R. Nacional, 9735 in 2338 in SS (Comeau, MA); 0035 w/nx & talks in SS (Gilbert).

**Peru:** R. Imagen, Tarapoto, 4970 at 0420 in SS in SS w/pops, ID's (Berman, WA).

R. Andina, Huancaya, 4996 at 0903 w/mx & talks in SS (Gilbert, CA).

**Poland:** R. Polonia, 7125 w/nx at 2308 (Comeau).

**Portugal:** R. Portugal, 9705 at 0258 s/off w/anthem & closing in PP (Gilbert, CA).

**Romania:** R. Bucharest, 9570 at 0407 w/press review pgm (Gilbert, CA); 21550 at 1322 w/mx, ID, mailbag, etc. (Neff, FL).

**Singapore:** BBC relay, 3915 at 1425 in Burmese & Vietnamese (Berman, WA).

**S. Africa, Rep. of:** R. RSA, 9580 at 0325 w/wildlife feature (Un-ID reporter.)

SABC, 3320 at 0320 in presumed Afrikaans v./nx, ID, MX (Berman, WA).

**Spain:** Spanish Foreign R., 9630 at 0518 w/ID, political nx (Neff, FL); 2000 in PP (Parish, PA).

**Sri Lanka:** SLBC, 11835 w/poor sigs at 1040 running mx & nx (Micklus, VT).

**VOA:** relay, 15250 at 0117 w/nx (Tuchscherer)

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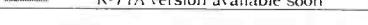
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CIRCLE 16 ON READER SERVICE CARD

## 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

**Sweden:** R. Sweden, 9695 at 0245 (Gilbert, CA); 15345 at 1414 w/listeners' letters (Ford, TN).

**Switzerland:** Swiss R. Int'l., Beromunster xmtr on 3985 at 0730 w/nx, ID, interviews (Mierzwinski).

**Tahiti:** R. Tahiti, 11825 at 0100 w/nx in Tahitian (Parish, PA).

**Taiwan:** VOF (via WTRF), 15345 at 0211 (Gilbert, CA); 0230-0249 ID, CC mx, lang lessons (Tuchscherer, WI).

**Tunisia:** RTT Tunis, 7475 at 0436 w/chants in AA (Micklus, VT).

**Turkey:** V. of Turkey, 9445 at 2110 w/features (Neff, FL); 2305 press review (Ford, TN); 0422 (Gilbert, CA).

**Ukrain SSR:** R. Kiev, 7150//7400 at 0300 (Smith, MO).

**U A E:** UAE R. & TV, Dubai, 9640 at 0330 (Gilbert, CA).

V. of the UAE, Abu Dhabi, 11965 at 1615-1640 w/ID, drama (Schroder, PA); 25900 at 1503-1530 in AA w/mideast mx, ID (Tuchscherer, WI).

**U S A:** V. of the OAS (via VOA Bethany, OH); 11830 in SS at 2345 w/commentary ID latin EZ listening mx (Berman, WA).

**WCSN:** 15225 at 2155. This freq not shown or most recent sked they sent (Smith, MO).

VOA, 11760 at 2156 w/folk mx & stories (Ford).

WYFR, 5985 at 1140 w/tx pgms (Comeau, MA).

**U S S R:** R. Moscow, 7115 at 0316 w/nx; 7195 at 0201 w/nx, mx, cultural items (Cafferky, MA).

**Vatican:** Vatican R., 9755 at 0719 w/tx svcs in Ukrainian (Gilbert, CA).

**Vietnam:** V. of Vietnam, 10010 at 1452 in (presumed) Cantonese (Gilbert, CA); 15010 at 1005 w/nx, ID, commentary (Micklus, VT).

**Venezuela:** R. Rumbos, Coracora, 4970 in SS at 0338 w/ID (Smith, MO); at 0311-0321, ID 0320 (Mierzwinski, PA).

R. Continental, Barinas, 4940, new SW sta at 0243-0301 w/latin mx, ID 0253 (Tuchscherer, WI).

R. Tachiro, 4830 at 0520 in SS w/OM & YL anncts, mx, ID (Mierzwinski, PA).

R. Capital, 4850 at 0450-0500 in SS w/commentary, ID & off 0500 (Mierzwinski, PA).

**W. Germany:** DW, 6040 (via Antigua) at 0141 (Cafferky, MA).

**Yemen (Arab Rep.):** R. Sana'o, 9780 at 0330 w/talk in AA, mentions of **Arabiya Yemeniya** (Gilbert, CA); Slightly better on 9779 on 0317-0411 in AA w/mideast mx to 0345, western mx after that (Comeau, MA).

**Yugoslavia:** R. Yugoslavia, 15325 at 1300-1300 w/nx & cultural items (Comeau, MA).

Thank you to this month's players: Carol Parrish, Bethel Park, PA; Warren Gilbert, Sherman Oaks, CA; Frank Mierzwinski, Reading, PA; John Tuchscherer, Neenah, WI; George Neff, Tampa, FL; Anthony Pannore, E. Haven, CT; Eric Schroder, Pittsburgh, PA; Joseph Saldana, Las Cruces, NM; Jim M. Smith, St. Louis, MO; Lance Micklus, Essex Junction, VT; Ross Comeau, Andover, MA; Joseph Cafferky, Jr., Mattapan, VA; Jonathan D. Merman, MD, Amboy, WA and David P. Ford, Bartlett, TN. Thanks again and, til next month, good listening!

## Long Wire Couplers

**U**nder emergency conditions, it may be necessary to set up a high frequency SSB 3-30 MHz system in a hurry with a makeshift antenna set-up. You could be asked to provide "instant" mobile SSB communications, and this immediately rules out the use of a simple dipole antenna system.

Fully automatic antenna couplers are the most efficient (and expensive) way to go. Given a good ground, they can tune up anything from 10 feet to 200 feet long between 3 to 30 MHz. Tiny reed relays click in just the right amounts of inductance and capacitance to end-fire an antenna system with almost no loss of output power. A microprocessor computer and memory system quickly selects the right amount of L and C as you speak "Hellooooooo" into the mike of your SSB set. Within a second or two, SWR drops below 1.5:1, output power from your set jumps up to 100 watts, and there is enough signal coming out of the antenna line to give anyone a nasty burn if they should touch the wire!

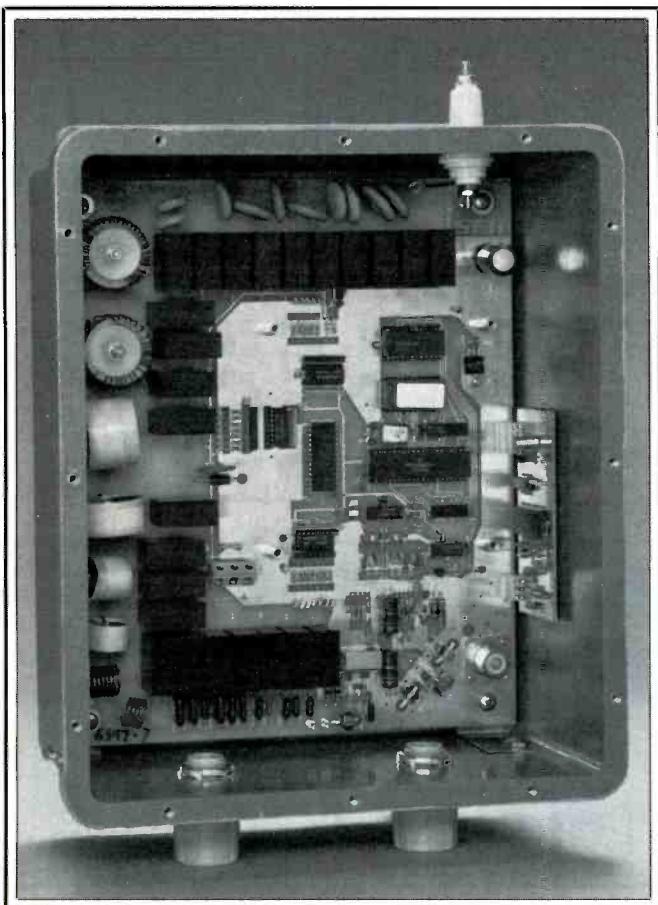
These fully automatic antenna couplers have been around for years in the marine electronics and military world. They are active devices using fixed amounts of L and C that are electronically coupled into, and out of, the circuit with 24 tiny relays making the quick transfer. The computer memorizes each setting for instant recall.

These automatic couplers should not be confused with smaller "passive resistive" blocks sometimes used in strong signal areas. The passive resistive tuner may be fine on signal paths that are normally 40 dB over S9, but usually are too lossy for any signal path typically less than S9 with an unloaded half-wave dipole.

The automatic end-fire tuner should also not be confused with ham SSB sets with built-in automatic tuners. The built-in tuners are more like trimmers—they only work in smoothing out a bumpy SWR when operating just beyond natural antenna band limits. Built-in ham SSB tuners won't work with a random wire or end-fire set-up.

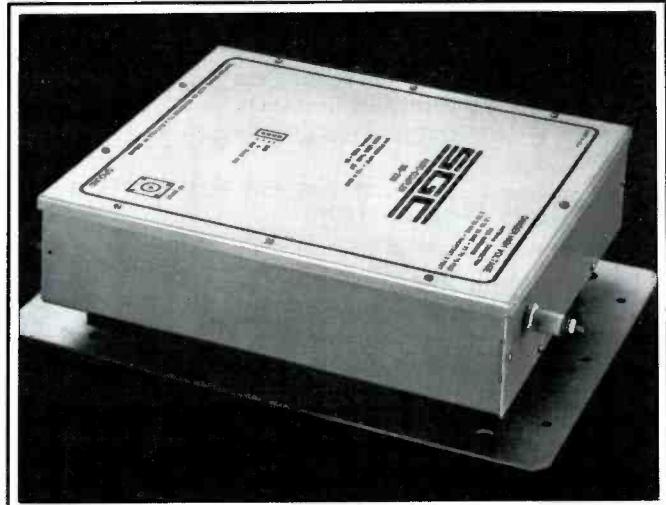
The fully automatic random wire automatic antenna coupler is about a 1500 to \$1,000 device. If you own an ICOM SSB set, the AH-2 automatic coupler is an excellent investment. However, it only works with ICOM ham rigs.

If you own a Yaesu, Kenwood, or any other marine or military SSB high frequency set capable of 3-30 MHz, the SGC Model 230 automatic coupler is the way to go (SGC, 13737 S.E. 26th Street, Bellevue, Washington 98005; 206/746-6310). This unit will accept the power output from any type of ham or marine rig, and will tune up instantly on the spoken word "Hellooooooo". It requires 1 amp at 12 volts to drive the relays and the internal computer. Just add any length wire to the antenna output, a good ground system, and you are on the air from 3-30 MHz with a signal sometimes stronger than an absolutely perfectly tuned halfwave antenna system. In an emergency installation, it sets up fast, and works very well.



The inside microprocessor section of an automatic antenna coupler.

Automatic antenna coupler for longwire antenna systems 3-30 MHz.



## 27 MHz COMMUNICATIONS ACTIVITIES

BY BILL SANDERS, SSB-295

**F**anon Courier, a company whose roots in CB go back to the very earliest days, has brought out a top of the line AM/SSB transceiver to appeal to the serious 27 MHz hobbyist. With its built-in frequency counter, the Fanon Courier Galaxy VI mobile transceiver has a five-digit LED readout that indicates the exact transmitting and receiving frequencies.

Other features include a highly sensitive and selective dual conversion receiver with excellent adjacent channel rejection, automatic gain control, a noise blanker and noise limiter. The LED's are large and bright, as is the S-RF/SWR meter. There's (of course) a clarifier control, and also adjustable RF/MIC gain. Topping it off is a Channel 9 priority switch.

Whole rig is good looking, too, and compact. Rather a nifty package in all respects, we'd say. It carries a suggested list price of \$299.95. For more information on the Fanon Courier Galaxy VI AM/SSB mobile rig, contact Murray Trotiner, Fanon Courier, 14281 Chambers Rd., Tustin, CA 92680, or circle 101 on our Readers Service Card.

### Lost Or Found

A card from C.J. Czeczuga, SSB-4210A, observes that a few months back this column offered an address for BC Electronics in Indianapolis, IN that could be relied upon for a schematic of some older CB rigs. C.J. reports that recent mail sent to that address on Franklin Road has been kicked back by the Postal Service marked, "Attempted Not Known." Scratch that one, gang.

Many people have written asking if we could provide the current address of Dr. Rigormortis or his newsletter, the *Eleven Meter Times and Journal*. A note we received from Doc advises that his current address is P.O. Box 262478, San Diego, CA 92126. My guess is that Doc will not resume publication of EMTJ, and he was hoping that others would pick up the ball and run with this gutsy and outspoken newsletter. Let's hope the arrangements work out for the best.

### Blue Grass Monitoring Station

Louisville Metro REACT in Kentucky built a small structure at the fire tower near the Jefferson County Memorial Forest and installed their monitoring station. Since the fire tower is located at 1,000 ft. elevation on a mountain overlooking all of metro Louisville, they can take emergency calls out to about 100 miles. Anybody who hears the station on Channel 9 is invited to send them a reception report at P.O. Box 6316, Louis-

ville, KY 40207. Thanks to R.C. Watts, Louisville, for letting us know about this station.

### Another Sharp Station

Jeff, a sideband operator in Maglia, CA, says he monitors Channel 35. Jeff enjoys reading the column and he sent along a photo of his station with none other than himself seated at the master console.

Jack, at Buffalo, NY passed along an unusual overseas QSL. It's from Stani, 161-AT-106, in Warsaw, Poland. We don't see too many cards from eastern Europe, so it's a welcome addition to the column. Jack also took the opportunity to register a gripe about the stations he describes as "Soviet jammers" in the 27 MHz portion of the spectrum, and asks if we can let him know anything about those stations.

Nothing I can say to clarify Jack's complaint, and I can't say that I've heard the jamming myself. Remember that all radio signals that aren't apparently sending voice, CW, or RTTY aren't necessarily deliberate jamming, nor are all such signals from the USSR. If any of our readers can contribute information on the signals Jack is speaking about, don't be bashful.

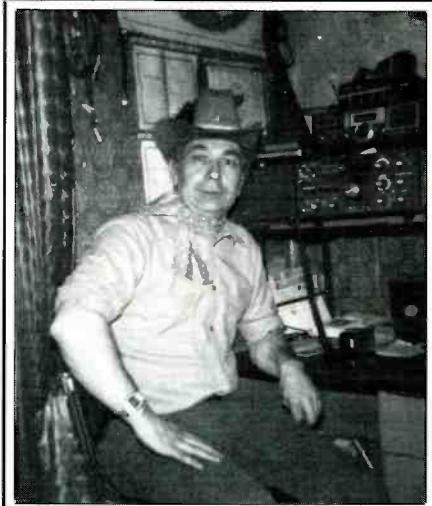
A snappy photo of Belgian CB'er TW-688, whose name is Gustaf, was submitted to this column by Brian, of Flushing, NY. Brian is fifteen years old and has been on the band for three years. He says that Gustaf included the photo when he sent him the QSL, which we are also lucky enough to get an eyeball on this month.

### Bottle It And Sell It

Couple of years back, POP'COMM received a letter from a reader who had come up with an idea of adding a switch to a TV set that would shut down the CRT and just play the audio portion of broadcasts. The reaction was, "Congratulations, you've just re-invented radio!"

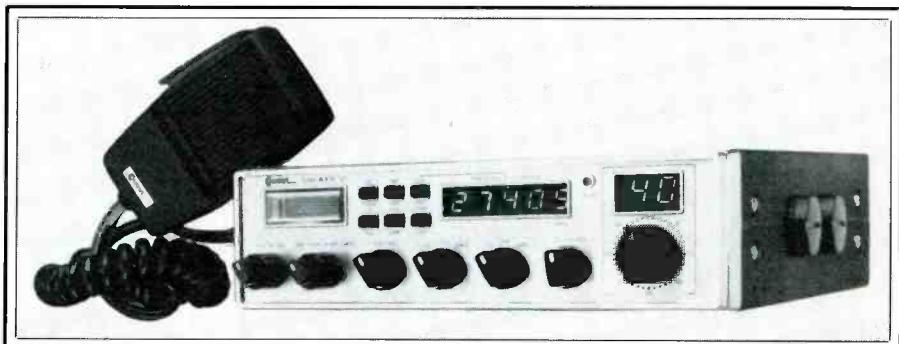


Jeff, of Maglia, CA is an SSB operator who's on Channel 35.



This operator in the Stetson and bandana is Gustaf in Alken, Belgium.

Now, I see by my trusty TV that in many cities there are so-called partyline telephone numbers that you can call and, for about \$1 per minute, chat via landline with a bunch of unseen people. Nationally, this has mushroomed into a multi-billion dollar business, and people have gotten so engrossed in



The new Fanon Courier Galaxy VI is an AM/SSB mobile rig with a built-in frequency counter.

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I hope to meet you again on the air. Good DX. 73-51-56-60 to you and your family.

REMARKS:

Best wishes - Stani.

Stani sent this attractive QSL from Warsaw.

their conversations that one teenager's family tossed him out of the house after their phone bill hit \$20,000!

When I saw this poor soul interviewed on TV he was saying how he made so many great friends that he couldn't help himself from getting on the line daily for hour upon hour. It was when he said he, and all of his partyline pals, knew one another by code names such as *Firefly*, *Hotplate*, *Backroom Billy*, and *Bud Light* that I said to myself, "Congratulations, you've just reinvented CB radio!"

Why these people would rather pay \$1 a minute to yak when for less than \$100 they could buy a CB rig and yak for free, for as long as they wanted, and forever, is beyond me. At \$1 per minute on the landline, they probably spend that much in a couple of days. Very strange.

### Helpful Hints

The SSB Network (P.O. Box 908, Smithtown, NY 11787) wrote to say their incoming mail from members indicates that there seems to be considerable confusion and many questions concerning antenna interaction and antenna gain. They felt that these same questions are common throughout the hobby and perhaps our readers would find the information helpful. We agreed.

In the matter of antenna interaction, many omnidirectional base station antennas have several radials extending from their bases in order to work properly, these radials shouldn't have any interaction with the earth itself, and must be no closer than a half-wavelength above the earth. At CB frequencies, this means 18 feet. Any mounting arrangement that offers less clearance above earth distorts the antenna's omnidirectional (circular) signal pattern.

Beam antennas don't have radials, but they can still interact with nearby metal objects. Keep beam elements at least 12 feet (or more, if possible) away from metal objects, including other antennas, rain gutters, roof flashing, cables, vent pipes, power or telephone lines, etc. Sufficient spacing cuts down on signal loss and retains the necessary sharp, directional characteristics of the beam antenna.

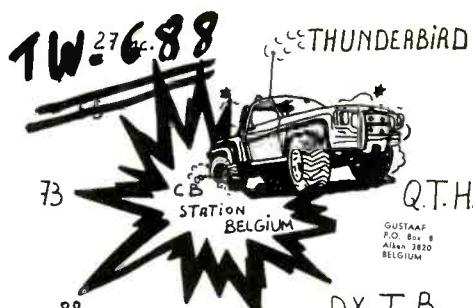
Insofar as antenna gain figures go, many people don't quite know what to make of such specs and their relative benefit to incoming and outgoing signals. A good rule to remember is that a 3 decibel (dB) gain is the same as doubling the effective radiated power, and each additional 3 dB of gain continues to double it again.

For example, using a power output of 3.5

watts, a 3 dB gain would produce about 7 watts (actually, 6.97 watts); 4 dB would provide 8.8 watts; 5 dB offers 11.1 watts; 6 dB about 19.7 watts; 8 dB roughly 22.1 watts; 9 dB around 26.8 watts; and 10 dB brings it to 35 watts.

We are always pleased to hear from our readers with questions, photos, news, and QSL cards.

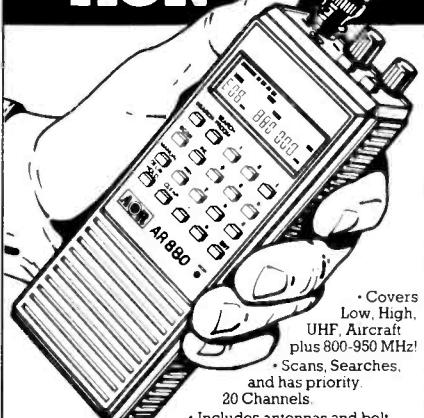
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Gustaaf is known as TW-688 and "Thunderbird" on 27 MHz.

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# TELEPHONES ENROUTE

## WHAT'S HAPPENING WITH CELLULAR, MARINE & OTHER MOBILE

BY TOM KNEITEL, K2AES

The changing prices of cellular telephones combined with the many new cellular services available to the public appear to have had a dramatic impact upon the demographics of cellular users. Five and a half years ago when CMT's began in earnest, the units cost upwards of \$3,000 and the average user was a 55-year old CEO with an average income of \$90,000. This has changed drastically, and the CMT people now feel their typical customer is about 39 years old and earns \$44,000 per year.

Ads for cellars now seem to span between \$500 and \$1,500, although low end model prices usually don't include the installation and antenna. Of course, the CMT market is so sizzling right now, that all sorts of eye catching but tricky stunts have been tried by a few dealers to snag customers. One that caught my eye recently was in a local newspaper and headlined: "Car Phones only \$199.00." When you called the number given, you learn that this great price doesn't include the handset (\$250), cables (\$275), lights (\$175), cord (\$75), antenna (\$150), and installation (\$150), for a total of more than \$1,300.

Chances are, however, that within another two or three years, there could well be some very basic no-frills CMT's available for a legit \$199 plus antenna and installation. At this point, with CMT air time at about 55 cents per minute and no shortage of folks willing and able to pay the tariff, there doesn't seem to be any industry-wide rush to open the flood gates to the general masses who are waiting for a \$100 to \$200 CMT combined with a peak hour calling rate of 20 cents per minute.

### 9-1-1 Expansions

Contel Cellular of New York, Inc., working jointly with the New York State Police, has started providing 9-1-1 emergency dialing to its subscribers in the areas of Binghamton and Elmira, NY. This is the third system in Contel's nationwide network to have 9-1-1 capabilities. In two other Contel CMT systems, in VA and CA, 9-1-1 has already saved the lives and assisted many victims of accidents and other emergencies. Contel provides 9-1-1 service free of charge to its subscribers.

In Canada, a national group known as Mobile Watch encourages CMT users to call in crimes, accidents, and other situations requiring law enforcement or other emergency personnel. In Vancouver, the idea was started last October by Bob Stewart, the Police Chief. Participants are provided with literature on and report forms as well a win-

dow sticker for their vehicles. Vancouver receives about 200 calls to 9-1-1 each week.

In Ontario, where Mobile Watch has been in use for over a year and a half, some 600 calls per week are received at 9-1-1 from CMT's. With almost a quarter of a million CMT's in Canada, the concept has many potentials.

Besides the obvious possibilities for using a CMT for reporting crimes or accidents, don't overlook the fact that they have other vital uses. When severe weather or some other problem knocks out the telephones in your neighborhood, you might need to reply on your cellular to summon medical or other emergency personnel. This is just one example.

In the area where I regularly go boating, the local VHF marine operator has only one channel, and when it's not busy, then it means that the operator isn't in the mood to

answer. The only other VHF-FM marine operator in the general area is pretty far away, and seems to be able to copy me only when the wind is blowing my signal in her direction. As a result, VHF-FM ship/shore service in this particular area has always been unreliable. A CMT cured that problem pronto; haven't attempted to place a ship/shore call via the good services of the Marine Operator ever since.

### Wireline Versus Non-Wireline

Several readers have written to ask that I offer a capsulized explanation of the terms *wireline* and *non-wireline* carriers as the terms used to relating to cellular phones. Briefly, the FCC has structured the CMT service so that half of the available 832 channel pairs are available for your local telephone companies to establish CMT facil-



Mitsubishi's exciting Model 800 transportable offers lots of features in a small, sleek, and super-looking package. This sells in the \$1,100 ballpark at many suppliers.

ties thereupon. The FCC uses the term **wireline** to describe these companies, and they operate on frequency group "B."

Competing with these companies and using the remaining CMT channel pairs (group "A" frequencies) are **non-wireline** companies. These are independent suppliers of cellular services that aren't in the landline telephone business.

The basic services offered by wireline and non-wireline companies are about the same (as are the rates) in their individual competing areas. Major differences between companies in a given area are determined by optional services offered, such as message services, traffic reports, etc., areas of service coverage, and the reciprocal billing agreements the carrier has with other CMT companies in adjacent and distant areas.

Various CMT's can operate on either group A or B frequencies. Before you can buy a CMT, check with the wireline and non-wireline suppliers in your area to find out which offers the services best suited for your needs, then tell your selection to your communications equipment supplier when you purchase your CMT. The equipment supplier will open an account on your behalf with the company of your choice, then program your individually assigned CMT calling number for the unit to make and receive calls through the facilities of that company and other companies with which it is networked.

Be aware that many companies furnishing cellular services will want to run a credit check on you before they'll open a billing account for your CMT calls.

### Transportable

If you want to have several cars and/or a boat you can get away with only one CMT if you get yourself a transportable unit that doesn't have to be installed and can be easily carried from one vehicle to another without the need for installation.

The Mitsubishi Model 800 transportable weighs only 4 lbs. and is the type of CMT well suited for this purpose. The unit is only 8 by 5 by 3 inches in size, and comes with a built-in antenna, a re-chargeable battery, cigarette lighter adapter/charger, and an AC power supply/charger. A full charge supplies 28 hours of standby operation or two hours of talking.

One interesting feature of the Model 800 is the dual telephone capability, it also has a signal strength indicator to fascinate those of us who are used to dealing with S-meters on equipment for other bands! For those who are all thumbs, an electronic menu prompts the user for operation of the Model 800's functions.

This super-compact transportable CMT is a real honey. It comes from Mitsubishi International Corp., 879 Supreme Dr., Bensenville, IL 60106.

If you've had any notable cellular experiences, or if your local cellular service offers an interesting or unusual service, be sure to tell us.

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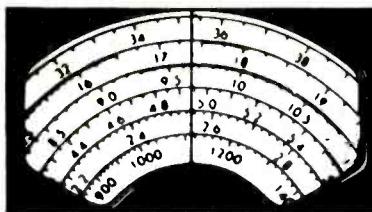
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# COMMUNICATIONS CONFIDENTIAL

BY DON SCHIMMEL

## YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

**F**irst time contributor Jim Smith, MO wrote "I use a Sony 2010 with a 250' long-wire coiled on a 8' x 2" fiberglass pole (my God, a giant inductor!), and a 41' folded dipole. I have been interested in Utes for about 6 months now, and find it quite interesting. I believe that I've uncovered the mystery behind KKN39 once and for all. Coming home from work the other day, I saw a MO license plate with KKN-39 on it. So, it's a mobile unit disguised as just another business man. But seriously, when I lived in the Upper Peninsula of Michigan, I noticed that KKN-39 practically blew my receiver off of the table. The signal seemed next door."

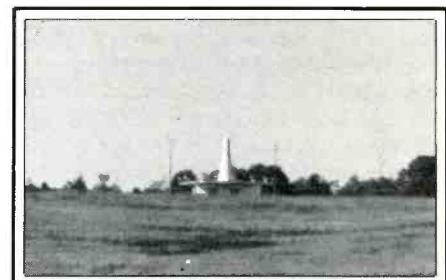
Bob Landis, MD tells us "I am using a R388/URR receiver with a rain gutter antenna (I live in an apartment). For RTTY, I have an AEA CP1, VIC20 and AEA

SWLTEXT Software." Bob sent along a QSL address update for Station PZN: The Coast Station Paramaribo Radio/PZN, Santo Boma, Suriname, S.A.

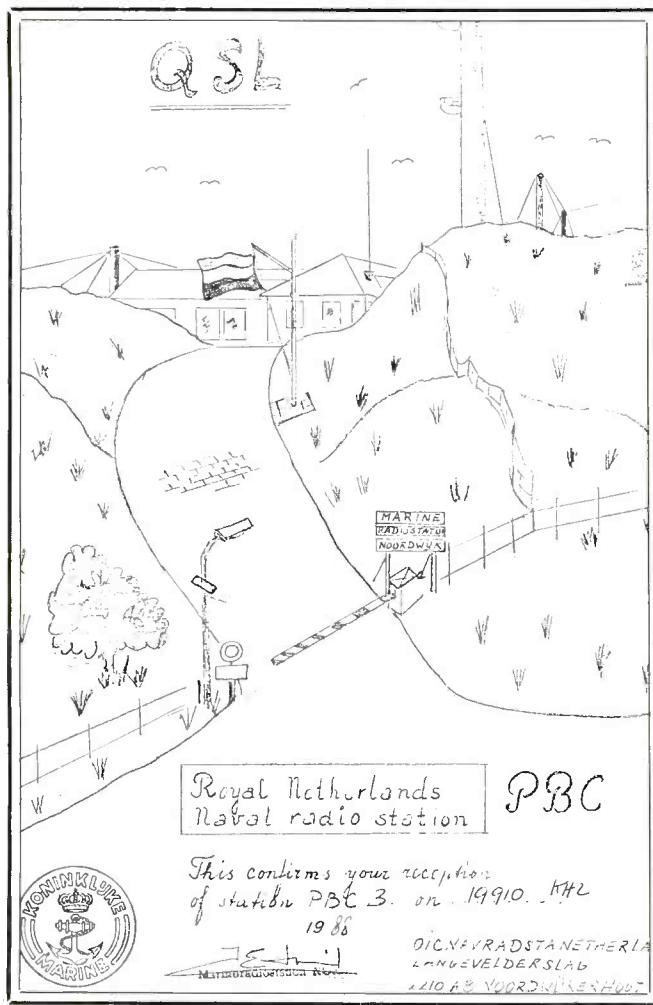
From Bobby Pearce, TX we learned "My short longwires were very ineffective at longwave frequencies and have since been supplemented by a 5000' N-S and a 1000' E-W longwire. For DF, I added a Palomar inside DF unit and a 3' DF loop with rotator from Datong for outside. The greatest improvement for people with limited space however, was the addition of 1 meter whip with a preamp from Burhans Electronics."

Jeff Hall advised he was now at Atsugi, Japan. His radio gear was a "severe casualty" in the move and it will be a few months before he can rebuild a complete SWL/HAM Station.

An interesting incident was described by

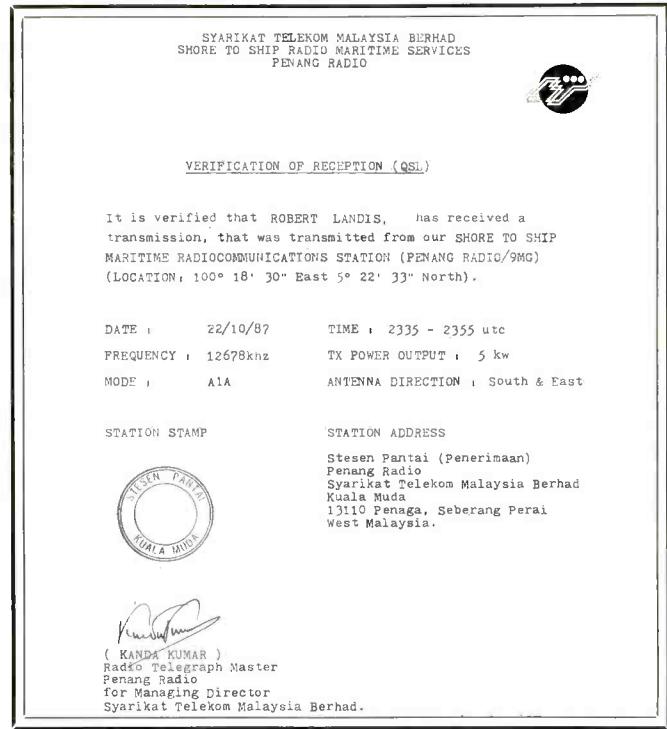


This unusual installation was photographed by J.R. Hollis, WV. The accompanying note said "Noted this building (with no identification around) near the village of Shenandoah Junction, Jefferson County, WV. The installation is in the middle of a farmer's field. Photo made with 210 mm telephoto lens. Note antennas on both sides of building." Do any of our readers know what this is?



This QSL is "a little on the unusual side." So says Hugh M. Hawkings, TX. "I only logged this station once and haven't heard them since. It's listed as 'Goree Island Royal Dutch Naval Station' and I never thought that I would succeed in getting a QSL, so I was surprised to receive a hand-drawn QSL in only 17 days. My PFC was also returned."

Bob Landis, MD advises that the cover letter sent with the QSL requested that those interested please note the correct address for QSL'ing.



TO: ARS KA90IH  
OP Brian

FM: NMH, Coast Guard Station Alexandria  
OP Stu  
7323 Telegraph RD  
Alexandria, VA 22310

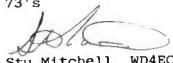
Brian,

Thank you for your letter! We have received many letters from the AFD QSO test, but nobody showed the enthusiasm that you have. I got a real kick out of your station trials and tribulations. You brought back the memories of my first AFD operations!

I just started working for the Coast Guard and as luck would have it, my office is right under the MARS station. Since I'm a Ham, I bet you can guess where I spend my lunch hour! When the AFD memo came around, several of us jumped at the chance to sign up. We started to scheme! Station Alexandria used to be a fully operational radio station and consequently we have several BIG transmitters and antennas on base. We went to work and after the dust settled we stepped back in awe. We had a Collins HF-80 10KW transmitter connected to a rotatable log periodic for the transmit side and a Harris 590 and RLPA for the receive side. The results were fantastic!

We worked over 700 contacts. Just about all the reports were 59 Plus 20-60, incredible! We only worked 40 states. We missed the usual like Montana, Wyoming and Utah, but the quality of the contacts more than made up for that minor disappointment.

I remember working you. Your station did a fine job. I was able to pull you out of the small pile up even with the ACC turned on. (It did a good job of making all the stations the same level.) Thank you for your letter, sticker and two cards. It was a pleasure to work you and maybe I'll see you down the log.

73's  
  
Stu Mitchell, WD4ECK

## 39<sup>th</sup> Annual Armed Forces Day

### Securing the Blessings of Liberty

NMH



Along with the QSL, Brian Smith, IN received this letter from the NMH Operator. Brian uses a Heath SB-102 Transceiver with a 400-foot delta loop antenna up about 30 feet.

John Myers, WA. "I don't know how often a person gets a front row seat to a disaster, but that is where I was when a Cessna Skymaster went down a couple hundred miles off the coast of Hawaii. A CG C-130 had been sent out to rendezvous with the plane which had reported having trouble with one engine. The C-130 was just getting a radio fix on the plane when the Cessna lost power in both engines and went into the water. All concerned had been prepared for the ditch and were starting the search when an oil tanker in the area reported being able to help. The pilot of the downed plane in the meantime shot off a couple of flares from his life-raft, and the plane overhead circled until the tanker arrived and picked up the pilot. These comms were held on 8843 kHz, the Pacific international airlines frequency, and also on 5696 kHz, the Hawaii CG base. It was an edge of the seat DX-pedition and another reason why I have increased my listening to utilities since then. I am using a SONY 2010 with a couple of longwires and a MFJ tuner. I've been SWL'ing for just over a year now and enjoy every minute of it."

J.M., KY sent in a note correcting an entry in the November 88 column. "The ARQ-like transmissions I heard being used by those Bell Telephone stations turned out to be a SELCAL (selective calling) procedure that's used to alert either individual stations or the entire net. It sure did sound like ARQ at first, though."

Gary Vendetti, NJ reported a strange signal he heard in the AM BCST Band. He heard a jammer which was not strong in strength but it was audible on top of station WSB, Atlanta, GA. Gary asked if any other readers had monitored this warble type jammer on 750 kHz?

Simon Mason, England always provides us with interesting material. This month is no exception. He shared with us the rather curious reply he received from Germany's Joerg Klingenfuss in answer to a query. Here is what Simon wrote: "I had written Klingenfuss asking why he didn't include Papa November and the other two letter stations when he listed DFC37 and DFD21 in his *Guide to Utility Stations*. They are all part of the same organization as the same YL's are used and the 3F identifiers are specific to each station. Here is the answer from Klingenfuss. 'Sorry but we do not monitor these number stations for several reasons, e.g. Since several decades, nobody has ever succeeded in the exact location and purpose of the stations. Nobody has ever been able to contact such a station or to get a verification for reception etc. All what, especially those SWL's from America etc., write and state about these stations are presumptions, guesses and nonsense. From our point of view, monitoring these stations is a waste of time and you get more from reading Bracknell Meteo's teleprinter coded

weather during 24 hours than from monitoring these Numbers Stations for 24 seconds.

"Consequently, we cannot answer your questions because Klingenfuss Publications continues to give facts and not guesses."

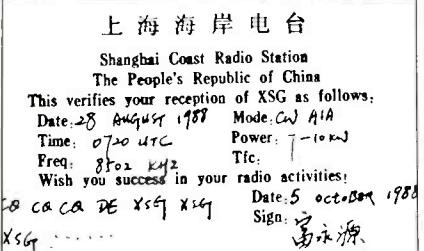
This strange attitude towards popular ute monitoring preferences such as numbers, tactical, and mystery stations is an old story with Klingenfuss and seriously diminishes the potential usefulness of what their directories might otherwise be. We at POP' COMM have always run such listings and consider them a significant factor in the excitement, adventure, intrigue, and interest of ute monitoring. To label these stations "nonsense," and observing their activities "a waste of time," seems to us to be a put down to many serious monitors who feel that they comprise much of the enjoyment found on ute frequencies. If a person knows nothing about a topic, we think that they should just say so instead of insulting those who are attempting to learn.

Some more Brazilian comms info was received from Roberto Benevolo, Brazil who described the Brazilian coast station network as follows:

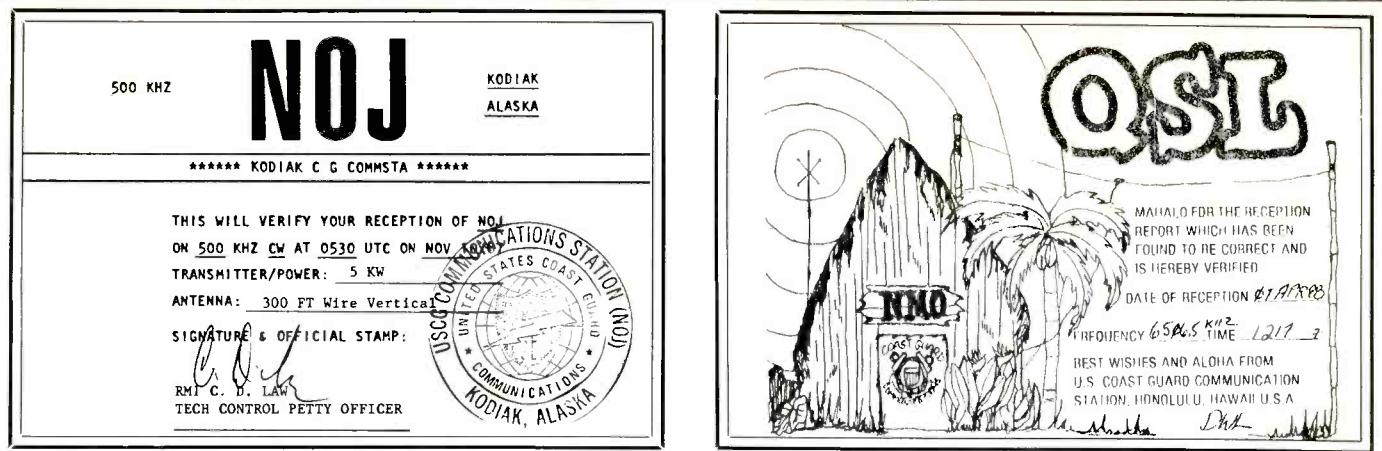
Rio (PPR) which is the main station, located near Rio de Janeiro, with world coverage for all the maritime frequency bands, in voice and CW.

Belem (PPL), Olinda (PRO) and Juncao (PPJ), also with world coverage in voice and CW, but not for all the maritime frequency bands.

Tabatinga (PPU), Tefe (PPE), Manaus (PPN), Santarem (PPT), Sao Luis (PPB), Fortaleza (PPF), Natal (PPN), Salvador (PPA), Ilheus (PPI), Vitoria (PPV), Santos (PPS), Paranagua (PPG), Itajai (PPC) and Porto Alegre (PPP), with limited coverage



Here is the QSL from XSG received by Bob Combs, CA.



Another PFC from the collection of Steve McDonald, BC, Canada.

And here is a copy of the QSL which Milan Seifert, Korea received from the Honolulu CG Station.

for their proximities, only in voice.

Other local stations only working in VHF. Juncao (PPJ) is the coast station which works with Estacao Comandante Ferraz (PWZ84), the Brazilian Navy base in Antarctica. These stations operate with each other on 13185 and 12414 kHz, respectively.

Our thanks to Roberto for this rundown.

These US Naval Reserve frequencies were furnished by Thomas, TX. He stated they are most active on weekends (1st thru 3rd weekend) of the month. All stations are authorized to use all 6 of the frequencies. 7595 kHz is the daytime guard freq. The other freqs are: 2595, 5158, 11243, 13973.5 and 17540 kHz. The mode of operation is USB. Control is NBZ, USN Readiness Command 11, Dallas, TX. Net stations are the USN Reserve Centers as follows: NBZ10, Abilene, TX; NBZ15, Wichita Falls, TX; NBZ20, Albuquerque, NM; NBZ30, Amarillo, TX; NBZ40, Dallas, TX; NBZ45, Tyler, TX; NBZ50, El Paso, TX; NBZ55, Carlsbad, NM; NBZ60, Lubbock, TX; NBZ65, Midland, TX; NBZ70, Oklahoma City, OK; NBZ75, Stillwater, OK; NBZ80, Tulsa, OK; and NBZ90, Waco, TX.

Also included in the list were 4711 and 6742 kHz, both used by the Naval Air Station, Cecil Field Sealord, Jacksonville, FL. This latter station uses the callsign NCA.

The "K" beacon on 14477.5 kHz is causing quite a bit of interference on 14477 kHz, a MARS working frequency according to Andy Gordon, CT. Andy also indicated he has received 217 QSL's out of the 348 calls he has heard. A new USN MARS shore is in operation with assigned call of NNN0/NRJ. Andy heard NNN0/NXR, the MARS station aboard the USS Fearless, MSO442, an old Agile class "Sweep." The letter he received with the QSL indicated they were in the Persian Gulf removing mines. Andy pointed out that the MARS stations aboard these old wooden hulled minesweepers are rarely used. He also heard the USS Leader, MSO490, an old Aggressive class "sweep." Their MARS station, NNN0/CRQ hasn't been used in years so he assumes they are also in the Persian Gulf sweeping mines.

MARS callsign NNN0/CYV was assigned to Oceanographic Unit 2 which is embarked aboard USNS Dutton, FAGS-22 (originally was WW2 Victory Ship "Tuskegee Victory"). The Dutton is now an oceanographic research and surveying ship.

Michael Willmer, MI forwarded a revealing intercept he made on 4343 kHz of traffic between Papa 4 Papa and Giant Killer. From the exchange between operators there appears to be no doubt that the phrase "Alligator Playground" refers to frequencies rather than an operational area. Alpha Oscar & Alpha Sierra seemed to refer to higher frequencies while Alpha Juliet referred to a lower frequency.

The mailbag was especially heavy this month so let's get on to the loggings.

#### "Ute" Intercepts All Times Are UTC

- 124: CKN, Canadian Forces, Vancouver, BC w/CW marker at 0757 (Sabo, CA).
- 178: Beacon ZIR, un-ID, at 0532 (Szalony, CA).
- 216: Beacon CLB, Wilmington, NC at 0053 (Ed.).
- 245: Beacon LUA, Luray, VA at 0050 (Ed.).
- 252: Beacon CJR, Culpeper, VA at 0049 (Ed.).
- 254: Beacon SPK, Reno, NV w/voice wx bc in AM mode at 0657 (Sabo, CA).
- 285: Beacon EUD, York, PA at 0029 (Ed.).
- 296: Beacon CRZ, Corning, IA at 0411; Beacon HBZ, Heber Spgs, AR at 0341 (Pearce, TX).
- 298: Beacon 3N, Weyburn, Sask., at 0343 (Pearce, TX).
- 313: Beacon G, Keweenaw, WI at 0226 (Pearce).
- 316: Beacon CVP, Helena, MT at 0923 (Szalony).
- 317: Beacon CBE, Cumberland, MD or 0055 (Ed.).
- 320: Beacon A, Pt. Arena LS, CA at 1020 (Szalony, CA).
- 322: Beacon S, Pt. Sur LS, CA at 1017 (Szalony).
- 348: Beacon UHA, Havana, Cuba at 0313 (Pearce, TX).
- 353: Beacon UHG, Holguin, Cuba at 0321 (Pearce, TX).
- 367: Beacon HA, Hao Atoll, Fr. Polynesia at 0432 (Szalony, CA).
- 375: Beacon TGE, Guatemala City, Guatemala at 0755 (Pearce, TX).
- 379: Beacon GKQ, Newark, NJ at 0026 (Ed.).
- 390: Beacon JT, Stephenville, NF at 0326 (Pearce, TX).
- 407: Beacon SWA E, Swan I. (Caribbean) at 1042 (Pearce, TX).
- 428: Beacon EEJ, Sanford, NC at 0059 (Ed.).
- 451: Beacon SC, another un-ID, under QRM at 0057 (Ed.).
- 500: UONV, Soviet Factory Fishing Refrigeration Trawler MYS Obruchyeva in CW at USGN at 0431. USGN is the MYS Osipova, some type vessel as UONY (McDonald, BC).
- 513: Beacon PP, Omaha, NE at 1147 (Pearce).
- 515: Beacon ONH, Jefferson Cy, MO at 0656 (Pearce, TX).

517: Beacon GQ, Kansas City, MO at 0335 (Pearce, TX).

2054: VAK, Victoria CG, BC w/morinw wx bc in USB at 0424 (Sabo, CA).

2103.5: VAE, Tafino CG, wkg vessel James St. Clair in USB at 0337 (Sabo, CA).

2182: NMF44, USCG Southwest Harbor, ME at 0313 wkg USCG Cape May NJ re vessel in distress (Pot O'Connor, NH).

2307: AAR2BV, US Army MARS sta sending out MARS bulletins in 18 wpm CW at 0142 (Tom Kneitel, NY).

2700: Cyrus Radiotelephone and Maritime Service in USB at 0325 w/voice mirror in EE & other languages (Mierzynski, PA).

2714: NMAP, USS Vreeland (FF-1068) clg for radio check; NJLK, USS Kauffman (FFG-59) clg Newport Port Control at 1025. Both ships should have been on 2716 kHz (Gordon, CT).

2716: NHTM, USS Bowen (FF-1079) clg Norfolk Port Control at 0120. NHTM accidentally had an open mike for 45 min and you could hear all of the conversations taking place on the ship's bridge; Korean Navy vessel Chung Bul (DD-915) (ex-Chewie DDR-805 of USN) wkg Canadian Naval Base Esquimalt (BC). Control re injuries to crew members. They dispatched Canadian fire/rescue vessel HMCS Firebrand (YTR-562) to help; NRWS, USS Simpson (FFG-56) asking for radio check from any sta at 0025- was also using tactical ID of Q6X; Canadian warship HMCS Ottawa (DDH-229) clg Canadian Navy research vessel Blueline (AOGR-114) at 1015; British destroyer HMS Newcastle (D-87) using tactical ID of 6WA clg Key West (FL) Control at 1100. Un-ID sta announcing itself only as "Inbound Navy Unit" clg Portsmouth (NH) shipyard at 1200. Believe this was USS James K. Polk (SSBN-645) (Gordon, CT).

3151: Racao 4 Tango in contact w/Bacon, USB at 0705 (Sabo, CA).

3230: YL/GG repeating Charlie India at 0600 w/flute tones in b/g. At 0605 used 3F ID's 444 555 666 780 & 888 then into 5F tlc for each addressee (Mason, England).

3235: XL, XR, etc. in USB wkg NCS sta GY. The NCS was strongly 200 Hz higher in freq than everybody else. Hrd at 0708 (Fernandez, MA). The NCS probably felt that the other stas were 200 Hz too low in freq-- Ed.

#### Abbreviations Used For Intercepts

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

3287: CKN, Vancouver, BC in CW w/channel marker at 0310 (Thomas, TX).  
3485: New York VOLMET bc, USB at 0350 (Mierzewski, PA).  
3685: SXA2, Greek Navrad in CW w/VVV marker at 0243 (J.M.S., MO).  
4000: NNN0NR1 & -EZI, USN MARS net in USB at 0406 (Sabo, CA).  
4003.5: NNNOTUD, GIO, & -LGE, USN MARS net in USB of 0306 (Sabo, CA).  
4030: US Army MARS net w/many stas checking in at 0330, USB (Combs, CA).

4066.1: NNUL, USS **Constellation** (CV-64) w/patch thru San Diego CSS-1 in USB of 0231. Share sta re listing on 4360.5 kHz (Sabo, CA). NSVR, USNS **Point Loma** (T-AGDS-2) clg San Diego CSS-1 at 0230; NRLC, USN **Connelly** (DD-979) clg Norfolk ICSB at 2215 re ship's contaminated boilers. Un-ID USN sta calling itself N3B clg San Diego CSS-1 at 0230. Was apparently a sub since it wouldn't divulge its name (Gordon, CT).

4125: USCGB Group Monterrey (CA) wkg Rescue 1471 & 1700, also F/V **Desiree III** (having a med emerg aboard) at 0327-0338. Stas also noted on 157.10 MHz VHF FM during same period (Sabo, CA).

4256: KLC, Galveston R., TX w/CW marker at 0645 (Combs, CA).  
4350: KFS, Half Moon Bay, CA w/CW marker at 0704 (Comba, CA).

4369.8: WLC, Rogers City, MI wkg Gt. Lakes ships re pos rpts, crew changes, cargo loads, & destinations at 1510 (Willmer, MI).

4373: OSN/Giant Killer in USB at 0630 re radar tracks from large net of other alphanumeric tactical ID's. Giant Killer is tactical ID of FACSFAc of Oceanic NAS, Va (see POP'COMM of Nov. '88) (Fernandez, MA).

4526.1: Y3S, Nauen DDR time sig sta at 0230 thru bad QRM w/pips (J.M.S., MO).

4557: AFAAPO, USAF MARS, San Angelo, TX in USB at 0100 (Thomas, TX).

4623: NGR, USN in Greece at 0310 in CW w/VVV tape (J.M.S., MO).

4956.5: The ever-mysterious KKN39 w/marker tape (J.M.S., MO). Time? - Ed.

5097: CFH, Maritime Command, Halifax, NS in CW w/marker (Thomas, TX).

5415: YL/EE w/1-0 count, 712, in AM-mode at 1900. In b/g a YL/EE w/1-0 count & 971. Sounded like a mixing error rather than 2 different stas (Mason, England).

5505: Shannon VOLMET, Eire, in USB at 0210 w/aero wx, USB (Ross, ONT).

5628: JNA, Tokyo Aeradio, Japan wkg Japan Air 42 for pos rpt, USB at 1450 (Szalony, CA).

5696: NOS, USCG Cape Cod Air wkg Rescue 2121 in USB at 0634 re SAR ops (Sabo, CA); CG C-130 from Hawaii on SAR for downed a/c-- see also listing for 8843 kHz (Myers, GA); CG 1719 (a C-130) on SAR for sailing vessel **Sagapo** to Portsmouth in USB at 1618 (Vendetti, NJ).

6218.6: Quest wkg a/c ONGO at 1345 in USB. Believe Quest was **HMCs Quest**, a Canadian hydrographic vessel. The a/c may have been a supply helo (O'Connor, NH).

6411: KLB, Marysville, WA w/CW marker at 0601 (Comba, CA).

6679: Auckland VOLMET, New Zealand in USB w/wx at 0621 (Combs, CA).

6683: Air Force 2 patches thru Andrews AFB, LSB at 2347 (Lamar, FL).

6693: B6N clg Sick Leave w/o response before trying same on 9002 kHz. USB at 0555 (Sabo, CA).

6730: Air Force 2 w/patches to Crown thru Andrews AFB to NBC's Tom Brockaw from Craig Fuller. Once patch was established, it was moved to Nationwide(?). USB at 2138 (Lamar). Nationwide may possibly have meant UHF FM 415.70/407.85 (A/G) telephone link often called "Echo/Foxtrat" link, which is nationwide according to Kneitel's Top Secret Registry-- Ed.

6756: AFA, Andrews AFB, MD in USB at 2315 wkg Air Force 1 (Thomas, TX).

6761: Laser 73 clg Skybird (general call to any SAC ground sta). Outspoken responded & took patch to a metro for wx at a coded location. Several Skybird bc's occurred while patch in progress. Validate and Parchesi stood by for traffic but received no calls. All in USB at 0654 (Fernandez).

7535: UHG3, Baumi, USSR w/CW marker at 0607 (Combs, CA).

7552.1: KGD34, National Coordinating Center (pass US Gov't SHARES pgm), Arlington, VA in comms w/WNTF417, Bell Communications Research, Morristown, NJ. USB at 1845 (J.M., KY). My guess is KGD34 more likely a telco sta than US Gov't-- Ed.

7705: AOK, USN Rota, Spain in CW at 0305 w/VVV marker (J.M.S., MO).

7752: YL w/5F grps in Yiddish, USB at 0407-0417, then again later same nite 0706 (Sabo).

7845: Scrambled tfc at 1058. USN? (Scalzo, QUE).

7846: YL/SS in AM-mode at 0611 w/5F grps (Fernandez, MA).

8101: SAC sta Occasion w/msg for Employee after some scrambled tfc, USB at 1629 on SAC's

Alpha Papa freq. Must have been airborne command posts since Occasion & other similar calls hr'd in WBFM on UHF 235.85, 246.95, 266.05, 273.8, & 399.75 MHz, also AM-mode on SAC secondary freq 321.0 MHz (J.M., KY).

8186: YL/SS in AM-mode w/5F grps at 0638 (Myers, WA).  
8232.2: UGJN, Soviet ship **Akademik Karpinski** in USB at 0510 w/YL op trying to make herself understood in both RR & EE to the op at Oostende R. (OSU45) for patch (Kneitel, NY).

8291.1: WPU, Tug Communications Inc., Jacksonville, FL wkg WTW9136, tug **Centurion**; then WFK5390, tug **Ensign** w/calls to WGW, Tug Communications Inc in San Juan, PR. All in USB at 0557 (Sabo, CA).

8300: Charlie 83 relaying spare parts order to Mike 83 in USB at 1748 (J.M., KY).

8469: Sao Vincente, Cape Verde Isls in CW at 0944 clg CQ (O'Connor, NH).

8511: XSW2, Taichung, Taiwan w/CW marker at 0730 (Combs, VA).

8568.5: XFM, Manzanillo, Mexico w/CW marker at 0733 (Combs, CA).

8665: XSG3, Shanghai, PRC w/CW marker at 0946 (Landis, MD).

8843: Hawaii ATC wkg CG 1603 (a C-103) at 0300 on SAR for downed Cessna Skymaster. Tanker **Sierra** in area picked up pilot (Myers, WA).

8861: Bamako Aeradio, Mali in USB at 0403 wkg Air Afrique 350 (O'Connor, NH).

8893: Beacon V in CW at 2327 (Scalzo, QUE).

8951: VVV & 3454 in MCW-mode repeated at 1745 (J.M., KY).

8993: USMC C-9 a/c w/patch via MacDill to Oceano NAS-- USB at 0105 (Myers, WA).

10180: At 2000 on OM/EE w/RR accent was repeating 847 in AM-mode. At 2005 said 290 290 141 141 then 5F grps. At 2021 the bc was QRM'd by a loud jammer. At 2030 the jammer itself sent 4 4 4 011 011 in CW then into 5F at 2035 (Mason, England).

10463.8: Beacon D in CW at 2021 (Scalzo, QUE).

10464: Beacon P in CW at 2020 (Scalzo, QUE).

10646: Beacon O in CW at 2023 (Scalzo, QUE).

10798: P7X w/5L grps in CW at 1537 (J.M., KY).

10820: YL/EE w/Mosad's KPA2 xmssn in AM-mode at 0019 (Scalzo, QUE).

11035: Air Force 1 patch to Crown via Andrews AFB, USB at 0022 (Lamar, FL).

11132: RMP, Kaliningrad Navrad, USSR w/CW tfc at 0615 (Combs, CA).

11215: Scrambled tfc w/same format as 7845 kHz. Noted at 1116 (Scalzo, QUE).

11217: Oscar Oscar w/wx to Foxtrot November, Mike Kilo Lima to TXH w/coded tfc. Was RAF tfc, USB at 1122 (Scalzo, QUE).

11267: A YL/EE testing extensively & giving many long counts w/o ID on this USAF freq. USB at 1525-1530 (Kneitel, NY).

11279: YL's in RR w/5 min bc in succession appearing to fill the hour, each at a different lac in USSR. Lacs were Rostov, Riga, Leningrad, Moscow, and Kiev. USB at 0524 (Fernandez, MA).

11288: Slingshot tracking a Cessna 172 to N. Eleuthera (Bahamas), USB at 2215 (Schroder, PA); Slingshot Base coordinating a/c's 53 & Swordsford 31 in chasing a suspected narcotics a/c. Plane forced down in Georgetown (Vendetti, NJ). Poss Georgetown on Grand Cayman I-- Ed.

11300: Khartoum ATC wkg various a/c incl Zimbabwe 6, Air France 472 at 2300-2330 in USB. An un-ID a/c noted clg Tripoli during this period. (Schroder, PA).

11387: Sydney VOLMET, Australia w/wx for major lacs, USB at 1134 (Scalzo, QUE).

11445: OM/EE in LSB or 2015 hr'd over much RTTY QRM repeating Lima Bravo Alpha 2, Lima Bravo Alpha 6, Lima Bravo Alpha 10, Lima November 120, -125, -126, -127 (Willmer, MI).

11550: At 2000 a YL/EE repeating 678 till 2005 then 112 112 50 50 & into 5F, AM-mode (Mason).

12541.6: Various Soviet ships wkg UFB in CW from 2252-2309 included: UWWN, bulk carrier **Megalon**; UYUV cargo ship **Georgiy Chicherin**; UTPO, cargo ship **Nikolay Ogoryov**; UUWW, cargo ship **Mozyr**; UNNO, cargo ship **Babuskin**; UEIP, bulk carrier **Stepan Artemenko**; & UTKW, cargo ship **Dmitriy Gulia** (McDonald, BC).

12658.2: HGZ, Damman, Saudi Arabia in CW at 0416 w/call marker (O'Connor, NH).

12907.5: VIX5, Sydney, Australia w/CW tfc at 0538 (Combs, CA).

12950: IJX, an OM/EE w/GG accent w/calls & comms to DHJ59, Sengwarden Navrad, FRG. USB from 0522-0533 (Sabo, CA).

13076.5: UBN, Jadavan, USSR w/CW marker at 0420 (Combs, CA).

13244: MAC 00456, a C-5 a/c w/patch to Dover AFB via Ascension. A/c over Atlantic w/some equip problems (Willmer, MI). Time not given-- Ed.

13285: Toronto Dispatch wkg a/c w/pos report (not full AIRREPS) & ETA to Canadian locs. Also Rainbow R. very active this freq (Thomas, TX). Rainbow R. is an LDOC sta that handles company ops tfc for Canadian Airlines & Worldways int'l flts going to major Canadian cities-- Ed.

13286: NNN0NUZ, USN MARS at Naval Support Force Antarctica (Byrd Surface Camp) wkg NNN0PRQ at 0230 (Gordon, CT).

14441.5: NNN0CRQ, USS Leader (MSO-490) USN MARS clg any stateside unit (Gordon, CT).

14470: NNN0CA1, USS Antietam (CG-54) wkg NNN0MET at 2200 w/patches (Gordon, CT).

15000: LOL, Argentina's time sig sta in AM-mode w/CW pips at 2230 (Ross, ONT).

15097: Un-ID CW sta w/alphabetic grps. Strong at 2030 (Combs, CA).

15938: YL/EE in AM-mode at 1400 w/1-0 count 877. At 1410 sent 4F grps, repid & off 1451 (Mason, England).

16463.1: GLNE, oceanographic research vessel **Discovery** in USB at 1922 wkg Portsmouth w/patches (O'Connor, NH).

16728.8: JFAL2, cargo ship **M/V Fortune** in CW at 0934 clg VNP (McDonald, BC).

16909: TFA, Reykjavik R., Iceland clg CQ in CW at 1947 (Kneitel, NY).

17052.5: JNA, Tokyo, Japan w/CW mrkr at 0255 (Combs, CA).

17053.2: XSX, Keelung, Taiwan w/CW marker at 0300 (Combs, CA).

17270: PPKR, Brazilian ore/oil carrier **M/V Muriae** in SSB at 1400-1520 wkg PPR (Benevolo, Brazil).

17430: YL/GG w/5F grps (each grp X2) in USB at 1618 (Kneitel, NY).

17975: Un-ID SAC sta w/EAM in USB at 2012 on SAC's Tango freq (J.M., KY).

18027: Executive 1 Foxtrot w/patch to Crown via Andrews AFB, LSB at 1946 (Lamar, FL). This ID used by a commercial airline flight transporting a member of President's family, according to Kneitel's Top Secret Registry-- Ed.

18348: Beacon R in CW at 2358 (Scalzo, QUE).

18733.5: Scrambled tfc same as 11215, USB at 1146 (Scalzo, QUE).

20720: PPI, Brazilian ore/oil carrier **Docecoral** in Indian Ocean wkg PPR in SSB. Other ships intercepted doing the same here: PPID, tanker **Araoxant** 0140 from Trinidad; PPKW, ore/oil carrier **Morettes** at 1949 near Cape Verde Is (QSY 17270 kHz at 2110); PPMO, tanker **S/S Baroo de Maua** at 1445 S of RSA; PPVE, bulk carrier **M/V Docelirio** in Netherlands; PPXV, bulk carrier **Doceproa** of 1804 near Italy (Benevolo, Brazil).

20742: Un-ID sta w/5F grps (cut 0's) in hi speed CW at 1640 (Kneitel, NY).

20885: 2 OM/EE's in LSB at 1805 in comms (via patch) re promotions, forms, advancement school, etc. Foxtrot 4 was the patcher, Echo 21 was one party. Other patches followed. Seemed to me that some of this stuff probably wud have been better off scrambled (Fernandez, MA).

20907: SNN245, a Polish embassy(?) in CW at 1428 w/VVV marker (J.M., KY). Might be MFA Warsaw as they use diff ID on each freq-- Ed.

20969.8: CFARS net in USB at 1827-1834, sta 806 wkg VXV9 at Galan Heights, Syria w/patches (Sabo, CA).

20993.9: US Army MARS net w/general ops cluster, USB at 0039 (Sabo, CA).

20996.9: USN MARS net, USB at 0040 had NNN0NUW, Whidbey Isl. NAS, WA wkg NNN0CCE on un-ID NOAA ship near Panama (Sabo, CA). -CCE is NOAA Marine Fisheries R/V **Dovid Starr Jordan**-Ed.

21453: Beacon MG at 1515. ID sent X2 then 24 sec pause; Also Beacon TU sent same way but at 38 sec intervals. Both heard together at 1530 so they're not the same sta (Smith, IN).

22115: PPWB, tanker **M/V Chuy** in Red Sea wkg PPR in SSB at 1805 (Benevolo, Brazil).

22386: JCT, Chosi, Japan in CW at 2338 clg CQ (Ross, ONT).

22428: 9VG59, Singapore in CW at 2342 clg CQ (Ross, ONT).

22431: PKX, Jakarta, Indonesia w/CW marker at 0025 (Combs, CA); 9PA, Banana, Zaire w/VVV marker in CW at 2343 (Ross, ONT).

22463: JCU, Chosi, Japan in CW at 2343 clg CQ (Combs, CA).

22533: ZLB, Awarua, New Zealand clg CQ in CW at 0149 (Combs, CA).

23254: OM/FF in USB at 1748 clg an a/c after sending possible selcall tone, but no joy after numerous attempts (Fernandez, MA).

23642: KWS78, apparent US embassy in Athens, Greece w/CW marker at 1515 (J.M., KY).

25103: Chirps + 2 long beep tones repeated every 7 secs. Beeps were 4 sec in length. LSB at 1912 (Vendetti, NJ).

25262: OXZ95, Lyngby, Denmark in CW at 1558 w/marker (Landis, MD).

25308: LFR, Rogaland, Norway w/patch in CW at 1555 (Landis, MD).

25691: Jammer UA at 1422 (Vendetti, NJ).

25750: Jammer NR at 1427 (Vendetti, NJ).

25989: Probable illegal outbonder commo here. No ID's except for locations-- Canada, Preland, Pennsylvania & New York. USB at 1508 (Vendetti).

26005.2: 2 Aussie OM's discussing currency exchange between USS & AUSS, also some sort of catalog. Noted in USB 1740-1803 (J.M.S., MO).

PC

# SCANNER SCENE

MONITORING THE 30 TO 900 MHZ "ACTION" BANDS

BY CHUCK GYSI, N2DUP

**W**hile it's time to stop listening to snowplowing frequencies in most of the country, it's time to start preparing lists of frequencies to monitor in the summer. Program in those lifeguard and amusement park channels and wait for the weather to turn warm. In the meantime, let's see what Scanner Scene readers have to report.

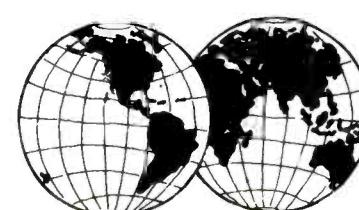
From a reader in Elkhart, Indiana, who I will leave anonymous, comes a newspaper clipping of cops who closed in on drug suspects by tuning in on their phone calls. The case began when a Fraser, Mich., couple listening to their scanner overheard a conversation on a cordless phone frequency in which someone was worried that the cops may be tipped off as to their cocaine stash in the house. The couple called the police, who started listening to the conversations, too. Finally, the suspect ordered a pizza, giving his address over the cordless phone. Instead of the pizza man, the suspect answered the door for a policeman. A briefcase full of cocaine was found in the apartment and the apartment-dweller as well as two other men were arrested on drug charges. The suspect's lawyer said that the police should not have listened in on the cordless phone calls without a warrant, however, the county prosecutor's office said that federal law exempts cordless phone privacy.

The person who sent in the above clipping said that he finds people shocked when he tells them that he can tune in on their cordless phone calls. In fact, he said several have sworn off using their cordless phones after finding out that they can be eavesdropped on. On the same note, this same person says, "I contend that we not make this knowledge too widely known. Should the consumer become aware of this fact on a widespread scale, the sale of cordless phones will no doubt nosedive. As a result, we will have fewer candid conversations to occupy our nasty curiosity." That makes a lot of sense. Well, this guy says he tells all his neighbors that he can tune them in and then he says that we shouldn't let cordless phone users in on our little secret.

First of all, most cordless phones have a disclaimer saying that they can be overheard. Most people just aren't aware that all it takes is a scanner. Second of all, the responsible radio hobbyist doesn't go around revealing what he or she has overheard. The couple who ratted on the dopers probably should be commended. They recognized something illegal and took action through the arm of the law. If you hear anything else going on in your neighborhood,

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tell your wife, husband or other family members and then drop it. It wasn't meant to be overheard anyway.

Rex Brickley writes from Akron, Ohio, and says that he has heard drug dealing on cordless phone frequencies (do I sense a trend?) He says he uses a Regency Z-60 scanner. Rex says that the Akron Metro Regional Transit Authority has moved to 800 MHz, however, he is hearing them on 453.1375 and 458.1375 with the carrier always on. Maybe those UHF channels are some kind of link frequency to the new 800 MHz system. The maximum power output on splinter UHF frequencies such as the ones you mention is 2 watts, so chances are the transmitters are near your home. Rex also advises that the Summit County Board of Education uses 453.600 for buses.

Mike Benedetti, Registered Monitor KWA7CF, sends in his QSL card from Seattle, Washington, and if you take notice, his marine band call sign is listed. Mike says he uses a Regency HX-1000 about 14 hours a day (I'd like to know how you get the battery to last that long; mine lasts 9½ hours if I'm lucky) for the past four years and buys a new battery pack every year. Mike is in the retail tobacco business and was wondering what yours truly did (other than listen to and write about scanners). Professionally, I'm an editor at a medium-sized newspaper and, as you can guess, get to listen to the newsroom scanner all I want.

Robert K. Tompsett III, N8JUQ, writes in from Paw Paw, Michigan, and says that he has a Radio Shack Realistic Pro-2021 200-channel scanner. However, the scanner does not tune from 136 to 138 MHz and he

wants to know if it can be modified to include that range. I also have one of those scanners, Robert, and I am unable to tune that range. Apparently it was left out because the aero band from 108-136 is AM while the 138-174 MHz band is FM. About the only thing on the 136-138 MHz band is weather satellites, which Robert expressed an interest in attempting to monitor. Unfortunately, I know of no modifications that can be made to that radio that would allow 136-138 MHz coverage. Thus, unless someone writes in to Scanner Scene with such information, I would suggest buying a scanner that can cover that band (many other scanners do cover this band) or consider a converter, such as those advertised in the ham publications, that would allow reception of that band with your present scanner.

W. David Polson of Bloomington, Illinois, says that he was in the Washington, D.C., area recently and was monitoring what sounded like undercover drug operations on 173.125 MHz. He was wondering what agency he was hearing. The channel was active only one or two evenings a week. I went through my files and came up blank on this one. But I will hazard a guess. The frequency may be used by the FBI Academy at Quantico Marine Base in Virginia for training exercises and the radios might be borrowed from the Federal Law Enforcement Training Center in Georgia, which uses the frequency for driver training and criminal investigations training. Anyone out there better able to identify this frequency? David also says that the frequency was switched often and that 173.125 was identified as Channel 5.

Harry Maltby writes in to say that he heard that delayed ticker tape data from the New York Stock Exchange transactions was available on the airwaves. Harry wanted to know what frequency the data was on and whether he could use his computer to decode the information. The system Harry mentions is available in many major cities across the country, however, the data cannot be found on the so-called scanner bands. The stock market data is piggy-backed on regular FM broadcast stations' signals, but is encoded. This is called secondary communications authorization, or SCA.

Tim Benson of Park Ridge, New Jersey, checks in to ask the frequency used by the FCC. If you live near an FCC field office or monitoring station, try listening to 167.050 MHz. This frequency is used nationwide as a repeater output. And if you're doing something you shouldn't be doing and you hear the mobiles on the repeater input frequency of 172.800 MHz, you ought to sign off! For those with CTCSS receive capability, the FCC uses a tone of 173.8 Hz on its radio system.

What questions do you have for Scanner Scene? We welcome your input, frequency lists and particularly your photographs of antenna sites, your listening posts and dispatch offices, etc. Write to: Chuck Gysi, N2DUP, Scanner Scene, Popular Communications, 76 North Broadway, Hicksville, NY 11801-2909.

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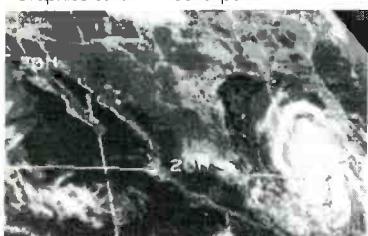
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CIRCLE 42 ON READER SERVICE CARD

## Beaming In (from page 5)

location as American as Iowa or Alabama. While stations WJJJD and KSL complained bitterly about the interference from the unlicensed station, the FCC simply commented that it wasn't aware of the station in question. *Radio Swan/Americas* operated for eight years with impunity. Maybe they knew someone.

RNI vows to appeal the recent court decision.

After he handed down his decision last December, Judge McNaught was quoted in the *Boston Globe* (December 20th, 1988) as saying the FCC, under international agreement, plans to expand the broadcast spectrum by mid-1990, and "the defendants will be able to apply for a broadcast license . . . Until that time, like everybody else, they will have to be patient."

Very reassuring words, perhaps intended to placate the RNI people. But, somehow, don't you get the feeling that—one way or another—these defendants can apply for FCC licenses from mid-1990 until Doomsday and they'll never be one millimeter closer to being FCC licensed than they ever were? Let's hope time proves me wrong.

In the meantime, the whole concept of the FCC having jurisdiction over stations whose signals are received in this country should provide for some interesting fallout.

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CIRCLE 90 ON READER SERVICE CARD

# PIRATES DEN

FOCUS ON FREE RADIO BROADCASTING

BY EDWARD TEACH

**A**ny doubts I may have had about the reported increase in pirate radio activity recently have been dashed by the deluge of letters and reports received here recently. It's going to take some pushin' and shovin' to get everything in.

First, though, some bad news. I've confirmed that the Box 982 mail drop in Battle Creek, Michigan, has, in fact, been closed. Box 982 handled reports for a good many pirate stations which are now left high and dry, at least for the time being. As has happened in the past, at least one station is misleading its listeners by asking for reports to be sent care of this column! Much as I'd like to help you get QSL's, this column does not provide any such services. Sorry!

George Zeller of Ohio suggests I provide a brief explanation of what mail drops are and how they work as a means by which the listener can contact a pirate station. A mail drop is simply an address (usually a P.O. Box) provided by a friend of pirate radio who then makes that address known to both stations and listeners. Stations opting to use the service must provide the mail drop with a means of contacting them. DX'ers can send reports via the mail drop, enclosing 3 units of postage so the drop operator can forward the report to the station, the station back to the drop operator and from there the QSL goes to the DX'er. That's how it's supposed to work, assuming, of course, that the station does take the responsibility of replying to reports. A number of stations seem not to have a mail drop now so more mail drops are needed. Consider that a hint!

**Radio Free Canada** was to go on the air in January using a "mobile studio" between 0400 and 0900 on weekends somewhere between 7400-7500, according to "Dr. Z" who wrote on behalf of the station. Format is light rock and power quoted as 2 kilowatts.

**WROX** was heard by Zeller, Ohio in LSB on 7415 from 2226-2258 close and 2338 to 2359 close. ID "From the Northeast to the World, **WROX-FM**, 95.9 FM and 7415 shortwave . . ." James Barclay in Washington, DC had them at 0015-0048, 2240 to 2258 and 2343 to 2359. Frank Decker in New York heard them with a "Captain Crankey" skit between 2240-2258 and Marshall Cubitt in Smith Falls, Ontario found them at 0040-0100 and 2340-0000. Also heard by Fraser Bonnett in Ohio at 2355-2359.

Bonnett found the **Voice of the Celtic Nation** (also ID as Voice of the Celt) on 7415 from 0239-0317 with Irish folk music, anti-British, pro-IRA comments supposedly



*Radio Free Willy's signal has been picked up by many recently. Bet this isn't their real transmitter!*

broadcasting from Londonderry but, says Fraser, the signal was much too strong for that. Robert Ross in Ontario had them from 0238 sign on to 0317 off.

Robert caught a real Irish pirate, **Radio Fax** on 6205 at 0602-0607 and another time 0600-0718. Irish pirate station were due to close down at the end of the year so Robert got in under the wire.

**Pirate Radio Atlantic**, claiming to be from Atlantic City, New Jersey was heard by Bonnett in Ohio at 0110-0117 on 7470 with DJ R.F. Fields.

**CBOR or CVOR?** Reporters aren't sure but Paul Grodkowski in Toronto found this on 7412 from around 0000 with early 70's music, fake talk shows and claiming to be from Calgary. Gave phone number as (202) 259-6697 but Paul got only beeps and a busy signal. Lora Abshear in Ohio had them at 0128 with announcer Jeff saying 100 watts of power. Zeller noted them several days at various times, operating between 7411 and 7416 and claiming Edmonton, Alberta as a location.

Zeller had the **Voice of Free Long Island** on 7414.6 at 9322 to 0403 with two male announcers, various rock selections, political talks and a humorous DX program. Address given as via Tagar, Room 258, Union Building, Stony Brook, NY 11794.

The most reported station was **Radio Free Willy**. Heard by Ross in Canada on 7415 on 0200 to 0301 fade with DJ Abdul, spoofs on Reagan, Quayle, etc. Zeller had them from 0056 to 0315 with politically oriented rock. Bill Frantz in Georgia had them at 0310-0320 with rock and a mention that they were mobile so they couldn't be found by the FCC. Jason Blackburn in Texas found them on 7413 at 0345, Dan Spooner in Ohio had them with some country music at 0145. DJ Abdul noted he was broadcasting from the "evergreen forest in the 41 me-

ter pirate band" when Peter Verrando in Dallas found them between 0059 and 0225. Bill Prather in North Carolina tuned the station at 0355 to 0401 with excellent strength. Jim Smith in St. Louis says they claimed to have moved from the "dripping pines" to the "woodlands in Kentucky" with their mobile unit. This station had QSL'd for a few people, although I can't locate an address for them in my files. Perhaps a good candidate for a mail drop!

**Radio Clandestine** as heard by Dan Spooner in Ohio at 0030 on 7415. R.F. Burns was airing a relay of "Radio Chaos." Lora Abshear heard a station announcing as either **WBLO** or **WPLO**, relayed by **Radio Clandestine** at 0534 on 7415.

**The Crooked Man** was found at 2008 to 2023 on 7416.2 by John F. Holterman in Maryland, although John calls it an unidentified. There was a long and strange stream of consciousness thing after sign on (that's my interpretation of the full text copy John sent) a rock song and the announcer repeating "I am the Crooked Man" several times before leaving the air.

**WRFT—Radio Free Texas** was heard by Bill Frantz on 7415 at 0300-0325 with rock and talk about the new particle accelerator to be built in Texas. ID'ing as the "North American Service of WRFT—Radio Free Texas." Address copies as 2007 South Irvine (?), Box 300, Dallas, 75215. Abshear heard them at 0203 and frequently since the first logging. Alan Ross in Denver found them from 0450-0500 and notes "I don't know if I'm now a better person after logging a pirate but at least I know it's possible."

Bill Prather in North Carolina says he used to work with a fellow who once worked for British offshore pirate **Laser 558** in 1985!

Paul Grodkowski in Toronto says a new pirate was to have begun broadcasting with a Sunday schedule in the 41 meter band and would be "mainly concerned with good musical programming and other non-boring topics."

**Radio X**, 103.5 FM in Daytona Beach, Florida is back on after two months off. Scott Speidal is the operator and runs a new wave format between 6pm-3am (I presume that's 1100-0800 UTC—ET) but this schedule is not at all consistent.

That will have to do it for this time. Thanks to all who sent in their logs and other information. Keep 'em coming! I can also use copies of pirate QSL's, photos of pirate station facilities and so on as illustrations so, don't hold back!

More next month. 73s.

PC

# SATELLITE VIEW

INSIDE THE WORLD OF SATELLITE COMMUNICATIONS

BY DONALD E. DICKERSON

## Glasnost Prevails

**P**erhaps the title is a bit of an overstatement, but it does prevail in small quantities and in isolated places. It was at Atlanta, Georgia during the 1988 AMSAT Space Symposium held at the Airport Marriott last November.

Glasnost prevailed in that Leonid Labutin, UA3CR, the coordinator for the Soviet Union's Amateur Radio Satellite program made his first trip to the US. (He was also responsible for the USSR's participation, with Canada, in the joint expedition to cross the North Pole. He coordinated the HF and satellite communications for this project known as Ski-Trek) Mr. Labutin's trip to Atlanta was not a pleasure trip, though, I hope our Russian visitor had a good time on his first trip to this country. It was a trip made, in part, to prepare for a rather historic event in Amateur Radio Satellite Communications. Before leaving Moscow, Leonid Labutin has set in motion plans for the first direct radio contact, by the West, with the Mir Space Complex. These plans were first announced in the October 1986 issue of *POP' COMM*. Planning for operations from the Mir began over 2½ years ago. Leo Labutin enlisted the support of one of their Cosmonauts, Musa Manarov, to help push this project through. There was of course great resistance to these plans by conservatives, but Labutin prevailed.

The Mir was equipped with a Yaesu transceiver, which was purchased here in the US and transported to Moscow, and a ground plane antenna. This equipment was taken to the space station on Progress 37 in July of 1988. The antenna was installed when the Cosmonauts made an EVA to install an additional solar panel. The 2 meter operations began with a test between Mir and UA6HS in Moscow. Having successfully completed this test, the AMSAT Space Symposium was selected as the site for the first operational contact. At 0937 EST (1437 UTC) Saturday the 12th of November, contact was made with Mir.

AMSAT's Byron Lindsey, W4BIW, played a major role in Atlanta's excellently planned and executed symposium. Byron set up the ground station for this event. It consisted of his HT, a 30 watt RF amp and a homemade, handheld, two element twist antenna. Leo began calling the Mir a few minutes ahead of schedule while Byron assisted in operating the equipment and checking for the Mir's beacon. Martin Davidoff, author of *The Satellite Experimenters Handbook*, appropriately enough was aiming the antenna by hand. There was



Martin Davidoff, Doug Loughmiller, Leo Labutin, Joe Kasser.



Leo and Martin check orbital information by computer.

a short window available for this first attempt and the pass was low on the horizon, but at the given moment that Mir came over the horizon, Cosmonaut Musa Manarov, U2MIR, exchanged signal reports and greetings with W4BIW. More formal greetings between the Cosmonauts and AMSAT officials would take place on Sunday during a much more favorable pass.

Cosmonaut Manarov was originally issued the callsign U1MIR and trained in Amateur operation. But when his Commander, Vladimir Titov, heard of this, he too wanted a callsign and was promptly given U1MIR. Of course Manarov was given U2MIR and the privilege of making the first radio contact with Atlanta.

These historic communications took place on a frequency of 145.000 MHz simplex. However, operations have not stopped there. The 2 meter station has been heard somewhat regularly at various frequencies between 146.0 and 145.0. All Mir operations will be in this band. The official split frequency operation are on 145.550 MHz downlink and 145.575 and 145.525 MHz uplink.

Keep in mind that not all the crew members on Mir will be trained or have the interest to operate the Amateur station. Manarov has already left the station and U3MIR and U4MIR, unnamed at this writing, are onboard Mir.

The Soviet's will not be operating Amateur radio from their new Space shuttle. There is no need with Mir. We only operate from the shuttle because we have no space station. You will, however, want to keep your ear open for possible wide-band FM voice transmissions from their shuttle. Just as the US shuttle uses the frequencies of 247.0 and 259.0 MHz the Soviet version is expected to have similar simplex radio link. Geoffrey Perry of The Kettering Group thinks they could copy us in this and use



Byron Lindsey, W4BIW, and Leo Labutin make contact with Musa Manarov, U2MIR.



Geoffrey Perry, Donald Dickerson, Leonid Labutin after first attempt to call Mir is successful.

### 4th generation Radio Sputnik

A new class transponder package is scheduled for launch in the mid 1990's. It will be carried by a Molniya satellite into an highly elliptical orbit. It will carry transponders for the following bands:

- 10 meters
- 2 meters
- 70 cm
- 1269 MHz experiment



Leo calling U2MIR.



AC addresses AMSAT banquet through a translator.

similar frequencies, but another likely spot to check is 142.4 MHz.

Moscow also plans to operate Packet from Mir, though no timetable has been given for this project. It will not only be used for Amateur radio but also in connection with their School 1 project. This is a program in which the USSR is trying to make computer classes standard in all their schools. It is hoped that being able to use Packet radio to communicate with Mir will encourage their kids to get involved in computer science, something the Soviet's lag far behind in.

Leo Labutin, UA3CR, also has some interesting things to say about the future of the Soviet Amateur Radio program while in Atlanta. First, RS 10/11. Transponder package 11 will remain operational and be the only operating transponder for the time being. RS10 will remain turned off until RS-11 fails. This will signal the launch of RS 12/13 (see the February issue for details).

You may have noticed the T mode on RS-11 has not been operational. It is causing interference with other onboard systems and will remain off. It is unclear whether RS-10's T-mode will have the same problem and whether or not RS-12/13 will carry a T-mode transponder.

Moscow is also working on a new 4th generation Amateur radio satellite. Scheduled for launch in 1994 this spacecraft, in the tradition of RS 10/11 & 12/13, will be carried aloft by a host satellite. RS-10/11 and 12/13 are carried by low altitude navigational satellites known as Tsikada. These are the same satellites which carry the Sar-Sat/CosPar search and rescue transponders. The new Soviet spacecraft will be carried by the highly elliptical Molniya TV/tele-

communications satellites. This will be a vast improvement over present satellites as the Molniya hover high over the earth for up to 10 hours per orbit, similar to current Oscar 13 orbits.

Unlike RS-10/11 and 12/13 which employed lower frequency bands than earlier spacecraft, specifically 15 meters, the new satellite will carry transponders for 2 meters, 10 meters and 70 cm. It may also carry a 1296 or L-band experiment package. This new generation spacecraft is being constructed by, or rather, with the assistance of East Bloc countries (see the May 88 issue for details). This Amateur version of Intersputnik includes the following members: Poland, Czechoslovakia, Hungary and East Germany.

Leo Labutin is also trying to establish an AMSAT branch in the USSR, to be known as AMSAT-UA. This along with the fact that the Soviet's now confer with their East Bloc states on Amateur radio projects, Mr. Labutin is allowed to travel to the US for the first time and was allowed to speak openly about the Soviet's next generation amateur spacecraft and the Mir installation. Finally, there is the successful radio contact with the Cosmonauts which shows a refreshing degree of openness. Will this new openness increase the flow of information between US and Soviet amateurs? Improve the possibility of future joint projects? Though the winds of change can be fickle, even the casual observer could get the idea that there is something to all this talk of glasnost.

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## Advertiser's Index

AMC Sales, Inc.	44
ARRL	70
Ace Communications, CA	7
Ace Communications, IN	13, 53, 61
Allied Appliance and Radio	48
Alpha Delta Communications, Inc.	41
Antennas West	42
antenneX ©	58
Antique Radio Classified	37
Barry Electronics	70
CBC International	42
CQ Amateur Radio Buyer's Guide	27
CRB Research	51
Capri Electronics	48
Clear Channel	51
Communications Electronics	17
DECO	70
Datametrics	42
Datacom, Int.	61
Electron Processing	31
Elec. Equip. Bank	39
Fanon Courier	37
Full Disclosure	37
GRE America, Inc.	63
Gilfer Shortwave	29
Grove Enterprises	51
ICOM America, Inc.	Cov. II
Jensen Tools	48
JoGunn Ent.	27
Kenwood U.S.A. Corp.	Cov. IV
Lindsay Publications Inc.	33
Litsche, N.E.	44
MFJ Enterprises, Inc.	6
Medicine Man	70
Missouri Radio Center	73
OPTOElectronics	1
Pacific Cable Co.	53
Palomar Engineers	75
POP'COMM Book Shop	69
RF Limited	4
RF Parts Co.	47
Radio Shack	9
Radio Sporting Magazine	70
Radio West	53
React, International	53
Scanner World, USA	76
Signal Engineering	29
Software Systems Consulting	69
Stewart Designs, H.	70
Systems + Software International	58
Universal SW Radio	35
Wilson Antennas	3
Winston Arrington	51
Yaesu Electronics	Cov. III

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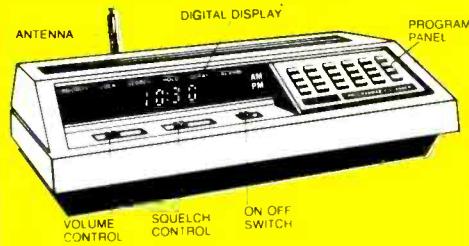
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## R-5000

## R-2000

### High performance receivers

Scan the entire frequency range from 100 kHz to 905 MHz with Kenwood's R-5000, R-2000 and RZ-1. Listen in on foreign music, news, and commentary. Monitor local police, fire, and other public safety services, as well as the Marine channels, and the many other services 50 MHz and above.

(The VHF converter options must be used in the R-5000 and R-2000.)

## R-5000

The R-5000 is a high performance, top-of-the-line receiver, with 100 memory channels, and direct keyboard or main dial tuning—makes station selection



super easy! Other useful features include programmable scanning, large, built-in speaker, 110 volt AC or 12 volt DC operation (with optional DCK-2 cable), VHF capability (108-174 MHz) with the VC-20 option, dual 24-hour clocks with timer, and even voice frequency readout with the VS-1 option.

easier. One hundred memory channels with message and band marker, direct keyboard or VFO frequency entry, and versatile scanning functions, such as memory channel and band scan, with four types of scan stop. The RZ-1 is a 12 volt DC operated, compact unit, with built-in speaker, front-mounted phones jack, switchable AGC, squelch for narrow FM, illuminated keys, and a "beeper" to confirm keyboard operation.

**Optional Accessory**  
• PG-2N Extra DC cable

## RZ-1

### Wide-band scanning receiver



The RZ-1 wide-band, scanning receiver covers 500 kHz-905 MHz, in AM, and narrow or wideband FM. The automatic mode selection function makes listening

## R-2000

The R-2000 is an all band, all mode receiver with 10 memory channels and many deluxe features such as programmable scanning, dual 24-hour clocks with timer, all-mode squelch and noise blankers, a large, front-mounted speaker, 110 volt AC or 12 volt DC operation (with the DCK-1 cable kit), and 118-174 MHz VHF capability with VC-10 option.

### Optional Accessories

#### R-2000:

- VC-10 VHF converter • DCK-1 DC cable kit for 12 volt DC use.

#### R-5000:

- VC-20 VHF converter • VS-1 Voice module • DCK-2 for 12 volt DC operation
- YK-88A-1 AM filter • YK-88SN SSB filter • YK-88C CW filter • MB-430 Mounting bracket.

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