

# POPULAR COMMUNICATIONS

## Uncle Sam's Aero Info

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- **Car 629: Fireground Command Post**
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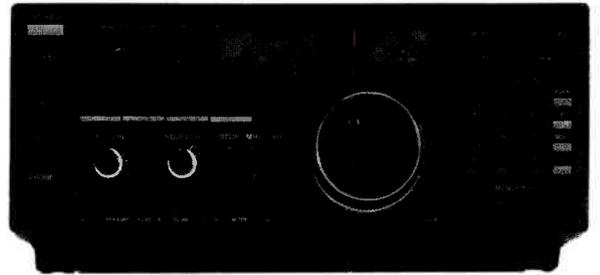


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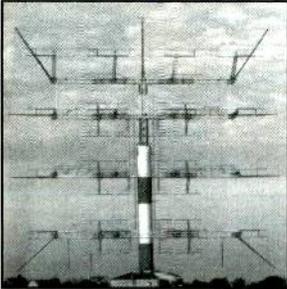
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**This month's cover:** Air traffic control specialists are hard at work in New Jersey's Newark Airport control tower. Photo by Larry Mulvehill, WB2ZPI.

## EDITORIAL STAFF

Tom Kneitel, K2AES/KNY2AB, Editor  
Deena Marie Amato, Associate Editor

## CONTRIBUTING EDITORS

Gerry L. Dexter, Shortwave Broadcast  
Robert Margolis, RTTY Monitoring  
Gordon West, WB6NOA, Emergency  
Don Schimmel, Utility Communications  
Edward Teach, Alternative Radio  
Harold A. Ort, Jr., Military consultant  
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Chuck Gysi, N2DUP, Scanners  
Roger Sterckx, AM/FM Broadcasts  
Harry Helms, AA6FW, Thoughts and Ideas  
Donald Dickerson, N9CUE, Satellites  
Kirk Kleinschmidt, NT0Z, Amateur Radio  
Joe Carr, K4IPV, Antennas  
Ted Lisle, KD4EXK, Handi-Chat Editor

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Susan Reale, Artist  
Edmond Pesonen, Electronic Comp. Mgr.  
Dorothy Kehrwieler, Production Manager  
Emily Kreutz, Production  
Pat Le Blanc, Phototypographer  
Hal Keith, Technical Illustrator  
Larry Mulvehill, WB2ZPI, Photographer

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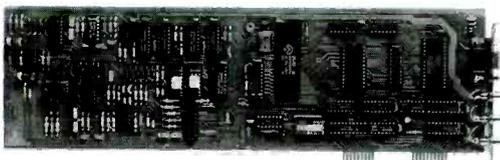
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## COMMUNICATIONS RECEIVERS



Universal Radio carries an excellent selection of new and used communications receivers. The new affordable Drake SW-8 is shown above.

## COMMUNICATIONS BOOKS

- **Passport To Worldband Radio** By L. Magne  
Graphic presentation of all shortwave broadcast stations. Equipment reviews, too. A *must have* book. **\$16.95 (+\$1)**
  - **Shortwave Receivers Past & Present** By F. Osterman  
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# BEAMING IN

BY TOM KNEITEL, K2AES

AN EDITORIAL

## A Story For The Books

Here's a tale that unfolded over several months. It's a real doozie. The particulars were covered in detail in several lengthy and excellent feature stories by Pat Flynn in the *San Diego Union-Tribune*. This material was brought to my attention by a concerned reader, Jerry Gastil, K6DYD, of San Diego, Calif.

Chris Boyer, 27, is a licensed ham. Last November, he and a friend, Craig Bosworth, 26, were mountain biking along with 10 others on a remote trail near Pine Valley, Calif.

Bosworth had an accident, falling from his bike, and into a jagged rock face first. He was bleeding heavily, and realized that he had broken his nose. The biking group was strung out over some distance along the trail, so his cries for help didn't bring immediate aid.

When Chris Boyer came on the scene, he used his handheld radio to try to summon help over five different repeaters, but couldn't access any of them. He also unsuccessfully attempted to get through to the repeater of broadcast station KGB (he works there part-time). Others in the party tried to get help using a cellular phone, but all cell sites were beyond their range.

Chris Boyer felt that their location in a ravine was the reason he couldn't be heard. He then cycled to what he felt was a better location and again attempted to access the various repeaters. This didn't work, so he went back to the accident site.

He told his companions that he had a sheriff's department frequency programmed into his handheld transceiver. He said he thought he could get through, but it wasn't legal for him to operate on that frequency. A member of the group told him to get help right away.

Chris considered that his friend was bleeding profusely from the nose, and had a head trauma. He then called the sheriff. Chris was identified by his ham call, and said he was an amateur station with emergency traffic. The sheriff's dispatcher invited him to go ahead with his traffic.

That resulted in sending out a deputy in a 4WD vehicle and firefighters. Bosworth was removed from the remote area and taken in an ambulance to a hospital for treatment. Physicians determined that he did not have a concussion, nor did he lose a serious amount of blood. However, it would require several plastic surgery procedures to fix damage done to his face and nose.

Chris Boyer put his friend's safety first. You may be saying his actions were fully within the Amateur Radio rules. Section 97.403 very plainly states, "No provision

of these rules prevents the use by an amateur station of any means of radio communication at its disposal to provide essential communication needs in connection with the immediate safety of human life and immediate protection of property when normal communication systems are not available." You may feel that what Chris did points up the very best of what hams and ham radio is all about.

Within a few weeks after Chris' deed, there were grotesque developments. He received a letter from the Bill Kahn, a civilian employee of the San Diego Sheriff's Dept., who coordinates their communications. He told Chris to come in for a meeting with him and someone from the FCC, and to bring along his handheld radio. The letter lauded Chris' for his good intentions, but then went on to toss out terms along the lines of heavy fines, forfeiture of equipment, and imprisonment. Kahn stated that Chris had used an administrative frequency utilized by the sheriff.

An administrative frequency, Kahn has pointed out, is not a tactical frequency, such as is used for dispatching deputies for their law enforcement or emergency duties. On the other hand, an administrative frequency might be used in the event of a natural disaster or other catastrophe.

When Chris showed up for his meeting, the FCC relieved him of his \$500 transceiver. Kahn was quoted in the media as saying he had gotten off easy because the FCC could have prosecuted him and let him face up to a year in jail and a \$100,000 fine. He said, "We have to maintain control of our channels."

Commenting on these matters, several county officials criticized the way it went down. County Supervisor Dianne Jacob said that it wasn't handled with compassion and common sense.

The head of a nearby Rural Fire Protection District, Bill Bagnell, understood the need for protecting frequency usage, but he also said that these were special circumstances. He wasn't sure he wouldn't have done the same thing to save a buddy's life. Bagnell added, "The person who needs the help doesn't give a damn which frequency you use."

A strange irony occurred only days after Bill Kahn and the FCC saw to it that Chris Boyer got blasted for summoning help on the sheriff's frequency. Kahn was taking a pleasure ride on his bike out in the boonies when he became ill. The ride had nothing to do with his job. He used a similar frequency to summon the sheriff's helicopter

(Continued on page 82)

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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 must be signed and show a return address. Upon request, we will withhold sender's name should the letter be used in Mailbag. Address letters to Tom Kneitel, Editor, Popular Communications Magazine, 76 N. Broadway, Hicksville NY 11801.

### Outbander Comment

In your November editorial, you commented on Outband operations in the 27.410 to 27.995 MHz band. You asked why people want to operate on these unauthorized frequencies. I operate there because it is almost impossible to have a decent QSO on the authorized CB channels. Every obnoxious kid, foul-mouthed jerk, and weirdo in town has a CB radio. I don't want to expose my own family to these people, nor do I wish to contact them for a recreational conversation. The FCC should return to licensing CB operators. I have not

become a ham because I dislike the attitude many hams have towards newly licensed operators, and non-hams. I have been in radio for 40 years.

(Name withheld by request)  
Arkansas

### I Kit You Not

Thank you for the December editorial about kit building. It brought back quite a few memories. I have been completely out of radio for the last 33 years. December marked my third issue of *POP'COMM*, and I suspect that there will be more for me. I just wanted to let you know that I appreciated your editorial. It reminded me of all my own large globs of solder as I was starting out—and so much more.

Mario Corrio,  
Villa Carolina, PR

### Cordless Range

In the January issue you had an article about cordless phones. I have entered all of the 46 and 49 MHz channels into my

Realistic PRO-2004 scanner. What I have found odd is that at times I can hear a low powered cordless handset on its 49 MHz frequency, but cannot always pick up that system's base unit (which transmits both sides of the conversation) on its paired 46 MHz channel. The base units are higher powered than the handsets, so it made me wonder sometimes why I can't hear them when I know they are in use.

R. Bair,  
Rochester, Ind.

*One reason could be interference on 46 MHz channels. A base station from another phone system might be knocking out the signals of the one you want to monitor, yet you may still be able to pick up the desired system's handset on the paired channel. The handset you are receiving might be in use at a higher location than the one you aren't hearing. Or, the base station's antenna may not be fully extended, so its range would be cut short. There are several variable factors that could account for this. It's not at all uncommon.—Editor.*

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\*"The best...built like an antenna should be."—Larry Magne in *World Radio TV Handbook*  
\*"Our best seller."—EEB in their recent ads and catalogs  
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### Seven Come Eleven

In the January issue, you had a letter from a reader asking about frequencies used by gambling casinos in Atlantic City, New Jersey. I recently spent four years working at a casino in Atlantic City. Being a scanner fan, I compiled a several-page listing of frequencies for all activities in and around Atlantic City. This includes the security departments of hotels and casinos. Any *POP'COMM* reader interested in these frequencies can have a copy by sending me a long SASE (52 cents US postage) and asking for one.

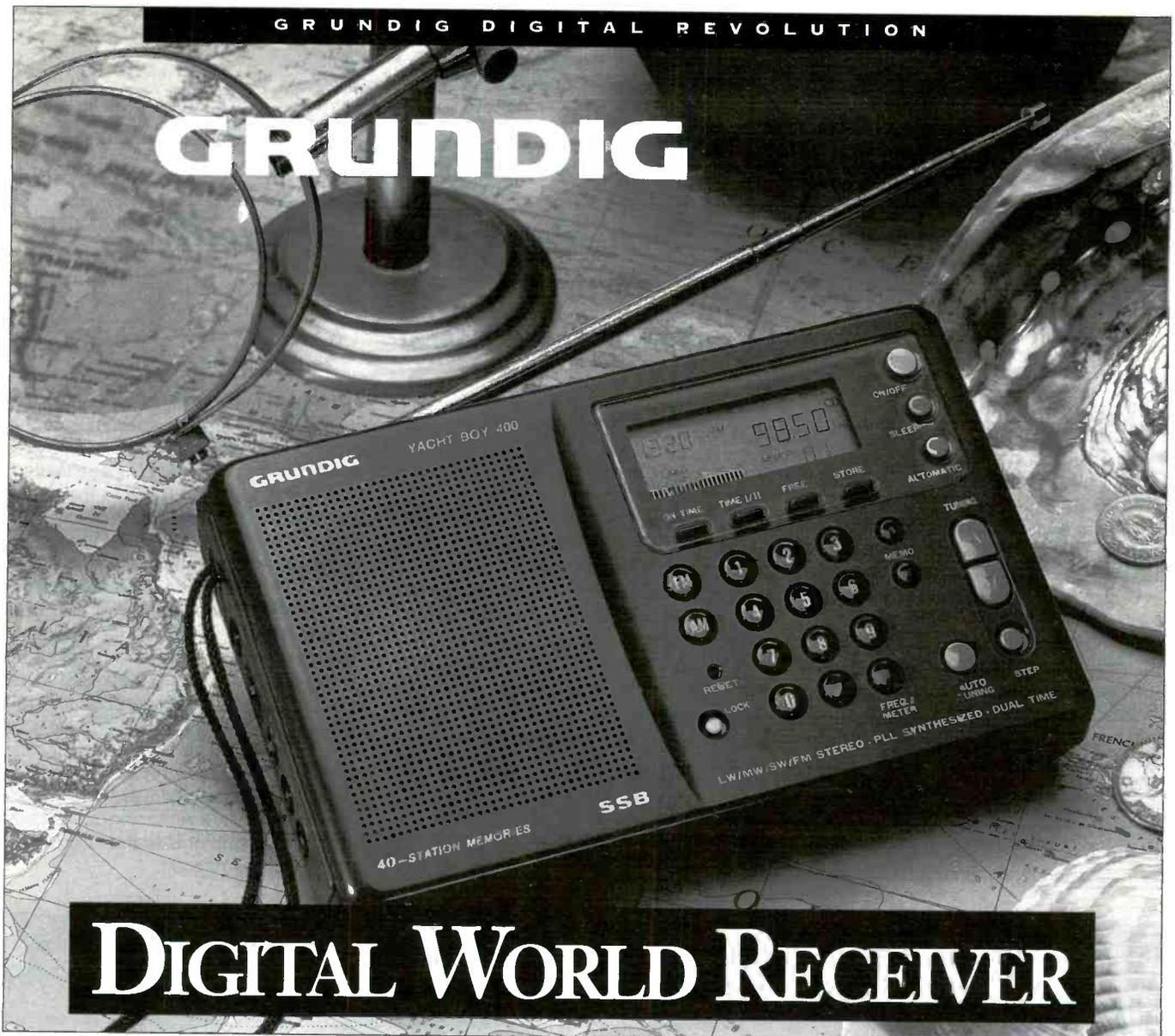
Christopher S. Farren,  
615 Prospect Street,  
Portage, PA 15946

### Alice in Wonderland

Congratulations on another great feature by Alice Brannigan. This series is very interesting and informative. I especially liked the material about station WBBR, of the Watchtower Bible and Tract Society, in Brooklyn, N.Y. Being a member of the Jehovah's Witnesses, I particularly enjoyed reading about this station and seeing its QSL card. Keep up the good work. I am a long-time reader of *POP'COMM*.

Trevor Fletcher,  
Edmonton, Alberta

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# Uncle Sam's Aero Comms Info!

## Your Graphical Guide to Aeronautical Communications

BY ANDREW W. CLEGG, KA4EXF

**O**ne source of information for monitoring communications is the U.S. Government. The National Ocean Service (NOS) of the Commerce Department's National Oceanic and Atmospheric Administration (NOAA) publishes a variety of maps, including Terminal Area Charts and Sectional Charts, which show the air routes in, around, and between all of the airports in the country.

Intended for pilots, these colorful charts are ideal for the aeronautical communications enthusiast since they show a wealth of detail, including: tower and approach frequencies for airports and helipads; locations, frequencies, and identifiers for low frequency non-directional beacons (NDB's); locations and frequencies for VHF Omni Range (VOR) beacons; automatic terminal information service (ATIS) and unicom frequencies; runway configurations; and loca-

tions of marine beacons and commercial broadcast towers. Civilian and military airports are covered.

The charts are an excellent visual complement to the extensive aeronautical frequency lists available from several *POP'COMM* advertisers. Sectional charts show broad areas of the U.S. approximately 200 by 400 miles on each. The terminal area charts show basically the same information as the sectionals, but they cover smaller areas in greater detail. The aero comm enthusiast can buy sectionals for his or her area of the country, and a terminal area chart which covers nearby airports.

At first glance the charts are complicated since so much information is presented. A careful reading of the legend and explanations that are printed on each map will make the charts more readable. The accompanying example is a detail of the

Washington D.C. terminal area chart. National airport is at the center. The configuration of National's three runways is shown, making it easy to choose a vantage point if one desires to travel to the airport to watch the air traffic.

On the map, text just to the west of the airport shows the control tower frequency (CT) of 119.1 MHz, the ATIS frequency of 132.65 MHz, and the unicom frequency of 122.95 MHz. The VOR information is shown in the box to the southeast of the airport: frequency 111.0 MHz with morse code identifier DCA. Morse code for DCA is shown graphically in the box for map users unfamiliar with the code. The map legend (not shown here) indicates that locations of VOR transmitters are marked by a dot surrounded by a white ring; at National, the VOR transmitter is found at the north end of the long runway.



▲ The Washington National control tower. According to the Washington/Baltimore terminal area chart, the frequency is 119.1 MHz. (Photo by author.)

◀ A 737 on final approach to Washington's National airport. Aero comm enthusiasts interested in tuning into such activity will find plenty of good information on .S. Government aviation charts. (Photo by author.)

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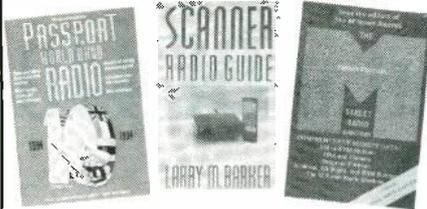
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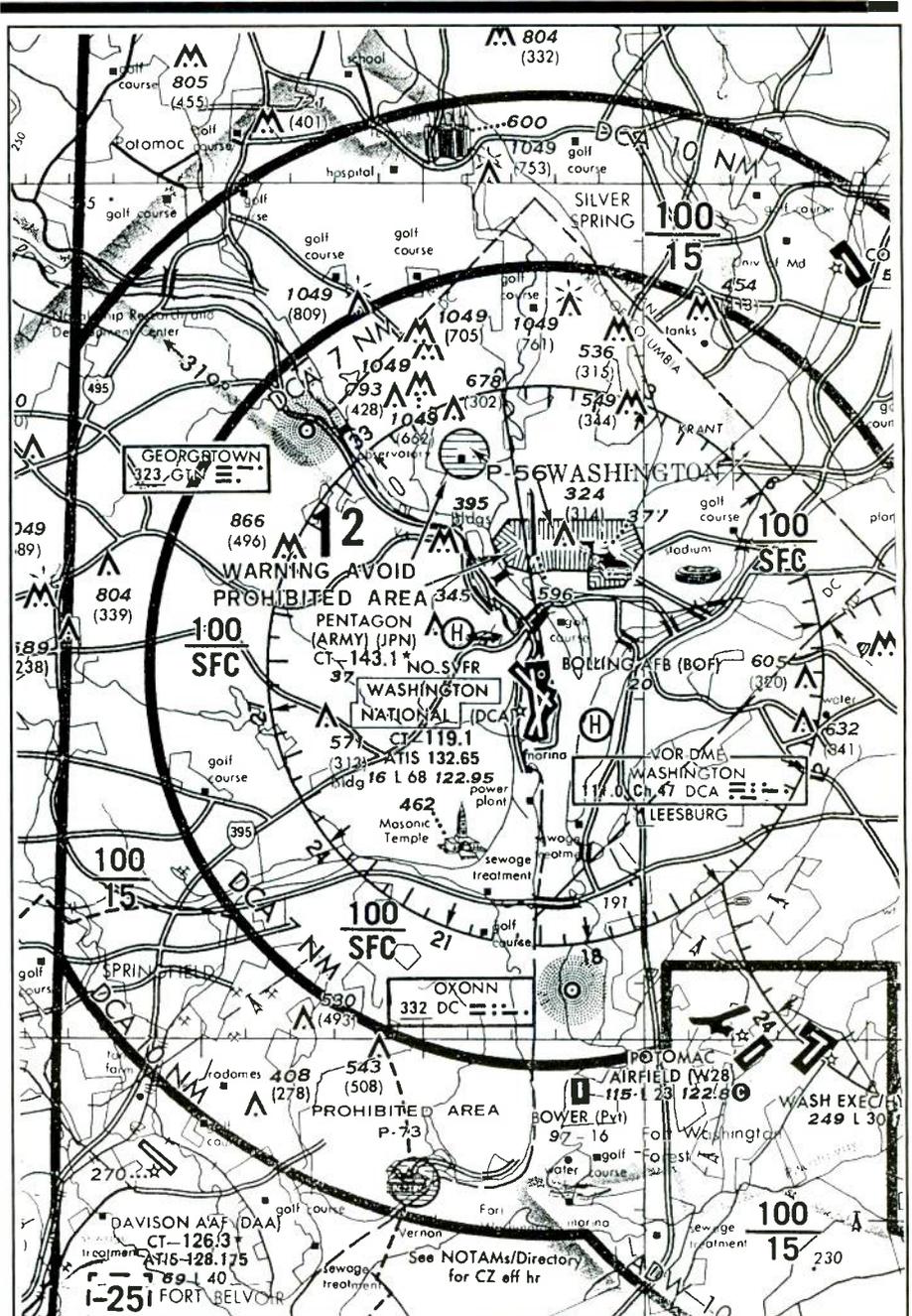


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A portion of the Washington/Baltimore terminal area chart, showing tower and approach frequencies for National Airport as well as VOR and low-frequency beacon locations, frequencies, and identifiers.

Low frequency non-directional beacons (NDB's) are also shown. There are two in the vicinity of National marked by sets of concentric dotted circles: one near Georgetown (323 kHz) a few miles northwest of the airport, and one at Oxonn, Maryland, (332 kHz) a few miles south of the airport. Again, the morse identifiers are given in text (GTN and DC, respectively) and graphically. On a typical sectional chart, dozens of NDB's are shown.

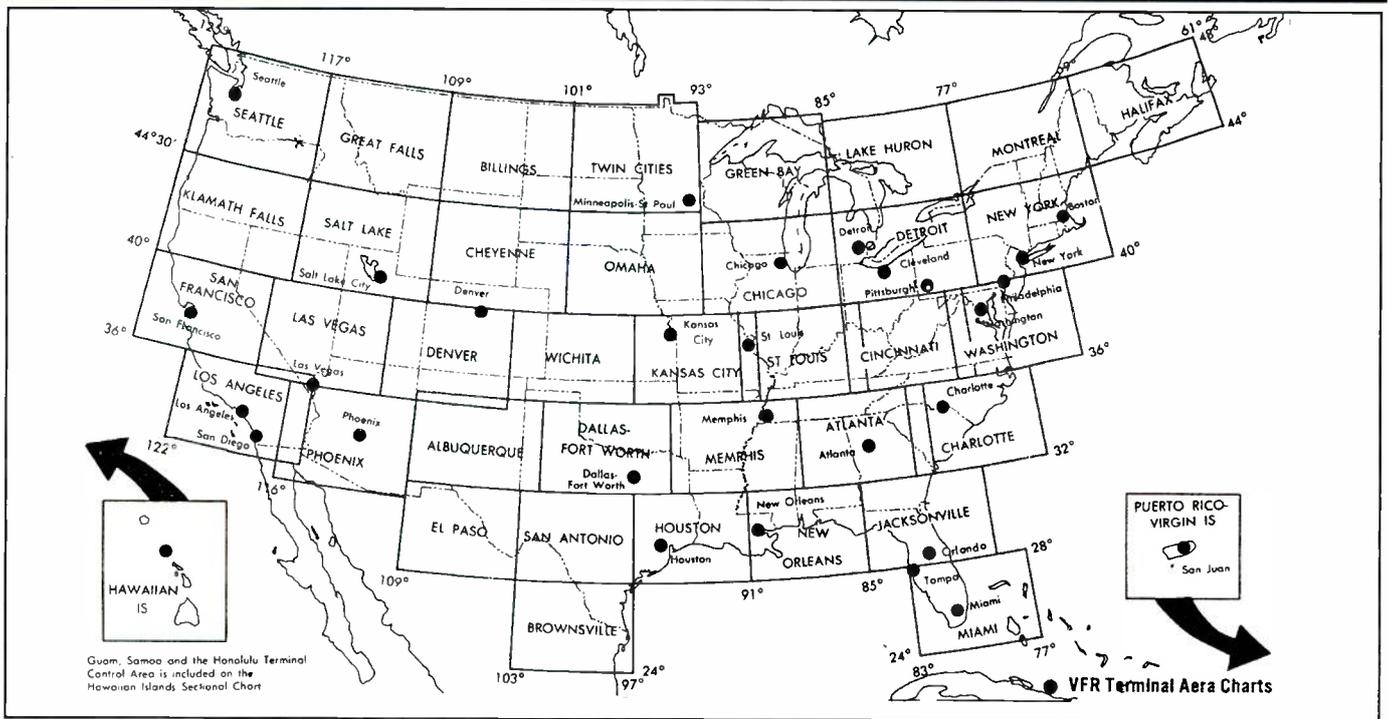
In addition to airports, helipads are shown as well. In the accompanying example, the Pentagon helipad is just to the west-northwest of National (the letter H is enclosed by a circle). The control tower frequency of 143.1 MHz is indicated on the

chart. I've monitored both AM and narrowband FM helicopter transmissions on this frequency.

Also covered on the charts but not shown in the example, are arrival frequencies for the airports. These frequencies may depend on the direction of arrival of the aircraft; the charts make this dependence clear.

Also shown are broadcast tower locations and heights (little teepee-like symbols) and restricted air space (hatched regions). Airport distances and bearings, indicated by large concentric circles, are convenient for determining antenna height and pointing requirements for the best reception of airport comms.

The accompanying chart is a small piece



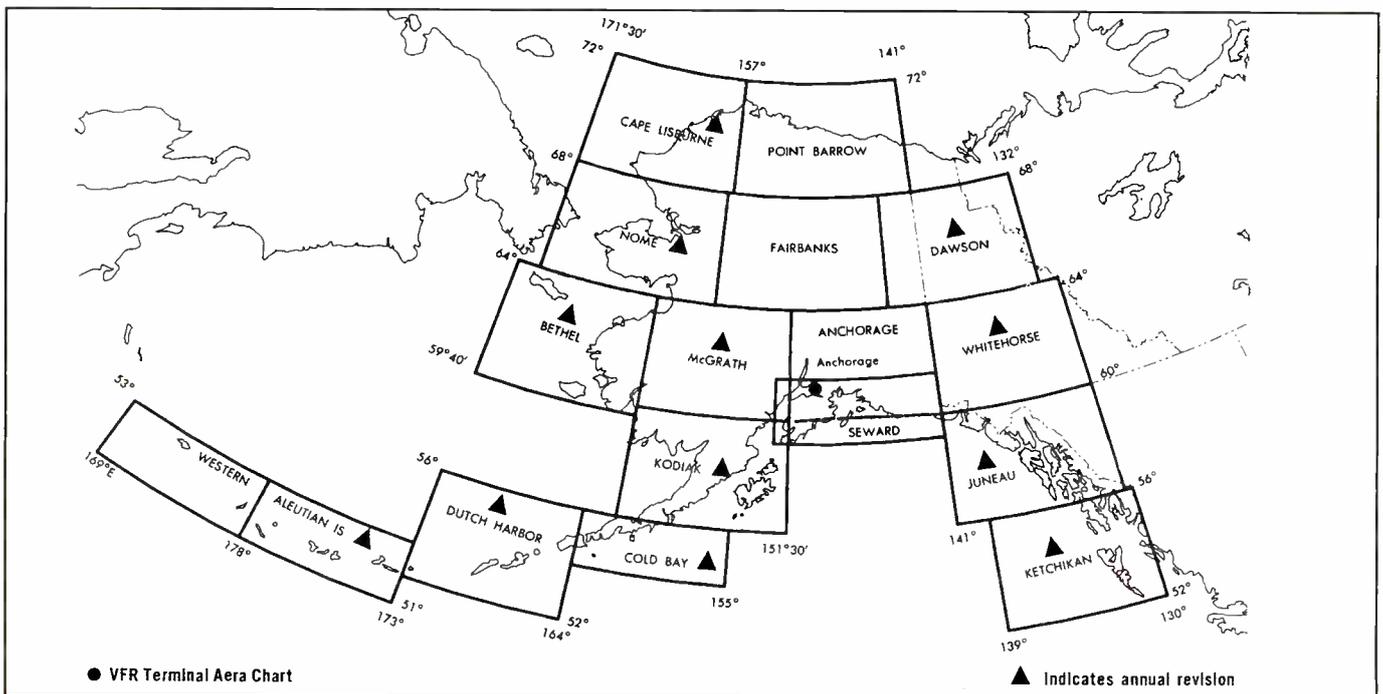
Sectional chart coverage (boxes) and individual terminal area charts (black dots) for the conterminous U.S., Hawaii, Puerto Rico, and the Virgin Islands.

of the Washington-Baltimore terminal area chart. Similar charts are available for major air traffic regions around the country. More than one airport is covered by the terminal area charts. For example, the Washington chart also includes Dulles, Baltimore-Washington, and Andrews AFB, as well as numerous smaller regional airports. All of the U.S., including regions not covered by terminal area charts, is covered by the various sectionals (see map).

Terminal and sectional charts are widely available at low cost (a few dollars each) at general aviation supply stores which can be found at most airports. For those not near a general aviation shop, or for charts outside your local area, purchases can be made by mail or telephone from: NOAA Distribution Branch, N/CG33, National Ocean Service, Riverdale, MD 20737-1199; (301) 436-6990 (voice) or (301) 436-6829 (fax). Both types of charts are

updated twice yearly (yearly in Alaska), but frequencies and beacon locations generally do not change that often.

NOAA also produces a free catalog entitled "1992-94 Aeronautical Charts and Related Products," which offers worldwide aviation charts and includes an extensive list of authorized NOAA aeronautical chart sales agents. This publication is available from the address listed above. ■



Sectional and terminal area chart coverage for Alaska.



# Selected English Language Broadcasts

*Spring—1994*

BY GERRY L. DEXTER

**T**here are hundreds of English language broadcasts aired every day on shortwave. This is a representative listing and is not intended to be a complete guide. While every attempt is made at making the list as up-to-date as possible, stations often make changes in their broadcast hours and/or frequencies with little or no advance notice. Some broadcasters air only part of a transmission in English or may run the English segment into the next hour or more. Some stations have altered schedules on weekends. Numbers in parenthesis indicate an English start time that many minutes past the hour. All times are in UTC.

Time	Country/Station	Frequencies	Time	Country/Station	Frequencies
0000	RFPI, Costa Rica	7375USB, 7385, 13630USB, 15030USB		R. Ukraine Int'l	7195, 7240, 9505, 9685, 9745, 9860, 17605
	Radio Havana Cuba	6010, 9815 USB		(45) Vatican Radio	7335, 9650
	China Radio Int'l	9780, 11715	0200	RAE, Argentina	11710
	(30) R. Netherlands	6020, 6165, 9840, 11665		(45) R. Tirana, Albania	9580, 11840
	Spanish National Radio	9540		V of Free China, Taiwan	5950, 9680
	Radio Norway	9675, 11925		R. Romania Int'l	6155, 9510, 9570, 11830, 11940
	(30) VOIRI, Iran	9022, 11790		R. Cairo, Egypt	9475, 11660
	AWR, Costa Rica	9725, 11870		(50) Vatican Radio	9605, 11620
	R. Canada Int'l	5960, 9755, 11940		(30) R. Netherlands	6020, 6165, 9845, 9860, 11655
	R. Prauge, Czech Republic	5915, 5930, 7345, 9405, 9810		R. Finland Int'l	11755, 15185
	R. Pyongyang, N. Korea	11335, 13760, 15130		(Sun) R. Norway	6120, 7165
	R. Yugoslavia	9580, 11870		(30) R. Yugoslavia	9580
	BBC	5975, 6005, 6175, 7325, 9590, 9915, 11750, 12095, 15260		(30) R. Portugal	9570, 9600, 9705
	(40) R. Nacional Venezuela	9540		KWHR, Hawaii	17510
	KWHR, Hawaii	17555	0300	R. Budapest, Hungary	9835, 11910, 15220
0100	Radio Moscow	7205, 9505, 9530, 9765, 9815, 11665, 11790, 12050		R. Educacion, Mexico	6165 (English/Spanish mix)
	Swiss R. Int'l	6135, 9650, 9885, 12035		Radio New Zealand	15120
	Radio Bulgaria	7455, 9700		Radio Bulgaria	9850, 11675
	(30) R. Tirana, Albania	9580, 11840		HRVC, Honduras	4820
	RAI, Italy	9750, 11800		Radio Cultural, Guatemala	3300
	Iraqi Radio	17940		TIFC, Costa Rica	5055
	R. Japan	5960, 11860, 15195, 17775, 17810, 17845		R. Austria Int'l	9870
	R. Korea, S. Korea	7550, 15575		China Radio Int'l	9690, 9780, 11715
	(30) R. Austria Int'l	9655		Radio Prague, Czech Republic	5915, 5930, 7345, 9405, 9810
	HCB, Ecuador	9745, 15115		(40) V of Greece	9380, 9425, 11645
	(30) R. Finland Int'l	11755, 15185		R. Sweden	9695, 11705
	(30) V of Greece	9380, 9425, 11645		Swiss Radio Int'l	6135, 9650, 9885, 12035
	Slovak R., Slovakia	5930, 7310, 9810		Voice of Turkey	9445
	(30) R. Sweden	9695, 11820		UAE Radio	11945, 13675, 15430
	Monitor Radio	5850, 9455, 9850		R. Canada Int'l	6010, 9755
	(30) R. Netherlands	9845, 9860, 11655		R. Japan	11885, 15325
	Deutsche Welle, Germany	6040, 6085, 6120, 6145, 9565, 9700, 9745	0400	R. Romania Int'l	6155, 9510, 9570, 11830, 11940



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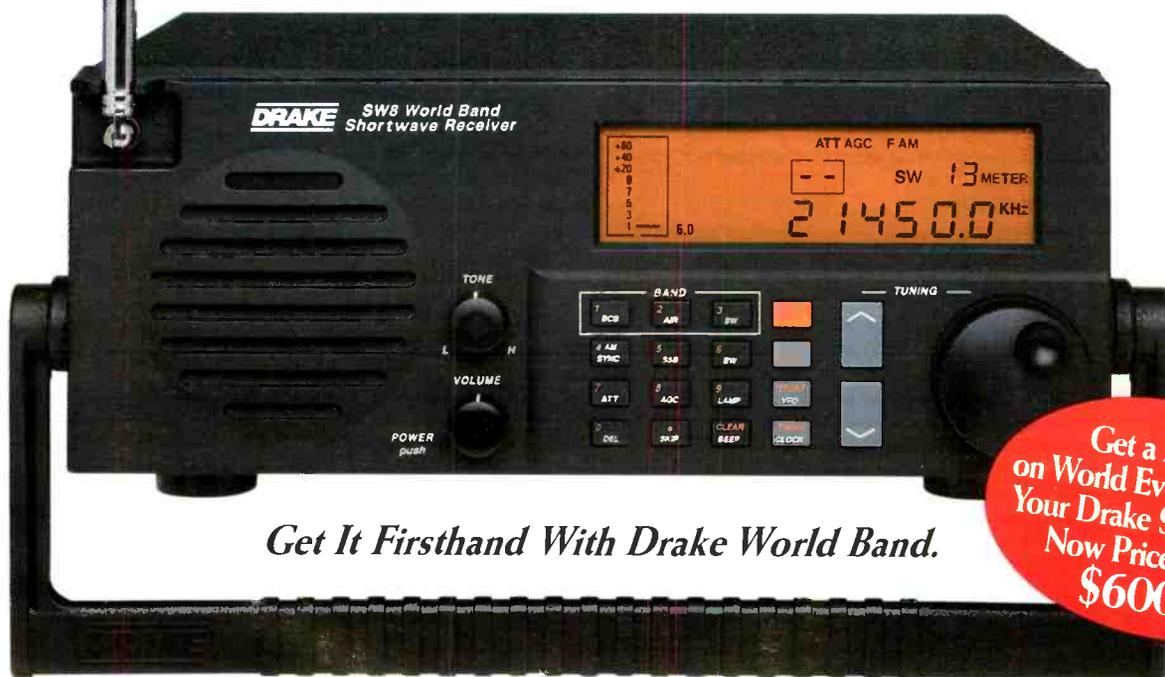
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Time	Country/Station	Frequencies	Time	Country/Station	Frequencies
	Voice of America	7265, 7280, 7405, 9575		(30) Vatican Radio	7250, 9645
	R. Botswana	4830, 7255		Radio New Zealand	9700
	R. Prague, Czech Rep.	7345, 9485, 9810, 11990		(15) HCJB, Ecuador	9745, 11925, 21455USB
	Kol Israel	9435		R. Moscow, Russia	7165, 9890
	(30) R. Nigeria	4770			
	WRNO	7395	0800	Radio Australia	5995, 6020, 6080, 7240, 9580, 9710, 11720, 15240, 17695
	HCJB, Ecuador	9745, 15155, 17740, 21455			
0500	V of Nigeria	7255		KNLS, Alaska	7365
	(30) Georgian Radio	11910		SIBC, Solomon Is.	5020, 9545
	Radio Lesotho	4800		CFRX, Canada	6070
	(30) R. Austria Int'l	6015, 6155, 13730		(50) TWR, Monaco	9480
	V of Nigeria	7255		(30) R. Austria Int'l	6155, 13730
	Radio Havana Cuba	9510			
	(30) Radio Austria Int'l	6015, 9870	0900	FEBC, Philippines	11690
	CBC Northern Service	9625		R. Vlanderen Int'l, Belgium	5910, 9905, 13675
	Deutsche Welle, Germany	5960, 9515, 9670, 11705		NBC, Papua New Guinea	4890
	R. Japan	11725, 11740		Radio One, Singapore	5010, 5052, 11940
0600	Radio Korea, S. Korea	7275, 11945, 15155		KTWR, Guam	15200
	GBC, Ghana	4915		(10) R. Ulan Bator, Mongolia	11850, 12015
	V of the Mediterranean, Malta	9765			
	V of Hope, Lebanon	6280	1000	V of Vietnam	9840, 12020, 15010
	Radio Kiribati	9825		(30) Radio Korea, 11715	
	Vatican Radio	6245, 7250		AWR, Costa Rica	5030, 9725, 13750
	(30) R. Vlanderen Int'l, Belgium	9925		Voce of America	5985, 9590, 11915
	R. Prague, Czech Rep.	7345, 9505, 11990		Kol Israel	17545
	R. Canada Int'l	6050, 6150, 9740, 9760, 11905		Radio New Zealand	9700
		4760		FEBC, Philippines	9800, 11685
	ELWA, Liberia	4760		(30) UAE Radio	13675, 15320, 15425, 21605
	Channel Africa, S. Africa	7230, 17710			
	KWHR, Hawaii	9930	1100	R. Japan	6120, 9610, 15445
0700	Wings of Hope, Lebanon	11530		R. Pyongyang, N. Korea	6576, 9977, 11335
	(40) TWR, Monaco	7385		HCJB, Ecuador	9745, 11925, 21455
	V of Free China, Taiwan	5950		R. Jordan	13655
				NBC, Papua New Guinea	4890



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## E. Bearcat 855 XLT

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Time	Country/Station	Frequencies	Time	Country/Station	Frequencies
	R. Korea, S. Korea (30) R. Vlanderen Int'l, Belgium R. Finland AWR, Costa Rica Kol Israel (30) R. Thailand	6145, 9650, 9980 15540, 17540 11735, 15400 5030, 9875, 11870 15640, 17575 9655, 11905		(30) Vatican Radio	11625, 15090, 17730
1200	R. Australia  (30) R. Bangladesh R. Tashkent, Uzbekistan Radiobras, Brazil China Radio Int'l (30) R. France Int'l.  (30) R. Sweden National Voice of Cambodia (30) V of Vietnam R. Finland	6020, 6080, 7240, 9580, 9710, 15630 13615 5945, 9540, 15220, 17745 15445 9715, 11660, 15210 9805, 11670, 15155, 15365, 17575 15240, 17740, 17865 11938 9840, 12020, 15010 15400, 17740	1800	RAE, Argentina Radio Kuwait BSKSA, Saudi Arabia (40) Voice of Greece WHRI R. Nacional, Brazil (Sun) R. Norway (30) R. Sweden KWHR, Hawaii	15345 13620 9705, 9720 15650, 17525 9590, 13760 15265 9590, 11860 6065, 9655, 15145 13625
1300	(30) R. Vlanderen Int'l, Belgium KNLS, Alaska (30) R. Tashkent, Uzbekistan (30) R. Finland R. France Int'l (35) Voice of Greece UAE Radio  AWR, Russia	17555, 21810 7355 9540 15220, 17745 15400, 17740 11910, 15405, 17650 15630, 17515 13675, 15320, 15435, 21605 11855	1900	HCJB, Ecuador  (30) R. Netherlands (30) VOIRI, Iran Spanish National Radio Kol Israel  R. Algiers, Algeria R. Japan	17490USB, 17790, 21455USB, 21480 17605, 21590 9022, 15260 15375 7465, 9435, 11585, 11603, 11675, 15640, 15650, 17575 9535, 11715, 17745 9535
1400	R. Iraq Int'l V of the Mediterranean, Malta RTV Morocco R. Canada Int'l  (45) R. Ulan Bator, Mongolia Monitor Radio FEBC, Philippines R. Jordan All India Radio	15250 11925 17595 11935, 15315, 15325, 17820 7260, 13780 13710, 13760, 15665 11995 9560 7412, 9950	2000	(Sun) R. Norway Int'l (30) Kol Israel R. Iraq Int'l (05) R. Damascus, Syria (45) All India Radio (30) R. Cairo, Egypt Swiss Radio Int'l R. Kuwait KWHR, Hawaii	9590 7465, 9435, 11587, 11603 11810, 13680 12085, 15095 9910, 9950, 11620, 15265 15375 9885, 12035, 13635, 15505 13620 13720
1500	(30) Georgian Radio FEBA, Seychelles (40) V of Greece R. Sweden Polish Radio R. Pyongyang, N. Korea TWR, Guam V of Ethiopia Channel Africa, S. Africa (30) All India Radio R. Portugal	11910 9810, 11710, 15330 15630, 15650, 17525 15190, 15240, 21500 7285, 9525, 11840 9325, 9640, 9977, 13785 15610 9560 7270, 15240 7412, 9850, 10330 21515	2100	(10) R. Damascus, Syria Iraqi Radio Radio Havana Cuba (Sun) Radio Norway R. Galaxy, Russia R. Yugoslavia (15) Radio Cairo, Egypt (30) Kol Israel  (30) R. Vilnius, Lithuania R. Bulgaria (30) R. Canada Int'l	12085, 15095 11810, 13680 17760 15165 11880 6100, 9505 9900 7465, 9435, 11587, 11603, 11675, 15640, 15650, 17575 9675, 9710 6085, 9700 5995, 7260, 11945, 13650, 13670, 15140, 15325, 17820
1600	(30) HCJB, Ecuador R. France Int'l  Monitor Radio R. Pakistan  BSKSA, Saudi Arabia Voice of America  (30) Vatican Radio KWHR, Hawaii	17790, 21455USB, 21480 6175, 11705, 12015, 15530, 17620, 17795, 17850 7510, 13770, 21840 11570, 13665, 15515, 15555, 17555 9705, 9720 9700, 11920, 12040, 13710, 15255, 15320, 15410, 15445, 17790 11640, 15090 7425	2200	V of Free China R. Canada Int'l (30) R. Yugoslavia R. Bulgaria R. Vilnius, Lithuania (45) R. Yerevan, Armenia R. Ukraine Int'l  V of Turkey R. Havana Cuba V of UAE (45) All India Radio KWHR, Hawaii	9850, 11915 5960, 9755 11830 11720, 15330 9675, 9710 7440, 9705, 11920 7195, 7240, 9505, 9745, 9860 9445, 11895 6180 9770, 11710, 13605 9910, 11715, 15110, 15145 17510
1700	Voice of Azerbaijan Georgian Radio Channel Africa, S. Africa Kol Israel R. Pakistan R. Moscow	15240 11910 11750 7465, 11587, 11675, 15640 11570, 15550 9505, 9540, 9880, 11705, 11940, 11960, 12050, 15180, 15290, 15385, 17605, 17735	2300	(30) R. Vlanderen Int'l, Belgium R. Pyongyang, N. Korea (30) R. Netherlands (35) V of Greece R. Vilnius, Lithuania R. Bulgaria R. Canada Int'l (Sun) R. Norway (30) V of Vietnam AWR, Costa Rica R. Pyongyang, N. Korea	9930, 13655 11700, 13650 6020, 6165 9425, 11595, 11645 11750, 12040 11720, 15330 5960, 5995, 9755, 13670 6120, 90840, 12020, 15010 5030, 9725, 11870 11700, 13650

# Remembering Radio

## Leafing Back Through Our Heritage

BY ALICE BRANNIGAN

In a world dedicated to Amy and Joey headlines, it was foolish to think I might get away with only a short paragraph mentioning that America's first female broadcast station licensee caused a national scandal when she took off on a romantic romp with the station's married chief engineer. As soon as the February *POP'COMM* came out, the letters and cards came in begging for more information.

Sister Aimee Semple McPherson (born in Ontario, Canada, 1890) had become a preacher and missionary, well known for her tent revivals that criss-crossed rural America. She was said to be able to heal the sick, and claimed to have saved many sinners from the clutches of the devil by making them renounce gambling, alcohol, temptation, cheating, crime, and other weaknesses of the flesh. Eventually, she took her revival meetings to Australia and New Zealand, where the people loved her. People everywhere were captivated by her personality and messages of purity. She became the most famous evangelist of the day.

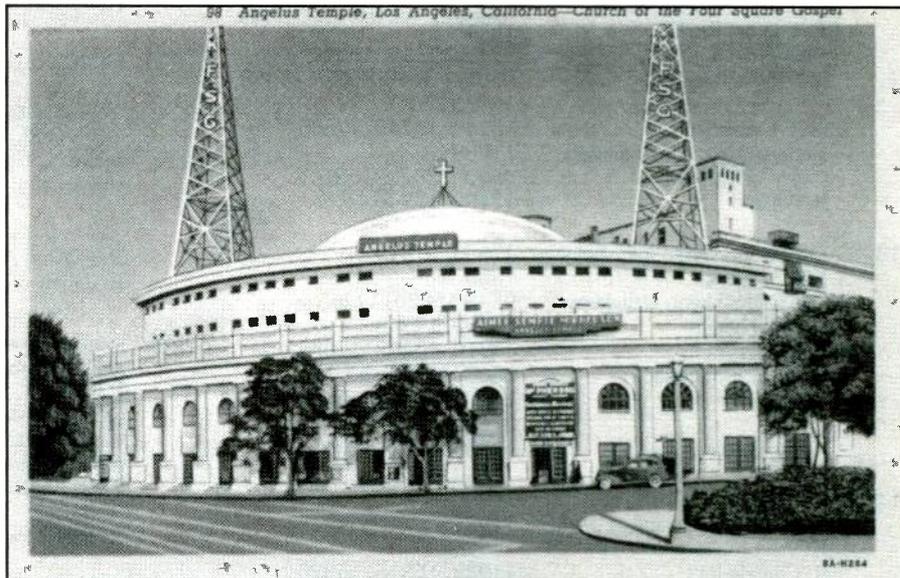
By 1923, Sister Aimee found herself in Los Angeles, and decided to remain there to do her work from a permanent location.

In 1924, Sister Aimee became the first female broadcast licensee when she opened station KFSG, a religious station. It was located in her impressive, albeit somewhat gaudy, \$1,500,000 gospel tabernacle, the Angelus Temple, on Glendale Boulevard.

KFSG's Chief Engineer was Kenneth G. Ormiston. He was middle aged, balding, and quite married. It might have been these qualities and his way of tuning up the KFSG transmitter that eventually caused Sister Aimee to allow the devil to cause her to become the victim of the very same sins of the flesh that she preached so strongly against.

In May of 1926, Sister Aimee said she was driving to the beach for the day with her secretary. The secretary was then sent off on an errand. When she returned there was no Sister Aimee. There was the immediate fear that she had drowned. The faithful were praying for her. Just in case Sister Aimee had not drowned, her flock had also collected a \$25,000 reward leading to information for her safe return. Another \$36,000 was collected to construct a memorial for Sister Aimee, just in case she had died.

Deep-sea divers and many volunteers searched the waters. Two of the volunteers



*Sister Aimee's Angelus Temple, showing the KFSG towers. When you realize that this tabernacle is the size of a football stadium (and looks like one), you can appreciate the crowds she attracted there.*

died. No trace of her had been found, and after a month, Sister Aimee's mother had a small plane fly over the ocean to scatter lilies. One of Sister Aimee's followers committed suicide out of sheer grief.

Someone happened to point out that KFSG's Ken Ormiston had a strange habit of mysteriously disappearing for various periods of time. Once, while Sister Aimee had been on a tour of the Holy Land and

Europe, Ormiston's wife had called the Sheriff and reported him missing. Less than a week after Sister Aimee's apparent drowning, Ormiston had again disappeared for a while.

When he reappeared, he offered to help in the search for her. But, when detectives said they had some questions they wanted to ask him, he promptly disappeared all over again.



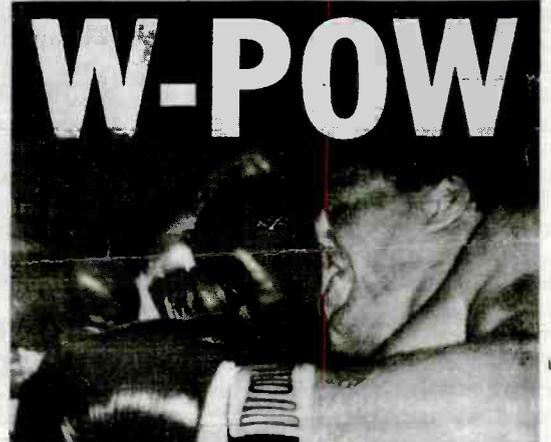
*Sister Aimee (center), the world's first woman broadcast station licensee. Here she is shown in a tableau interceding with Goliath on behalf of David.*



↑ Facilities of the former WBBR, Staten Island, New York City. In 1957, this 18-acre farm site was sold to new owners and became WPOW. The structure at the left is a 24-room house.

A trade publication promo for new station WPOW, when it went on the air in 1957. It showed the "POW" of a boxing glove meeting a prize fighter's schnozz. ➔

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On June 27th, Sister Aimee showed up, slightly tattered and bruised. She claimed to have been kidnapped, and then began to pour out a complex scenario that ended up with her escape. Under close examina-

tion, the story seemed fantastic and was not supportable by evidence. The District Attorney claimed that he had witnesses who were ready to attest that Sister Aimee and Ken Ormiston had spent much of the

missing time checking in and out of numerous ocean front motor courts, plus a 10-day stay at a cottage in Carmel rented to Ormiston. Needless to say, this was the media event of the decade.

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There was a trial. Sister Aimee protested that she was "being crucified by the very bats of hell." She denied any romantic connection with Ormiston. Ormiston agreed that he was with a woman, but insisted she was "Miss X." Sister Aimee charged it was all a plot by the "overlords of the underworld" to destroy her, and that "Miss X" was someone else made up to look like her. She said, "I am like a lamb led to slaughter." Newspapers covered every detail of this lurid trial with relish.

Sister Aimee, strangely enough, was acquitted. It was popularly assumed that people were paid off. None of the more than \$60,000 in reward or memorial monies collected had been returned, so maybe that's where they went. The acquittal made no sense in view of the overwhelming evidence of guilt. None of that made much difference in Sister Aimee's case. Her image never fully recovered from this incident. Although she remained with the Angelus Temple, she no longer attracted crowds of the same size or enthusiasm that had once come to her to be saved.

Sister Aimee died in 1944, a probable suicide from an overdose of sleeping pills taken in an Oakland hotel room. By that time, her name had been out of the news spotlight for a several years. She and her scandal had been forgotten in the wake of a world at war.

KFSG was running 500 watts on 1100 kHz in the late 1940's, and still licensed to

McPherson's Echo Park Evangelical Assn. In 1941, it shifted up to 1150 kHz to run 1 kW. Beginning in the 1940's, KFSG became KRKD every night at midnight. That lasted through the 1960's on a time-share basis. KRKD would operate until 6 p.m., the turn into KFSG for six hours of religious programs from the Angelus Temple. KRKD/1150 later became KIIS, which presently operates with 5 kW and runs a Top-40 format.

KFSG currently exists only as an FM station, operating on 96.3 MHz. Operated by the Foursquare Radio Group, the station plays contemporary Christian music.

### He Owned A Station We Wrote About

In the January issue, we discussed station WBBR, the old Watchtower Bible and Tract Society station on 1330 kHz that had its transmitter on Staten Island, New York City, and studios in Brooklyn. Religious station WBBR first went on in 1924. We noted that it went off the air on April 15th, 1957, after it was sold to a new owner, who called it WPOW.

It turns out that the man who purchased WBBR and turned it into a commercial station happens to be one of our regular readers, and he wrote to provide information about WPOW. His name is H. Scott Killgore, who now owns KMPG/1520, of Hollister, Calif.



Jersey City, N.J. police dispatcher in a 1935 trial of a 31.60 MHz two-way radio system. It was licensed as Experimental W2XFA.

Under the name Tele-Broadcasters, Mr. Killgore also owned KUDL, Kansas City, Mo.; KALI, Pasadena, Calif.; WARE, Ware, Mass.; WKXL, Concord, N.H.; WKXV, Knoxville, Tenn., and WPOP, Hartford, Conn. He recalls that he paid \$133,000 for WBBR, which included the mint condition 5 kW RCA transmitter that had been used only 30 hours per week.

The transmitter site was an 18-acre farm, complete with a 24-room house, a swimming pool, a cannery, a barn, two greenhouses, and 20 chicken houses. After the station was purchased, Mr. Killgore found out that there was no power on the property, except for a huge generator plant that was sufficient to serve a town of

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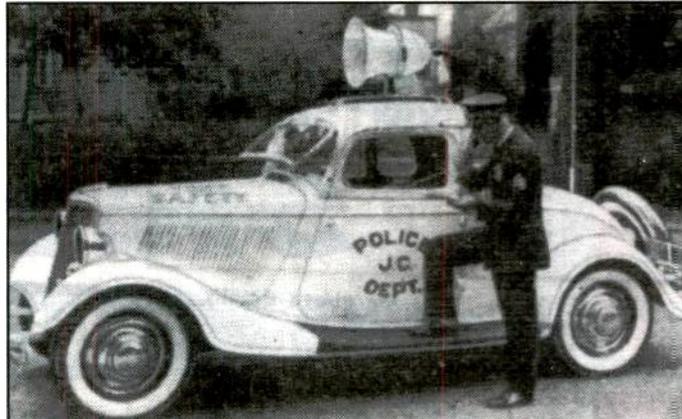
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An overview of the radio room at Jersey City police headquarters during the 1935 VHF tests. The transmitter is at the left, operating desk at the right.



Each of Jersey City's 36 police cruisers was equipped with a two-way VHF radio in 1935. Note the whip antenna on the rear deck. The words "Voice of Safety," painted on the hood of each vehicle, let the public know the vehicle was equipped with two-way radio

30,000. The catch was that nobody could run the generator except for the man who had built it. He was 70 years old and said he was retired. That meant the power company had to bring in a power line from three miles away.

Another interesting self-sufficient feature was that the farm had a storage tank for millions of gallons of water. Mr. Killgore needed to pump in water once a year in order to meet the daily needs of the facility.

The 18-acre Mr. Killgore purchased were part of a 30-acre farm operated by the Jehovah's Witnesses, from whom he had bought WBBR. The farm sent food to the Witness facilities in Brooklyn, where they fed 1,000 at each meal. Mr. Killgore had no immediate plans for the farming potentials of his parcel of land, but he recalls that it was always in the back of his mind that no matter how bad business might be at WPOW, he could still live off the land if necessary.

WPOW claimed it was the first new broadcast station in New York City in 14 years. The studio was located at 41 East 42nd Street. This was one room measuring only four by six feet. Mr. Killgore says that it took only three people to run WPOW, and the station made money with its Top-40 music format.

In time, WPOW was sold. It no longer exists. Now the 1330 kHz slot in New York City is occupied by 5 kW station WNYM. We are therefore particularly pleased to have had the opportunity to get an inside look at this station, as described by its founder. Doubly special because we are proud to number Mr. Killgore as "one of our own."

## Calling All Cars

One of the first police agencies to see how VHF frequencies would work out was the Jersey City Police, New Jersey. In 1935, this agency received an FCC license for Experimental station W2XF, on 31.60

MHz. These were AM-mode operations.

The base station used a 100 watt transmitter. All 36 patrol cars were equipped with two-way radios. Each mobile unit could patch the base station through its public address system, or the officer in the vehicle could use the PA system himself. The PA system used a large horn-type speaker mounted on the roof of each vehicle.

Each vehicle required two antennas, a horizontal mesh on the roof was for receiving, while a whip (to the lower left of the rear window) was used for transmitting.

Headquarters had transmitting and receiving antennas on the roof, and there were also two remote receiving sites dis-

tant from headquarters.

Hard to believe that less than 60 years ago, 31 MHz was still being thought of as experimental, and tested to see if it was sufficiently reliable two-way police communications. Less than ten years later, wartime technology had proven how suitable frequencies above 400 MHz were for two-way communications.

Maybe you will join us again in June? Hope so. We gratefully acknowledge the thoughtfulness of readers in providing old QSL's (copies or actual), picture postcards, photos, newspaper clippings, anecdotes, station listings, and other material relating to historic radio and wireless. ■

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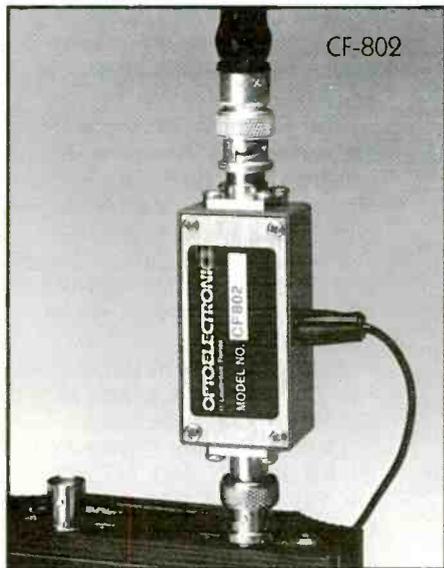
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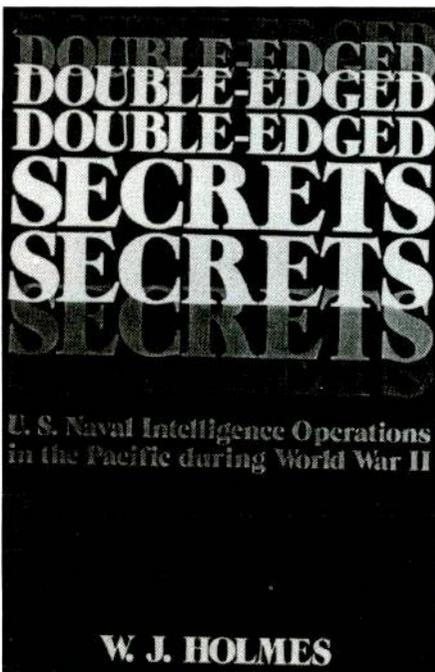
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## Crypto Insider

In his 242-page hardcover book, *Double Edged Secrets*, Capt. W. J. Holmes, USN (Ret.), discusses his experiences in the world of communications cryptanalysis. Most especially, those experiences relate to decrypting the communications of the Imperial Japanese Navy by the Fleet Navy Unit, Pacific (FRUPAC).

Holmes was a medically retired Lieutenant in the Submarine Service, who had been recalled to limited active duty. His assignments were intelligence posts in the 14th Naval District, and for the Commander in Chief, Pacific (CinCPac).

For the most part, the book covers code breaking and traffic analysis activities of FRUPAC, and the problems related to limiting the distribution of that information. This was prior to the attack on Pearl Harbor, and for some time thereafter. After the establishment of the Intelligence Center, Pacific Ocean Area (ICPOA), Holmes became increasingly involved with more generalized intelligence activities, although he still had access to code breaking products.

The intelligence successes Capt. Holmes relates are too numerous to cover here, however he makes several points. First, it was the failure of high Washington military officials (he names Admirals Stark and Turner, and General Marshal) to warn Admiral Kimmel and General Short in a timely fashion of the imminence of war with Japan, and the necessity to take appropriate defensive action.

Second, Holmes decries the great wrong done to Cdr. Rochefort in being relieved of his command of the Radio Intel-

ligence Unit. Furthermore, he complains that Rochefort was deprived of well deserved recognition for code breaking and analytic success that made the victory at the battle of Midway possible. Without Rochefort and his hard working group, the Japanese would almost certainly have captured Midway, and the American casualties would have been substantially higher.

Holmes claims that at the heart of the Rochefort injustice was the subordination of radio intelligence in the Navy to Naval Communications, as opposed to having its own Naval Command. Rochefort's small group in Hawaii committed an unpardonable sin in outshining the far larger and more prestigious Washington command intelligence operation in providing accurate and timely fleet support. Thus, Rochefort had to go. Even powerful Admiral Nimitz couldn't save him from the Washington bureaucrats. Rochefort died in 1976, and Holmes dedicated this book to his memory.

Lastly, Holmes relates the need for proper distribution of highly classified information through specially cleared and trained officers on all major military staffs and large units. He observes that intelligence that is not used, nor directed to the proper personnel, is of little value.

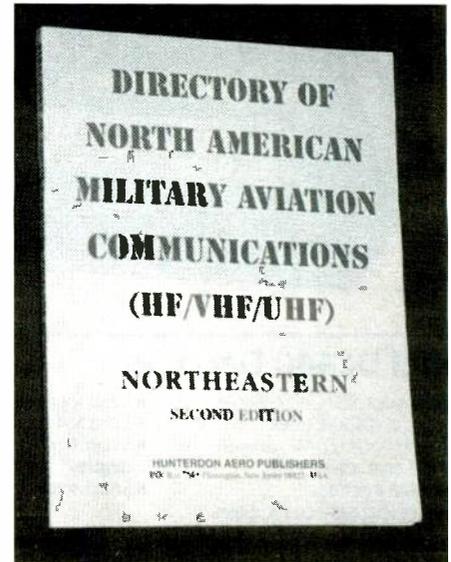
Capt. Holmes tells of his experiences, disappointments, and successes, in an easy to read style. He injects humor where appropriate. The book is recommended for all interested in military communications intercept, cryptanalysis, intelligence activities, Naval operations, and World War II. The book is indexed, and there are maps showing the areas discussed.

*Double Edged Secrets*, by Capt. W.J. Holmes, USN (Ret.) is \$19.95, plus \$2.50 shipping/handling. Order it from Naval Institute Press, 118 Maryland Avenue, Annapolis, MD 21402. Phone: 1-800-233-8764.

## Military Aero Comms Frequency Guides

The Second Editions of Jack Sullivan's unique *Directory of North American Military Aviation Communications* series continue as the most comprehensive frequency/location cross-indexed guides to military HF, VHF and UHF aeronautical listings. This series has never previously been covered in our pages.

These editions show where to tune scanners and communications receivers to hear air/sea rescue missions, North American Aerospace Defense Command (NORAD), Air Combat Command, Air Force 1 and other VIP military flights, military transports, practice dogfights, training missions, Air National Guard, air refueling, military air/ground comms, test pilots, tactical and emergency comms, military weather



comms, USAF Thunderbirds, USN Blue Angels, military satellites, and many other military-related comms between 2.5 MHz and 420 MHz.

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*Central Edition:* Covering CO, IA, IL, IN, KS, MI, MN, MO, MT, NE, ND, NM, OK, SD, TX, WI, WY, Alberta, Manitoba, Ontario, Saskatchewan, Mexico.

*Western Edition:* Covering AK, AZ, CA, HI, ID, NV, OR, UT, WA, British Columbia, Northwest Territories, Yukon, Mexico.

This unparalleled series features about 20,000 listings, cross indexed by both frequency and location. You can readily look up the frequencies active in your area by checking the alphabetical listings. You can also identify the origin of unknown signals by checking out the listings for the frequency you are monitoring. The exciting high-interest 225 to 400 MHz UHF military aero band is covered in extreme detail. Detailed and cross-indexed listings for this band are particularly useful.

Information provided in the series includes locations, tactical callsigns, frequency usage data, operating agency names, modes, frequency code names (where applicable), plus other relevant data. The series covers frequencies used for air/ground, air/air, as well as air/sea comms. All US and Canadian military services are covered in this series, plus NASA and the

US Coast Guard. Listings are also provided for VHF/UHF FAA enroute ATC control sector frequencies. There is information on aircraft types to be monitored on specific frequencies, plus maps, as well as monitoring hints.

The Second Edition of the *Directory of North American Military Aviation* is an abundant and invaluable source of monitoring reference data. It will enhance the enjoyment of your hobby, as well increase the usefulness of your equipment. That holds true whether you are monitoring the HF bands with a communications receiver, or the VHF and UHF frequencies with a scanner. Here's the series that tells you where to listen.

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### Harry Does It Again

*Shortwave Listening Guidebook, Second Edition*, by Harry Helms, is the new version of this popular 352-page listeners' manual. SWL manuals come and go, but for our money this one remains about the best around.

Yes, the book has station photos, and QSL cards, plus all of the information you need on buying, setting up, and operating an shortwave listening post. It tells about antennas and accessories that will improve your chances of success. But you'd expect that in a book having this title.

This book goes that extra mile. For one thing, it was written by Harry Helms, who is one of our favorite shortwave scribblers. If you Have followed Harry's writings here in *POP'COMM*, you know that he has his own very personal views about the hobby and the world. From his vantage point, he sees things from a perspective that is fresh and clever, often wryly humorous.

Next, this Second Edition was written to take into account the many recent changes in broadcasting from the former USSR and eastern Europe. Describes the emerging private broadcasters in Russia and the newly independent former Soviet republics.

The book has plenty of shortwave broadcast station skeds and frequencies, plus information on pirates, clandestines, mystery stations, radio clubs, publications of interest, etc. A section describes new receiver features such as synchronous detection, passband tuning, and other things that are now confronting and confusing listeners.

*Shortwave Listening Guidebook, Second Edition*, is written for the average consumer-level listener to be able to easily understand and use. It is not a technical textbook filled with a lot of \$3 words intended to impress its readers with how much the

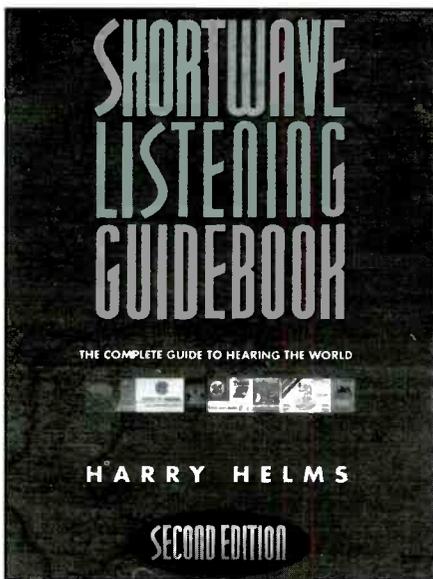
author knows. Readers will be more impressed by the author's ability to adequately explain everything in simple and straightforward language.

*Shortwave Listening Guidebook, Second Edition*, by Harry Helms, is \$19.95, plus \$3 shipping and handling (\$4 Canada). California residents please add sales tax. It's from HighText Publications, Inc., 125 N. Acacia Avenue, Suite 110, Solana Beach, CA 92075. Also available from leading suppliers of communications books.

### Shortwave Directory, 8th Edition

The Eighth Edition of the *Shortwave Directory*, by Bob Grove, is a 256-page compilation of HF communications frequencies. Edited by Larry Van Horn, this edition extensively updates the data in earlier editions.

The directory covers voice, CW, RTTY,



FAX, and various digital modes, offering information about stations and networks operating on frequencies below 30 MHz throughout the world. Categories include military, aeronautical, maritime, non-directional beacons, espionage, space, broadcast feeders, clandestines, point-to-point, government agencies, and others.

In addition, there are glossaries explaining commonly encountered codes, pro-signals, abbreviations, terminology, and international radio prefixes.

Bob's directory is up to it's usual fine standards. If you are a ute monitor you will find this new edition in daily use at your station. It's really packed with listings.

This is a three-hole punched looseleaf edition, intended for convenient updating. It is available with an optional three-ring binder. The edition alone (minus the binder) is \$24.95. If ordered with the binder the combo is \$29.95. Either way, shipping and handling is \$5. This directory is from Grove Enterprises, Inc., 300 South Highway 64 West, Brasstown, NC 28902. They accept VISA/MC/Discover. Phone orders: 1-800-438-8155. ■

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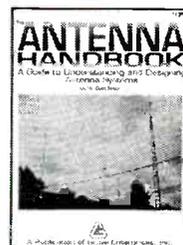
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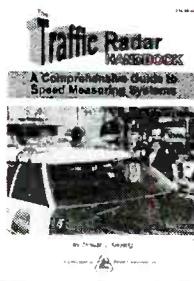
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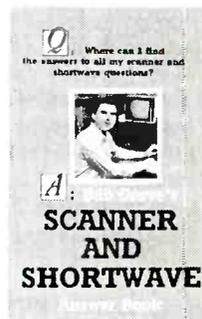
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# Car 629: Fireground Radio

## A Mobile Command Post

BY STEPHEN BELLAMY

Scanner enthusiasts with an interest in the fire service know that the most dramatic and interesting broadcasts are heard on fireground frequencies, rather than the main dispatch channel. At larger incidents, fireground radio traffic is often handled by a mobile radio command center. In Cleveland, Ohio, firebuffs listen to Car 629.

Cleveland's mobile command and communications unit, Car 629, is a shiny white-over-red vehicle, 37 feet long, 102 inches wide, and 13.2 feet tall. The chassis, which can carry up to 43,000 pounds, was built by Spartan Motors; and the steel body and interior were created by Southern Ambulance. This red monster is powered by a six cylinder 350 horse power diesel with an automatic transmission.

The department's radio repair coordinator, Lieutenant Virgil Pittman, explains that Car 629 was primarily developed to support the Incident Command System at larger incidents. At the same, the on-scene communications unit minimizes the amount of extra radio traffic the main dispatch center handles during the larger incidents. The interior of the unit is broken up into four compartments. Directly behind the driver's section there is a small cubicle that has two deep Formica counters with AC outlets. This space can be used for support services such as computer or radio operations for other agencies supporting the fire department at an incident.

The third section, the roomiest, has a long Formica counter down both sides the



Car 629 takes part in a high-rise exercise at Cleveland's landmark Public Square. (Photo by author.)

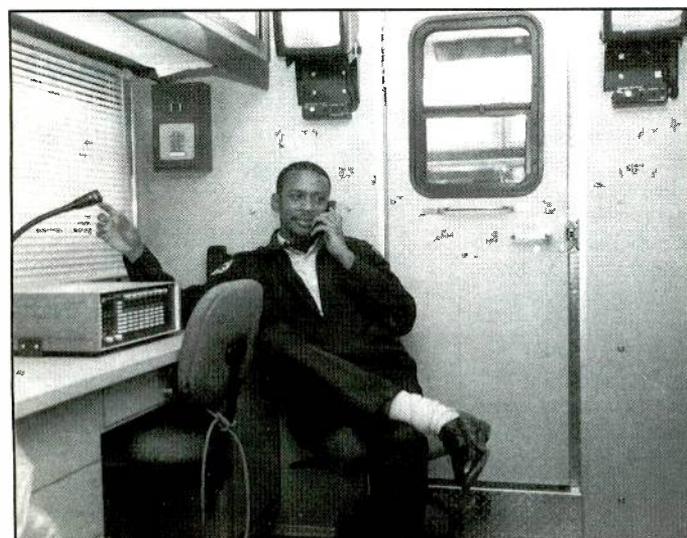
aisle. These counters have ample room for paperwork, computers, and contains three radio consoles that remotely control radio transceivers located in cabinets above the counters. These consoles can select any individual fire department channel for transmitting, or can be programmed for simulcasting on any combination of emergency frequencies. Eight channels normally used by the department are programmed into the control consoles (see chart). The radio consoles also contain built-in scanners.

One of the on-board radio transceivers is a repeater for Cleveland's fireground fre-

quency 154.145 MHz (Channel 4). By re-broadcasting walkie-talkie messages at higher power, this repeater helps to improve coverage for fireground low power walkie-talkies.

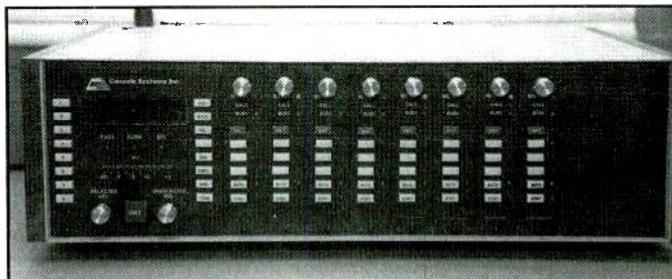
Additional radios communicate with Cleveland's Emergency Medical Center Dispatch, "Red Center," the Cleveland Police, and the Cuyahoga County emergency communications center, CECOM.

Ten hand-held, 16 channel programmable units with scanning functions, are also available. They can be given to mutual aid units that may normally operate on



← Lieutenant Virgil Pittman at one of three dispatch positions inside Car 629. Note the door security monitors mounted on walls. A blue cord secures the operator's chair when Car 629 is in motion. (Photo by author.)

A close-up of one of the three Cleveland Fire Department operating consoles. This unit controls any combination of eight radio transceivers and also has selectable scanning. (Photo by author.) ↓



## Frequencies Used By Cleveland Fire Department

33.9 MHz	Main Dispatch	Channel 1
33.72 MHz	Dispatch	Channel 2
45.88 MHz	County Disaster Low Band	
153.83 MHz	Fire Ground	Channel 1
153.89 MHz	Fire Ground	Channel 2
154.07 MHz	Fire Ground	Channel 3
154.145 MHz	Fire Ground	Channel 4
153.95 MHz	Supervisor	Channel 5.

Chart A.

different frequencies. And a separate programmable radio unit resides in the other driver's compartment.

For communicating with the outside civilian world there are three hard-wired and two portable cellular telephone units, as well as a FAX and copy machine, all of which operate through a cellular phone. A marine radio and 0 to 800 megahertz scanner are being added to round out the radio equipment. Finally, a ten channel logging recorder makes a record of radio traffic sent and received by Car 629.

The next and rearmost section of the vehicle is the command section. Separated by a curtain from the radio room, it is where the incident commander operates during emergency operations.

On one side of the aisle is a counter that

has a magnetic white board where a diagram of the emergency scene can be drawn. Magnets representing equipment and personnel on the scene help the commander keep track of his resources. The room also contains a reference library and water department maps.

Located on either side of the board are two large color TV screens. One screen is used for viewing off-the-air TV or video fed from S-VHS tapes. These tapes can be made anywhere on the fire scene by a handheld camcorder. A video switcher routes signals to a TV monitor that can include various remote cameras, including their camcorder which can be connected by coaxial cable. Another camera is mounted in a telescopic boom on the roof of the vehicle in a sturdy weather-proof enclosure with

its own heating pad. This camera has remote pan, tilt, boom, zoom, and ten-times electronic enhancement.

Creature comforts have not been ignored: three air-conditioners, a small refrigerator, coffee machine, microwave and a chemical toilet are included. A 12,000 watt, 220 volt generator supplies electricity for the equipment. A telescopic 35-foot mast with two green lights provides a beacon to signal the location of the Incident Command Post. A mounting bracket on the mast enables a large high-gain antenna to be hoisted 35 feet in the air if operation is poor with the regular small rooftop whip antenna.

Outside vehicle compartments hold turnouts, SCBA gear, shore power cables, and an electronic weather station.

If a large storm or other urban disaster ever cripples the main radio dispatch office, Car 629 will swing into action according to the department's Public Education Officer, Jonathan Parries. In this case, Car 629 would be driven to one of the fire department's outlying antenna sites and be connected to antennas, phones, and power and act as the fire dispatch center. The only significant things that would be lost in the exchange would be street fire alarm boxes and fire alarms directly wired to the alarm office. Car 629 could be reached by 911 operators as well as the department's non-emergency telephone number. ■

## Attention Shortwave Listeners

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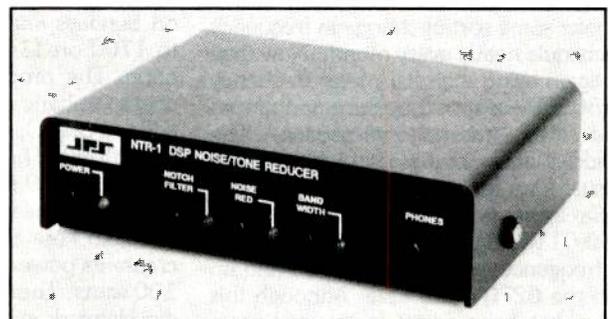
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# CLANDESTINE COMMUNIQUE

## WHAT'S NEW WITH THE CLANDESTINES

The new Honduran broadcaster Radio Copan International (which is affiliated with the even more recently active Radio Miami International) is airing a program called Radio Roquero. Roquero is the newest entry in the line up of voices aimed against Castro and his regime. Radio Roquero is aired on Saturdays at 2000 to 2300 (in Spanish, of course) on Copan's 15675 frequency. The program is produced by a Victor Garcia-Riveria, who can be reached at 5862 Windermere Lane, Fairchild, OH 45014. We predict that Radio Miami International will also be airing anti-Castro programming, with blocks of airtime sold to various Cuban groups. Keep an ear on 9955.

Other anti-Castro voices you may want to check on include the following: La Voz de Fundacion, Tuesdays through Saturdays at 0000 to 0500 on 9495 and Mondays through Fridays at 1000-1300 on 9850. Cuba 21, Mondays at 0000-0030 on 9495; La Voz Democracia Cristiana, Mondays at 0100-0200 on 7355; La Voz de la Unidad Cubana, Tuesdays through Saturdays at 0200-0300 on 7355; La Voiz de Alpha 66 Mondays through Fridays at 0800-0900 on 7355 and Voz Ex-Presos Politicos Cubanos, Sundays at 2330-0000 on 7355. All of the above are carried on WHRI (9495 and 9850) or WRNO (7355).

Anti-Castro broadcasters operating their own transmitters include La Voz del CID, which operates around the clock using one or more of these frequencies: 6305, 7340, 9942, 11635, 11941. Also Radio Caiman on 9965 at 1200-1530, 1700-1800 and 2300-0200.

One of the few currently active North American clandestines which fits the traditional definition of the term (i.e. a revolutionary group operating its own transmitter from within the country it works to subvert) is Radio Patria Libre, which seems to make some sort of change in frequency or schedule nearly every month. Now they are again using their 19 meter frequency of 15050V—a spot they once announced as for their "international service." The broadcast was monitored at what was an unusual time for this station, too—2200. Patria Libre is normally heard around 0000-0110 and 1130 to 1215, usually in the frequency areas around 5830 and up or in the 6270-6330 area. Although this station has been active for several years clandestine hunters still aren't 100% sure of the name of the organization behind the station, nor have we succeeded in finding a mailing address.

Canadian clandestine hunter Robert Ross of Ontario reports a couple of very



*At least some of the Kurdish clandestines probably operate from within the Kurdish zone of Iraq or Iran.*

good logs recently. He heard the Voice of Iranian Kurdistan on 4300 at 0406 to 0420 in presumed Kurdish with Kurdish classical music, Arabi-type string music and an ID of "Aira Dangi Kurdistan Irana" spoken very slowly. There were also mentions of Iran and Iraq.

Ross also picked up the Voice of the Kurdish People on 4095 at 0421-0436 with mideast vocals with flute and string music leading into a fanfare at 0430, then a man speaking in Arabic with several mentions of Iraq. Very nice, Robert!

The Free Radio Voice of Ethiopian Unity is on the air via transmitters in Russia on Sundays and Wednesdays from 1600 to 1700 on 11695, broadcasting in Amharic. The program follows Radio Moscow's Amharic service and announces an address of P.O. Box 91701, Washington, DC 20090. The broadcast also mentions 13, 16 and 19 meter band operations but the exact frequencies are not known.

Radio Free Somalia is supposed to increase its power to 1.2 kW, from its initial 100 watts. The International Amateur Radio Network, which supports this station, says another station will be opened soon in the northern part of the country. To our knowledge, Radio Free Somalia has not been heard in North America. Its last schedule was reported to be 1600-1715 on 7499 and 0400-0515 on 4760.

The UN's Somalia station, Radio Manta, uses 9540 with broadcasts at 0400, 1000, 1100 and 1300 and 6170 at 1600, 1700 and 1900. Each broadcast runs about 45 minutes. Anti-UN elements within Somalia are apparently responsible for the jamming targeted at this station at times. Radio Manta has also not been reported in North America, at least as far as we know.

Various sources report that the government of Pakistan has initiated "several" clandestine stations in Pakistan-occupied Kashmir. The broadcasts attempt to spread disinformation and keep things stirred up in Jammu and Kashmir and are "operated" by a number of pro-Pakistani organizations. Times and frequencies aren't known but we can safely assume that all of these stations are not only low power but probably operate on schedules which make North American reception next to impossible. If any monitors overseas luck out with one or more of these, please let us have the details.

Speaking of that, let's pass along our usual reminder that we want and welcome your observations about clandestines. Loggings of clandestine stations, QSL and address information, details about operating schedules and the organizations which operate these stations—all of that is of great interest to this column. Let's hear from you.

Until next month, good hunting! ■

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For more information on Bearcat radio scanners or to join the Bearcat Radio Club, call Mr. Scanner at 1-800-423-1331. To order any Bearcat radio product from Communications Electronics Inc. call 1-800-USA-SCAN.

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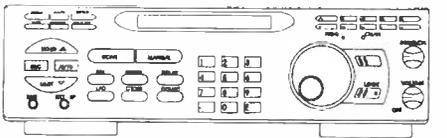
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The new Bearcat 8500XLT gives you pure scanning satisfaction with amazing features like Turbo Scan. This lightning-fast technology featuring a triple conversion RF system, enables Uniden's best scanner to scan and search up to 100 channels per second.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



## CB/GMRS Radios

The Uniden GMR100 is a handheld GMRS UHF 2-way radio transceiver that has these eight frequencies installed: 462.550, 462.725, 462.5875, 462.6125, 462.6375, 462.675, 462.6625 and 462.6875 MHz. This one watt radio comes with flexible rubber antenna, rechargeable ni-cad battery, AC adapter/charger, belt clip, F.C.C. license application and more.  
 Cobra 2000GTL-H SSB Deluxe CB Base \$419.95  
 Uniden GMR100-H GMRS Handheld ... \$169.95  
 Uniden WASHINGTON-H SSB CB Base \$189.95  
 Uniden GRANTXL-H SSB CB Mobile .... \$149.95  
 Uniden PC76XL-H CB Mobile ..... \$99.95  
 Uniden PC122XL-H SSB CB Mobile ..... \$107.95  
 Uniden PRO510XL-H CB Mobile ..... \$36.95  
 Uniden PRO520XL-H CB Mobile ..... \$49.95  
 Uniden PRO538W-H CB & Weather ..... \$69.95

## Shortwave

- ICOM R1-H ultra compact handheld wideband receiver ..... \$469.95
- ICOM R100-H superwide band mobile/121 memory ..... \$649.95
- ICOM R7100-H base with 900 memory (add \$49.00 shipping) \$1,289.95
- ICOM R9000-H base 30 kHz.-2 GHz. (add \$149.00 shipping) \$4,999.95
- ICOM AH7000-H super wideband discone type antenna ..... \$109.95
- Grundig Satellit 700-H1 portable with 512 memory & AC adapt. \$389.95
- Grundig Yacht Boy 430-H digital portable shortwave ..... \$199.95
- Grundig Yacht Boy 230-H portable shortwave ..... \$139.95
- Sangean ATS202-H ultra compact 20 memory shortwave ..... \$79.95
- Sangean ATS606-H ultra compact 45 memory shortwave ..... \$149.95
- Sangean ATS606P-H shortwave with antenna & AC adapter ..... \$169.95
- Sangean ATS800-H1 portable 20 memory shortwave ..... \$69.95
- Sangean ATS805A-H portable with SSB reception & AC adapter \$159.95
- Sangean ATS808-H portable 45 memory shortwave ..... \$159.95
- Sangean ATS818-H portable without cassette recorder ..... \$189.95
- Sangean ATS818CS-H with cassette recorder ..... \$209.95
- Sangean ANT60-H portable shortwave antenna ..... \$9.95

## Weather Stations

Public safety agencies responding to hazardous materials incidents must have accurate, up-to-date weather information. The Davis Weather Monitor II is our top-of-the-line weather station which combines essential weather monitoring functions into one incredible package. Glance at the display, and see wind direction and wind speed on the compass rose. Check the barometric trend arrow to see if the pressure is rising or falling. Our package deal includes the new high resolution 1/100 inch rain collector part #7852-H, and the external temperature/humidity sensor, part #7859-H. The package deal is order #DAVI-H for \$524.95 plus \$15.00 shipping. If you have a personal computer, when you order the optional Weatherlink computer software for \$149.95, you'll have a powerful computerized weather station at an incredible price. For the IBM PC or equivalent order part #7862-H. For Apple Mac Plus or higher including Quadra or PowerBook, order part #7866-H.

## Other neat stuff

- Uniden EXP9200-H 900 MHz. 2 line cordless phone ..... \$329.95
- Uniden EXP9100-H 900 MHz. 1 line cordless phone ..... \$299.95
- Cobra CP910-H 900 MHz. spread spectrum cordless phone ..... \$269.95
- ICOM GP22-H handheld global positioning system ..... \$699.95
- WR200-H weather radio with storm alert ..... \$339.95
- RELM WHS150-H VHF handheld 5 watt, 16 ch. transceiver ..... \$339.95
- RELM RH256N-H VHF 25 watt synthesized transceiver ..... \$289.95
- Ranger RC12950-H 25 watt 10 meter ham radio ..... \$244.95
- Ranger RC12970-H 100 watt 10 meter ham radio ..... \$369.95
- Uniden LRD9000W1-H Super Wideband Laser/Radar Detector ..... \$169.95
- PWB-H Passport to Worldband band by IBS ..... \$109.95
- POL1-H Police Call for CT, ME, MA, NH, NY, RI, VT ..... \$5.95
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- USAMMPL-H magnet mount scan antenna with PL259 connector ..... \$29.95
- USAMMBCN-H magnet mount scanner antenna w/ BNC connector \$29.95
- USAK-H VHF scanner/VHF transmitting antenna PL259 connector \$29.95
- USASGMBN-H glass mount scanner antenna with BNC connector \$29.95
- USASGMM-H glass mount scanner antenna with Motorola jack ..... \$29.95

## Buy with confidence

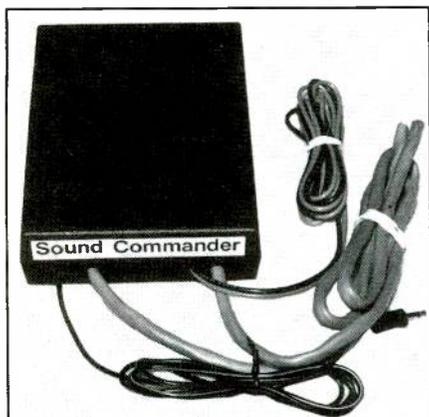
It's easy to order from CEI. Mail orders to: Communications Electronics Inc., Emergency Operations Center, P.O. Box 1045, Ann Arbor, Michigan 48106 U.S.A. Add \$15.00 per radio for U.P.S. ground shipping and handling in the continental U.S.A. unless otherwise stated. Add \$8.00 shipping for all accessories and publications. Add \$8.00 shipping per antenna. For Canada, Puerto Rico, Hawaii, Alaska, P.O. Box, or APO/FPO delivery, shipping charges are two times continental U.S. rates. Michigan residents add state sales tax. No COD's. 10% surcharge for net 10 billing to qualified accounts. All sales are subject to availability, acceptance and verification. Prices, terms and specifications are subject to change without notice. We welcome your Discover, Visa, American Express or MasterCard. Call 1-800-USA-SCAN to order toll-free. Call 313-996-8888 if outside the U.S.A. FAX anytime, dial 313-663-8888. For technical assistance to solve your communications problem, call the Communications Electronics technical support hotline for \$2.00 per minute at 1-900-555-SCAN. Order your new electronic equipment from Communications Electronics Inc. today.

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# NEW PRODUCTS

## REVIEW OF NEW AND INTERESTING PRODUCTS



### Never Miss A Scanner Call Again!

Electron Processing announced a device to allow users of mobile scanners the ability to monitor their car radio without missing calls on the scanner. The SOUND COMMANDER switches your car speakers to your scanner whenever a call comes in. No more missed radio calls when using this handy device. Connection to the car radio speaker leads and scanner is simple. For use with car radios of up to four speakers and not greater than 25 watts per channel. Sensitive VOX operation for flawless operation with any scanner.

The SCANNER COMMANDER is available for \$80. There is a \$5 shipping/handling charge. To order or for additional information, contact Electron Processing, Inc., at P.O. Box 68, Cedar, MI 49621 or call (616) 228-7020, or circle 102 on our Readers' Service.

### ICOM Introduces IC-Δ100H Tri-Band FM Mobile Transceiver

Icom announces the IC-Δ100H tri-band FM mobile transceiver for 144 MHz, 440 MHz and 1.2 GHz. Three independent



band units allow you to receive on all bands simultaneously. A large LCD readout displays complete information for each band, including S/Rf, volume and squelch levels. Each band is controlled by a separate volume and tuning knob and there are three external speaker jacks. In addition, there is an antenna connector for each band so you can use a duplexer or triplexer without any mismatching antenna loss.

The all-in-one IC-Δ100H may be installed as a complete unit or you can detach the front panel and mount it separately from the main body (with optional OPC-332). The IC-Δ100H can also be remote-mounted, by mounting the main body in the vehicle's trunk with the optional OPC-333 and OPC-335.

Cross-band double duplex (transmit on one band while receiving on two others), cross-band repeat (mini-repeater) and cross-band full duplex (transmit on one band and receive on another) are possible.

The IC-Δ100H provides exceptional performance. AFC-RIT, AFC-VXO, manual RIT, and manual VXO modes are included to compensate for "off-frequency" of the transmit station (1.2 GHz).

The IC-Δ100H has high sensitivity and a double-conversion superhetrodyne receiver system, providing more than 2.4 watts of clear audio output power.

Two separate memory banks include a total of 642 memory channels, making this an ideal rig when there are multiple hams in the family. Each memory channel stores the operating frequency, duplex direction, offset frequency, subaudible tone, encode on/off, tone squelch on/off, and even skip information.

Priority watch allows you to scan one (or more) memory channels per band while operating on a VFO frequency. You can also transfer call or memory channel contents to VFO. This is particularly useful when searching for signals around a memory channel frequency and for recalling the offset frequency, tone, etc.

Over 22 functions are accessible from the multi-function DTMF microphone including 14 DTMF autodial memories for autopatching, accessing repeaters and controlling other equipment, etc. The one-touch PTT enables telephone-like conversations without having to continuously press PTT. The beep tones for each band have a distinct sound so you can keep your eyes on the road.

For information on pricing and availability, please contact your local amateur

radio dealer or Icom America, Inc., 2380-116th Avenue N.E., Bellevue, WA 98004, (206) 454-8155.

### Comms Headset

A new voice quality headset has been announced by the Communications Division of Azden Corporation. Azden, a manufacturer and dealer of amateur and commercial two-way radios and accessories, is located at 147 New Hyde Park Road, Franklin Square, NY 11010, telephone number (516) 328-7501, FAX is (516) 328-7506.



Designated model DM-10, this headset with its shaped audio frequency response and light weight, has been specifically designated for communications applications. The adjustable headband provides a perfect fit for all sizes; and the padded earpieces cover the ears so that outside sounds are reduced but not eliminated. Low frequency noise including power supply hum and high frequency interference such as hiss and static, are significantly reduced. Amateur radio operators, contesters, traffic handlers and emergency personnel, as well as dispatchers for police, fire, ambulance, etc., will find these headsets can meet the rigorous demands of extended hours of operation.

The DM-10 headphones have a frequency response from 200-5000 Hz with a 6dB rise at 2400 Hz. Their impedance is 20 ohms and they come equipped with a molded plug. They weigh less than six ounces. Unit price of the DM-10 is \$49.95, direct from Azden.

For more information, contact Sid Wolin, Manager of Communications Division, Azden Corporation, 147 New Hyde Park Road, Franklin Square, NY 11010, or circle 104 on our Readers' Service.

# HOW I GOT STARTED

**P**opular Communications invites readers to submit, in approximately 150 words (more or less), how they got started in the communications hobby. They should preferably be typewritten, or otherwise easily readable. If possible, a photo of the submitter should be included.

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

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to Popular Communications.

Address all entries to: How I Got Started, Popular Communications, 76 North Broadway, Hicksville, NY 11801.

## Our May Winner

This month our winner Mark Heywood, writes us from Edmonton AB Canada. He tells us this story:



"I have been an aviation enthusiast for many years. In 1991, I met an English girl, fell in love and moved to England. One of my friends there, also an aviation enthusiast, introduced me to airband receivers. Becoming instantly hooked, I went out and bought one. Then he showed me his shortwave set, a big antique. I was fascinated as we listened to the Shanwick Oceanic Control Center monitor flights over the North Atlantic. Again I went out and bought my-

self a portable shortwave set. Though much smaller than my buddy's, it does the trick.

Needless to say, the romance in England didn't work out, but my love of aircraft radio is still going strong. I have since returned to Canada and listen to flights on my Sangean ATS-803A and Yupiteru VT-125II, every chance I get. I hope that satellite communications never comes into operation in oceanic control of aircraft. I'm glad I went to England to discover aeradio."

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• DRAKE R-8	• YAESU FT-757GX, FRG-100, FRG-9600	
• ICOM R-71, R-7000, R-7100, R-9000		
• JRC NRD-525, NRD-535		

\*Must have squelch detect cables for ICOM and YAESU (not required for R-7100, R-9000 ICOM OR YAESU FRG-100)

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• D-Base file support	

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# TELEPHONES ENROUTE

BY TOM KNEITEL, K2AES

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

A civil suit was brought by a couple in Columbia, Tenn., against the Maury County Sheriff's Department, charging the agency with using a scanner for the illegal interception of at least three of their cellular telephone calls. According to information in the *Nashville Banner*, the FBI was brought in to investigate the charges, inasmuch as such monitoring would violate federal laws.

The suit was filed in US District Court, Nashville, by Robert and Virginia DuBois. Supposedly, Mrs. DuBois conversations contained criticisms about the owner of the radio station where she worked. The suit claims that sheriff's officers divulged the contents of the conversations to her employer, who, in turn, confronted Mrs. DuBois regarding her comments. At that point, Mrs. DuBois quit.

She and her husband said they were shocked and angry that the agency would have violated their privacy. They knew of no reason why their calls were being monitored. Robert DuBois owns a business in Columbia, Tenn.

The DuBois' suit goes on to allege that the sheriff conducts similar cellphone surveillance operations on other area residents, although no names were specified.

Sam Kennedy, County Executive of Maury County, was quoted in the *Nashville Banner* as stating that he had no authority over the sheriff. It didn't bother him that they might be listening to his phone calls. He said he wasn't about to say anything over a cellphone that he didn't want anybody to know.

We appreciate this story, passed along by John T., of Clarksville, Tenn.

### Cellphone Monitoring

Do law enforcement agencies monitor cellphones? Legal or not, there are sophisticated professional cellphone monitoring and decrypting systems available on the market for law enforcement and professional use. Much of this type of equipment is often described in literature issued by manufacturers as being sold only to "authorized purchasers," or "law enforcement agencies." Presumably such units are not sold to the general public.

Now, let's take a look at two popular law enforcement units used for cellphone interception.

Cellmate Model 10-B is a portable cellular monitoring system. It intercepts calls in the cells where it is located. Once having locked on to a target call, the cellphone's number and voice frequency numbers can be read from a backlit LCD display. That cellphone number can then be programmed into the unit, and the Cellmate may be left unattended on stand-by. It will automatically record calls that the cellphone makes or receives.

The unit can monitor for ten separate cellphones at once. It also reads out and records DTMF tones. These are just the most basic things this amazing device can do, it can actually do quite a bit more. The price is \$4,350, and the manufacturer states "sales are restricted to authorized purchasers only."

Cellmate is made by Tech Support Systems, 540 Weddell Drive, Suite 1, Sunnyvale, CA 94089. Phone: (408) 734-9436.

There's the CellPhone ESN Reader Model ESNR-5900B. This is a small portable device that reads out the cellphone ESN, cellular phone number, and number dialed of the target phone. Has a range of up to two miles. It can be ordered without voice capture and hand-off following.

The device will store and print the last 99 hits along with a time and date stamp. The approximate price is \$1,900, and the company says it sells only to law enforcement (proof of identification required).

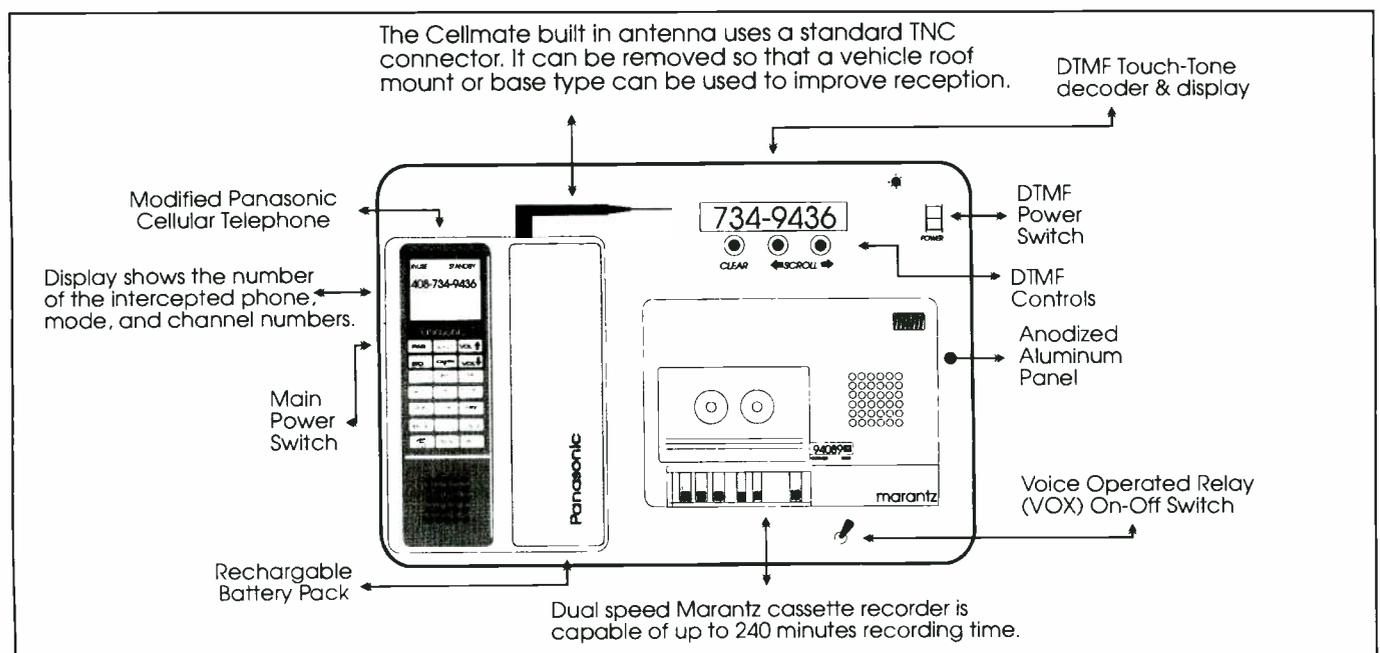
The CellPhone ESN Reader is made by Curtis Electro Devices, 4345 Pacific Street, Rocklin, CA 95677.

The question is how and if these and other similar devices are affected by the FCC's recent anti-scanner laws that disallow the manufacture of receivers capable of picking up cellphone channels.

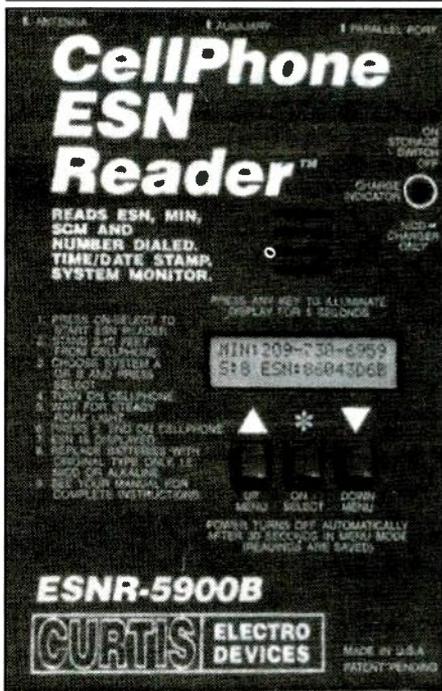
### Keep The Beep

In New York City, law enforcement officials asked the telco if they could replace the pushbutton pay telephones at certain locations, and replace them with old-style rotary dial types. Those particular locations are the ones most favored by drug distributors, and they rely upon alphanumeric beepers to contact their customers and street-level dealers. Those beepers can be accessed only from pushbutton phones that generate DTMF tones.

Telco said that rotary dial pay phones



Details of the Cellmate portable monitoring system.



The CellPhone ESN Reader performs numerous functions.

are no longer manufactured in this country, but they would cooperate by digging the needed 250 old rotary dial pay phones out of storage and replacing the pushbutton phones.

This may have been a mixed blessing. Legitimate callers hoping to use their credit cards found rotary dialing inconvenient. What's worse, drug dealers immediately realized that for less than \$25 they could readily purchase pocket dialer keypads that generated DTMF tones enabling their beeper paging messages to go through via rotary dial phones.

## Give These Ideas a Big Hand

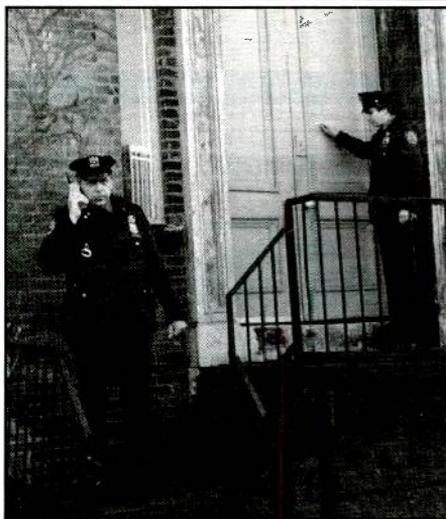
A "Dick Tracy"-type wristwatch cellphone has been perfected and patented by Bell Labs. It's just about the size of a diver's watch, has a small keyboard on the face, and tells time. It is not available to the public yet.

On the other hand, a "Dick Tracy" type wristwatch cordless telephone is available from Panasonic. It operates in the 900 MHz band, offering 30 channels, 10-number speed dial, battery level indicator, and it also tells time. Several wrist sets can be used with one base. The Panasonic model number is said to be KX-T9900.

This information was sent in by Murray Associates, our favorite business/government counterespionage consultants. Contact these folks at P.O. Box 5004, Clinton, NJ 08809. Phone: (908) 730-8733.

## NYPD Not Feeling Blue About Cellphones

Cellular One of New York and New



New York City Police Dept. officers have found that cellphones can be used for certain routine traffic to keep their busy emergency frequencies open.



The Muratec CT-100 is a user-friendly handheld cellphone.

Jersey donated cellphones to the New York City Police Foundation. Those phones became designated for use by the New York City Police Department's Precinct Activated Response (PAR) program, also known as SP9/SP/10.

PAR officers respond to incidents that don't involve physical injury, such as minor car accidents, demonstrations, stolen vehicles, stolen wallet or pocketbooks. The phones have helped when there is a language problem, which often happens in a large metro area composed of a diverse ethnic make-up.

In one case, there was an incident involving a man who could speak only Albanian. The officer called his precinct via cellphone to get the phone number of a local businessman who could speak Alban-

ian. Then he phoned the businessman and asked him to translate for the officer, in order to resolve the problem. The cellphone call to the precinct relieved the strain on the busy NYPD police channels. In addition, time was saved by the officer not having to look for a pay telephone, especially one in working order.

PAR officers use the cellphones when calling in license plate checks. They're also used to handle other routine matters that would otherwise take up time on police dispatch channels where emergency traffic is handled. In one instance, a cellphone was quickly improvised as a temporary crime scene HQ base until more formal arrangements could be established.

NYPD officers say that cellphones have made their jobs a bit easier, attracted a lot of attention, and received a favorable reaction from the public. One officer said it's impressive when you go to someone's house and your cellphone rings.

An NYPD official observed that the cellphones present a positive and professional image of the nation's largest police department. The cellphones are also a visible sign that the NYPD is using the latest technology.

The NYPD cellphones are used in 27 of the 43 PAR precincts, and for at least 16 hours each day.

## New From Muratec

The Muratec CT-100 is a new user-friendly handheld cellphone. The manufacturer points out that the unit has plenty of features, but no complicated programming procedures to memorize. With the convenient scroll feature, users can easily access each of the phone's functions, many of which customize the phone's operations. Call length can be monitored with the timer function. Dual NAM's allow registration in two cities to save on roaming charges.

There's an instant 9-1-1 access. There is also a switchable electronic lock you might wish to activate to prevent unauthorized use of the phone unless your private code number is first entered. There's a 40-number speed-dial, and last-number redial.

Answering an incoming call is as simple as touching any key. The CT-100 is supplied with a rechargeable battery offering 45 minutes of talk time and eight hours of standby. An optional extended time battery allows 1.5 hours of yak-yak and 16 hours of standby.

The Muratec CT-100 carries an MSRP of \$499. It's produced by Muratec Technology, 5560 Tennyson Parkway, Plano, TX 75024-3099. Phone (214) 403-3300.

## June, Soon

That's the size of it for May. Please send along any news clippings regarding cellular or related stories. We also look for press releases from manufacturers and service suppliers in the fields of cellphones, pagers, PCS, and other personal comms services.

# PIRATES DEN

BY EDWARD TEACH

## FOCUS ON FREE RADIO BROADCASTING

Off we go into another round of pirate radio news and loggings. Scott Gentry leads things off with one of the several loggings he made from his Illinois location—WBBD, which he heard on 7414 at 2351 to 0014 with a male DJ, playing "Godzilla" and giving an address of P.O. Box 111, Wadsworth, IL 60083.

WLIS (We Love Interval Signals) was on 7425 at 2215 to 2240 with host Jack Boggin playing interval signals from various international broadcasters. Several station IDs were given, along with the P.O. Box 109, Blue Ridge Summit, PA 17214. George Roberts in Pennsylvania had this one after 0000, also playing interval signals (after all, that's what this one is all about, right?) and giving the Blue Ridge Summit address.

Roberts had WSM (the "Voice of Country Music") on 7414 at 2320 with a test broadcast. (I think the WSM call is used by one of the major southern medium wave stations.)

Gentry logged Radio Doomsday on 7469USB from 2313 to 0014 with a special test transmission. They announced the P.O. Box 452, Wellsville, NY 14895 address and promised a special QSL. Music included the James Bond (007) theme and "Back In The Saddle Again."

Bill Matthieu in Massachusetts picked up RKNA on 7410 around 2335 with country music and comments not in favor of the Clinton administration or its gun control efforts. All broadcasts hosted by "the old western fella" who gave the Wellsville, NY QSL drop address.

Gentry had Happy Hannakah Radio on 6295 at 0131 with comments on Hannakah and musical selections such as "Burning Candles," "Let It Snow," and "Sunrise, Sunset."

Matthew Kiner in Pennsylvania had a station on 7415 at 1830 but he's not sure of the identification, although the broadcast did make mention of Radio Caroline. Matthew suspects this was probably a taped relay and I'd agree. Anyone have any ideas as to what this was? It seems to me that there've been more unidentified transmissions on the air than normal lately.

Roberts reports a log of Anarchy One on 7465 USB at 0130 with "Bob Dylan" as the host, playing "all Bob Dylan music all the time." He also claimed to be broadcasting from a ship somewhere. Announced the Wellsville, NY mail drop. This broadcast was a relay via the North American Pirate Relay Service.

Roberts also heard He-Man Radio on 7415USB, closing at 2300 with various music elements and humorous bits from 2342 tune in.

Scott Gentry reports QSLs from two

<p>YOU PUT YOUR TROOP... IN DANGER...</p>  <p>SOMALIA</p>	<p>YOU TAKE YOUR TROOPS ON OUT...</p>  <p>SOMALIA</p>	VOICE OF STENCH
<p>YOU PUT YOUR TROOPS IN DANGER...</p>  <p>SOMALIA</p>	<p>AND YOU SHAKE THEM ALL ABOUT...</p>  <p>BOSNIA</p>	
<p>YOU GIVE THEM NO OBJECTIVE AS TO WHEN TO TAKE THEM OUT...</p> 	<p>THAT'S WHAT VIETNAM WAS ALL ABOUT.</p>	

MILITARY HOKEY POKEY

BOB  
 THANKS FOR UR RPT  
 OF 30 MAY 1993  
 ON 7414 ~~kHz~~ 41m LSB  
 at 2307 UTC  
 JUST SAY NO TO THE  
 NEW WORLD ORDER  
**PUNK RADIO**

Bob Hose, Jr., in Maryland received this reply from the Voice of Stench.

pirate stations have appeared in his mailbox recently—WREC (Radio Free East Coast) on 7463 for their Halloween broadcast last year and two from Radio Airplane—one for a Halloween broadcast on 7466USB and one for their special first anniversary broadcast—both signed by Captain Eddy.

Jack Sheldon in Michigan heard Radio Airplane on 7465USB at 0310, with host Captain Eddy playing a variety of rock and pop/rock numbers, airplane sound effects and comments including phrases like "from the free skies of—America."

Sheldon also logged Jolly Roger International on 7465 at 0525, running to closing a couple of minutes before 0600. The

broadcast included various humorous bits and skits and a host named "Blackbeard." Also included were comedy songs and promotional announcements for The Pirate Radio Directory and the A\*C\*E\* club. Jack says this was one of the best signals from a pirate station he has ever heard.

Omega Radio was logged by Matthieu on 7465 USB at 0020 with host Dick Tator ("Dictator," get it?) playing various rock tunes and IDing, "You're listening to the conservative alternative—Omega Radio." He announces both the Wellsville and Blue Ridge Summit mail drops.

Roberts heard the Voice of the Real World on 7467 at 0405, saying it was "bringing you the real facts on real life" and

SAMPLE

WLIS → WE LOVE INTERVAL SIGNALS

We are pleased to verify your reception of WLIS. Thank you for your report!

DATE:	TIME:	FREQUENCY:
Jan. 1 2 3 4 5 6 7	0 0 0 0	0 0 0 0 . 0
Feb. 8 9 10 11 12	1 1 1 1	1 1 1 1 1 . 1
Mar. 13 14 15 16	2 2 2 2	2 2 2 2 2 . 2
Apr. 17 18 19 20	3 3 3 3	3 3 3 3 . 3
May 21 22 23 24	4 4 4 4	4 4 4 4 . 4
June 25 26 27 28	5 5 5 5	5 5 5 5 . 5
July 29 30 31	6 6 6 6	6 6 6 6 . 6
Aug.	7 7 7 7	7 7 7 7 . 7
Sept. 1990 1991	8 8 8 8	8 8 8 8 . 8
Oct. 1992	9 9 9 9	9 9 9 9 . 9
Nov. 1993	UTC	kHz
Dec. 1994	EST	USB LSB



QSL #                      73s and 88s to Jan:      Charles Poltz-Chief Verification Signer

Here's the QSL for WLIS—Wee Love Interval Signals, complete with photo of Ian McFarland.

that they wanted to "expand listeners' minds...need to learn to think for ourselves..." They played a lot of very quiet background music behind all of the talking, says George, who didn't hear any mention of a maildrop address.

That's all for this time. Remember, I

need your reports 'cause, if you don't send 'em in, I can't pass the info along to help other pirate fans log new stations. Simple as that! You station operators are more than welcome to send details about your stations, too—equipment, programming plans and so on! Let's hear from you! ■

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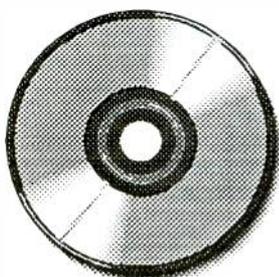


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# SCANNING VHF/UHF

BY CHUCK GYSI, N2DUP

## MONITORING THE 30 TO 900 MHz "ACTION" BANDS

**N**ow's the time to get ready for summer scanning. If you are planning to travel this summer, get your frequency lists ready now. It's better to be prepared well in advance instead of looking around for information hours before you're ready to leave!

For the most part, the frequencies you'll need for your trip can be obtained from frequency directories. For instance, "Monitor America," lists frequencies for all states as well as most metropolitan areas. "Monitor America" is available from many of our advertisers.

Perhaps there is a regional scanner club in the area you plan to visit. By writing to the club or its newsletter's various editors, you might obtain some additional help. You already may be a member of a scanner club. The club newsletter's editor might be able to help you out by directing you to a club in the area you plan to visit. Be sure to enclose a self-addressed, stamped envelope when you write to clubs.

Instead of waiting for the night before you plan to leave, program your scanners several nights before leaving. You'll have enough to do to get ready on the night before you leave on your trip. Once you get to your destination, turn the scanner on and start finding out what frequencies are active. If you don't feel like keeping notes on the active frequencies, here's a trick I do: if your scanner has the capability to put delay on individual channels, I turn on the delay function on frequencies I find active. When I return home and have time, I make note of the channels I installed the delay function on and that it was an active frequency worth monitoring during a return trip. I then put that list in a file folder that I can pull out for a return trip.

### Mailbag

Sean Murphy of Hamden, Connecticut, writes in to say that he has been a scanner listener for 10 years and wants to learn more about the hobby from a club in his area. Northeast Scanners covers an area from Virginia to Maine on the East Coast and their newsletter has several editors for New England. For more information, send a self-addressed, stamped envelope to Northeast Scanning News, P.O. Box 62, Gibbstown, N.J. 08027. If you want a sample issue of their 60-plus page monthly newsletter, enclose a check for \$3 made payable to Les Mattson.

Phil Wagner of Citrus Heights, California, says he recently purchased a scanner and a copy of the Betty Bearcat frequency directory for his area. He asks for more information concerning the use of his scanner and available frequencies. First, by buying a scanner directory, you've made a



*This is the impressive monitoring and transmitting station of Robert W. Sanford, N2OWI, of New York City. A Realistic Pro-2006 scans the VHF/UHF bands, while other receivers are used for HF monitoring. Robert also is active with amateur satellites and uses several computers in his shack.*

good move. Program in frequencies for your area that are listed in the directory. Next, to find more frequencies, try using the search function on your scanner to search around active frequencies for your area. For instance, if a lot of police departments use frequencies in the 155 MHz range in your area, try searching from 155 to 156 MHz. You may stumble on secret unpublished frequencies police use for surveillance, or other frequencies used by surrounding towns or counties. Search unknown regions with your scanner, too. For instance, there may be no frequencies listed in the directory for your area between 406 and 420 MHz, but that's probably because it's a federal government and military band. If you search through the band, you may hear postal inspectors, drug agents, federal building security and more. But you won't know what's there unless you search through the band. One trick in searching, though: Search in 1-MHz increments or less. If you want to be sure to find active frequencies, you have to narrow your search. Give it some time to work, too. As one friend tells me, patience is the key to finding new frequencies.

Wesley Key of Grant, Alabama, sends in some frequencies for his area: 154.920, Alabama State Police Huntsville post dispatch; 154.445, Alabama State Police car to car; 462.950 and 462.975, Huntsville Emergency Medical Services Inc.; 155.340, Huntsville Hospital; 155.250, Huntsville police-north; 154.815, Huntsville police-south; 155.415, Huntsville police-detectives; 154.385, county fire out-

side Huntsville; 154.175, 154.415 and 154.010, Huntsville fire; 154.875, Madison County sheriff; 155.175, Madison County Rescue Squad Inc.

Nate Mister of Atlantic City, New Jersey, passes along frequencies used by the U.S. Coast Guard at its Curtis Bay yard in Baltimore, Maryland, where it repairs Coast Guard ships: 419.650, security F1; 419.850, fire F2; 415.775, shipyard; 416.6375, shipyard; 407.125, shipyard.

George M. Kupraszewicz of Detroit, Michigan, listens with a Realistic Pro-2005 and a Uniden Bearcat 890XLT. He says he has been compiling frequencies used by railroads in the Motor City. Here's his list: 156.500, Conrail bridge and marine use; 156.600, CSX car port; 156.600, Conrail train ferry, bridge and marine use; 160.230, Amtrak, Conrail and CSX road; 160.260, Conrail and Grand Trunk Western PBX; 160.275, Amtrak, Canadian National yard and maintenance PBX, Canadian Pacific shops and yard and Conrail; 160.305, Conrail, Canadian National and Amtrak police; 160.335, Canadian Pacific yard and maintenance and Conrail; 160.350, Conrail and Grand Trunk Western yard at Ferndale; 160.440, Conrail; 160.455, Conrail car department; 160.470, Conrail car department, CSX switch, Grand Trunk Western police and Duluth, Winnipeg & Pacific; 160.560, Conrail police.

George suggests that those interested in railroad monitoring should get their hands on a copy of *Rail-Scan*, a directory of railroad frequencies published by CRB Research Books Inc. (P.O. Box 56, Com-

mack, New York 11725). They have a free catalog. For those interested in active railroad frequencies in their area, search through this segment for railroads: 160.215 to 161.565 MHz. Even in remote areas you probably will find railroad activity because there are remote transmitters to keep in touch with their trains while traveling through various areas. And as George notes and indicates in his list, more than one railroad may be using certain frequencies in a given area.

Dan McNulty, of Minneapolis, Minnesota, and president of Minnesota Radio Hobbyists, says there have been rumors that Burlington Northern Railroad was going to add new frequencies to get rid of some of the congestion on 161.100 and 161.160. Apparently, the FCC has issued some new licenses to BN in Minnesota. The new frequencies and routes they will serve are: 160.695, Anoka to Staples; 161.385, Carlton to Bemidji; 160.920, Delano to Benson to Wahpeton; 161.280, Perham to Bluffton and Frazee to Lake Park. Dan notes that two of the frequencies already are in use, and he also suggests scanner hobbyists with a computer and modem try the Minnesota Radio Hobbyists BBS at (612) 423-7235. The bulletin board is dedicated to radio communications and railfans. Several national nets are carried on the BBS.

David S., of Rensselaer, New York, passes along a cellular monitoring tip for those who wish to program in active cell frequencies in their areas. While sitting around one Saturday afternoon, David said he searched through the cellular frequencies and started logging all the channels that calls popped up on. He then kept track of how many times each of the logged channels became active with phone calls. After a couple of hours, he was able to see what frequencies were used the most and programmed those into his scanner. While it does not remain constant, David notes that channels do become active a lot. He notes that while this method may take a couple of hours or days, it should prove enjoyable while yielding information for your monitoring post.

John Bennett of Phoenix, Arizona, writes in to inquire where he can find frequencies used by TV station news crews in his area. Most news crews in the Phoenix area can be found using frequencies between 450 and 451 MHz as well as the 455 to 456 MHz range. Both ranges are used by TV and radio stations. In fact, while most repeaters use inputs 5 MHz higher in frequency in the 450-470 MHz band, nothing prohibits news media from using inputs in the 450 MHz band for a repeater in the 455 MHz band. In fact, in major cities you'll probably find odd splits for repeater pairs, instead of being exactly 5 MHz apart. For instance, a radio station might have a repeater output on 450.350, but instead of an input on 455.350, it might use 455.150. In addition to the 450 and 455

MHz bands, there are a handful of frequencies from 161.640 to 161.760 that also are used, as well as 166.250 and 170.150 outside a 150-mile radius of New York City. Let us know what you find active by the news media in your neighborhood!

We welcome your frequency lists, comments, questions, listening tips and photos

at Scanning VHF/UHF. We're looking for photos of not only your listening post, but also of communications facilities such as dispatch centers, or even mobile installations. Send your information, questions and photos to: Chuck Gysi, Scanning VHF/UHF, Popular Communications, 76 N. Broadway, Hicksville, N.Y. 11801-2909.



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Aug. 21, 1987

Wilson Antenna Company Inc.  
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Henderson, Nevada 89015

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

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## THE EXCITING WORLD OF RADIOTELETYPE MONITORING

Strange things happened recently on some of the RTTY frequencies used by U.S. Military MARS stations. Whenever they stopped sending their packet radio net traffic, weird looking callsigns and encryption from other stations farther away showed up on the video monitor.

It didn't matter how long the MARS station breaks lasted, the other stations were there to fill the void. Their signals were much weaker than those of the MARS stations. Two of four frequencies where this occurred were 5154.8 and 14464.6 kHz. Both frequencies are meeting places for Navy and Marine Corps MARS stations. Strangely, whenever the MARS stations broke off transmissions for the day, the mystery stations would too.

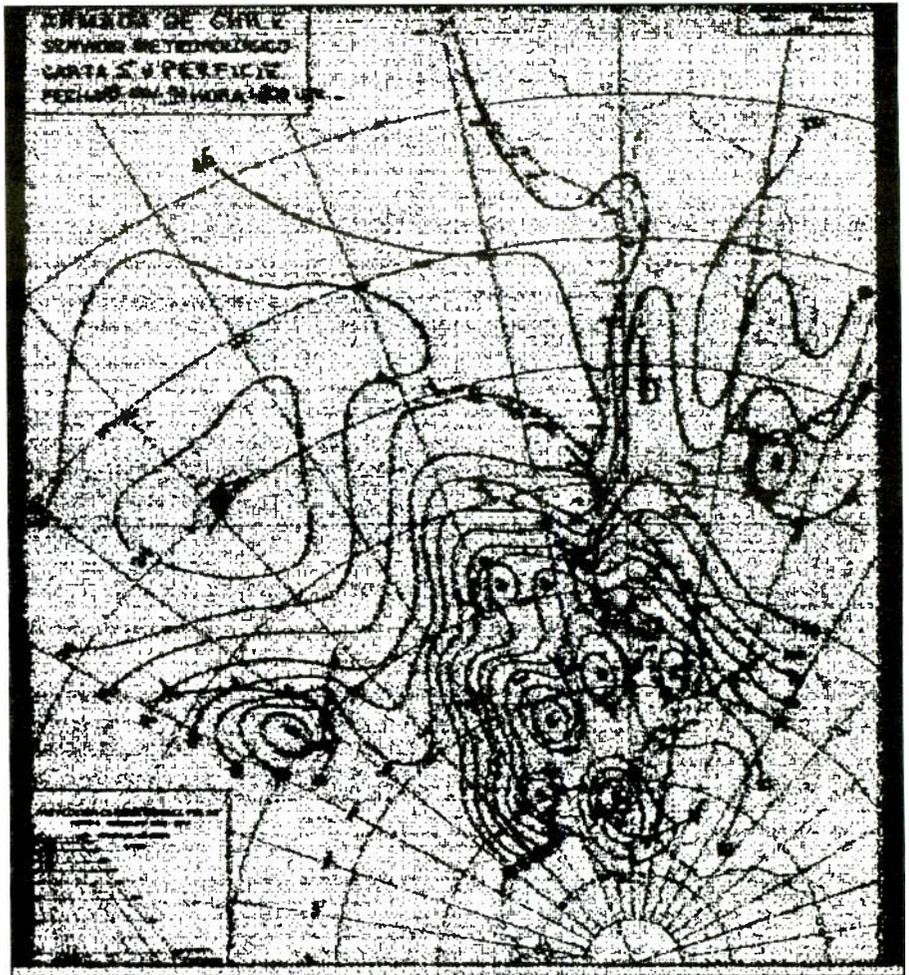
Some time later I found a similar station on 2397.3 kHz, shown in references as assigned to the U.S. Commerce Dept. Unlike the other frequencies, no other stations accompanied this one. Here too the callsigns appeared strange and traffic was encrypted, but the signal coming from this station was very loud, and I was able to get good printouts for analysis. On the other frequencies, printouts showed enormous misprinting because the signals were weak.

What I thought were irregular callsigns were not callsigns at all. The sender's identity was always left blank and the receiver's was encrypted! The transmissions may have been automatically sent from a computer that was left unmanned. I came to this assumption after monitoring the station for over 72 hours. There was never any interruption in transmission which ran 24 hours a day. The signal would drop significantly around sunrise in my area and rise to peak volume around dusk. Since the station could be dimly heard during daylight hours, it indicated to me that its location couldn't have been more than several hundred miles from mine, either in the United States or Canada.

Alaskan Maritime RTTY: NOJ. Kodiak Coast Guard Station, Alaska, sends RTTY traffic to ships on the following frequencies: 4213.5 kHz to ships on 4175.5 kHz, 6317.5 to ships on 6266.0 (24 hours daily), 8419.5 to ships on 8379.5 (24 hours daily), 12652.0 to ships on 12555.0, 16874.5 to ships on 16756.3, 19693.5 to ships on 18883.0, 22441.0 to ships on 22349.0, and 26113.5 to ships on 25185.5. Tune 'em in and tell us what you logged.

Stax of Fax Dept.: AFS, Offutt AFB, Elkhorn, Nebr., with weather charts in December on 11624.0 kHz at 1825 UTC, 120/576. New frequency for AFS.

Popping up on an odd frequency for weather fax charts—6225.85 kHz, which



Surface analysis chart of CBV, Valparaiso, Chile. (Submitted by Steve Wielgos, of Indiana.)

is in the band used by ships for ship-to-shore telephone calls—was NMC, Point Reyes Coast Guard station, Calif. One day last January, it sent weather charts at 0515 and 0527 UTC and went QRT at 0538. Apparently realizing that the wrong surface analysis chart was sent at 0527—it was more than 11 hours old—NMC came up again and sent one that was only six hours old. That was it for the rest of the night.

If you haven't viewed radiofax news photos from Telam, Buenos Aires, Argentina, on 9241.5 kHz lately, tune in between 2300 and 0000 UTC and see the changes that have been made to improve the appearance of the news products. Bolder graphics and charts now join the numerous photos of the Argentine president or Argentine soccer matches. Photos of individuals, apparently famous to the Argentine public, show them in more interestingly posed positions than in the past, where they would just stand with their arms at their sides. Lots of Telam photos sent in January

showed bikini-clad Argentine women playing or sunning themselves on ocean beaches. Just the thing to get one's mind off the huge snowfalls and the arctic-like temperatures that blanketed much of the country at the same time.

### RTTY Intercepts

(All intercepts are from the RTTY column editor's logbook.)

**2434.5-2436.5:** Possibly NAM, Norfolk Naval Base, Va., running encryption on all FDM channels at 0556, 85/75.

**4158.5:** Un-ID in ARQ at 1255 idling for more than an hour.

**4173.0:** 9HTU3, the Maltese ves Loucen, w/tlx to Milena Malta, ARQ at 0230.

**4213.5:** VCS, Halifax CG, N.S., Canada, w/wxcast, FEC at 0642.

**4220.8:** GYU, Royal Navy, Gibraltar, w/available ch's on 6 & 8 MHz bands, FDM 170/75 at 0458.

**4246.3:** CFH, Canforce, Halifax, N.S., Canada, w/encryption at 1803, 850/75.

**4621.7:** RFLID, French Navy, Pointe-a-Pitre, Guadeloupe, w/op msg at 0444, ARQ-E/200. Unusual speed for ARQ-E. Speed mostly found in ARQ-E3 & ARQ-M2 modes.

**5005.0-5007.0:** Un-ID w/all FDM channels encrypted, 170/75 at 0052.

**5017.3:** Un-ID w/FEC idle sig. from 1715 to 1500 the next day.

**5154.8:** USMC MARS stations w/Packet R. xmsns at 1643.

**6265.0:** ELAJ6, the Liberian-reg bulk car Rosina Topic, w/XVSV selcalling in ARQ at 1452.

**6266.0:** Un-ID w/FYQF selcalling in ARQ. for sev. hrs. Tuned in at 0106.

**6267.5:** WHML, the American tnkr Exxon Boston, w/tlx t/c at 2357, ARQ.

**6270.5:** J4QX, the Greek cgo ship Alkmini, w/tlx in GK, ARQ at 2342.

**6273.0:** YLAB, the Russian tnkr Viktorio Codovilla, w/ETA St. Eustatius msg at 0017, ARQ.

**6300.2:** UJDG, the Russian gen cgo ship Pioneer Kazakhstana, w/list of autos: Plimut, Wolxswagen, Merkuri, Ford & Hundai. Was to Arkhangelsk Radio in FEC at 0022. At 0028 came the Russian ves Tekhnolog Konov (unlisted specifics) w/mgs to Arkhangelsk, 170/50.

**6328.0:** WOO, Ocean Gate R., N.J., w/R/T t/c list, FEC at 1950.

**6416.0:** WLO, Mobile R., Ala., w/marine wx forecast, FEC at 1949.

**7342.8:** Civil Air Patrol stas IN0029, PA0018, & TN0010 (Ind., Penn. & Tenn. QTH's) in Packet mode at 0045.

**7685.5:** NNN0XHD w/MARS msgs to NNN0GBT via XHD's "AA4RE multi-mode BBS." Pactor at 1638.

**7710.7:** Un-ID in Mexico w/money drafts (giros), 170/100 at 1529. Went to CW at 1533 & USB voice at 1534. ITU files show numerous Mexican stations on 7710.0 and 7711.5 kHz.

**7896.7:** Un-ID TTY mode, 400/96, at 0356. No sync w/ARQ-E, ARQ-E3, ARQ-M2, ARQ-N, or FEC-A.

**8093.8:** Ship "Juan Fernandez" w/t/c to CBV, Valparaiso R., Chile, ARQ at 0126. The next night, at 0303, this ship, which ID's itself as "JFDEZ," xmitted on 8380.5 kHz to CBV.

**8094.7:** RFFVA, FAF, Paris, France, w/idle sig. at 2359, ARQ-M2/200.

**8098.0:** Un-ID chitchatting in EE, 0045-0051, ARQ. May've been from an oil rig.

**8108.2:** RFQP, French Navy, Djibouti, w/"controle de voie," ARQ-M2/200, ch. A, at 2335, & ZID msg on ch. B at 2348.

8123.0: TNL48, ASECNA, Brazzaville, Congo, w/coded wx, ARQ-M2/96, ch. A & B, at 2353.

**8171.7:** KNY29, Egyptian Emb., Washington, D.C., w/5L grps & tlx's in AA to Cairo at 0011, ARQ.

**8186.7:** KNY29 w/diplo t/c in ARQ at 2247.

**8274.4:** Un-ID w-Crew lists for sev. oil rigs, ARQ at 0055. At 0329, un-ID w/lotsa nbrs, poss data, & nothin' else.

**8303.0:** LOR, Puerto Belgrano Navrad, Argentina, w/5L grps, mgs & nx, at 0151, 170/75.

**8377.0:** UICD, the Russian bulk car Sovietskiy Khudozhnik, w/TG's to Batumni R., ARQ at 2300.

**8378.5:** LAUS2, the Norwegian ves Consensus Sun, w/tlx t/c at 2317, ARQ.

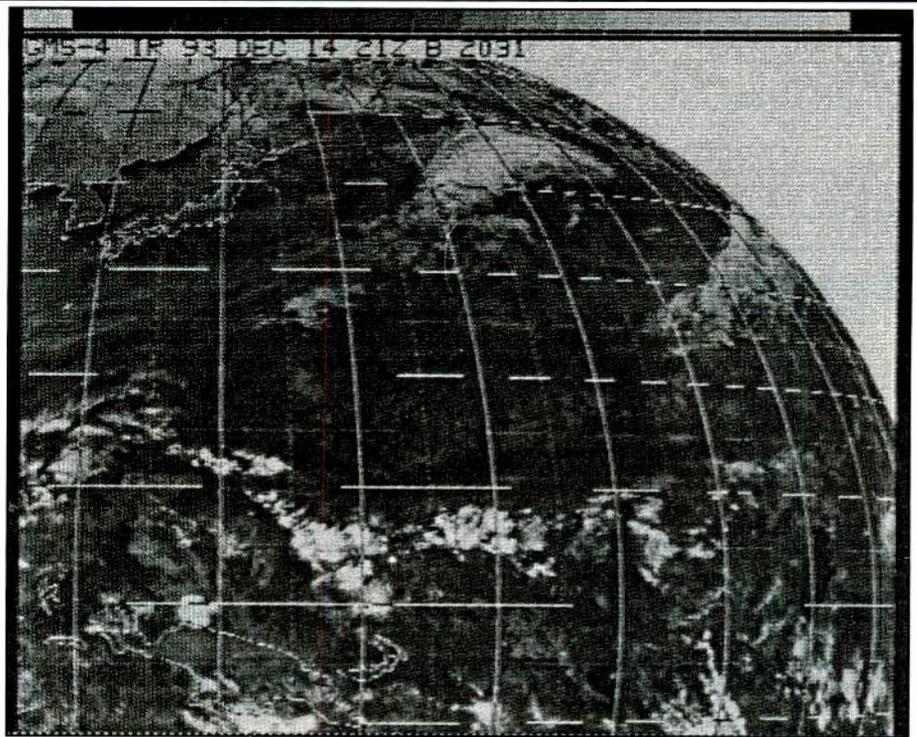
**8379.0:** YLBY, M/V Akademikis Artobolevskis, w/tlx to Newcharter Moscow, ARQ at 0347. Listed as ESWB, Akademik Artobolevski. YLBY & ESWB are both CIS c/s's. D5HD, the Liberian vehicle carrier Aya II, w/tlx's at 1415 in ARQ.

**8379.5:** Y5ET, the German containers ship Mecklenburg, w/pos rpt to Ecareg Ice Halifax, ARQ at 2014.

**8380.5:** BRQD, the Chinese cgo ship Zi Yun Shan, w/tlx's to Callao, Peru, via CBV, ARQ at 0410.

**8381.0:** UOUS, the Russian tnkr Azija, w/msg to Mambisas Havana saying that its cgo is diesel oil, ARQ at 0000. At 1346, an un-ID ship sent selcall YKKV (VIS74, Sydney R., Australia on 8421.0) for a great length of time. No t/c fol'd. KIYN, the American tnkr Exxon Washington, w/ETA Piney Point msg at 2030, ARQ. USEZ, the Russian cgo ship Znamya Oktyabrya, w/msg to Gulf and Eastern, New Orleans, requesting empty trailers for loading cgo, ARQ at 2224. ENUK, the Russian ore & bulk oil ship Akademik Setchenov, w/msg re "crude oil slops" in the engine room, ARQ at 2233. Oil brand name was "Soviet Export Blend Oil" and was loaded in Novorossisk.

**8383.5:** C4VW, the Cypriot ves Balandra, w/tlx t/c, ARQ at 1405. Heard 6 mins. later on 8384.0 rcvg



*Upper right quadrant of a four-panel weather satellite photo that was resent over Spacenet 3, transponder 17, at 2115 UTC. China and Japan are in the upper left corner. (From Robert Margolis.)*

a msg. WHMK, the American tnkr Exxon Baltimore, w/tlx t/c at 0012, ARQ. SPXQ, the Polish gen cgo ship Grunwald, w/ETA Taichung msg to Gdynia Radio.

**8385.5:** UHTX, the Russian cgo ship Sidor Kovpak, w/ETA Koper msg, ARQ at 0018.

**8390.5:** ELBM9, the Liberian-reg psgr ship Tropicale, signing off in ARQ at 0342.

**8396.5:** UTTU, the Russian fct trawler Atlantida, w/TG's to Kaliningrad R., 170/50 at 2355.

**8397.0:** Un-ID w/KYVF selcalling, ARQ at 0004. KYVF is the selcall for Arkhangelsk R., Russia. No t/c fol'd.

**8399.5:** ENYP, the Russian fct trawler Kapitan Butrimov, w/TG's, 170/50 at 0033.

**8405.5:** C6KF8, the Bahamian bulk car Delmas Surcouf, w/QSKK selcalling (un-ID coast sta. in Poland) at 0230, foll by msg in Polish at 0236 & TG's in Polish at 0238, ARQ.

**8411.5:** SQNW, the Polish gen cgo ship Szczecin, w/TG's, ARQ at 2218.

**8413.0:** UZYY, the Russian space-monitoring ship Kosmonaut Viktor Patsayev, w/KYVV selcalling (St. Petersburg R., Russia), fol'd by TG in RR, ARQ at 0148. UIVF, the Russian cgo ship Palekh, w/TG's to St. Petersburg, ARQ at 2153.

**9068.0:** Un-ID w/encryption, 170/81 at 1515.

**9110.0:** Un-ID w/encryption, 170/110 at 1245.

**9130.2:** Un-ID w/encryption, 500/40.5 at 1249.

**9308.0:** Un-ID w/encryption, 500/81 at 1252.

**9315.0:** Un-ID w/encryption, 500/40.5 at 1253.

**10798.2:** RFLI, French Navy, Fort de France, Martinique, w/AFP nx in FF at 2020, & wx bulletin at 2222, ARQ-E3/96.

**10814.2:** RFQP, French Navy, Djibouti, w/"controle de voie" at 0059 on ch B & at 0114 on ch A, ARQ-M2-342/200.

**11112.7:** RFHJ, French Navy, Papeete, Tahiti, w/AFP nx in FF at 1130, ARQ-E3/100.

**12477.5:** C6M08, the Bahamian ves Argentina Star, w/tlx t/c, ARQ at 2237. GTIA, the British ves Ilybank, w/tlx t/c at 1915, ARQ.

**12479.0:** ELFJ4, the Liberian-reg oiler Ventares, w/AMVER at 1939, ARQ. YJZL7, the Vanuatuan ves Wislanes, w/AMVER at 1808, ARQ.

**12480.5:** P3ZY3, the Cypriot ves Sea Duty II, w/pos rpt, ARQ at 1908. 3EOT8, the Panamanian tnkr Ariadne I, w/ETA Santa Cruz msg, ARQ at 1219. J8EX4, the Saint Vincent reefer Atlantik Frigo,

w/AMVER, ARQ at 1939. SJZQ, the Swedish tnkr Aurum, carrying sulph. acid, w/tlx's at 1953, ARQ.

**12482.0:** UIBZ, Vassily Klotchkov (no info available), w/msg to Odessa Radio, ARQ at 1756. 3EDR2, the Panamanian dry cgo ship Lady Marina, w/tlx in II at 2005, ARQ.

**12482.5:** SQNV, the Polish gen cgo ship Lublin II, w/AMVER, ARQ at 2025.

**12483.0:** P3CP2, the Cypriot cgo ship Freeport, w/pos rpt & ETA Balboa msg, ARQ at 2037.

**12484.0:** HCZW, the Ecuadorean fruit car Provincia de Los Rios, w/tlx t/c at 2013, ARQ.

**12487.5:** S6HR, the Singaporean cgo ship Santiago Star, w/AMVER, ARQ at 1911.

**12489.0:** ZCUX, the Hong Kong cgo ship Repulse Bay, w/mgs at 2050, ARQ. OYVW6, the Danish coaster Amulet, w/wx obs at 1915, ARQ.

**12490.0:** OXBM6, the Danish coaster Fetish, w/AMVER, ARQ at 1659.

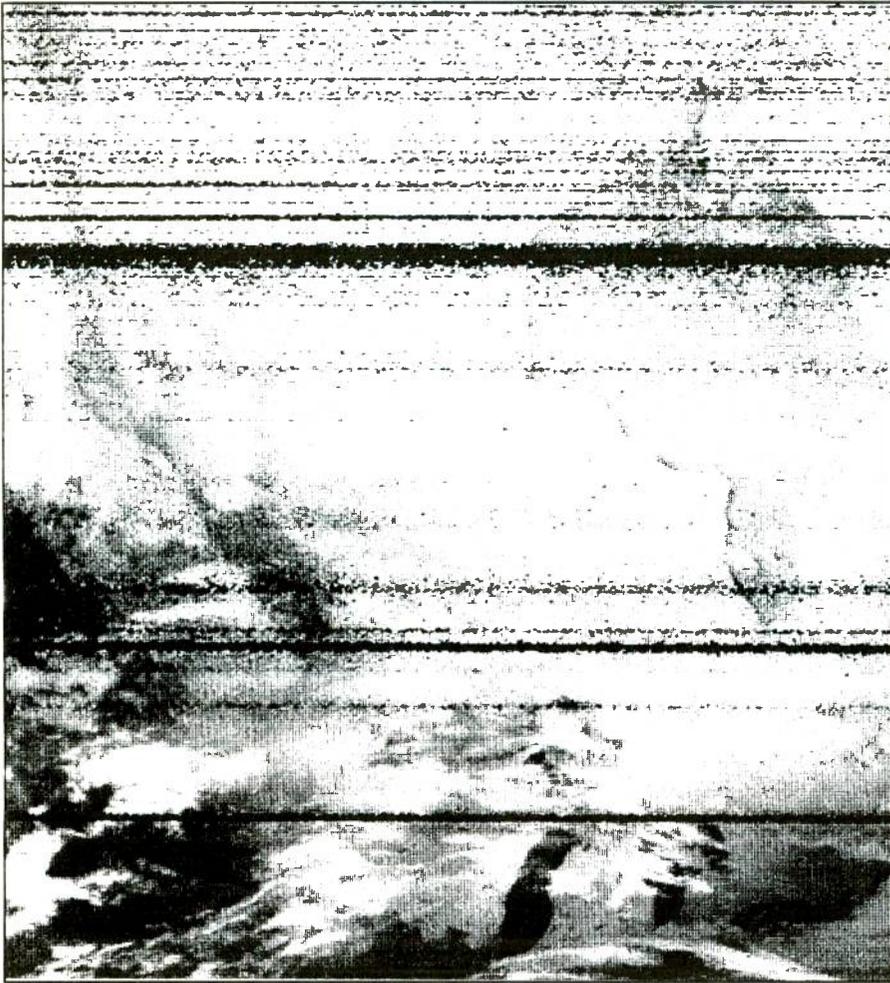
**12491.5:** PPSJ, the Brazilian oiler Metaltanque 2, w/pos. rpt. to PPR at 0051, ARQ.

**12492.5:** CRY5, the Canadian ves Inago, w/tlx to Staitol North America, ARQ at 1903.

**12493.5:** SQEV, the Polish bulk car Rolnik, w/ETA New Orleans msg at 1539, ARQ.

#### Abbreviations Used In The RTTY Column

AA	Arabic
ARQ	SITOR mode
BC	Broadcast
EE	English
FEC	Forward Error Connection mode
FF	French
foxes	"Quick brown fox. . ." test tape
GG	German
ID	Identification/led
MFA	Ministry of Foreign Affairs
nx	News
PP	Portuguese
RVRY	"RVRY . . ." test tape
SS	Spanish
t/c	Traffic
w/	With
wx	Weather



*The Great Lakes stand out vividly on the bottom of this NOAA10 weather satellite photo captured by the RTTY column editor on 137.500 MHz. Satellite movement was from southeast to northwest, and was over Saskatchewan when its signal was first heard*

**12497.0:** UWUC, the Russian cgo ship Novogradok, w/TG's in RR to St. Petersburg R., Russia, ARQ at 2200.

**12498.0:** Un-ID w/encryption on ship RTTY channel, 170/75 at 1520.

**12498.5:** Un-ID (OM, prob USA) gossiping about his relations w/Pat & Natalie. Describes kissing Pat as "yuck yuck." & re Natalie, "I don't believe anyone would possibly want to marry Natalie. She's there to curse me forever." Wonder if this was sent from the "Love Boat?" ARQ at 1917.

**12501.5:** DVCJ, the Filipino bulk car Furunes, w/ETA Kingston (Jamaica) msg at 0045, ARQ. SWVQ, the Greek cgo ship Samjohn Captain, w/tlx to SVA, ARQ at 2206.

**12503.0:** LXCF, the Luxembourgian tnkr Petrobulk Lion, w/msg saying its cgo is gasoline. Was ARQ at 1946.

**12523.0:** Un-ID ship selcalling KYVM (Riga R., Latvia), ARQ, 1818-1822. YLBQ, TK A. Gramji (Latvian flag?), w/pos rpt to Riga R., ARQ at 1225.

**12535.5:** UEYP, the Russian cgo ship Tonya Bondarchouk, w/TG's in RR to Murmansk R., ARQ at 2145.

**12563.5:** Ship Maratha Mission (no info available) w/tlx tlc, ARQ at 2040.

**12581.0:** LSD836, Buenos Aires R., Argentina, w/nx in SS to LQBB, the Argentine fishing ves Kongo. Was ARQ at 0108.

**12582.5:** FFT61, St. Lys R., France, w/wxcst in FF, FEC at 2000.

**12597.0:** SPB62, Szczecin R., Poland, w/tlx tlc at 2100, ARQ.

**12823.8:** GYU, Royal Navy, Gibraltar, w/open

ch's on 8 & 12 MHz bands, FDM 170/75 at 1936.

**12886.5:** WLO, Mobile R., Ala., w/High Seas Forecast at 1940, FEC.

**13020.0:** Un-ID w/encryption, 170/110 at 1555.

**13414.5:** Un-ID w/encrypted tlc, ARQ at 2020. Ends 2025 w/TQV selcalling, Dutch diplo?

**13444.2:** RFQP, French Navy, Djibouti, w/"controle de voie," ARQ-E3/100 at 1546.

**13828.0:** CCM, Magallanes Navrad, Chile, w/coded & plaintext wx in SS, and 5L msgs to various naval ships, 774/100 at 2300.

**13867.5:** Un-ID w/idle ARQ sig., 2117-2237.

**13940.0:** CLP65, Cuban Emb., Managua, Nicaragua, w/tlx's & msgs to CLP1, 480/100 at 1515.

**14352.5:** SAM84, Swedish Emb., Washington, D.C., relaying Telexes to Havana, Cuba, SWED-ARQ at 1850.

**14353.0:** SAM84 relaying tlc's to Guatemala at 1815, SWED-ARQ.

**14353.5:** SAM, MFA, Stockholm, w/tlc to Mexico at 1445, SWED-ARQ.

**14405.0:** Un-ID UN sta. w/very garbled ARQ xmsg on noisy band at 1547. Saw "...following press release.." but not much else that wasn't misprinted. Went QRT at 1600.

**14481.7:** RFTJ, French Navy, Dakar, Senegal, w/nx in FF at 2001, ARQ-E3/48.

**14487.2:** Un-ID w/idle sig., ARQ-M2/200, 1453-1528.

**14674.0:** DFZG, MFA, Belgrade, Yugoslavia, w/nx in EE at 1500, 400/75.

**14681.0:** "V5G," MFA, Bucharest, Romania, w/nx in Romanian at 1403, ROU-FEC/164.5.

**14764.0:** A9M70, GNA, Hamala, Bahrain, w/nx in EE at 1545, 300/75.

**15801.5:** Un-ID French diplo w/op sending personal msgs, ARQ6-90/200 at 1453.

**16081.7:** KNY29, Egyptian Emb., Washington, D.C., w/tlc in AA, ARQ at 1658.

**16109.0:** SNN299, MFA, Warsaw, Poland, w/s/off msg, POL-ARQ at 1506.

**16137.0:** "BAR" w/ID + RYRY at 2108, 425/50. At 2109: "to nr 101 sa: qtc nr 138 qpp qsl no" + 1 repeat, foll by QRU QRU SK SK.

**16204.0:** Un-ID w/encryption, 400/81 at 1517.

**16421.7:** RFTJ, French Navy, Dakar, Senegal, w/"controle de voie" at 1933, fol'd by "revue de presse," ARQ-E3/48.

**16618.5:** Un-ID w/nx in GK, FEC at 2051. S/off w/"H ora ths alitheias telos. De roro. A to htan to press gynaw 16615 k."

**16650.0:** UJDG, the Russian gen cgo/cntrn ship Pioneer Kazakhstana, w/TG to Arkhangelsk R., FEC at 1756. UYUS, the Russian timber car Kapitan Motch- alov, w/TG's at 1747, ARQ.

**16684.0:** MNAK9, the British pleasure ship Stampede, w/s/off at 1648, ARQ.

**16692.0:** Un-ID w/QQUQ selcalling, ARQ at 2235.

**16694.0:** KSKF, the American tnkr Keystone Canyon, w/AMVER at 2210, ARQ.

**16696.5:** VRGW, the Hong Kong bulk car Valdivia, w/AMVER, ARQ at 1820. Also heard sev. days later on 16689.5 at 1633.

**16697.0:** IBCR, the Italian ves Costa Romantica, w/pos rpt to "difmar," ARQ at 1813.

**16699.5:** UZEK, the Russian ves Mekhanik Vras- kov, w/tlx in EE, inc grocery list, ARQ at 1840. 3EKR7, the Panamanian cgo ship African Queen, w/ETA msg to CSAV Reefer/Oper Chile, ARQ at 1635.

**16702.0:** ELJF2, the Liberian-reg bulk car Bright Days, w/ETA St. Eustatius msg at 1644, ARQ. TCKT, the Turkish cgo ship Mentese, w/AMVER, ARQ at 1809. ELFO3, the Liberian-reg lighter Rhine Forest, w/ETA msg to Marco S'Pore, ARQ at 1843.

**16704.0:** EQJL, the Iranian cgo ship Iran Dast- gheyb, w/pos rpt at 1618, ARQ.

**16705.0:** UONF, the Russian fish car Kramat-orsk, w/"found three persons on board without docu- ments stop decided to come back bound Barranquilla to avoid immigration problems in USA." The msg, to Morlot Mariupol, was in ARQ at 2156.

**16710.0:** ELPW6, the Liberian-reg ves Ellie, w/ETA Port Esquivel msg at 1833, ARQ.

**16711.0:** C6HU5, the Bahamian cgo ship Merchant Princess, w/ETA msg, ARQ at 1640.

**16711.5:** VSB13, the Bermudan cgo ship Bibi, w/pos rpt, ARQ at 1835.

**16712.5:** Un-ID ves selcalling VQYV (7TK, Boufarik R., Algeria), ARQ at 1815. No tlc fol'd.

**16713.5:** WMLH, the American cntrn ship Tillie Lykes, w/AMVER, ARQ at 1814.

**16716.0:** LAMC2, the Norwegian tnkr Sunny Lady, w/pos rpt to Unigasinter, ARQ at 1745.

**16798.0:** DZJ, Manila R., Philippines, w/nx in EE, FEC at 1917. B/C began w/"press report via DZJ Manila..." & ended w/"end press de C/M PVT2, always at your service, maraming TY TY TY. Back to centro." B/C was rptd at 1949 on 16788.7 kHz.

**16806.5:** NMC, Point Reyes CG, Calif., w/ARQ phasing sig. + CW ID at 1855.

**17481.7:** CLP1, MFA, Havana, Cuba, w/pren- saminrex to Nigeria, 450/50 at 1540.

**17551.0:** RFTJ, French Navy, Dakar, Senegal, w/5L grps at 1555, ARQ-E3/192.

**18525.0:** Un-ID idling in ARQ at 1729, then s/off w/"antoine" at 1730.

**18597.5:** MFA, Madrid, Spain, w/TQV selcall- ing at 1527, foll by s/off msg, Twinplex.

**18646.7:** PCW1, MFA, The Hague, NLD, w/badly gbl'd tlc due to weak sig, ARQ at 1605.

**18648.5:** SPW, Warsaw R., Poland, w/nx in Polish, FEC at 1518.

**18668.0:** Un-ID w/text in AA, ARQ, 1529- 1533.

**18966.7:** RFHJ, French Navy, Papeete, Tahiti, heard at 1807, ARQ-E3/96.

**18986.7:** RFHJ w/nx in FF, ARQ-E3/100 at 1630.

**19026.8:** PWZ33, Rio de Janeiro Navrad, Brazil, w/IANTN tlc at 1845, 850/75.

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# POP'COMM's World Band Tuning Tips

## May—1994

Freq.	Station/Country	UTC	Notes	Freq.	Station/Country	UTC	Notes
2390	LV de Atitlan, Guatemala	0100	local	6085	Bayerischer Rundfunk, Germany	0230	GG
3220	HCJB, Ecuador	0400	SS	6095	Vatican Radio	0250	
3230	R. Oranje, S. Africa	0230	Afk.	6100	Deutsche Welle, Germany	0400	GG
3235	R. West New Britain, P. New Guinea	1100		6115	R. Union, Peru	0200	SS
3255	BBC Lesotho Relay	0300		6117	La Voz del Llano, Colombia	0900	
3270	Namibia Bc Corp.	2345		6120	R. Japan via Canada	1100	
3270	Ondas del Oriente, Ecuador	1015	SS	6130	CHNX, Halifax, Canada	0500	
3300	R. Cultural, Guatemala	0200		6135	Swiss Radio Int'l	0230	
3315	R. Manus, P. New Guinea	1130		6150	Caracol Neiva, Colombia	0200	SS
3320	Radio 2000, S. Africa	0100		6165	R. Netherlands via Bonaire	0400	
3325	R. Maya, Guatemala	1130	vern	6175	Faro del Caribe/TIFC, Costa Rica	1000	SS
3339	R. Altura, Peru	1030	SS	6190	R. Yugoslavia	0200	
3360	LV de Nahuala, Guatemala	1130	local	6205	R. Quisqueya, Dom. Rep.	0100	SS
3366	GBC, Ghana	0600		6220	R. Bulgaria	0430	s/on
3370	R. Tezulutlan, Guatemala	1100	SS	6245	Vatican Radio	0640	
3380	R. Chortis, Guatemala	1130	SS	6250	R. Nacional, Eq. Guinea	0500	SS
3395	R. Catolica Nacional, Ecuador	0100	SS	6576	R. Pyongyang, N. Korea	1130	
3945	Vatican Radio	0600	tests	6790	CPBS, China	1100	CC
3980	VOA, Germany	0630		7105	R. Yerevan, Armenia	0345	
3995	Deutsche Welle, Germany	0100		7125	RTV Guinea	0700	FF
4505	R. Horizonte, Peru	1000	SS	7150	Capital Radio, S. Africa	0330	
4712	R. Abora, Bolivia	0300	SS	7215	R. Norway	0500	NN
4735	Xinjiang PBS, China	1130	CC	7230	AWR, Italy	0930	
4753	RRI, Ujang Pandang, Indonesia	1100	II	7240	R. Australia	1100	
4754	Rdf Maranhao	0000	PP	7245	R. Nacional, Angola	0545	PP
4760	ELWA, Liberia	0555	s/on	7250	Vatican Radio	0600, //6245	
4765	RTVC, Congo	0355	s/on, FF	7255	V of Nigeria	0500	
4770	R. Centinela del Sur, Ecuador	1130	SS	7265	Sudwestfunk, Germany	2200	GG
4775	R. Tarma, Peru	0958	s/on, SS	7275	ELBC, Liberia	0705	s/on
4799	R. Oriental, Ecuador	0100	SS	7285	RT Malienne, Mali	0700	FF
4780	Onda Musical, Dominican Rep.	0200	SS	7295	RTV Malaysia	1030	
4780	R. Pyongyang, N. Korea	1200	KK	7335	R. Moscow	0300	
4805	Rdf Amazonas, Brazil	0030	PP	7370	R. Vlanderen, Belgium	0030	
4815	R. Burkina, Burkina Faso	0600	FF	7385	TWR, Monaco	0845	
4824v	La Voz de la Selva, Peru	1030	SS	7415	VOA relay, Botswana	0500	Hausa
4830	R. Tachira, Venezuela	0200	SS	7455	R. Bulgaria	2300	
4830	R. Botswana	0250		7475	RTT Tunisienne, Tunisia	0500	AA
4860	R. Maracaibo, Veneuela	0200	SS	7670	R. Bulgaria	0330	Bulgarian.
4875	V of Jinling, China	1200	CC	9022	VOIRI, Iran	0030	EE
4885	R. Clube do Para, Brazil	0100	PP	9165	R. Omdurman, Sudan	0255	sign on, AA
4895	R. IBP, Brazil	0600	PP	9280	WYFR, via Taiwan	1300	CC
4890	RFI Relay, Gabon	0355	s/on, FF	9405	R. Prague, Czech Rep.	0000	
4895	LV del Rio Aruca, Colombia	0130	SS	9420	Voice of Greece	0130	GG/EE
4900	RTV Guineenne, Guinea	0600	FF	9445	Voice of Turkey	2330	TT
4910	Zambia Broadcasting Corp.	0345	lang.	9475	R. Cairo, Egypt	0200	
4910	La Voz de Mosquitia, Honduras	0130	Miskito	9480	TWR, Monaco	0730	
4935	R. Tropical, Peru	1000	SS	9495	Radio France Int'l	2030	FF
4960	R. Cima Cien, Dominican Rep.	0030	SS	9505	R. Record, Brazil	2300	PP
4970	R. Rumbos, Venezuela	0300	SS	9510	R. Romania Int'l	0200	
4980	Ecos del Torbes, Venezuela	0300	SS	9510	R. New Zealand Int'l	1200	
4985	R. Brazil Central	0100	PP	9520	R. Veritas Asia, Philippines	1200	
4990v	R. Apinte, Surinam	0330	Dutch	9540	R. Nacional Espana, Spain	0100	
5010	R. Cameroon, Garoua	0500		9540	Spanish Foreign Radio	9230	SS
5015	R. Brazil Tropical, Brazil	0700	PP	9560	R. Jordan	1500	
5020	Solomon Is. Bc. Corp.	0730		9570	R. Portugal	0230	
5020	Ecos del Atrato, Colombia	0100	SS	9570	R. Romania Int'l	0230	
5025	R. Transamazonica, Brazil	0930	pp	9575	Radio Medi Un, Morocco	0730	FF
5025	R. Rebelde, Cuba	0100	SS	9580	R. Tirana, Albania	0230	
5030	Bhutan Broadcasting Service	1200		9580	R. Yugoslavia	0030	
5045	R. Cultura do Para, Brazil	0200	PP	9605	Vatican Radio	0230	ss
5047	RTV Togolaise	0524	s/on, FF	9610	Rdf Rwandaise, Rwanda	0258	s/on, FF
5060	R. Nac. Progreso, Ecuador	0300	SS	9615	VOIRI, Iran	1630	Farsi
5075	Caracol Bogota, Colombia	0200	SS	9630	Spanish Ntl Radio via Costa Rica	0200	SS
5145	China Radio	1100	CC	9640	Ecos del Torbes, Venezuela	1100	SS
5320	CPBS, China	1100	CC	9645	R. Bandeirantes, Brazil	0000	PP
5920	Croatian Radio	0800		9650	Swiss Radio Int'l	0000	
5930	R. Slovakia Int'l	0100		9650	Channel Africa, S. Africa	0400	PP
5960	R. Japan via Canada	0300		9655	R. New Zealand Int'l	1300	
5975	BBC via Antigua	0100		9660	BBC via Cyprus	1330	
5995	R. Melodia, Peru	0900	SS	9675	NBC, Papua New Guinea	1200	
6000	Canadian Forces via Radio Canada	0300		9690	China Radio Int'l, via Spain	0300	
6005	RAI, Italy	0100		9695	R. Sweden	0200	
6020	R. Netherlands	2330		9705	R. Portugal	0230	
6025	R. Kossuth, Hungary	0630	Hungarian	9725	AWR, Costa Rica	1100	
6050	HCJB, Ecuador	0700	PP	9730	Channel Africa, S. Africa	0300	
6055	R. Prague, Czech Rep.	0700		9725	RAI, Italy	0100	

Freq.	Station/Country	UTC	Notes	Freq.	Station/Country	UTC	Notes
9755	Radio Canada Int'l	0000		13730	R. Austria Int'l	1130	
9745	HCJB, Ecuador	0730		13750	AWR Latin America, Costa Rica	1200	s/on
9750	R. Korea, S. Korea	1200		13750	Reshet Bet, Israel	1415	Yiddish
9760	R. Tirana, Albania	0330	Alb.	13785	R. Pyongyang, N. Korea	1500	
9770	R. Australia	1500		13835	INBS, Iceland	1230	Icelandic
9770	UAE Radio, Abu Dhabi	2000	AA	14880	Spanish National Radio	1600	SS feeder
9779	Rep. of Yemen Radio	2100	AA	USB			
9780	China Radio Int'l, via Mali	0300		15050V	R. Patria Libre, clandestine	1400	SS, irr.
9810	R. Slovakia Int'l	0100		15090	Vatican Radio	2245	s/on
9815	Radio Havana Cuba	0200	USB	15095	R. Damascus, Syria	2100	
9825	R. Kiribati	0555	s/on	15100	FEBC, Philippines	1400	EE & others
9830	KHBN, Palau	1400		15115	Radio New Zealand Int'l	0400	
9840	R. Kuwait	2100	AA	15140	R. Veritas Asia, Philippines	1500	
9845	R. Netherlands via Kazakhstan	0100		15140	R. Nacional, Chile	0100	SS
9870	BSKSA, Saudi Arabia	2030	AA	15175	FEBA, Seychelles	1100	AA
9880	R. Austria Int'l	0130		15185	R. Finland Int'l	2300	
9900	R. Cairo, Egypt	2230		15195	R. Ukraine	0030	
9935	RS Macedonia, Greece	1400	Greek	15205	R. Algiers, Algeria	1600	
9955	R. Miami Int'l	various/tests		15240	R. Sweden	1230	
9960	Wings of Hope, Lebanon	0400		15240	R. Finland Int'l	1530	
9977	R. Pyongyang, N. Korea	1100		15250	Channel Africa	1700	
11100	CPBS, China	1530	CC	15260	VOIRI, Iran	0030	
11402	INBS, Iceland	2300	Icelandic	15265v	Radiobras, Brazil	1200	
11550	RTV Tunisienne, Tunisia	1600	AA	15295	R. Tashkent, Uzbekistan	1200	
11570	R. Pakistan	1600		15305	UAE Radio, Abu Dhabi	2340	
11600	R. Cairo, Egypt	0200		15310	BBC via Cyprus	1500	
11620	All India Radio	2000		15325	FEBA, Seychelles	0400	AA
11625	Vatican Radio	0630		15325	R. Japan via Fr. Guiana	0300	
11645	Voice of Greece	1600	Greek	15340	Rdf. Rwandaise, Rwanda	2000	FF
11650	FEBC, Philippines	2300		15345	RAE, Argentina	0200	SS
11660	R. Australia	1600		15345	RTV Marocaine, Morocco	1700	AA
11680	China Radio Int'l via Fr. Guiana	0400		15350	R. Luxembourg	1600	GG
11705	R. Sweden	2330		15400	R. Finland Int'l	1330	
11705	R. Moscow	1300		15410	VOA, Morocco relay	2200	s/off
11710	UAE Radio, Abu Dhabi	2330	AA	15415	Libyan Jamahiriya Broadcasting	1500	AA
11710	RAE, Argentina	0200		15425	SLBC, Sri Lanka	1500	
11725	R. Korea, S. Korea	1000	SS	15445	Radiobras, Brazil	1245	EE
11730	BSKSA, Saudi Arabia	2230	AA	15445	R. France Int'l	2300	FF
11735	HCJB, Ecuador	0600	RR	15475	Africa Number One, Gabon	2100	FF
11750	Channel Africa, S. Africa	0500	PP	15505	Swiss Radio Int'l	1500	
11755	R. Finland Int'l	0130		15510	R. Australia	0600	
11785	Rdf. Nacional, Colombia	1900	SS	15515	R. Portugal	1900	
11790	VOIRI, Iran	1530		15570	R. Veritas Asia, Philippines	1530	s/on
11800	R. Australia	1500		15575	R. Korea, S. Korea	0030	
11800	RAI, Italy	0100		15635	V of Greece	1230	
11810	Iraqi Radio	2300	EE	15640	Kol Israel	1400	
11815	Spanish Ntl Radio via Costa Rica	0100	SS	15650	Voice of Greece	1830	
11820	BBC relay, Hong Kong	1400		15675	R. Copan Int'l, Honduras	2300	SS
11825	R. Tirana, Albania	2200		15710	CPBS, China	1400	CC
11827	R. Tahiti	0300	FF/TT	17490	HCJB, Ecuador	1000	
11835	HCJB, Ecuador	0700		17500	RTV Tunisienne, Tunisia	1330	AA
11840	R. Japan	1100	JJ	17515	R. Vlanderen Int'l, Belgium	1600	
11850	China Radio Int'l	1300		17525	V of Greece	1830	
11865	R. Norway Int'l	0300		17575	Kol Israel	1700	
11870	AWR, Costa Rica	1400		17595	R. Cairo, Egypt	1200	
11880	R. Galaxy, Russia	2100		17620	R. France Int'l	1600	
11885	UAE Radio, Abu Dhabi	2330		17630	Africa No. One, Gabon	1430	FF
11890	R. Oman	2100	AA	17670	Swiss Radio Int'l	1500	
11895	Voice of Turkey	2300		17690	R. Ukraine Int'l	0100	
11910	R. Sweden	2230		17705	R. Havana Cuba	2130	SS
11925	R. Norway Int'l	2200		17710	R. Yugoslavia	1900	
11965	VOA relay, Botswana	0330		17730	Swiss R. Int'l, via Brazil	0000	
11970	KNLS via Russia	1200	s/on, CC, wknds	17740	R. Yugoslavia	1200	
11980	KSDA, Guam	1400	CC	17745	R. Algiers, Algeria	1930	
11985	UAE Radio, Dubai	2100	AA	17750	Voice of Free China, Taiwan	2200	via WYFR
11990	R. Kuwait	1500	AA	17760	R. Havana Cuba	2130	
12020	V of Vietnam	1000		17785	VOA Morocco relay	1930	
12035	Swiss Radio Int'l via Gabon	2000		17790	HCJB, Ecuador	2130	
12050	R. Cairo, Egypt	0300	AA	17805	R. Romania Int'l	1730	
12085	R. Bulgaria	1515		17810	R. Japan	2300	
12085	R. Damascus, Syria	2030		17815	R. Cultura Sao Paulo, Brazil	2200	PP
13605	R. Australia, Darwin	1130		17845	Spanish Foreign Radio	1500	SS
13605	Capitol Radio via UAE Abu Dhabi	2230		17870	R. Sweden	1500	
13615	R. Bangladesh	1230		17875	R. Canada Int'l	2030	
13620	R. Kuwait	2000		17880	R. Finland Int'l	1300	
13625	KHBI, Saipan	1300		17890	Spanish National R. via Costa Rica	2130	SS
13640	Croatian Radio	1500	Croat	17900	R. Portugal	2000	PP
13650	R. Pyongyang, N. Korea	2300		21455	HCJB, Ecuador	1330	
13660	R. Havana Cuba	0200	USB,EE	21515	R. Portugal	1500	PP
13675	UAE Radio, Dubai	1630		21550	R. Finland Int'l	1430	
13690	R. Canada Int'l	2200		21605	UAE Radio, Dubai	1330	
13700	R. Netherlands	1330		21605	R. Yugoslavia	1230	
13720	AWR, Guam	1600	non-EE	21625	Radio Sweden	1330	
				21810	R. Vlanderen Int'l, Belgium	1330	Flemish

**19320.0:** OMZ, MFA, Prague, Czech Rep., w/nx in Czech, 400/100 at 1320.

**19414.7:** Un-ID w/RQ sig, ARQ at 1445.

**19646.7:** RFLIG, French Navy, Cayenne, French Guiana, relaying "de Paris..." controle de voie" back to Paris, ARQ-E3/192 at 1600.

**20422.5:** German Emb., Brasilia, Brazil, w/encryption at 1713 & a tlx in GG at 1816, ARQ-E/96.

**20818.0:** CLP1, MFA, Havana, Cuba, w/tlx's to CLP12, Lima, Peru, 425/50 at 1606.

**22181.0:** Un-ID w/nx in GK, ARQ at 1703. S/off 1710 w/o ID. moving to USB voice comms on same freq.

**22285.0:** C6KV3, the Bahamian cgo ship Canterbury Star, w/ETA Wandelaar msg, ARQ at 1614.

**22286.5:** EAFI, the Spanish ves Capitan Juana Tapias, w/AMVER at 1518, ARQ.

**22299.5:** 3EIR8, the Panamanian ves Bagno Catarama, w/pos rpt to Coolcare Stockholm, ARQ at 1607.

**22303.0:** DVCB, the Filipino ves Crest 1, wkg KPH, ARQ at 1515. C6HK7, the Bahamian ves Cuenca, w/ETA Manzanillo msg for Maritima Dominicana, ARQ at 1756.

**22304.0:** M/V Pal Eagle (Cyprus flag) w/ETA Paita msg to Hamburg. ARQ at 1832. SGLU, the Swedish reefer Winter Wave, w/wx obs to Meteo Norrkoping, ARQ at 1842. LAKW2, the Norwegian cgo ship Swan River, w/AMVER, ARQ at 1850. while berthed at Abidjan, Ivory Coast.

**22378.0:** FFT91, St. Lys R., France, w/tfc list at 1600. FEC.

**22381.5:** HEC52, Bern R., Switzerland. w/tfc list, FEC at 1430.

**22385.5:** WNU, Slidell R., La., w/svc info, FEC at 1559.

**22391.5:** HPP, Panama Radio, w/var. selcalls, ARQ at 1451 & 1607.

**22394.5:** LPD88, Gen. Pacheco R., Argentina, w/tfc list. ARQ at 1500.

**22425.5:** WOM, Ft. Lauderdale R., Fla., w/tfc list & svc info at 1620, ARQ.

**22888.0:** DFZG, MFA, Belgrade, Yugoslavia, w/nx in EE at 1624. 361/75. ■



*It's mid-January, 1994. The upper-midwest is digging out from a recent big snow storm. Now, "The Siberian Express" cold air mass is moving down from Canada, plunging temperatures in some areas to 35° below zero Fahrenheit, along with a wind chill index of 92° below zero. An Arctic high pressure system provides plenty of sunshine, which is some consolation to the bitter cold. Michigan stands out frigidly between the frozen waters of Lakes Michigan and Huron. (NOAA satellite view copied off of 137.620 MHz by Robert Margolis.)*



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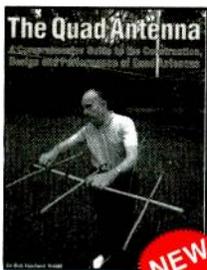
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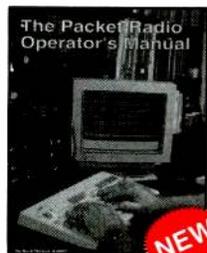
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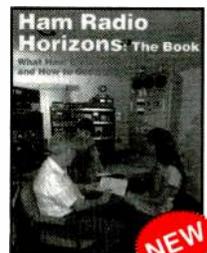
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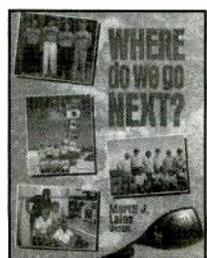
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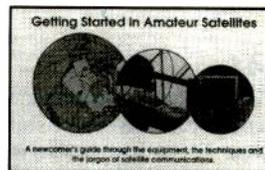
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## Letters

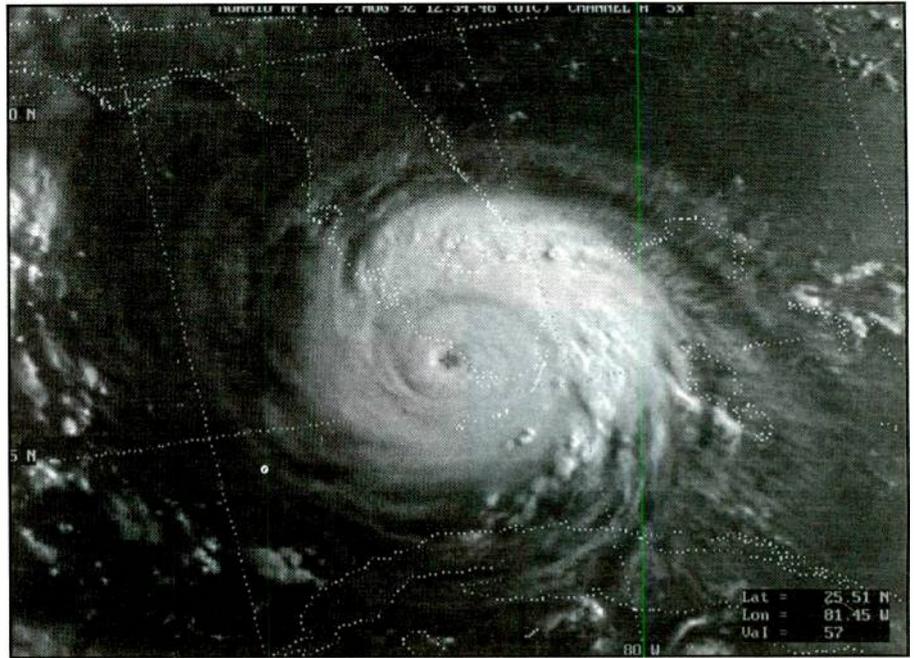
Our first letter is from Don Henry of Alberta, Canada. Don states that Satellite View is the first place he turns with each new issue of *POP'COMM*. Glad to hear that, Don. Our Canadian friend uses an R-71A and an R-7000 in the shack. Don wants to know how to receive weather FAX from his TVRO system. Our March '92 issue described the process in some detail. Well Don, WeFAX transmissions can be found on Spacenet 3, transponder 17. Ron Burke, a long time reader from Indiana, found these WeFAX transmissions and passed along the method of pulling them off the satellite. He had fed the output of his TVRO baseband into a stable HF receiver. Ron found you could tune Soviet meteor or polar orbiting weather satellites on 1.568 MHz on his HF receiver dial. On 1.883 and 1.928 MHz you will find GOES geo-stationary weather satellite pictures.

Next, we need a method of displaying them. Ron used an INFO-TECH M-8000 by Universal Electronics to display the FDM signals. According to Ron, you can use an IBM computer to do the same thing if you have the proper program and an additional signal processor. CRL Enterprises, 4925 Vermont Lane, Ft. Wayne, IN 46815 can give you more information on programs and processor kits.

A word of warning is appropriate at this point. All experimenters MUST remember that when you pull a signal off ANY TVRO system, always take precautions to protect your HF rig or scanner (in the case of SCPC) from any DC voltage that may be on the line or coming out of the broadband output of your TX satellite receiver. Installing a through-tap will prevent damage to your receivers or scanner. Through-taps, available at Radio Shack stores, will remove the DC from the lines while allowing the signal to pass.

Don also sent a frequency allocation chart for satellites and a detailed report on the new Canadian satellite, RADARSAT. Thanks for the info Don. I will be sharing your information with our readers later on.

Bill Perrelli (N1MRK) of Connecticut, also refers to past Satellite View columns, explaining the TVRO method of receiving WeFAX. Bill explains he has been successfully receiving WeFAX for some time with his Yaesu HF receiver and a five foot dish. He states all was well until last November 15th, when the almost perfect pictures inverted the grays like a negative, and white noise disappeared. Bill has checked out all of his equipment, but still can't find the problem. First, double check your mode switch to make sure it is not in the AM



This 450-mile high NOAA-10 polar orbiting visual near-infrared photo captures Hurricane Andrew on August 24, 1992, at 8:30 AM. The hurricane, which is seen traveling with winds of over 140 mph in this photo, is considered the costliest natural disaster in U.S. history. This photo was taken after Andrew caused devastation to South Florida. Notice the cursor is positioned in the eye of the hurricane.

mode. This can turn your picture into a negative. The service you are monitoring also dropped one of its three frequencies about the time you mentioned. This seemed to effect the pictures from the west coast more than others. Possibly, the service has changed some of its signals' perimeters, or they could have equipment problems. I would think you are right to suspect bandwidth problems somewhere along the line. Anyone with information or ideas for Bill, let us know, and we'll pass them along.

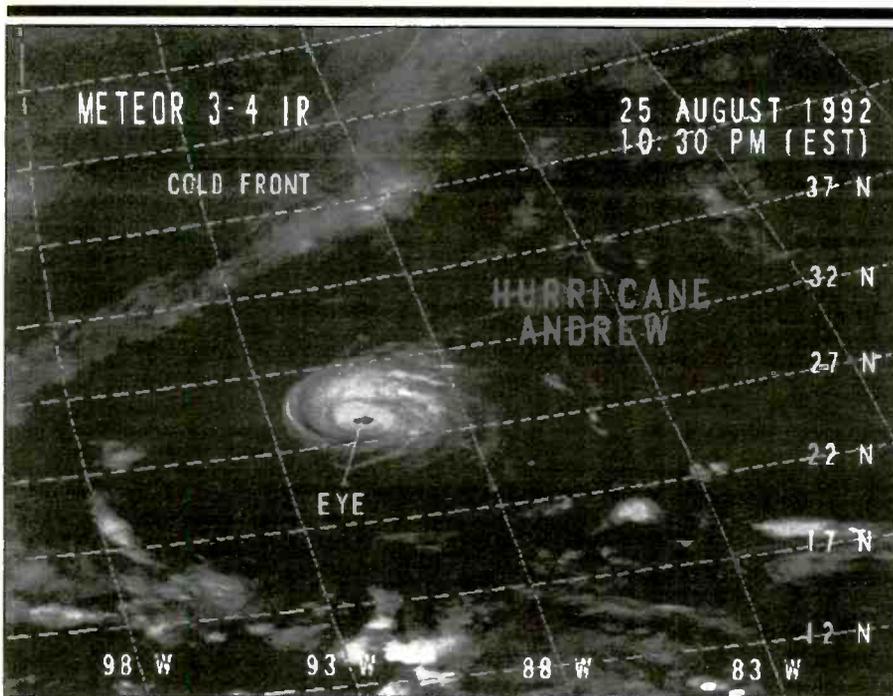
John Butler of Illinois asks, "Is there anyone out there?" John is referring to space frequencies and laments that he has spent some time listening to, without hearing anything. John wants to know what he is doing wrong. Well John, you may not be doing anything wrong. I am sure your Realistic Pro-43 keeps you well informed when scanning public safety stations, like police, fire, etc. We are use to scanning hundreds of channels per second and hearing virtually anything on the bands. This means our listening expectations are high.

Space communications are exotic; voice communications somewhat rare, so your expectations have to be different. Here are some suggestions. First, since you live in a metropolitan area, you might want to think about an outside antenna. I like the discone

design because of its high angle capture area. The next thing is to set your squelch as low as possible. Space signals are weaker than public safety signals. If you want to maximize your time in the shack, consider tracking satellites. With most programs, you can track several spacecraft simultaneously, and as they move into range you will get an audio warning. This cues you as to what frequency to tune to or what band to scan.

You can also try monitoring a single frequency to see if you can catch one. If you are only able to listen in the FM mode, you will want to tune in to frequencies that use FM voice. This would limit you to a half dozen frequencies used mainly by the shuttle crews and Mir cosmonauts. And your listening possibilities will be limited even further to when the shuttle is up or the Mir is overhead. You never know when they will show up John, even if you track the shuttle and Mir. While writing this, the Mir popped up on 145.550 FM voice. Space communications are scanner DX. Good luck John, remember patience is a virtue!

Will Marchant, of California, is our quiz winner. He correctly answered the question about what several US spacecraft had in common. The answer was that they don't work. We've had some bad luck lately. Will is going to receive a NASA poster.



Another gridded photo of Hurricane Andrew. This one not only displays the eye, it also examines the cold front accompanying Andrew during his progression. (Both courtesy of Hank Brandli.)

I received a letter and information packet from another satellite sleuth, Hank Brandli. Hank, a satellite meteorologist and consultant, has sent photos of a satellite and his radio shack. Thanks Hank, hope to hear from you again.

Our final letter is from Dan Carsen of New Hampshire. He heard about our past column that carried details on shuttle frequencies and NASA operations. Dan, the most important scanner frequencies are 143.625 MHz for Mir and 145.550 MHz for Mir and the shuttle. Shuttle simulcast

can be heard on HF on 7.185 MHz and 14.295 MHz. These two amateur radio frequencies are used by WA3NAN, Goddard's Amateur Radio Club's callsign. They simulcast almost all shuttle audio during each mission. The 145.550 MHz frequency is used by Amateur Radio operators onboard Mir and the shuttle. The 143.625 MHz frequency is used by Mir.

That puts the ribbon on this edition. Drop me a line with your intercepts, QSL's, shack photos, questions and comments. See you next month!



A wide-range view of Hank Brandli's radio (weather) shack. If you look closely, you can see a storm of some kind on his monitor.

Both of these cars are picking up the same frequencies and the same signals. Only one has the new Grove **NO-TENNA.**



Typical Radio Enthusiast's Car

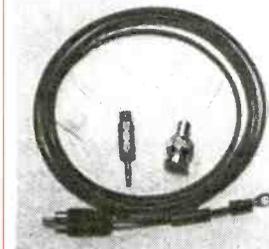


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CIRCLE 63 ON READER SERVICE CARD

## 27 MHz COMMUNICATIONS ACTIVITIES

It's been a while since Maxon Systems has been heard from, so it was a pleasant surprise when they stepped forward to tell us about a new CB radio they just brought out. This is a mobile unit they call the MCB-30. Maxon describes it as an entry level radio, perfect for the incidental user.

They tell us that the MCB-30 may be mounted either vertically or horizontally, and that its large LED display can be easily read in all lighting conditions. Simple to operate, too. The MCB-30 uses up/down channel selector buttons. The microphone is front-mounted, and there's a jack for adding an optional external speaker. Maxon didn't specify how much it costs, but we imagine it is a relatively inexpensive unit. Maxon told us only that the MCB-30 is "competitively priced."

For more information on the MCB-30, contact the Sales Department, Maxon Systems, Inc., 10828 N.W. Air World Drive, Kansas City, MO 64153. Phone: (816) 891-1093.

### Readers Write

Can any reader supply an owner's manual and/or schematic for a PACE Model 8046 CB radio? Someone looking for help for this material tells us that he will pay for the cost of photocopies. Contact: Richard Zito, P.O. Box 346, Hazelwood, MO 63042.

Another reader wants to locate a Siltronix Model 90-1 VFO unit that was an accessory for the old SBE Console II transceiver. He is Ted Sorge, 514 Erna Drive, Converse, TX 78109.

John S. Kowalski, N9VMS, of Lombard, Ill., writes to ask about the significance of the "SSB-295" after the by-line of this column. These are membership numbers in the SSB Network, which is a large national 27 MHz sidebanders' organization that was founded in 1964. As such, SSB-295 are also the "sideband numbers" used to identify 27 MHz sidebanding activities. Sideband operators use "sideband numbers" rather than "CB handles," which are normally used for AM operations. Sideband numbers using a wide variety of prefixes and alphanumeric formats are also issued by local, regional, state, and special interest single-sideband groups.

Operators seeking information on obtaining national sideband numbers may request an application. Send a long SASE (US 29 cents) to the SSB Network, P.O. Box 908, Smithtown, NY 11787.

### Overseas Mail

A letter from France offers frequency information. Either they have liberal regulations and a lot of channels going for them selves, or else everybody at the French equivalent of the FCC is on holiday in the vineyards.

USB-mode DX calling channels are listed as 26.285, 27.455, 27.555, and 27.905 MHz. Frequency 27.455 MHz is especially preferred for international use. LSB-mode DX calling is on 27.345 MHz (Channel 34). The FM DX call frequency is 26.635 MHz, while the local FM calling fre-

quency is 27.085 MHz (Channel 11). The AM travelers' frequency is 27.185 MHz (Channel 19), and emergency calls are on 27.065 MHz (Channel 9). The AM local calling frequency is 27.275 MHz (Channel 27). For comparison, the corresponding US/Canadian CB channel numbers have been indicated, where they match up with these frequencies.

These nuggets of information are from Jacques Morand, Route D'oudalle, F-76430 Routot, France.

A letter from the European Citizens Band Radio Federation (ECBF) mentions that the International Telecommunications Union (ITU) holds its next meeting in 1996. ITU is an international organization that coordinates the use of the frequency spectrum. ECBF wants CB'ers throughout the world to pressure their own nation's telecommunications administrations to be sure to include CB on the agenda for this meeting. ECBF would like to assure that CB is universally established for use in AM, SSB, and FM modes.

Groups and individuals seeking further information on the ECBF and its goals should contact them. Ask for a copy of their manifesto. Write to Orphee Aliaga, General Secretary, European Citizens Band Federation, Le Lac, F-11130 Sigean, France.

### Here's A Cable

There's one school of thought that holds that coax cable is coax cable is coax cable. This is not a school you should attend.

*Here's a view of the operating position at the station of Ted Sorge, also known as "Small Talk," of Converse, Texas.*

*Maxon Systems' new MCB-30 mobile radio.*



Some poorly made coax, or old leftover cable, may have losses as high as six to ten decibels (dB) per hundred feet at CB frequencies. The average run of mobile coax is 15 to 20 feet. This means that you could be missing more than 1 dB of signal between the CB unit and the antenna. In terms of power output, you may be frittering away one whole watt or more of your CB's four watt output!

A 1 dB loss or gain is about the minimum that can be detected from a careful signal report and is no big deal. But there's no reason for missing out on the fullest use of every ounce of signal, particularly since it can be easily done.

Just about all mobile antennas will do fine on small-diameter (RG-58/U) 52-ohm coaxial cable, so the best that you can do in this case is to use low-loss foam type cable. Remember that foam coax tends to be a little more delicate than regular coax and is a little more trouble to install. You need to use extra care while soldering connectors to foam coax, but most techs will tell you that the lower loss is worth the extra trouble.

If the mobile antenna will tolerate any size coax, then you can either use conventional size coax or the large size (RG-8/U). Not only does the larger size have lower loss, it is also somewhat tougher and resists damage. It is more expensive, and less flexible than the thinner cable.

When shopping for cable, describe your installation to the salesperson and specify that you want low-loss 52-ohm type. Several different available types may be suitable for your application. Don't get hung up on the garden variety RG-58/U or RG-8/U as there are better low-loss types to use in their place. Shop the communications shops for the more exotic coaxial types.

All coax will deteriorate in time. The speed and extent is greatly determined by the type and quality of the cable, as well as the conditions in which it has been used. As it deteriorates, the foam or other dielectric material separating the center conductor from the the outside shielded braid breaks down and has less resistance. This introduces additional losses in the coax in the form of heat and a higher SWR.

If the original loss at 27 MHz were 2 dB per 100 feet and it increased to 4 db per 100 feet, your station would experience a loss of 2.5 of power. To put it another way, more than half your power will be used up in losses and not radiated from the antenna. Routinely check coax for signs of weathering, chemical damage, cracks, drying, punctures, and splitting. Every few years, replace it, no matter how good it may look.

Regardless of the coax used, quality coax cable connectors should be utilized. Solderless connectors are less desirable than ones that require solder. Some discount connectors turn out to be no bargain



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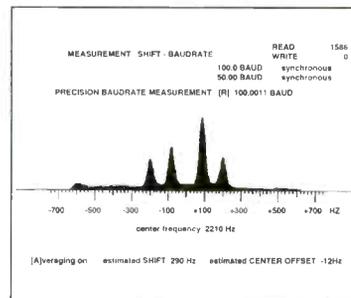
# HOKA CODE-3

USA Version

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

There are some well known CW/RTTY Decoders with limited abilities and high prices, complete with expensive PROMS for upgrading, but then there is CODE-3. It's up to you to make the choice, but it will be easy once you know more about CODE-3. CODE-3 works on any IBM-compatible computer with MS-DOS with at least 640kb of RAM, and a CGA monitor. CODE-3 hardware includes a complete audio to digital FSK converter with built-in 115V ac power supply and RS-232 cable, ready to use.

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- ARQ-E3-CCIR519 Variant
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- TDM342/ARQ-M2/4
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- FEC-S • FEC1000 Simplex
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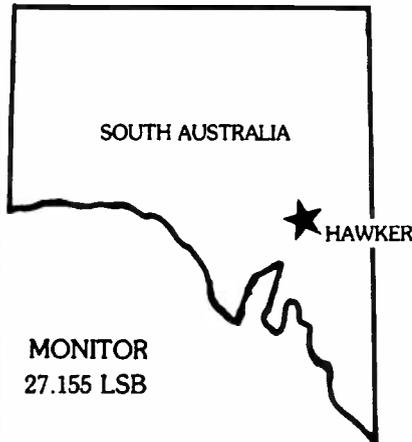
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solder bridge is hidden from view, the used connector turns out to be a sticky wicket.

**We Would Like To Meter**

Vic L. Martinez, of Arlington, Texas, wonders about tuning up his mobile antenna system using a meter in the circuit. He asks if removing the meter from the circuit after the antenna has been peak tuned is going to detune the everything. Or, should he leave the meter in the circuit all the time to monitor his SWR?

Don't worry about any tuning changes that removing the meter might cause. Any affect the meter might have is negligible. However, leaving the meter in the circuit all of the time does have an affect. Most meters with their coax jumper will consume from one-quarter to one-half watt of power.

John Y. Chen, of Calif., received an ohmmeter for his birthday. He wants to know why the ohmmeter placed across the coax feedline going to up his 5/8-wave ground plane shows a short. This made him concerned because he has been told a short meant that an antenna wouldn't work. Despite this, his station seems to get good signal reports.

What's with the meters this month? A 5/8-wave GP has a loading coil in the base to make it resonant at 27 MHz. This consists of turns of copper wire wound on a coil form. There is a minor DC resistance to the flow of direct current through those turns of copper wire, in fact much less than 1 ohm.

If the measurement was taken at the radio end of the coax, then the measurement showed the total direct current resistance of the trip that electrons must make up through one side of the coax, across the coil, and back down the other side. It may get up to an ohm or two in that case, but it takes a pretty good ohmmeter to show that small an increment, even on a direct scale. All ohmmeters should be "zeroed" before any measurements are taken to allow for the DC resistance of the probe wires.

John, check your SWR, that's the proof of the pudding. If it is still below 1.5:1, your antenna is fine and functioning the way it should. Consider that if you would only stop checking everything in sight with your new ohmmeter you might save yourself a lot of unnecessary worry.

Understand that the AC resistance to the flow of current up a 27 MHz (impedance actually) will be many times higher than the DC resistance. But that takes special instruments to measure.

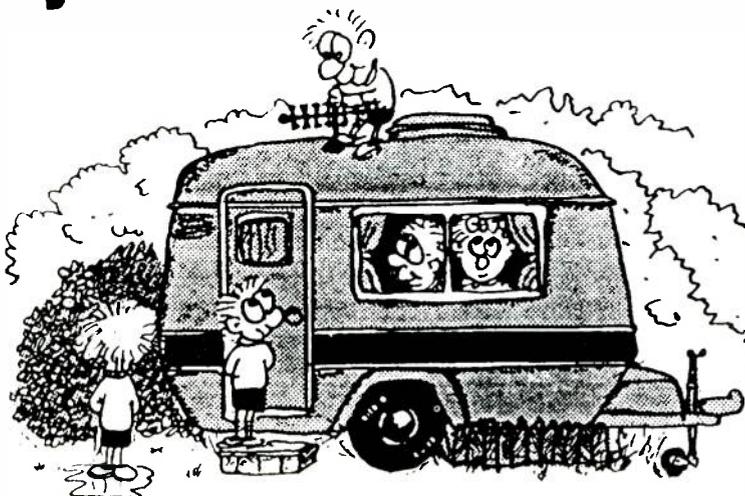
We are definitely on the side for this trip, and have our ears on for your transmission. Please send along your shack photos, CB QSL cards (your own or from DX stations), as well as any and all information, questions, and comments you have relating to 27 MHz activities.

QSL from Dave, SBF-635, in South Australia, sent to us via our friend Pat Burke SSB-349A and RMS-245, of Fort Wayne, Ind.

when they resist solder to the point that the cable is overheated during installation. Properly seal and tape all connectors that are to be exposed to the elements.

Few technicians ever attempt to re-use coaxial connectors. If any corrosion is inside the connector, which often happens with used connectors, or if a small wire or

**JB RADIO GROUP**



From Op : **JUSTIN** Station : **29-JB-001**

QSO confirmed with \_\_\_\_\_

BAND	MODE	DAY	MONTH	YEAR	Q T R	R S T	NOISE	Q S L
							Q R M	P S E
					G M T		Q R N	T N X
							Q S B	

29-JB-001

A QSL from one of our readers, Justin Behar, who runs the JB Radio Group, P.O. Box 2496, Dublin 13, Republic of Ireland.

# BROADCAST DX'ING

BY ROGER STERCKX, KVT1JH

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

**Good Work:** In Evanston, Ill., station WKTA/1330 is doing its share towards decreasing the unemployment statistics. WKTA has a daily two hour program containing a mix of job listings, ideas on going for jobs, and information on preparing resumes. In addition, there are interviews with employment experts. Denise McGowan and Tim Monahan, who host the program, both have their roots in standup comedy. That means the "Work Radio" program is quite a bit more lively and off-beat than you might think.

One time they took phone calls so listeners could relate office jokes and suggest topics suitable for discussion around the office water cooler.

This information was sent to us by Elmer Wallezen, of LaGrange Park, Ill.—one of our regulars.

**New Addition:** John M. Blair, N0HFD, of Olathe, Kans., dropped us a note to mention that a new FM station went on the air in his community. That station is religious broadcaster KCCV-FM/92.3, owned by Bott Broadcasting, which owns daytimer KCCV/760 in Overland Park. The FM outlet is operating on a 24-hour sked from its Overland Park studios. The FM sta-



Albuquerque's KABQ/1350 has this good looking bumper sticker. (Courtesy Cam LiDestri, Las Vegas, Nevada.)

tion uses a 500-ft. tower located in Olathe at 105th and Lone Elm Road.

**Clarification:** Nice note from Doug Schnackel, Saco, Maine, whose letter was mentioned in our January column. Doug says that his earlier letter wasn't clear on the point that he's no longer a full-time member employee at R-96. In fact, his morning stint ended in '89, after two years

there. At that time he went on the evening shift at WYNZ, an oldies station in Portland. After a year there, Doug went back to working part-time at R-96, where he still works on a part-time/fill-in basis. The morning drive man at R-96 for the past two years has been Rob Steele.

**Time Marches On:** Detroit's famous clear channel WJR/760, one of our na-

### Applied For Permits to Construct New FM's

AL	Columbia	92.1 MHz	
AR	Bentonville	95.7 MHz	6 kW
AR	Humnoke	101.7 MHz	
AZ	Bagdad	103.9 MHz	1.4 kW
FL	Lacrosse	99.5 MHz	
FL	Yankeetown	96.3 MHz	
GA	Pelham	92.1 MHz	
GA	Sasser	107.7 MHz	
IA	Alter	97.5 MHz	
IA	Lake City	106.7 MHz	
IA	Sibley	100.4 MHz	
ID	Gooding	100.9 MHz	
ID	Middleton	88.7 MHz	3 kW
ID	Lewiston	105.1 MHz	
IL	Colfax	92.9 MHz	
IL	Fairbury	107.7 MHz	
IL	Lena	102.1 MHz	6 kW
KS	Sterling	94.7 MHz	
LA	Blanchard	102.1 MHz	6 kW
MD	Pocomoke City	92.5 MHz	
MO	Kennett	104.3 MHz	
MS	Brooksville	98.9 MHz	
MT	Livingston	100.7 MHz	100 kW
ND	Carrington	98.3 MHz	100 kW
ND	Walhalla	106.7 MHz	
NE	Blair	97.3 MHz	
NE	Falls City	101.3 MHz	
NM	Clovis	101.5 MHz	60 kW
OR	Bandon	96.5 MHz	
OR	Cannon Beach	96.5 MHz	
OR	Seaside	98.9 MHz	
TX	Point Comfort	94.1 MHz	
VA	Falmouth	104.5 MHz	6 kW
WI	Reedsburg	102.9 MHz	
WI	Three Lakes	93.7 MHz	
WY	Cheyenne	104.9 MHz	

### Permits Issued to Construct New FM Stations

AK	Palmer	95.5 MHz	51 kW
AL	Guntersville	88.5 MHz	2.2 kW
AL	Holly Pond	95.5 MHz	3 kW
AR	Camden	104.5 MHz	3 kW
AZ	Lake Havasu City	92.7 MHz	720 watts
GA	Bowdon	105.5 MHz	6 kW
IA	Indianola	88.9 MHz	100 watts
IL	Fisher	102.5 MHz	6 kW
MS	Sumrall	97.3 MHz	3 kW
NC	Asheboro	89.3 MHz	2.5 kW
NC	Leland	94.1 MHz	3 kW
NC	Winston-Salem	89.3 MHz	7 kW
NY	Jewett	97.9 MHz	1.45 kW

### Applied to Change AM Facilities

KENO	Las Vegas, NV	1460 kHz	Seeks drop to 2 kW.
KFIR	Sweet Home, OR	1370 kHz	Seeks move to 720 kHz.
			184 watts at night.
KIEV	Glendale, CA	870 kHz	Seeks increase daytime to 20 kW.
KIQI	San Francisco, CA	1010 kHz	Seeks 15 kW days; 1.5 kW nights.
WCCF	Punta Gorda, FL	1580 kHz	Seeks daytime increase to 350 watts.
WCXQ	Moca, PR	1040 kHz	Seeks increase to 5 kW.
WGNZ	Xenia, OH	1110 kHz	Seeks daytime increase to 2.5 kW.
WMMN	Fairmont, WV	920 kHz	Seeks daytime increase to 2.5 kW.
WNQM	Nashville, TN	1300 kHz	Seeks 10/5 kW.
WOLF	Syracuse, NY	1490 kHz	Seeks drop to 620 watts.
WXAL	Demopolis, AL	1400 kHz	Seeks drop to 790 watts.

## Applied to Change FM Facilities

KLJVJ-FM Mountain Home, ID 99.1 MHz Seeks move to 99.3 MHz.

## Changed FM Facilities

KDEZ Jonesboro, AR 100.3 MHz Moved to 100.5 MHz.  
 WMVV McDonough, GA 90.7 MHz Moved to Griffin, GA;  
 10 kW.

## FM Call Letter Changes Pending at Press Time

Now	Seeks	
KHIH	KRKS-FM	Boulder, CO
KVYZ	KLOB	Thousand Palms, CA
WCRI	WIVR	Eureka, IL
WGNN	WCDZ	Dresden, TN
WJMO-FM	WJZM	Cleveland Heights, OH

## Changed AM Call Letters

New	Was	
KDMI	KGGO	Des Moines, IA
KKTY	KWGO	Douglas, WY
KMBD	KTIL	Tillamook, OR
KMBY	KLAU	Capitola, CA
KSUR	KQKE	Soledad, CA
KSUV	KXEM	McFarland, CA
KTLK	KRZN	Thornton, CO
KXBT	KNBA	Vallejo, CA
WALZ	WMCS	Machias, ME
WGMI	WBKI	Bremen, GA
WMCS	WMVP	Greenfield, WI
WMVP	WLUP	Chicago, IL
WPRX	WBIS	Bristol, CT
WXBD	WMLS	Biloxi, MS
WYLT	WKIX	Raleigh, NC

tion's first broadcasters, had been located in the golden tower of the magnificent old Fisher Building in Detroit's New Center for 64 years. Despite WJR's close identification with the Fisher Building location, last December the station shocked many people when it announced that it was packing up and moving into suburban Southfield. This information was submitted by C. Hartzman, Registered Monitor, KMI8KY, Marquette, Mich.

One of New York City's old-line classical music stations, WNCN/104.3, might have caused its regular listeners to choke down their watercress salads helped by a few extra sips of Evian water. That is, if they thought they were going to consume

their snacks, as usual, while listening to the strains of Brahms or Mendelssohn over their favorite station. That would have been the morning they awoke to learn that WNCN had suddenly changed its call letters to WAXQ/104.3 ("Q-104.3"), and was blasting out hard rock music on a non-stop basis.

We appreciate the WNCN/WAXQ information from William C. Motzel, of Conn. Bill writes that he expected to hear the music of Schumann, but was so rattled "by suddenly being greeted with raucous, amplified, ear-splitting sounds," he was unable to take brunch for almost a week. Relax, Bill. Take a few deep breaths. Have a cappuccino and a bit of croissant. Forget

about that longhair stuff. One needs to gradually ease into contemporary rock music. Start off with a CD of Buddy Holly and The Crickets. Once you can handle that, try some Moody Blues. You're almost half-way home! Move along to other music from the 1970's, 1980's, and beyond. Before you know it, you'll be munching out on Twinkies and swilling down Pepsi as you tap your toes to the sounds of Megadeth, White Zombie, and Metallica. Trust me, for I have said it will be so.

**New Tower:** Station WGDN-FM/103.1, Gladwin, Mich., put up a new 500-ft. tower, and increased its power from 3 kW to 25 kW. The tower is located on Grout Road, which is two miles west of

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Well designed sticker from KSUE/1240, Susanville, Calif. (Courtesy Pete Grenier, Sparks, Nevada.)

Gladwin. The increased height and power has substantially extended the station's signal coverage to Bay City, West Branch, Houghton Lake, Midland, and Mount Pleasant. We learned about this from Mike Weber, Bay City, Mich.

A Real Loss: CJCA/930, Edmonton, Alberta, Canada, has fallen silent. This 50 kW station had been operating since May of 1922, which is the dawn of broadcasting. Another pioneer broadcaster, gone forever! The station said that a soft economy, combined and a shrinking audience for AM radio combined to bring about its

demise. CJCA's owners also own CIRK-FM/97.3, in Edmonton. They said that their efforts would be best put to concentrating on the protecting and building their company's FM operations, rather than continuing to operate the AM outlet at its \$100,000 monthly loss.

The final words spoken over CJCA/760 were from morning host Doug Main. On December 1, 1993, at 6 p.m., after 71 years on the air, Doug Main said, "Thank you, everyone. Goodbye." The master switch was pulled, and CJCA ceased to exist.

This news from Trevor Fletcher, Ed-

monton, Alberta, Canada.

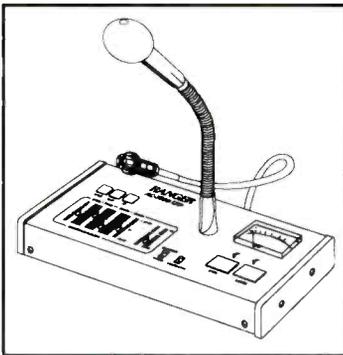
**Proposed Station:** Don Hallenbeck, Registered Monitor KME1CW, of Pittsfield, Maine, tells us that WPBC/99.5 is a station proposed for his community. They hope to play music dating from the 1970's to current, plus news, weather, local events, and sports. Music would be via satellite feed. This proposed station is intended to operate in place of station WFOV/99.5, which was authorized 1989, but which was never constructed. Don tells us, that a number of steps would need to be taken before the plans for the station might eventually come together into an FCC filing for a construction permit for WPBC by those who wish to put it on the air.

**Looking for Contacts:** A reader who happens to be a deejay at KLRE/KUAR-FM (Classical/NPR) in Little Rock, Ark., dropped us a note. He's a Radio/TV/Film student at the Univ. of Arkansas-Little Rock, and he also works part time at a CD store. He enjoys listening to various FM stations around the world by means of swapping cassettes. He is looking for clubs, organizations, or hobbyists, that share his interests in swapping FM broadcast tapes. If any reader has information that can help, please contact this reader at: Paul Shepherd, Jr., 6500 Redbud Dr., Mabelvale, AR 72103-3908.

**Revocation Attempts:** The FCC asked the licensee of KRAN/1280, Morton, Texas, to show cause why the station's license

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## Changed FM Call Letters

New	Was	
KDRH	KLSF	Amarillo, TX
KGAP	KCBZ	Clarksville, TX
KHKI	KDMI	Des Moines, IA
KHLR	KCRM	Cameron, TX
KKRW	KLTR	Houston, TX
KKTY-FM	KWOG-FM	Douglas, WY
KLTR	KPQX	Franklin, TX
KMOU	KRSY-FM	Roswell, NM
KMQA-FM	KBOB	W. Covina, CA
KMVX	KZRT	Jerome, ID
KMXE	KAFM	Red Lodge, MT
KMYI	KMGK	Monroe, LA
KOLS	KDCK	Dodge City, KS
KPRE	KAEU	Vail, CO
KQAC	KMML	Amarillo, TX
KREA	KRZE-FM	Ontario, Canada
KRKS	KHIH	Boulder, CO
KSUR-FM	KQKE-FM	Greenfield, CA
KSUV-FM	KSUV	McFarland, CA
KVCM	KVYJ	Helena, MT
KXXS	KHYT	Toppenish, WA
KZEY-FM	KMHT-FM	Marshall, TX
KZLS	KZXL	Great Bend, KS
WAXQ	WNCN	New York, NY
WBBK-FM	WDKZ	Blankely, GA
WEBB	WTVL-FM	Waterville, ME
WEMX	WRAV	Ravena, NY
WEZQ	WSHZ	Bangor, ME
WFRG-FM	WKFM	Utica, NY
WFRY	WMRE-FM	Salladsburg, PA
WHXT	WKQR	Citronelle, AL
WJTF	WRSG	Panama City, FL
WJYC	WAEH	Delhi Hills, OH
WKIX-FM	WYLT	Raleigh, NC
WKLO	WYHB	Westport, IN
WLBW	WADD	Fenwick Island, DE
WPGL	WLGZ	Pattersonville, NY
WPKE-FM	WRAU	Elkhorn City, SC
WQSY	WCEH-FM	Hawkinsville, GA

WRDJ	WVRV	Roanoke, VA
WRXQ	WYYA	Olive Branch, MS
WSKS	WLTQ	Pittston, PA
WWGM	WNBE	Alamo, TN
WWXM	WBPW	Georgetown, SC
WXSR	WFHT	Quincy, FL
WYLT	WKIX	Raleigh, NC
WZMT	WWSH	Hazelton, PA

## New FM Call Letters Issued

KAFK	Bryan, TX
KAFI	Baton Rouge, LA
KAFN	Hanford, CA
KAFW	Osceola, AR
KAGA	Santa Ynez, CA
KAGF	Columbia, CA
KAGJ	Ephriam, UT
KAGK	Elk City, OK
KAGP	Grants, NM
KAGV	Arnold, CA
KAGZ	Fresno, CA
KDRH	Glenwood Springs, CO
KLDG	Liberal, KS
KVOQ	Camel, CA
KWFJ	Roy, WA
WAFH	Northumberland, PA
WAFI	Unadilla, GA
WAFN	E. Brevton, AL
WAFP	Oxford, NC
WAFU	Hartford, MI
WAFV	Bridgehampton, NY
WAFZ	Delton, SC
WAGB	Manahawkin, NJ
WAGD	Seeleyville, IN
WBSZ	Ashland, WI
WKHM-FM	Brooklyn, MI
WKSG	Cedar Creek, FL
WRJV	Berne, IL
WRTL	Ephrata, PA
WVLS	Monterey, VA
WWGN	Ottawa, IL

should not be revoked. KRAN has been dark without permission since July 10, 1992. The owner later asked the FCC for additional time to remain off the air in order to sell the station. The FCC said the request was ultimately dismissed because the owner twice failed to respond to FCC requests for Anti-Drug Abuse Act certification. He also did not respond to an inquiry regarding the station's continuing silent status, nor was any information received by the FCC stating that KRAN had a prospective buyer.

The FCC has concluded that since the station is silent without authority, and the licensee hasn't demonstrated any progress in putting it back in operation, the licensee has violated several FCC regulations. As such, he may not be qualified to remain a licensee. He must not prove that he is qualified, or else the license may be revoked.

In another case, the licensee of WCSA/1260, Ripley, Miss., was asked to show cause why that station's license shouldn't be revoked. WCSA has been silent since September 1, 1991, with permission granted to remain off the air until July 16, 1993. The station did not return to the air, nor did its licensee submit the necessary request for silent-time extension accompanied by

a detailed report on the efforts being made to return WCSA to active status. The FCC has concluded that inasmuch as WCSA has been silent for such a lengthy period, the licensee lacks the intent and/or ability to return it to the air. In addition, the licensee has possibly violated certain FCC regulations, and may possibly not be suitable to still qualify as a broadcast licensee. The burden of proof now falls upon WCSA's licensee.

Lastly, station WCSP/590, Crystal Springs, Miss., has a licensee who has also been asked to show cause why the license should not be revoked. This station is operated by Wesley College. WCSP has been off the air since October 11, 1991, and was granted FCC authority to remain silent until September 24, 1993. In June of 1993, the FCC wrote to the licensee advis-

ing them that if the station hoped to extend its silent period, it would have to detail the steps being taken to return it to the air. The letter received no reply, nor did WCSP ever return to the air. The FCC has concluded that because of the long silent period, and refusal to respond to their inquiries, the licensee lacks the ability and/or intent to put the station back in operation, and has also violated several regulations. The only way WCSP can hope to retain its license is by convincing the FCC to the contrary.

*Live On Tape:* Station WFMC/730, Goldsboro, N.C., was sent a \$5,000 NAL by the FCC, which the station subsequently requested be reduced. The FCC cited the station for twice broadcasting excerpts of phone three conversations with personnel from the county school system without first



"The Mix" on this bumper sticker refers to WRAV/94.5, Delmar, N.Y. (Courtesy Gary K. Hamlin, N2OHO and Registered Monitor KNYAAW, Utica, N.Y.)

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*WKIO/92.5, Urbana, Ill., has a bumper sticker that separates into two stickers!*

informing them of the station's intention to broadcast the conversations. WFMC admitted this, but pointed out that it wasn't intended to embarrass or injure the parties, nor were the conversations aired for station promos, nor other financial purposes. WFMC said the conversations were used in news broadcasts.

They pointed out that the complaint was not filed by the parties to the conversations, but by a third party. Therefore, WFMC felt that the incident was a minor violation of the rules. Furthermore, WFMC said that the financial situation at the station is such that a \$5,000 forfeiture would "force it out of business and be tantamount to a revocation of the WFMC license." The station submitted documents to substantiate this. Lastly, WFMC pointed out that it has always had a good compliance record in respect to FCC regulations, and that a reduction in the forfeiture should be approved based upon their overall record under the "downward adjustment criteria" the FCC allowed after 1992.

The FCC, accordingly, backed down a little on the forfeiture, extracting \$3,500 from WFMC. The agency continued to refer to WFMC's violation as "willful and repeated," and said that they didn't consider them minor. That the conversations were used in news broadcasts cut no ice with the FCC. The agency said that, "While the rule is designed primarily to protect the privacy interests of the person whose words are to be broadcast, the rule does not limit who may complain."

We can't add much more to the WFMC story except offer my opinions of how it all turned out. I couldn't do that without filling up far more space than this column is allotted. You know means it's time to hand up the headset for May and ask you to tune in next month. Hope you continue to continue sending in format and station changes, news clippings, bumper stickers, station photos, and any other AM/FM broadcast news. ■

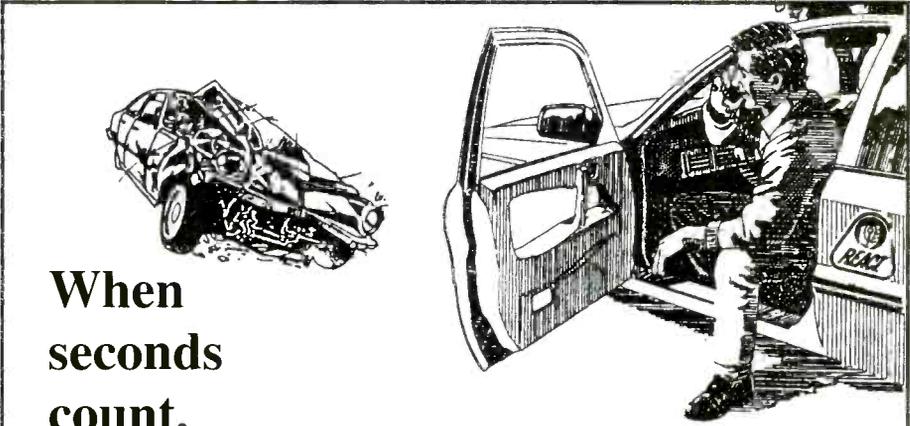
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## HF Mobiling—Taking It To The Streets

**H**F operating isn't just for homebound hams. You can work the world from your car or truck! Coincidentally, this month's guest columnist, Jeff Gold, AC4HF, is crazy about mobile operating. Here's his introductory advice:

My first encounter with HF mobiling was in a friend's van. Our two families were on our way to Huntsville, Alabama, for my first big hamfest. Overhead, between the two front seats, was a small 10-meter HF rig. Three out of the six people in the van were hams: Rick (WD4GZT), Danny (KD4HQV, my 8-year old son who had just upgraded to General) and me.

As our families talked, I asked Rick if we could try the HF radio. Rick's wife Jean turned on the transceiver and started to tune around. We soon heard a station from Puerto Rico call CQ. Jean handed the microphone to Rick, he called the station, and established contact almost instantly. I was impressed! Rick has a simple antenna system on the van—a 10-meter *Ham Stick* vertical attached to a lip mount on the back door (an affordable vertical whip antenna comparable to those used for mobile CB operation).

As he finished the conversation, Danny yelled from the back of the van. "I want to talk to him!"

Danny flew to the front of the van and excitedly grabbed the mike. He was so wound up he could barely speak. Carlos, KP4FGO, was in Cabo Rojo. He was happy to be talking with a young, new ham and he asked Danny many questions. Although overly excited, Danny did manage to complete the QSO! I was already trying to figure out how to put a mobile rig in my small foreign car...

### Antennas

Any mobile antenna is a compromise. Let's face it, you're not going to put a 30-foot tower and a directional antenna on your car and drive down the road. When choosing an antenna you need to weigh considerations such as cost, size, appearance, performance, and ease of band switching.

Although a complete treatment is beyond the scope of this article, let's look at some of the most popular mobile antenna types. Most HF mobile systems use whip antennas with adjustable loading coils (sometimes called *resonators*) to adjust and set the antenna's resonant frequency. The basic rule is one resonator/whip combo per

band, although some multi-band whip systems do exist.

One popular HF mobile antenna is the *GLA Texas Bug Catcher*. My friend recently purchased an 80-10 meter system—with mounting hardware—for about \$180. The *Carolina Bug Catcher* is a 40-10 meter system and comes complete for \$89.95.

The Bug Catchers perform well and cover a broad range frequency range without the need to switch from one resonator to another. Although you don't have to swap resonators to change bands, you do have to get out of your car and change some wires.

One multi-band vertical antenna that's become quite popular is the *Outbacker*. The *Outbacker* is an extremely rugged, eight-band HF mobile antenna. *Outbackers* are available in different lengths and power-handling abilities. The *Perth* is the most popular model. It has a small 4-foot bottom section with a long adjustable whip. The *Perth* can handle 150 watts, covers 80-10 meters, including the WARC bands, and sells for \$269.

Probably the two most popular *single-band* antennas are the *Hustlers* and *Ham Sticks*. I've been using my *Hustler* system for some time now. In addition, I've tried a magnetically mounted *Ham Sticks* system on my convertible (more about that later).

With the *Hustler* system, you purchase a mast that attaches to a mounting bracket on your vehicle. You then purchase resonators for your favorite bands. To switch bands, you switch resonators. The resonators have a telescoping top section to adjust the SWR for the part of the band where you want to operate. The adjustment process requires only a couple of minutes per band. The basic *Hustler* mast sells for about \$20 and the resonators vary from approximately \$15, to \$34 each.

*Ham Sticks* are similar to *Hustlers*. They are two-piece antennas consisting of a hollow, fiberglass base section and a stainless-steel whip. You adjust a *Ham Stick* by loosening two set screws and raising or lowering the whip. Like *Hustlers*, these are single-band antennas. (Once again, you must have your car to change the bands.) *Ham Stick* antennas sell for only \$19.95 per band.

### Antenna Mounting

Fitting the antenna mount to the car was the most difficult part of my mobile installation. The main function of the mount is to provide mechanical stability and sup-

port. Going down the road at 65 mi/h places a significant wind load on the antenna. The second function of the mount is to provide a ground attachment. To meet this requirement, the mount itself must be well grounded. The only exception is the *magnetic* mount which uses the capacitance between its ground plate and the body of the car to establish an electrical ground.

Most manufacturers sell various types of mounts for their antennas. There is a popular mount that lets you install an antenna on the mirror of a pickup truck quite easily. There are also ball mounts for vans (these require you drill holes in the body, however), gutter mounts, trunk mounts and many types of bumper mounts. Regardless of the type of vehicle you own, there is a mount you can use. In February 1993 *QST*, Roger Burch, WF4N, has an informative article titled, "You Can Operate HF Mobile." In this article, he describes how you can make your own HF antenna mount.

### Rigs

Each of the major Amateur Radio equipment manufacturers produces small HF transceivers that are ideal for mobile operating. The Kenwood TS-50 is a tiny all-band rig that puts out 100 watts. The TS-50 works very well, but carries a large price tag (\$1199.95 list price). The Yaesu FT-890 is the smallest radio on the market with a built-in tuner. It's more than suitable for mobile operations, but it's also relatively expensive (\$1359 list price). ICOM recently announced its entry into the small HF rig contest. The IC-707 is a compact HF radio that puts out 100 watts (\$850 list price).

Another newcomer to the HF mobile market is the Ten Tec *Scout*. The *Scout* is designed as a simple, easy-to-operate SSB/CW rig with a few bells and whistles. To switch from one band to another, you remove an electronic module from the front of the radio and insert another in its place. The modules are clearly marked and can be removed and replaced *without* shutting down the radio!

The *Scout* puts out 50 watts and features a large digital display and built-in CW keyer. The *Scout* is smaller than the Kenwood TS-50, making it one of the smallest transceivers of its type on the market.

The *Scout* lists for \$495 and comes with one module for the band of your choice. You can purchase additional modules for other bands at \$25 each.

Regardless of which radio you buy, be

sure to pick a rig that will meet your operating style, your environment (the size of your car) and your pocketbook. Don't be afraid to start with an older radio such as the Atlas 210 or 215—or other dc-powered rig. I recently saw a number of nice 100-watt transceivers at a local hamfest. These used radios were ideal for mobile use and, at \$300 or less, the price was right!

## Wiring

Last, but not least, you want to pay attention when wiring your station in the car. If you are using a low-power rig, you may be able to use the cigarette lighter as your power source. If you are using a higher-power radio, you will need to take a different approach. Use heavy-gauge wire (14 gauge or thicker) and go directly to the battery. Make sure the wire is fused to avoid fire hazards. Most cars have existing wiring holes in the firewall that make it easy to route cables from the passenger compartment to the battery.

## Operating Mobile

It's possible to operate just about any Amateur Radio activity from your car or truck. You can enjoy SSB, CW, Packet, AMTOR and PacTOR. Remember, however, that safety comes first. Driving is your most important concern, not your radio. If you become involved in a conversation and it's interfering with your driving, pull over to the side of the road.

You'll find many service nets that monitor specific frequencies to aid and assist the mobile operators. Look for MIDCARS on 7.258 MHz, EASTCARS on 7.255 MHz. (The ARRL offers a Net Directory that lists the times and frequencies for hundreds of nets.)

There are also nets that provide special mobile excitement. Listen for the County Hunter's net on 14.336 and 3.865 MHz. The goal of a county hunter is to work someone in as many US counties as possible. Considering the number of counties in the country, this is a serious challenge. Not all counties have active Amateur Radio stations, so mobile enthusiasts often drive to these locations to operate. If you want to start a massive pileup in a hurry, just cruise into one of the most desirable counties and get on the air!

Whichever route you choose, I think that you will find that HF mobile is a lot of fun. With the nets, DXing, contesting and good-old rag-chewing, there is definitely something for everyone. Equipment is easy to find, too. Just check among the dealers in the advertising pages of QST.

Who says you can't take it with you?

Who, indeed? Keep your cards, photos, questions, and letters coming to me at ARRL, Department PCN, 225 Main Street, Newington, CT 06111. See you on the open road. ■

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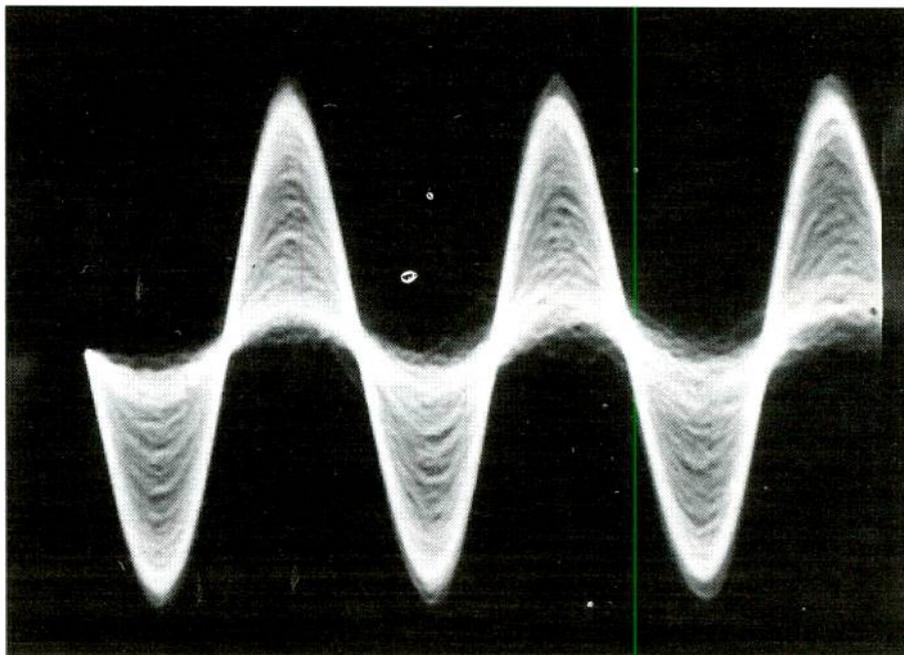
## DXing VLF

### *The Frequencies You Can Almost Hear*

**F**or the past several months I've been messing around in the very low frequency (VLF) range, i.e. the frequencies from 10 KHz to 300 KHz. There is quite a bit of activity "down unda" the AM BCB when you know where to look for it. For example, in the 145 to 280 KHz region you can hear some European AM broadcast stations. I first heard those stations on a trip to England in 1987, when I noted that the radio in my rental car had an AM band marked "MW" for "medium wave" (540-1600 KHz), and another AM band marked "L" for "VLF" on the 145-280 KHz band (the 88-108 MHz FM BCB was marked "U" for "UHF"). You will also hear Loran-C, beacons, and a number of VLF communications stations operated by the Navy. In the 10 to 14 KHz frequency range are Omega navigation stations.

Another use for the VLF bands is radio solar observations of sudden ionospheric disturbances (SIDs). These events are traced to solar events, and have a disturbing habit of wiping out shortwave transmissions. But in the VLF band, the opposite occurs: an enhancement effect is noted. Amateur solar observations are made regularly. If you are technically or scientifically inclined, and want more information on this activity, then see Peter O. Taylor's column in our sister publication, *Communications Quarterly* (76 North Broadway, Hicksville, NY, 11801).

The particular interest that I addressed was receiving the National Institutes of Standards and Technology (NIST) time and frequency station WWVB on 60 KHz. The frequency stability and accuracy of this station is generally regarded more highly by engineering professionals than the high frequency (HF) WWV and WWVH transmissions. WWVB does not give voice transmissions, but rather is a digital signal. I designed a simple VLF receiver based on Peter Taylor and Art Stokes' design (for those who want to build one, and would like a circuit diagram, send me a #10 SASE with a 29¢ stamp at POB 1099, Falls Church, VA 22041; no stamp no drawing) to receive various signals between 17 KHz and 80 KHz. The WWVB signal is shown in Fig. 1; this signal was photographed off my receiver using an oscilloscope and a Polaroid® camera. The signal is digital with



60 KHz WWVB signal seen on an oscilloscope.

the HIGH and LOW (0 and 1) transitions being indicated by a +10 dB increase in the amplitude of the 60 KHz signal.

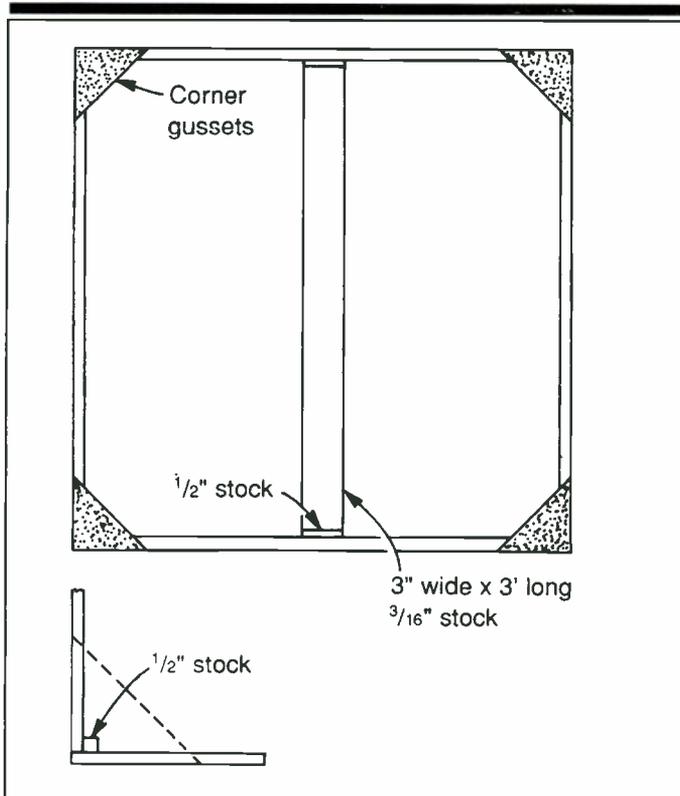
The antenna for the receiver was initially a jury-rigged ham radio HF vertical, but that was only a stop-gap measure. I later built a 60 KHz resonant loop antenna. Figure 2 shows the basic structure of the antenna. The main antenna is made of five sections of 3/16 or 1/4 inch stock that are three inches wide and three feet long. Four of these are formed into a square, while the fifth is used as a cross brace (some people add a sixth piece to form another brace). At each corner is a triangle shaped gusset made of the same type of material. These are both glued and tacked to the main members of the wooden square. At each corner and joint with the cross-brace(s), there is also a wooden support made of 1/2 inch square wooden stock. Cut six pieces, three inches long, and glue them into place. Small tacks might also help.

The loop is wrapped with ten feet of 60 conductor colored ribbon cable—the sort used in computer wiring. This cable is available from Digi-Key (POB 677, Thief River Falls, MN, 56701-0677; Phone 1-800-

344-4539) and Ocean State Electronics (POB 1458, Westerly, RI, 02891. You can call 1-800-866-6626 for orders, 401-596-3080 for information).

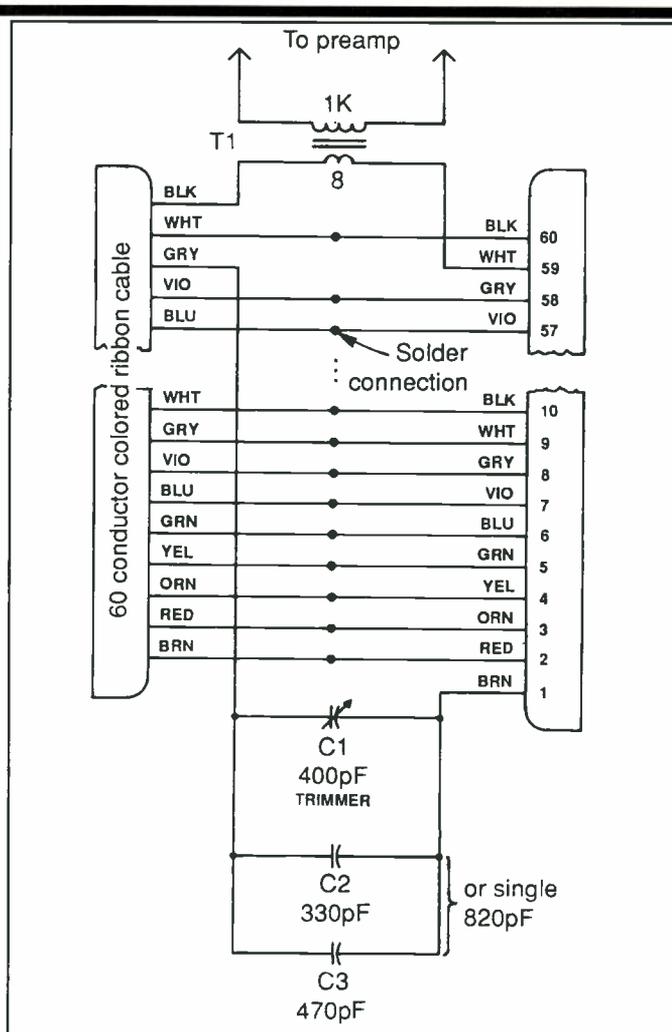
The conductors of the ribbon cable are cross-connected as shown in Fig. 3 to form one continuous loop of 58 turns, and a two-turn transformer coupling loop. According to the Antlers software (details from me, see address above), this antenna has an inductance of 6.98 mH, and can be resonated to 60 KHz with about 1007 pF of capacitance. This capacitance is made up by using a 400 pF (or so) trimmer (C1 in Fig. 3) in parallel with around 800 pF of capacitance. Use either an 820 pF capacitor, or a 330 pF paralleled with a 470 pF; in either case use either disk ceramic or silvered mica. The trimmer can be obtained from Ocean State Electronics or Digi-Key.

The coupling transformer (T1) is a standard transistor radio audio transformer with an 8 ohm winding, and a 1,000 ohm winding. In the transistor radio, the low impedance winding is the secondary, but here we use it as the primary winding. Most simple audio transformers are capable of -3 dB frequency response up to 70 or 80



Mechanical details of the three-foot loop. ▲

Electrical connections for the 60 KHz loop. ►



KHz. A few commercial versions (see Mouser catalog) are specified -3 dB up to 150 KHz, but the \$22 price is a bit much. For those who want to use the pricey transformers, however, you will find models with 1,000 ohm windings, but the low impedance will be 12 ohms, 25 ohms or 50 ohms.

The loop antenna should be completely shielded. I used 40 gauge copper foil obtained from a hobby shop that caters to doll house builders (they use it for roofing). The ribbon cable is covered all around (seam soldered) for the entire perimeter of the square loop, except for a one-inch gap in the middle of one leg. The gap is usually placed in the leg of the loop opposite the tuning capacitor.

The loop can be tuned by connecting the transformer output to an oscilloscope. Signal is injected into the loop by connecting an alligator clip-lead from the signal generator coax center conductor to the insulation of the loop wires at the gap, and the coax shield to the loop shield. Set the signal generator to 60 KHz, and peak the reading on the oscilloscope.

When installing the 60 KHz WWVB loop, rotate it to provide the best signal, with the least interference from local electrical sources.

If you want to design the loop for different frequencies, then give the Antlers software a try. ■

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CIRCLE 56 ON READER SERVICE CARD

# COMMUNICATIONS CONFIDENTIAL

## YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

**R**uss Hill, MI, has advised me of a correction regarding the cost of the ITU List of Ship Stations. I had earlier been given a cost in dollars which was incorrect. The correct cost of the book is 85 Swiss francs. You will have to check with your bank for the proper conversion to U.S. dollars.

Richard Baker, OH indicated he planned to add an ICOM R-72 to complement his R-71A for his equipment installation.

Garie Halstead, WV wrote that when he received his QSL from Wellington Radio it was accompanied by a letter dated September 29, 1993 stating his QSL verification was one of the last ones sent out prior to the September 30, 1993 station closure.

A new frequency for SLHFM activity was heard by Kurt Mueller, Switzerland. He discovered SLHFM's "S," "C," "D" on 7039 kHz with same pattern as noted on 20991, 17015 kHz, etc.

Kurt also mentioned that while on vacation in France he did some monitoring. It took most of his first day of vacation to

```

DKØWCY BEACON _____
DKØWCY BEACON _____
DKØWCY BEACON _____
DKØWCY BEACON INFO 24 OCT Ø63ØZ — WARNING — R 66 — FLUX 93 — BOULDER AK
11 — WINGST AK 13 — K 2 — FORECAST SUNACT LOW — MAGFIELD ACTIVE — SWF 1
— HF CONDS NA — DKØWCY BEACON _____
DKØWCY BEACON _____ etc
    
```

Explanations:  
 WARNING included when sudden changes expected  
 R sunspot number  
 FLUX solar flux  
 BOULDER AK magnetic indice r (or αK) for Boulder, CO  
 WINGST AK magnetic indice r (or αK) for Wingst, Germany  
 K average magnetic indice K  
 FORECAST SUNACT very low, low, moderate, moderate to high or high  
 sunactivity  
 MAGFIELD (forecast) quiet, unsettled, active, strong storm  
 SWF Short Wave Fadeout  
 HF CONDS HF conditions: NA = not available, aorund normal, normal to good etc

there are special aurora warnings:  
 DKØWCY BEACON ..... STRONG AURORA (heard on October 22)

INFO is repeated every few minutes. On weekends there is only one bulletin. During the week, an update may be heard after 1300Z

install a 150 foot longwire and a commercial grade active turnstile antenna.

Kurt concluded his letter with the details of a CW station on 10144 kHz. It is located

in Germany, and transmits solar bulletins 24 hours a day. See table 1 for a sample transmission along with explanations of terms used.



These three photos were supplied by Gary Hubert, Ontario, Canada. They show some of the antennas at Carrying Place, located near Trenton, Ontario. A large Canadian base resides in Trenton.

QSL

G C HALSTEAD

This confirms your reception of station



Wellington Marine Radio, New Zealand,

QTH: 40.23S 175.18E
Transmitter/Power: PHILLIPS 1285/1282 - 10 KW
Antenna: QUADRANT DIPOLES
Signature/Official Stamp:



Peter Sand



1911 - 1993

Garie Halstead sent in this QSL from Wellington Marine Radio, in New Zealand.

High M. Hawkins, MS, wrote that he noticed Patrick O'Conner had received a QSL from Poland which took over 1000 days. "Guess they must be cleaning house as I just recently received a couple!"

•Reported Gdynia Radio 11 Oct. 89, QSL received 26 Nov. 93.

•Reported Warsaw (PAP) 21 Feb. 91, QSL received 22 Nov. 93.

Several column readers asked if there was an identification guide for Travelers Information Stations (TIS). There is and it goes by the title, "NTIRE Directory of Stations." If such stations are of special interest to you, this would seem to be an ideal reference aid to have on hand.

An updated directory is published annually and is usually available by the end of March of each year. The cost is \$17 (U.S. dollars), including shipping/handling for normal delivery. Expedited and COD deliveries are additional.

There is also available a bi-monthly newsletter which contains items concerning TIS details. The directory and newsletter can be ordered for \$25. The address is Information Stations Specialists, PO Box 51, Zealand, MI 49464.

Those of you owning Japan Radio Company receivers may be interested in a new newsletter called NRD Notes which is available from Bill Carney, PO Box 605, Bay City, MI 48707-0605. The cost for the first issue is \$1, U.S. (\$2 in Canada).

Garie in West Virginia has reported some interesting loggings. On 7033.8 kHz he heard a CW station repeating QTA QLX over and over at 0707 UTC. Then between 0712 and 0724 station 3XFU called F2YP, MGI5, AMIN, M5NP, and E2LX. None of these stations could be heard by Garie, indicating possible duplex operation.

Activity of four character callsigns is heard frequently and was first discussed in

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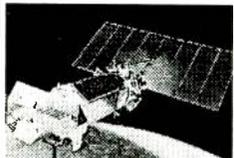
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Scott Zeenkov, PA sent in this photo of the U.S. Navy Listening Post, Key West, FL. Scott said, "Note yagis and dishes pointed towards, you guessed it—Cuba!"

an article by William I. Orr in the June 1986 issue of *POP COMM*. The article was entitled, "A New Family of HF Radio Beacons." A reminder to readers: I have elected to call this type of station a "Marker" rather than a "Beacon."

Mark Heywood, Alberta, Canada furnished this information—"If other readers are aviation enthusiasts like me, a good magazine to subscribe to is *Winged Words*, from the Aviation Society in Manchester, England. It has a shortwave section with loggings, as well as new Selcal listings. There is a section which lists scheduled

North Atlantic Flights and the aircraft that flew them each day of the month. For more information, write to The Registrar, Tour Centre, Spectators Terraces, Manchester Airport, Manchester M22 5SZ."

First-time contributor Mario Filippi, NJ said he has been a Ham, SWL'er and VHF/UHF listener for over 25 years. Mario asked about a tone signal he heard on the broadcast band with an identifier of "RR."

I believe you are hearing Radio Relej from Cuba. A number of Cuban stations carry this signal. They are clock-like pulses which mark the seconds followed by

**ZLS** STELLA MARIS, BAHAMAS

---

TO Hugh M. Hawkins  
 This will verify your reception of  
 Radiobeacon ZLS

---

At \_\_\_\_\_ (airport name/location)  
 On 2 FEBRUARY 1993 GMT At 0500 GMT  
 Frequency 526 kHz Power 500 watts  
 Antenna type LONG WIRE  
[Signature]  
 (signature/title) (officially APR 12 1993)

Bahamas Telecommunications Corporation  
 Nassau, Bahamas

Comments:

PFC returned to Hugh M. Hawkins, MS.

"Radio Reloj," a chime, and the time-check on the minute.

Another first-time contributor, Doug Kramer, MI sent a note along with his loggings, indicating he did his monitoring with a Drake R-8 and a DX-440.

**UTE Intercepts. All Times In UTC.**

**13.1:** OMEGA. LA Moure, ND. Hrd 24 hrs daily w/strong signal. (Krey, TX)

**198:** Beacon DIW, Dixon, NC at 0417 and 1506. (Crabill, VA)

**203:** Beacon NSI, San Nicholas Island OLF, CA at 2050. (Vaage, CA)

**206:** Beacon VNC, Venice, FL at 0955. (Crabill, VA)

**207:** Beacon FD. Brantford, Ontario Canada at 0722. (Crabill, VA)

**214:** Beacon K8, Nemiscau, PQ, Canada at 1005. (Crabill, VA)

**245:** Beacon TLP, Tulare Municipal-Mefford Field, CA at 0325. (Vaage, CA)

**253:** Beacon UR, Burbank-Glendale-Pasadena, CA at 0335. (Vaage, CA)

**282:** Beacon GWF, Lancaster Fox Field, CA at 0352. (Vaage, CA)

**294:** Beacon SB, Santa Barbara, CA at 0358. (Vaage, CA)

**296:** Beacon W, St. Scholasique, PQ, Canada at 1026. New ID, ex-K. (Crabill, VA)

**318:** Beacon TY, Tyler, TX at 1139; Beacon WF, Whitefish Point Light, MI at 1103. (Crabill, VA)

**320:** Beacon BAR, Banner Elk, NC at 1147. (Crabill, VA)

**324:** Beacon WI, Wachappreague Inlet, VA at 0552 and 1519. (Vylasek, VA)

**329:** Beacon OR, Norfolk (Intl-Ingles), VA at 1519. (Vylasek, VA)

**332:** Beacon CZX, Crosbyton (Municipal), TX at 2250. (Farley, NM)

**338:** Beacon LSA, Lamesa (Municipal), TX at 2251. (Farley, NM)

**342:** Beacon BLO, Boilovo, Bulgaria at 2041. (Mueller, France)

**344:** Beacon FCH, Fresno, CA. No time. (Forsman, CA)

**350:** Beacon RG, Oklahoma City, OK at 2251. (Farley, NM); Beacon EUR, Eurach, Germany in AM at 0210. (Mike, Germany)

**359:** Beacon BO, Boise, ID. No time. (Forsman, CA)

**365:** Beacon HQG, Hugoton, KS at 2252. (Farley, NM)

**375:** Beacon PJS, Newport News (Port Henry Intl'), VA at 1527. (Vylasek, VA); Beacon NDG, Noerdigen, Germany in AM at 0215. (Mike, Germany)

**382:** Beacon SBG, Salzburg, Austria at 2015. (Mueller, France)

**385:** Beacon MSE, Munich, Germany in AM at 0215. (Mike, Germany)

**388:** Beacon MFV, Melfa (Accomack County), VA at 1528. (Vylasek, VA)

**392:** Beacon BZE, Belize City, Belize at 1056. (Crabill, VA)

**397:** Beacon BE, Benton Harbor, MI at 0627. (Crabill, VA)

**400:** Beacon TRX, Trenton, MO at 0632. (Crabill, VA); Beacon NHK, Patuxent River NAS, MD, at 1529 and 0620. (Vylasek, VA); Beacon MSW, Munich, Germany in AM at 2212. (Mike, Germany)

**402:** Beacon CV, Carlsbad, NM at 2253. (Farley, NM)

**403.5:** Beacon HLI, Helingen/Hanover, Germany at 2106. (Mueller, France)

**407:** Beacon PRZ, Portales (Municipal), NM at 2254. (Farley, NM); Beacon BG, Berga, Sweden at 2240. (Mueller, France)

**410:** Beacon RF, Ehrfurt, Germany at 2055. (Mueller, France)

**411:** Beacon RD, Redmond Roberts Field, OR at 0959. (Vaage, CA)

**413:** Beacon BOA, Bologna, Italy in AM at 0214. (Mike, Germany)

**414:** Beacon LYI, Libby Nr Great Falls, MT at

**Abbreviations Used For Intercepts**

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

1000; Beacon SKX, Taos Municipal, NM at 1002. (Vaage, CA)

**424:** Beacon OKF, Destna, Slovakia at 2010. (Mueller, France)

**429:** Beacon OBI, Oberpfaffenhofen, Germany in AM at 0225. (Mike, Germany)

**440:** Beacon TRG, Targoviste, Bulgaria at 0135. (Mueller, France)

**473:** Beacon FHA, Friedrichshafen, Germany in AM at 2226. (Mike, Germany)

**474:** Beacon RZE, Rzeszow/Jasionka, Poland at 0220. (Mueller, France)

**521:** Beacon INE, Missoula Johnson/Bell, MT at 1007. (Vaage, CA)

**530:** TIS WNYG610, NY State Thruway Authority in AM at 1600 w/lane closures, construction schedules; TIS WPAM592, Bergen County (NJ) Police Information, Paremus, NJ w/construction information in AM at 1925. (Filippi, NJ)

**1610:** TIS WNZY229\*, Westchester County, NY, Information Center w/schedules of upcoming events in AM at 1555; TIS WGLY758\*, NJ Turnpike Authority in AM at 1950 w/safety information & lane closures. (Filippi, NJ) (NOTE: Callings marked with \* may have incorrect numbers)

**2118:** YJWY5, M/V Eagle, in USB w/kg Yarmouth CG Radio (on 2512 kHz), at 0116 w/request to enter Canadian Maritime Zone. (Baker, OH)

**2182:** GFZH, MV Grampian Protector w/Wick radio in USB at 2005; ZCAP2, MV Atlantic Guardian clg Wick radio in USB at 2149; Porto Torres, Italy in USB at 2150 w/wx announcement. (Boender, Netherlands); NMB7, USCG Station Georgetown at 2347 w/kg distressed F/V Still Crazy 4. Advised him to drop anchor and await assistance from USCGC Farallon. At 0604, NARK, USCGC Farallon (WPB-1301) w/kg distressed F/V Still Crazy 4. At 0707, VOJ, Stephenville Canadian CG Radio w/announcement to listen to 2598 kHz for gale/freezing rain warning. All in USB. (Baker, OH)

**2206:** At 0547, CSS Alfred Needler, CG2683 w/kg VAU, Yarmouth CG Radio (on 2582 kHz) w/wx observations. Hailed VAU on 2182 kHz. USB mode. (Baker, OH)

**2670:** NMY42, USGC Moriches NY Group F/V Snoopy 2 at 2332 re man overboard. Skipper of Snoopy2 advises he has lights on and launching flares. At 2349, NMY42 w/kg NICB, USCGC Forward (WMEC-911) re Snoopy 2 & requests they respond. Forward is 41 miles away and advises has boarding party on board a ship. NMY42 then requests they launch their helo ASAP. At 0004 Forward advises boarding completed and they enroute to person in water. At 0005 NMY42 advises Forward that Rescue 6526 is enroute from AirSta Brooklyn w/ETA of 20 mins. At 0433, NSMF, USCGC Point Bonita (WPB-82347) w/kg Forward re Snoopy 2 search & rescue. At 0520, NMF44, USCG Southwest Harbor Group, ME w/PAN-PAN bcst of MAYDAY call recd from F/V Enterprise & requests mariners keep sharp lookout. All in USB. (Baker, OH)

**2965:** Bangkok VOLMET, weak OM w/aviation

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**XST500**

wx in heavily accented EE, hrd in USB fm 1343-1344. (Sabo, S. Korea)

**3151:** Very active channel, poss Navy. Seems be ship to ship with guys relaying tracks and coordinates. (Kramer, MI)

**3308:** MARS net in USB at 0136 w/stns AFA3UE, AFA3GF, AFA3CJ, AFA3KO, and AFA3PB. (Sevart, KS)

**3455:** Tokyo Aeradio wkg Asia-267 (prob Asiana-267) in USB at 1219. (Sabo, S. Korea)

**3476:** Shannon Oceanic Control w/Austrian 524. Lufthansa 475 and checking US Air 892 Selcal "BFCP." USB at 0327. (Mike, Germany)

**3496:** Scrambled speech in USB at 0232. (Sevart, KS)

**4088.5:** FOXTROT MIKE w/VICTOR, ECHO, HOTEL & BRAVO passing track info on ships in waters around Haiti. Many diff accents, must be NATO forces involved. At 0148 FM relays Lat/Long to be given to M/V Coral I, advises pass to ship to "heave to" and stand-by to be boarded. USB mode. (Baker, OH)

**4342:** WLO. Mobile. AL w/tfc list foll by wx for Gulf of Mexico in CW at 1012. (Baker, OH)

**4372:** C7X, in USB to Jackular at 0300 asking if any other a/c coming to this squadron, if not then maintenance personnel would be released. Jackular reported 4 Camelots enroute to VF-14, then to C7X. C7X got affirmation that these were the last a/c. (Williams, AL)

**4375:** Intermittent xsmns from a weak OM/EE (Australian accent) ID'ing as Darwin Control. Hrd in USB between 1202 & 1210. Was interspersed w/ scrambled speech. Poss Australian military. Newspapers were talking about some large scale naval exercise taking place in waters off Australia during this time. (Sabo, S. Korea)

**4440:** P7X in CW sending 5F grp msgs w/headings of QRA DE P7X II P II 270300Z GR 120 BT and into texts. Also sent printer-type data xsmns. (Sevart, KS)

**4469:** Sparrow 901, Florida CAP net control wkg various stns w/Sparrow callsigns in USB at 0130. Stns had hard time hearing each other. (Sevart, KS)

**4538:** YL/EE w/1-0 count and '560' from 2100-2110. Then after 10 tones 'Count 125' and into 3/2 grps. Also on 5413 kHz. (Mason, England)

**4663:** Khabarovsk VOLMET, YL/EE in USB from 1237-1239. (Sabo, S. Korea)

**4665:** YL/EE rptng VLB2 in AM for several hrs on several days w/simulcast on 6745 kHz at 0337. Also hrd on 10352 kHz at 1322. One week later, same stn, freqs but with VLB14BOP at 0410. (Mike, Germany) This is Mossad. (Ed.)

**4740:** Every Mon at 2000 YL/EE rptng 5F grp. On this occasion said 'Ready Ready' after a '04327' callup and then into 5F grps. (Mason, England)

**5107:** OTH radar bursts at 0135. (Sevart, KS)

**5117:** AAAOUSA, MARS stn w/msg in CW at 0210. (Sevart, KS)

**5162:** At 2200 OM/RR w/891 891 891 1 until 2205. Then 1036 118 1036 v118 and into 5F grps. (Mason, England)

**5180:** King and Potassium in USB between 0700 & 0930. King relaying space shuttle altitude readings. (Kramer, MI)

**5182:** YL/GG in USB at 0140 w/3+2F grps. (Sevart, KS)

**5238:** YL/SS in AM at 0218 w/4F grps. (Sevart, KS)

**5277:** Panther, DEA Bahamas wkg 23A w/request to contact unit on 15A, blue 3 at 2333. USB mode. (Baker, OH)

**5301:** OLX, Prague, Czech Republic w/5F msg in CW at 0302. (Sevart, KS)

**5310:** O2E, Y60, 9QL, L8P w/OON for rdo check between 2153 and 2203; 2MP w/O2E for track report at 2200; 8US w/1CO for rdo check at 2203; and OON w/MAGIC (AWACS) for rdo check at 2210. All UNPROFOR STANAFORMED activity and in USB mode. (Boender, Netherlands)

**5320:** OTH radar bursts here at 0316. (Sevart, KS)

**5378:** Frogpond, USAF daily tactical callsign w/pp in USB to u/i stn in USB at 0139. (Sevart, KS)

**5426.5:** KRH50, US Embassy, London, England w/CW mkr at 0157. (Baker, OH)

**5535:** Speedbird London, British Airways LD0C wkg various a/c in UBB at 0307. (Sevart, England)

**5598:** NY ATC wkg United 910, a 767 enroute Washington-Madrid. NY then works AirFrance, Selcal AQRS. (Heywood, Alberta, Canada)

**5609:** CW stn sending 288/TT from 2205-2210. (Mason, England)

**5649:** Gander wkg Air France 023 in USB at 0144. (Mike, Germany)

**5670:** Mayflower clg Buttercup (both are USAF tactical callsigns) in USB at 0220 & asked in Buttercup hrd him on X903. Mayflower then said to go to X903. (Williams, AL)

**5673:** Beijing VOLMET in USB at 1459. Strong, computer-generated voice. Down within the minute. (Sabo, S. Korea)

**5692:** At 0400 USCG CommSta New Orleans wkg CG Rescue 2130 re 2130 making low passes over Shimeroo & reports both occupants seem okay. CG will get radar intercept. CommSta states they will talk to crew re comms problem. At 0450 CGR 2130 reports only 15 minutes fuel remaining before having to break station. Cannot pick up second person. Recommends CG helicopter, or National Guard chopper, but cannot escort them. States no comms w/liferaft.

At 0455 CG Cutter Port (?) contact 2130, states ETA 1 hour and at full speed. At 0502 District Ops concerned & wants Japanese vessel to maintain visual contact w/raft. CGR 2130 thinks person on raft is elderly, and won't survive the hour wait. Raft has 4 inches of water. Has contact w/ship & raft and suggest the plan to lower rope to occupant will work. Ops v skeptical of plan, discusses possibility of man falling overboard when climbing nets or going over gunwale. Tells CGR 2130 how to instruct vessel in maneuvering close to raft. Concerned if raft will last 1 hour. CGR 2130 drops marker buoy. Long discussion between District Ops & CommSta of worries, reluctantly relinquishes authority to CGR 2130. CGR 2130 reports visibility 10 miles, seas 20-30 feet! (weak sigs) At 0545 CGR 2130 reports both survivors picked up. Wants Cape Cod wx report. At 0702 CGC advises it will remain with Shimeroo until first light for transfer of persons. All USB. (Williams, AL)

**5696:** Rescue 1501 (HC-130) wkg CommSta Portsmouth w/pp to D-5 Ops re SAR for S/V Cigana, a 29 ft. ketch w/4 POB at 0453. D-5 advises the USS George Washington (CVN-73) is enroute w/10 hr ETA but will launch helo at first light to assist. (Now that's what I call sending assistance!) Also advises re S/V Sunshine in distress w/sails blown down and prop failed. At 0601, NOK, Key West Group wkg W4T who relays info from Rescue 6031 re search area covered & vessel investigated. All in USB. (Baker, OH)

**6288:** IGJ43, Italian Navy, Augusta, Italy w/V mkr in CW at 0400. (Baker, OH)

**6428.5:** VIX3, Royal Australian Navy, Canberra w/CW mkr at 0926. (Baker, OH)

**6415:** 7TH4, Skikda, Algeria in CW w/mkr at 2159. (Boender, Netherlands)

**6462:** FUM, French Navy, Papeet Island, Tahiti, Society Islands in CW w/V mkr at 0419. (Baker, OH)

**6556:** Varig-828 wkg Jakarta Aeradio in USB mode at 1953. (Sabo, S. Korea)

**6617:** Kiev VOLMET, Ukraine. YL/RR in USB at 0053. (Mike, Germany)

**6720:** 9BW requesting rdo check fm 6ET. LIR advises 6ET "Continue sending test traffic, receiving you ZBZ5." At 0043 "Now going OTA" (Off the air). USB mode. (Mike, Germany)

**6758:** U/I CW stn at 1400 rptng 215 215 ... 215 T11. Very strong signal. (Mueller, France)

**6840:** MCW time signal at 1044. This is also a Mossad freq. (Mueller, France)

**6976:** Every day at 1355-1400 YL/Czech "Bulgarian Betty" w/call up. Typically "555 555 555 616 616 616 05" for five mins then "over over." "42, 05, 69042" is rptd for 2 mins then "over over konet konet." Was on 5311 kHz during summer. (Mason, England)

**6996:** USAF MARS net in USB at 1039. AFC6RI wkg AG88KU w/pss. Weak. (Sabo, S. Korea)

**7452:** SLHFM "R" here at 1400. (Mason, England) THis SLHFM also hrd w/strong carrier but distorted modulation at 1540 by Mueller, Switzerland.

**7530:** OTH radar bursts at 0056. (Sevart, KS)

**7535:** Norfolk SESEF testing. Ships were NIKE, USS Swight D. Eisenhower (CVN-69) for xmtr tests at 1717. NACK, USNS Concord (T-AFS-5) at 1902 for xmtr tests. At 1910 NCJE, USNS Stalwart for rdo check & into green comms. At 1911, NDIB, USS Bris-

coe (DD-977) for xmtr tests. Precommissioned Unit Curtis Wilbur (DDG-54) w/rdo cks at 2106. All USB. (Baker, OH)

**7541:** YL/EE rptng 8699 3003 2565 in AM at 022. (Sevart, KS) From 0030-0040 YL/EE rptng 7877/3669/4725. Also on 5205 kHz. (Mason, England)

**7760:** YL/EE w/5L grps at 1615. Mossad bcst. (Mueller, Switzerland)

**7763:** YL/EE rptng 7647/1959 from 0130-0140. Does anyone know the //freq for this bcst. (Mason, England)

**8127:** YL/EE (w/accnt, poss Asian) in AM at 2348 w/COI2 callup. Accnt got better. Station down at 2351. (Williams, AL) This is reportedly a Mossad bradcast. (Ed.)

**8299:** OTH radar bursts here at 0056. (Sevart, KS)

**8571:** UFN8, Novorossoysk, Russia w/UFN8 mkr in CW at 2211. (Boender, Netherlands)

**8641:** YL opr rpts MIW2 in phonetics in uSB at 1516. (Sabo, S. Korea) This another supposed Mossad bcst. (Ed.)

**8719:** Penang, Malaysia wkg vcl w/callsign 3EOCS. Vsl, which also hrd on duplex 8195 kHz, gave his position. USB at 1335. (Sabo, S. Korea)

**8734:** VIP, Perth, Ausralia wkg vsl VNW22 w/pp. USB. (Sabo, S. Korea)

**8752:** UDH, Riga, Latvia in USB at 0742 w/several ships. (Boender, Netherlands)

**8843:** San Francisco ATC wkg Malaysian 93, Selcal CFKM; Korean 015 enroutte Los Angeles-Seoul; TWA 31 was advised to call Honolulu on 13354 kHz; Asiana 201 requesting FL 330; Singapore 11, FL 350 & posit report; EVA 11 w/posit report. Hrd 0100-0150. (Heywood, Alberta, Canada)

**8891:** Cambridge Bay ATC wrks Dynasty 2321, ETA Anchorage 0010 & has msg for Company; KLM 681, Amsterdam-Vancouver. Iceland ATC wrks Delta 135, Frankfurt-San Fransico; and Candian 97 London-Calgary. (Heywood, Alberta, Canada)

**8930:** Stockholm Radio wkg a/c "MCN" (in phonetics) w/pp in USB at 2005. A/c "UC" (also in phonetics) came on at 2007 and asked for pp also. (Sabo, S. Korea)

**9140:** YL/SS in AM at 0206 w/5F grps. Began msg w/"atencion" and rptd msg. (Sevart, KS)

**9394:** CW stn L9CC w/5F grps at 0224. (Sevart, KS)

**9457:** Every Sat/Sun at 1000 music box w/ Swedish Rhapsody tune. At 1005 YL/GG rptd 57513/26267/14581 then into 5F grps for each addressee. (Mason, England)

**9831:** YL/EE in AM at 1405 rpts 131131131 and 1-0 counts. Noted//12221 kHz w/3+2 grps. (Williams, AL)

**10057:** San Francisco ATC wrks Northwest 07, a 747 enroutte Seattle-Tokyo and Northwest 27, a 747 enroutte San Francisco-Tokyo. Both w/posit reports. (Heywood, Alberta, Canada)

**10529:** YL/EE counting 1-0 w/289 fm 1300-1310 foll by 10 tones 'Count 225' and into 3/2F grps. (Mason, England)

**10723:** YL/EE in AM at 1400 rpts 682 682 682 and 1-0 counts. Noted w/3+2F grps at 1414. //7871 kHz. (Sabo, S. Korea)

**10940:** In AM mode at 1130, 10 beeps foll by YL/EE w/4F grps. Abruptly down at 1140. (Sabo, S. Korea)

**10970:** YL in USB at 1332 rpts SYN2 in phonetics, barely audible. (Sabo, S. Korea) This another Mossad bcst. (Ed.)

**11176:** Reach 50280 w/Croughton at 1310 for pp Rhein Main metro; CanForce 109 clg Mainsail at 1332 for rdo ck; Spar 86 w/Incririk, ETA Ramstein 1605. Hrd at 1510; Shark 12 clg Cobra, Ascension answers at 0027; US Navy JM 187 w/Croughton, pp at 07123. All in USB. (Boender, Netherlands)

**11200:** RAF West Dryton VOLMET, England in USB at 1336. (Mike, Germany)

**11213:** MKL, RAF Pitrevie, UK w/wx in CW at 1155. (Mueller, France)

**11282:** San Fransico ATC wrkng Qantas 17, Selcal DKEJ. Gives position ESCRO, FL 360 & told to call LA center at 125°W. (Heywood, Alberta, Canada)

**11285:** Madras Aeradio wkg a/c 794 in USB at 1305. (Sabo, S. Korea)

**11318:** Sverdlovsk VOLMET, Ukraine. YL/RR opr in USB at 1340. (Mike, Germany)

**11545:** YL/EE w/Lincolnshire Poacher tune at 1600 & 63358 call up getting tangled up with YL/GG 2LB stn Oscar Alpha on same freq. Linc P. stn was also on 13375//12603 kHz. (Mason, England)

**12166:** YL/EE w/507 callup & 1-0 count. Some fading. Into 3/2F grps. RCS at 1505. (Ed.)

**13122:** Singapore Radio (YL opr) strong sig in USB at 1035. Attempting put thru pp (apparently to Phillipines) for vsl C6KY9 (Bahamas allocation). Also hrd her still trying at 1041 & 1046. Vsl hrd on duplex freq 12275 kHz vy weak at first, but improved slightly by last logging. (sabo, S. Korea)

**13155:** VID, Darwin Radio wkg u/i vsl w/pp in USB from 1023-1025. (Sabo, S. Korea)

**13201:** USAF OT 46 requesting pp from Julie. "Generator 2 failure, returning to base at 1500Z. Inform OIC of msg for crew pick up." USB at 1330. (Mike, Germany)

**13230:** Stations DM, AW, O, I, AE, DJ, W, OH & OL wkg each other in USB at 1310. Stns hrd until 1608. Sig faded away later on. Stns were tracking ships somewhere. All oprs had French accent. Maybe the Haiti UN Blockade? (Boender, Netherlands)

**13282:** Tokyo VOLMET in USB at 1413. Then Hong Kong VOLMET hrd in USB at 1416. (Mike, Germany)

**13555:** YL/EE in AM at 1200 rpts 826 826 826 & 1-0 counts. //16086 kHz. Hrd on another evening w/3+2F grps at 1211, //9467 kHz. Hrd on yet another evening w/3+2F grps at 1220, //16086 kHz. (Sabo, S. Korea)

**14441.5:** NAVMARCORMARS: NNNOFMN annswers NNOCSA, USCGC Seneca (WMEC-906), QSY 14818.5 at 1909. NNNOEIZ answers NNNOCVM USCGC Thetis (WMEC-910), QSY 14838.5 at 2015. NNNOREC answers NNNOCMU, USS Seattle (AOE-3) at 2027 & QSY 14483.5. At 2030, NNNONUW (NAS Whidbey Island, WA) answers NNNOCNX, USS irginia (CGN-38) & QSY to 13826 for "a lot" of pp's. At 2032 NNNOCNV USS Barry (DDG-52) responds to NNNOVGW call & QSY to 14470. At 2059 NNNOCRZ, USS America (CV-66) wkg NNNOEPA w/QSY to 14898.5 & then at 2103 QSY 13974. At 2257 NNNOCPPZ, unk ship (listed as decommissioned Benjamin Stodert) wkg NNNOEPA for pp t/c. All freqs in kHz & all comms in USB mode. (Baker, OH)

**15680:** OM/RR at 1500 w/732 call up. Then at 1505 895 x2 41 x2 and into 5F grps. Ended w/00000. (Mason, England)

**15821:** AF Two in uSB at 0100 w/Gore staffers talking about NAFTA. Then switched to X902. (Kramer, MI)

**16084:** YL/EE w/1-0 count and 604 from 1200-1205. After 10 tones 'Count 225' and into 3/2F grps. Also on 13555 kHz. (Mason, England)

**16198:** YL/EE w/3+2F grps in AM at 1317//10529 kHz. (Sabo, S. Korea)

**16948.5:** Hailfax Radio, Candan Coast Guard in CW at 1445 w/VVV CQ DE VCS. (Mueller, France)

**17021.6:** TAH, Istanbul, Turkey in CW at 1811 w/TAH 16 MHz CH 3 4 8 mkr. (Boender, Netherlands)

**17026:** KFS, Palo Alto, CA in CW at 1630 w/CQ DE KFS mkr. (Mueller, Switzerland)

**17091:** XSO, Guangzhou, China in CW at 1113. (Boender, Netherlands)

**17135:** UJO, Kiev, Ukraine in CW at 1116. (Boender, Netherlands)

**17248:** Cyprus Radio maritime service w/id and freq list. YL in Greek and EE. USB at 1458. Also on 8737 kHz USB at 0021. (Mike, Germany)

**17410:** YL rpts EZI in phonetics in USB at 1301. Vy weak. (Sabo, S. Korea). Another Mossad bcst. (Ed.)

**17946:** Honolulu Aeradio advised Asiana-201 of ATC clearance to flight level 370. (USB mode at 0404. (Sabo, S. Korea)

**17975:** Yokota Global w/SKYKING bcst at 0418. On another evening at 1349, Andrews Global w/Fox-trot msg//11176//6738//4275 kHz. 11176 & 6738 were multipathed. USB mode. (Sabo, S. Korea)

**18525:** QRA DE KKN50, DOS, Washigton DC in CW at 1714. (Mueller, France)

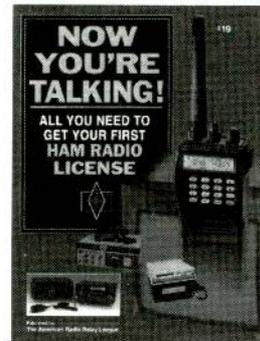
**57455:** At 2057 in LSB 111 in Apple Valley doing sound checks w/Radio American 306. RA 306 stated they were having "to quit due to getting too deep." DX-115 called from Mohave Desert, no answer by RA306. I think this was too strong of signal, and too professional of a format to be CB outbanders. (Williams, AL)

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## Tuning T-Band Frequencies

Licensed amateur radio operators, volunteering their time and equipment for emergency communications, are protected by the Federal Communications Commission against state and local ordinances forbidding ham equipment that may tune into police and rescue squad frequencies.

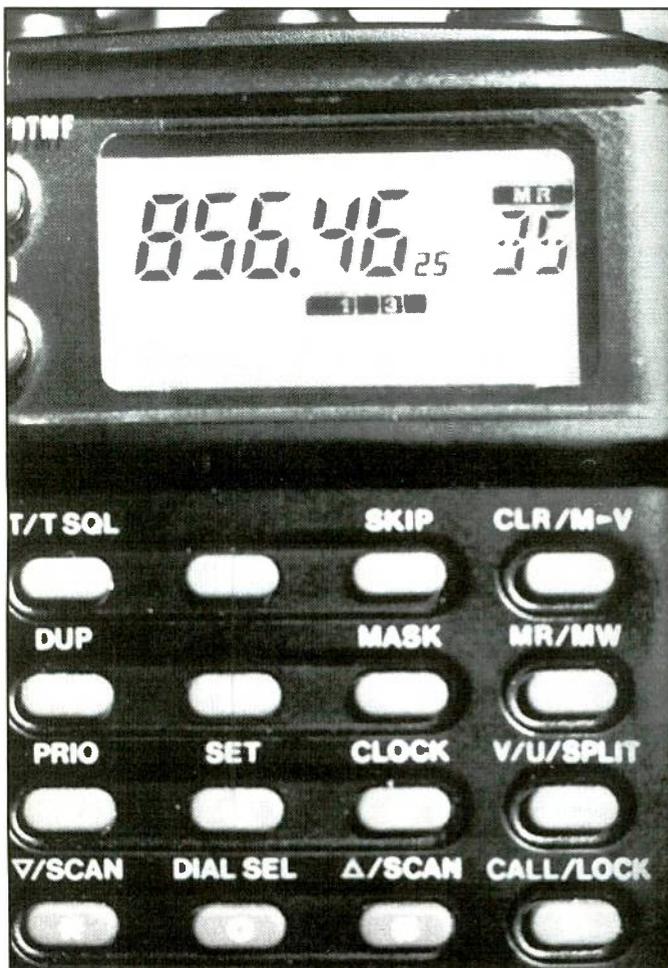
"We hold that state and local laws, that preclude the possession in vehicle or elsewhere of amateur radio service transceivers by amateur operators merely on the basis that the transceivers are capable of reception of public safety, special emergency, or other radio service frequencies not prohibited by federal law. . .we hold that such state and local laws are preempted by federal law," is an excerpt from the Federal Communications Commission ruling that hams may indeed possess radio equipment that will receive beyond normal ham band lim-

<b>Cities Using T-Band Frequencies</b>	
Boston, Massachusetts	Miami, Florida
Chicago, Illinois	New York/N.E. New Jersey
Cleveland, Ohio	Philadelphia, Pennsylvania
Dallas/Fort Worth, Texas	Pittsburgh, Pennsylvania
Detroit, Michigan	San Francisco/Oakland, California
Houston, Texas	Washington, D.C./Maryland/Virginia
Los Angeles, California	

its. This is important good news for hams working with rescue squads that may need to tune into public safety frequencies during exercises or out on actual calls.

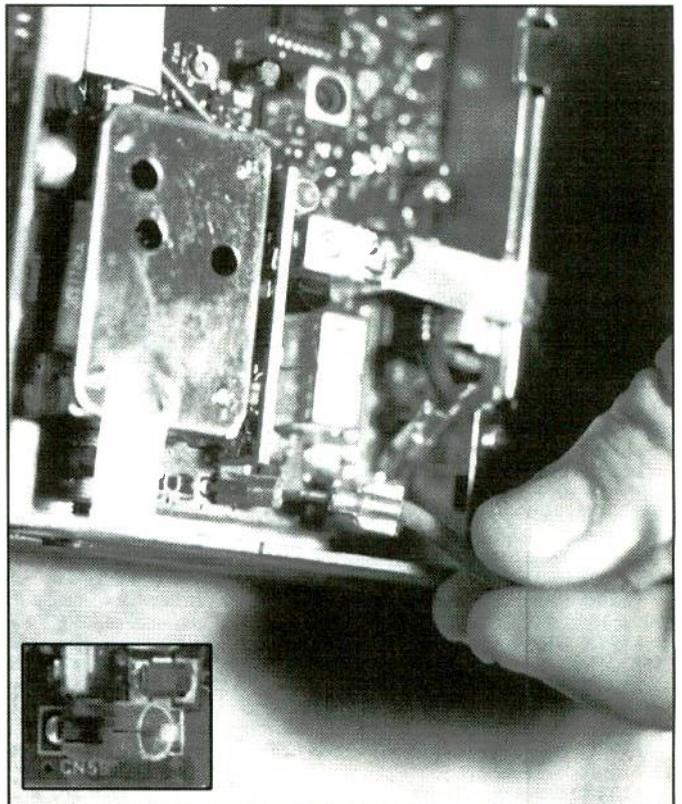
While programmable scanners will certainly tune in any and all emergency frequencies, some ham radio dual-band VHF/UHF transceivers offer this capability, too.

Ham equipment that routinely offer dual-band coverage of 2 meters and the 440 MHz band may legally be receiver expanded by the ham operator owning the equipment. Some sets "open up" on receive through simple steps of the push buttons on the face of the equipment. Other dual-band amateur radio transceivers need to be



Some equipment will tune above 470 MHz plus go into 850 MHz on receive.

The Alinco DR-600 has a plug-kit to add 800-999 MHz receive to its dual band capabilities.

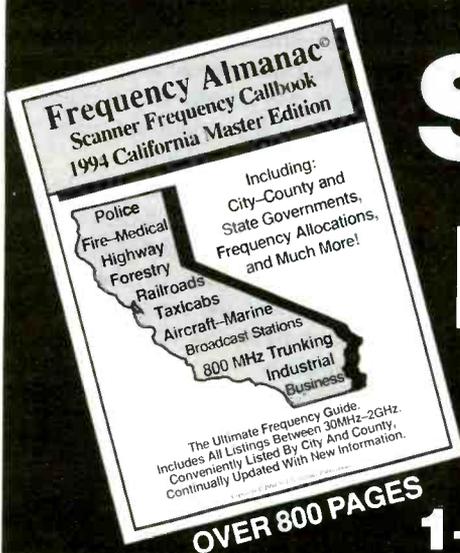


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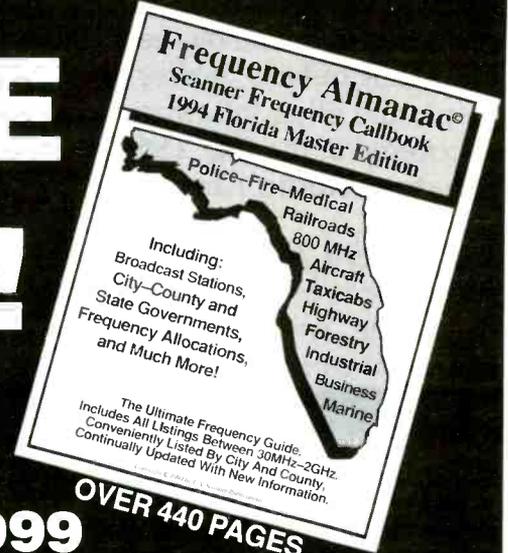
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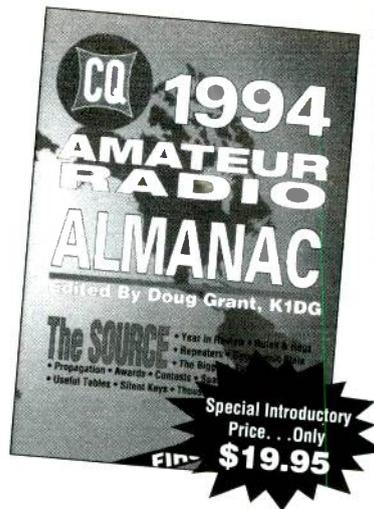
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Emergency communicators in Los Angeles found that none of their ham sets (except for the Alinco DR-600) could pick up the Los Angeles Police Department at 506 MHz, and none of their dual-band ham sets could hear the L.A. County Sheriffs at 470 MHz, nor fire communications at 480 MHz. Scanners would do the job nicely, but most dual-band amateur radio mobile transceivers would cut off at 469.995 MHz.

Another area of public safety activity beyond the normal ham band limits of most dual-band transceivers are frequencies at 859 MHz. Although amateur radio manufacturers normally don't list 859 MHz as a receive option on their dual-band spec sheets, more than 70 percent of dual-band mobile and handheld ham sets may be modified to tune in these frequencies. On most dual-band mobile units, you will need to do some modifications, but nonetheless, 859 MHz public safety monitoring is indeed possible.

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# LISTENING POST

BY GERRY L. DEXTER

## WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

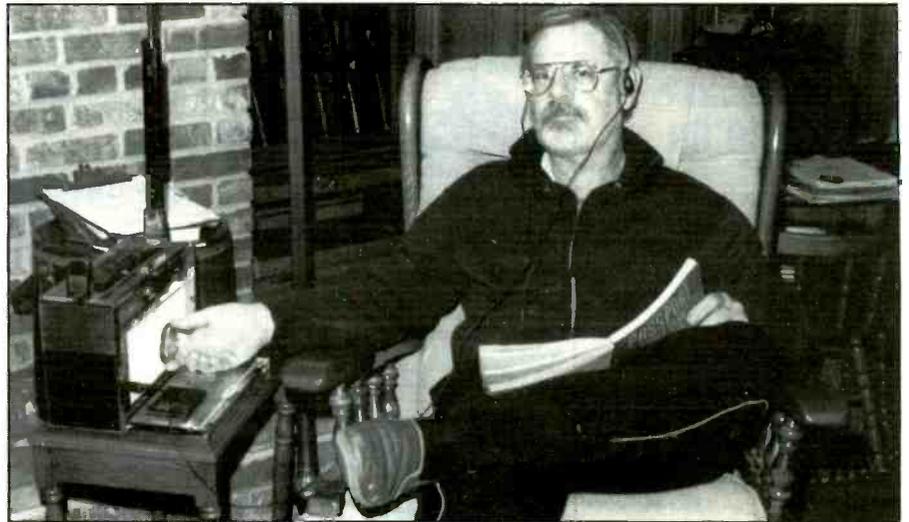
**H**awaii calls to you! LeSea Broadcasting brought its new station, KWHR, on the air from Hawaii last Christmas Eve, right on schedule! Regular broadcasts are in place for Asia and Oceania; to Asia in Chinese, Korean, Vietnamese and Thai and to Oceania mostly in English. KWHR is scheduled at 0000 to 0200 on 17555, 0200-0600 on 17510, 0600 to 1600 on 9930, 1600 to 1800 on 7425, 1800 to 2000 on 13625, 2000-2200 on 13720 and 2200-0000 on 17510, all using a Harris 100 kW transmitter. The antenna for Asia is a TCI rotatable dipole curtain type capable of an effective radiated power of 12 million watts. The Oceania antenna, also a TCI, can radiate two million watts. The studio to transmitter link is via satellite: Galaxy 4, transponder 15, subcarrier 7.64MHz. Reception reports go to the WHRI address in Indiana. Thanks to Charles Fenwick and Ed Rausch, Jr. for the information.

Fenwick reports he heard Radio Prague announce that its North American service has been cut back to just one broadcast per day. This rather ties in with the news that the Czech government has farmed out responsibility for the service. Several bids were received from private Czech broadcasters but Radio Prague itself submitted the lowest bid, though the government wants them to do the job for even less money. Probably related to all this is the news that Radio Prague's use of transmitters within Slovakia is also to be cut back.

Adventist World Radio should be on the air from the Slovak transmitters at Rimavsaka Sobota by now, the facility having been freed up by Radio Prague. Test broadcasts were supposed to continue through late March. They'll run from 0100 to 0900 on 5940, 7115, 7270, 9455, 9465, 11610, 13715, 7180 (only two in use at any one time) and 1300 to 2000 on 5940, 5945, 7315, 9455, 11610 and 13790—again, using only two of these frequencies at any one time.

As we feared, the Aussie regionals are, indeed, gone from shortwave. The Perth outlets on 6140, 9610 and 15425 and Brisbane on 4920 and 9660 have all been discontinued. Even sadder is the fact that announcements asking that those listening to the shortwave broadcasts contact the stations brought not even a single response!

The Russian radio scene continues in a state of constant change. Here's an interesting new service one you might like to try for: Radio Slayvanka is a joint effort of Radio Moscow and the Russian Ministry of Defense, intended for Russian servicemen based in Tajikistan as well as ethnic Russians in that area, and for Russian troops stationed in such places as the Baltic re-



*Bruce Sdunek of Howell, Michigan does his listening on one of those classy old Zenith Transoceanic sets!*

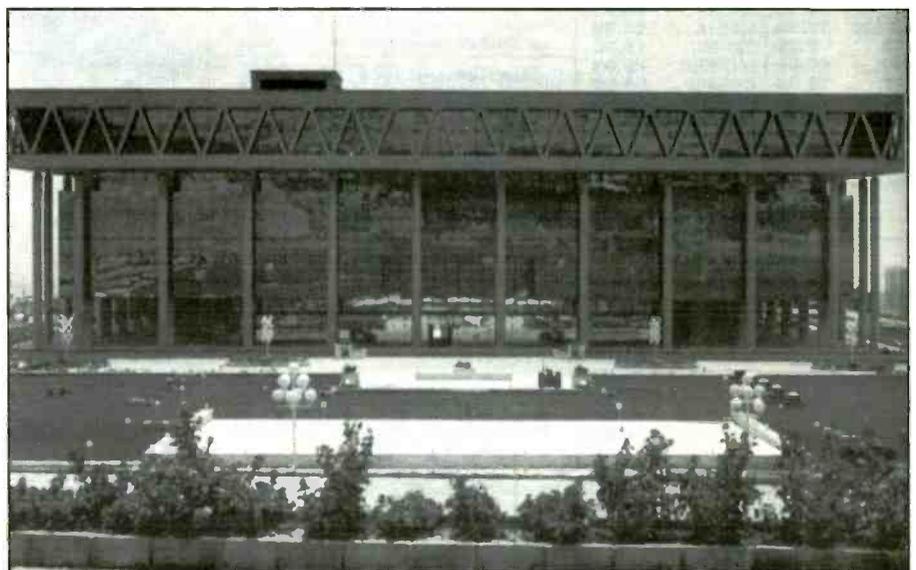
publics, Kalinigrad, the Caucasus and Central Asian areas. This airs daily except Mondays from 0200-0400 on 4740, 4975, 5920, 5930, 6160 and 7235. Also at 1700-1900 daily except Sundays on 4940, 4975, 5945, 6090, 6175, 7140, and 7265. 7235 between 0200-0400 looks like the best bet for North America.

More from the department of Nothing's Sacred Anymore. Papua New Guinea's National Broadcasting Commission has vacated 4890, which it has used practically since time began. The good news is that it has launched what it terms an "international

service" which is now running 100 kW on 9675 and is scheduled to operate from 2000 to 1400. See this month's logs.

Radio Prague isn't the only government broadcaster being (more or less) cut loose by its government. Italy plans to do the same thing to (or for!) RAI by sometime next year. The broadcaster will become a private company in which citizens may purchase shares. That may serve to juice up RAI's sound and service. The best one word description for RAI over the past decades might be "staid."

Iran's VOIRI is providing much better re-



*VOIRI has a new English transmission at 1530 on 11790. Here's the headquarters building in Tehran (Thanks to Jill Dybka, Nashville, TN) VOIRI has a new English transmission at 1530 on 11790. Here's their headquarters building in Tehran (Thanks to Jill Dybka, Nashville, TN)*

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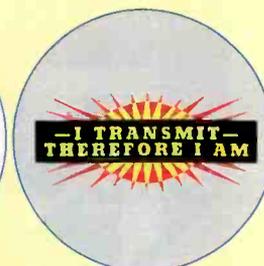


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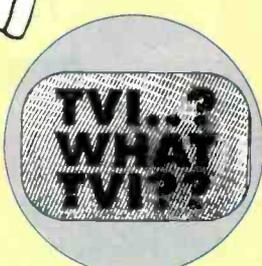
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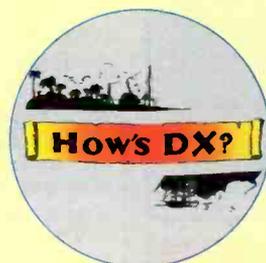


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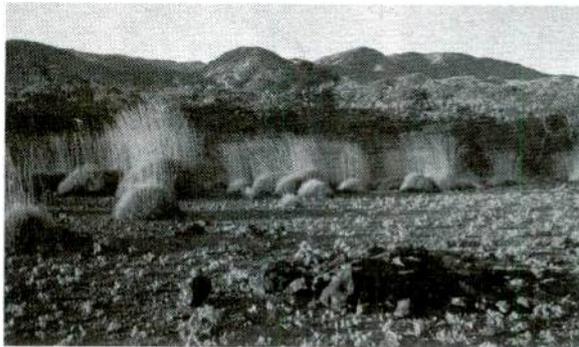
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Jill Dybka sends along this very nice "Wilderness Society" card from Radio Australia.

ception these days, with a new English language broadcast starting at 1530 on 11790.

Monitor Radio says it has completed the format change announced sometime back. No longer called the "World Service," Monitor Radio is now a one hour broadcast recorded live at 1400 each weekday, then repeated for 24 hours. The show features original stories and features, international news from correspondents around the world, the "Letterbox" feature and a daily religious article.

Radio For Peace International should have discontinued use of its 7385USB frequency by now and replaced it with a spot in the 31 meter band (try 9530). 7375 may also have been changed by now, but not as drastically. That transmitter should occupy 7370, 7380 or even 7385.

We received a beautiful poster from Deutsche Welle, which combines a 1994 calendar, map of Germany and a full color panoramic view of Germany. We can't say whether DW will have any of these left by now but if you'd like one, they are worth taking the time to write the station.

Another source of nice "wallpaper" is Radio Bulgaria—but you'll have to put in some time and effort to get these. The station offers Bronze, Silver and Gold diplomas for sending in reception reports, but you have to send in certain numbers of reports within certain periods of time. Six Radio Bulgaria QSLs are required for each award. After your initial report (for the Bronze) you have to file two reports within two weeks, then three within three, then four in four, five in five and six in eight. For the Silver it's two in the first week, then three in one week, then four in two weeks, six in two, seven in four and eight in five (so that would take 15 weeks to accomplish). The Gold is, of course, tougher. It requires three reports the first week, then five within two weeks, then six within three, seven within four, nine in five and ten in six. The diplomas are sent with the last QSL in each award category. We assume all these reports should be for the service intended for your area.

You can, though, hear the Bulgarian

home service on shortwave. The Radio Horizon service is scheduled on 9855 from 0500 to 0800, 1000 to 1745. This runs straight through on Sundays.

We look forward to receiving your log reports each month! They must, however, be listed by country and include your last name and state abbreviation after each. Leave some cutting room between your items, too. Otherwise, we can't use them.

We also welcome spare QSL cards to use as illustrations in this column, as well as your shack photos (don't be shy!), station schedules, literature and whatever else you might have pertaining to shortwave broadcast listening and DXing!

Here are this month's loggings. All times are in UTC, which is five hours ahead of EST (0000 UTC equals 7pm EST, 4PM PST, etc).

The language used in the broadcasts is assumed to be English unless stated otherwise (FF=French, GG=German, RR=Russian, etc.)

- ALASKA**—KNLS at 1300 on 7355. (Bush, Japan)
- ALBANIA**—Radio Tirana, 9580 at 0130 sign on with ID. news. (Moser, PA: Gentry, IL)
- ALGERIA**—Radio Algiers, 9535 at 1940 with sports, news and Berber music. (Urbelis, NY)
- ANGOLA**—Emisora Provincial do Benguela, 5043 at 0430 in PP with music, mentions of Angola and number/counting in PP, though not sure if this was part of the broadcast or a numbers station mixed in. (Paszkievicz, WI)
- ANTIGUA**—BBC relay, 5975 at 0117: 0327. (Moser, PA: Fenwick, VA)
- ARGENTINA**—Radio Nacional (Sunday/Monday, UTC only) on 15345 at 2352 in SS with play. IDs, news. "La Noche con Amigos" music program. Also on 11710 (Sun/Mon UTC only) at 0305 in SS with classical music, ID. "Happy Birthday" song with party sound effects, tangos. (Lamb, NY)
- ASCENSION ISLAND**—BBC relay, 17790 at 1332 with news. (Moser, PA)
- AUSTRALIA**—Radio Australia, 6060 at 1320 in CC with opera. (Pappas, ND) 6080 at 1100 to Papua New Guinea, 9510//13605 at 1100, 9560//9580//21525 at 0830, 9710 at 0800, 9770//11660//11800 at 1500, 11660 at 1430, 15170//21725 at 1000, 17715 at 0100, 17750 at 0030 and 0700, 17880//21595 at 0200 and 21740 at 0230. (Bush, Japan) 9580 at 1221. (Moser, PA) 9580//11800 at 1550. (Gentry, IL) New 15510 at 0555 to 0657 close, 15575 via Darwin in CC at 2255 and off 2256 and same frequency via Carnarvon at 2258 sign on after Darwin close. (Lamb, NY) 17795//21740 at 2230. (Urbelis, NY)

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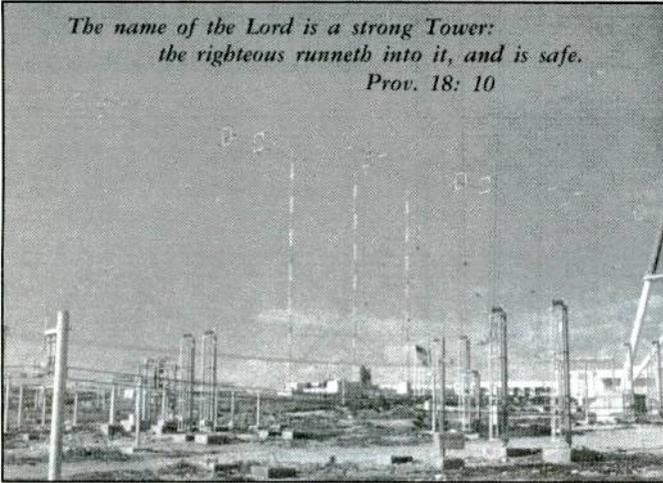
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CIRCLE 85 ON READER SERVICE CARD

*The name of the Lord is a strong Tower:  
the righteous runneth into it, and is safe.  
Prov. 18: 10*



This is the Cyclops transmitting site in Malta, used by Deutsche Welle, AWR and others.



This is one of the six QSLs Radio Bulgaria issues towards its listener diplomas. Note that it still carries the old Radio Sofia name.



**RADIO  
SOFIA**

**Abbreviations Used in Listening Post**

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

**AUSTRIA**—Radio Austria Int'l, 6015 via Canada at 0530. (Moser, PA) 13730 at 1546. (Fenwick, VA) 15450 at 1330. (Bush, Japan)

**AZERBAIJAN**—Radio Dada Gorgud. Voice of Azerbaijan is now on 7160 from 1700 to 1800. 15240 is used for the summer months. (Rausch, NJ)

**BELGIUM**—Radio Vlanderen (Flanders) Int'l, 7370 at 0030 with news. (Fenwick, VA)

**BOTSWANA**—Radio Botswana, 7255 at 0257 with IS to anthem at sign on. (Moser, PA)

VOA relay, 11965 at 0347, ID, IS and into Somali at 0400.

(Lamb, NY) 13710 at 1935 with "Music Time in Africa." (Fenwick, VA)

**BRAZIL**—Radio Nacional do Brazil, 15445 at 1219 with music. (Moser, PA)

Radio Clube do Para, 4885 at 0234 in PP with non-stop US and Brazilian pops, IDs, talks with echo effect. (Lamb, NY)

Radio Bandeirantes, 6090 in PP at 0915-1010 with Brazil pops, commercials, IDs. Parallel 9645. (Urbelis, NY)

**BULGARIA**—Radio Bulgaria, 7455 and 9700 at 0138 with music, listener's letters. (Gentry, IL) 9700 at 0001. (Moser, PA) 11630 at 1330 and again at 1515. (Bush, Japan)

**BURKINA FASO**—Radio Burkina, 4815 at 2235 to 2300 in FF. Vernacular and hi-life music. Low audio. (Urbelis, NY)

**CANADA**—Radio Canada Int'l, 6150//11730 at

1230, 6150//9535 at 1330, 7150//9550 at 1630, all via China. (Bush, Japan)

CFRX, Toronto, 6070 at 1220. (Moser, PA) 2358. (Gentry, IL)

**CHAD**—Radiodifusion Nationale, 4905 at 2049 in FF with African music, ID, frequency announcement. (Lamb, NY)

**CHINA**—China Radio Int'l, 5145 in Mongolian at 1138 with talks, local music, frequencies, ID, IS. (Lamb, NY) 9690 (via Spain) at 0321. (Gentry, IL) 11755//15440 at 0900. (Bush, Japan)

Xinjiang PBS (Tibet), 4735 at 1055 in Uighur with Chinese orchestra, ID, news. (Lamb, NY)

Voice of Jinling, 4875 at 1155 in CC with IS. IDs by man and woman, presumed news. (Rausch, NJ)

**COLOMBIA**—Ecos del Combeima, Ibaque, 4785 at 1000 in SS with usual Latin American fare. (Urbelis, NY)

Radiodifusora Nacional, 11785 at 1920 with man in SS with IDs, music. (Moser, PA)

Radio Buenaventura, 4836 to 0501 close, mentions of Caracol, IDs, cumbias, sign off announcement. All SS. (Paszkievicz, WI)

**COSTA RICA**—Radio Exterior de Espana relay, 9630 in SS at 0202 with news, ID, headlines. (Lamb, NY)

Radio Universidad de Costa Rica, 6105 in SS to 0355 with jazz flutes and classical music. Time Check, National Anthem, ID and "buenos noches." (Paszkievicz, WI)

Faro del Caribe, 5055 at 0602 in SS with religious programs, ID and hymns. Mixing with French Guiana. (Urbelis, NY)

Radio For Peace Int'l, 7375 at 0338. (Moser, PA) 7385USB at 0139. (Gentry, IL)

**CUBA**—Radio Havana Cuba, 6010 at 0116; 0125. (Moser, PA; Gentry, IL) 6180 at 2221. (Fenwick, VA) 9510 at 0600. (Bush, Japan)

**CYPRUS**—BBC relay, 9660 at 1348 with "News-desk." (Lamb, NY) 15575 at 1030. (Bush, Japan)

**CZECH REPUBLIC**—Radio Prague, 5930//7345 at 0020. 7265 (direct from Czech Republic site) at 2139 in SS, into EE at 2200 with news, folk music. 7345 (Litomysl site) at 0057 with IS, multi-lingual IDs, news, sports, folk and arts programs. (Lamb, NY) (Fenwick, VA) 7345 at 0119; 0125. (Moser, PA; Gentry, IL)

21705 at 0730. (Bush, Japan)

**DOMINICAN REPUBLIC**—Onda Musical, 4780 at 2300 in SS, reactivated and testing to North, South and Central America. Call letters HIAS, located in Santo Domingo. Sign off time varies to as late as 0400. (Rausch, NJ) 2330-0300 with Merengues, IDs. (Urbelis, NY)

**ECUADOR**—HCJB, 9745//15155 at 0112 with "Saludos Amigos." (Gentry, IL) 15115//11925//17890 at 1227 with morning program.

(Moser, PA) 17790 at 1600 with EE ID, into FF. (Fenwick, VA)

Radio Oriental, 4779.7 at 0955 in SS with nation-

al anthem, ID, location, time check, commercials, music. (Rausch, NJ) (Note the close proximity of this one to the Dominican, above. It's easy to mix these two up, folks!, editor)

Radio Quito, 4920 at 0258 in SS with LA music, station promo, ID, news with calls of "Atencion...atencion..." (Lamb, NY)

La Voz del Napo, 3289, from Tena, 1030-1110 in SS with IDs, Andes music, religious program. (Urbelis, NY)

**EGYPT**—Radio Cairo, 9900 at 2138. (Moser, PA) 17595 at 1300. (Bush, Japan)

**ENGLAND**—BBC (England and other sites)—5975 // 6175 // 7325 // 9590 // 9915 // 15260 at 2355. (Gentry, IL) 6005 at 0329. (Vaage, CA) 9410 at 2036 and 9515 (via Canada) at 1330.

(Moser, PA) 9750 at 1357, news at 1400. This transmission is on Sundays only. (Lamb, NY)

**EQUATORIAL GUINEA**—Radio Nacional, Bata, 5003.7 at 2025 in SS with ID, hi-life and LA music. ID, location, anthem and off at 2157. (Rausch, NJ) 5004 at 2130-2150, all SS. (Urbelis, NY)

**FINLAND**—Radio Finland Int'l, 15400 at 1233 with "Compass North." (Moser, PA)

**FRANCE**—Radio France Int'l, 4130 (via China) at 1400. (Bush, Japan) 11705//17620 at 1600 with IS, time check, ID, African and world news. (Lamb, NY) 15155//15365 at 1231 with schedule, European news. (Moser, PA) 17620 at 1606. (Fenwick, VA) 17650 at 1436. (Gentry, IL)

**FRENCH GUIANA**—Radio Japan relay, 15325 at 0336 in SS. (Fenwick, VA)

RFO Guyane, 5055 in FF with news and local announcements. QRM from TIFC, Costa Rica. (Urbelis, NY)

**GABON**—Africa No. One, 17630 at 1153 in FF with rooster sound effects, IDs, news, station promos. (Lamb, NY)

Radio France relay, 12015 at 1617 with mideast news. (Moser, PA)

**GEORGIA**—Georgian Radio, 5040 at 0300 in Georgian and EE, IS and ID, presumed news, country/western and BBC "Bookworm" program. (Rausch, NJ)

**GERMANY**—Deutsche Welle, 6040//6085//6145 at 0144 with "European Journal." (Gentry, IL) 6145 at 0122. (Moser, PA) 12055 (via Russia?)//17820 (Sri Lanka)//17780 at 0900. (Bush, Japan)

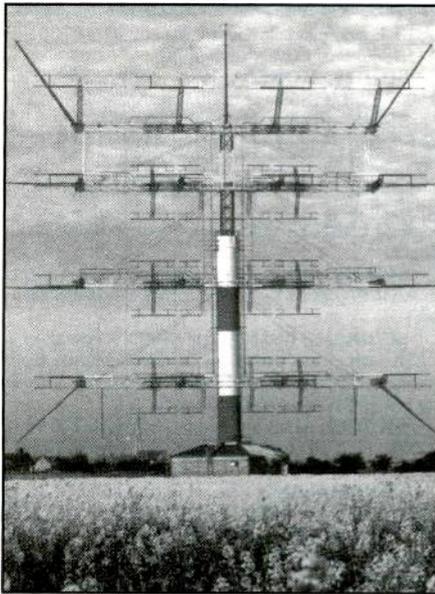
Radio Free Europe via Bilbis site, 3970 at 2037 in Romanian with news, ID, remote report, fill music. (Lamb, NY)

Beyerischer Rundfunk, 6085 at 0252 in GG with pops, Dolly Parton, big band music. ID heard under DW-Sackville sign on at 0300. (Lamb, NY)

VOA relay, 3980 at 0623 with news, ID. (Lamb, NY)

**GHANA**—GBC Radio 2, 3366 at 2145 to 2230 with news, hi-life music. (Urbelis, NY) GBC-1 on 4915 at 0620. (Moser, PA)

**GREECE**—RS Makedonias, 9935 at 1355 in



This QSL shows part of the new antenna/transmitter system in place at Radio France International.

Greek. (Pappas, SD)

1940-2130 in Greek with news at 2000, 2100, Greek music and announcements. (Urbelis, NY)

Voice of Greece, 9380 at 0333 in Greek. (Fenwick, VA) Here and 9420//11645 at 0130 with Greek music. (Gentry, ILK)

VOA Relay, Rhodes, 7205 at 2033 in AA with choir and features. (Lamb, NY)

**GUAM**—Trans World Radio/KTWR on 11805 at 0930 with religious programs. (Urbelis, NY)

**GUATEMALA**—Radio Buenas Nuevas, 4800 at 1129 sign on with SS ID, religious programming in an indian language, barking dog sound effects, marimbas. (Lamb, NY)

La Voz de Atitlan, 2390 to 0331 sign off with marimbas, frequency and sign off announcements. (Paszkievicz, WI)

La Voz de Nahuala, 3360 at 1105 in SS with ID, mariachi music, religious program. (Rausch, NJ)

Radio Tezulutlan, 4835 at 1100-1200 with marimbas, local talks in SS. (Urbelis, NY)

Radio Maya de Barillas, 3324.8 at 1130 in SS with time check, ID, hymns. (Rausch, NJ)

Radio Mam, 4825 at 1225-1245 "buenos dias," time checks, marimbas, ID, time check and "I Can't Stop Loving You" as a music bridge. (Paszkievicz, WI) 1230 with SS ID by a young child. (Rausch, NJ)

**GUINEA**—Conakry on 4900 at 2145 to 2200 close in language with music mix, announcements, anthem. (Urbelis, NY)

**HAWAII**—KWHR, 13625 at 1902-1930 with anthem, address, phone and fax numbers. (Paszkievicz, WI)

**HONDURAS**—Radio Copan Int'l, 15675—updated schedule: Monday-Saturdays 1400-1500, 2100-2300, Sundays 2100-2200. (Rausch, NJ)

**HONG KONG**—BBC relay: 7180 at 1400, 9410 at 1500 (in North America we are far more likely to hear the UK site on this frequency, editor), 11765 at 0900, 11820 at 1330, 11945 at 0000, 15280//17830//21715 at 0700. (Bush, Japan)

**HUNGARY**—Radio Budapest, 9835 at 0259 with IS, sign on, frequencies, news. (Moser, PA) 0303 with news. (Gentry, IL)

**INDIA**—AIR Gangtok, 4775 at 1155 with subcontinental vocals, transmitter cutting in and out. (Rausch, NJ) (Gangtok is in Sikkim, which the North American Shortwave Association Country List counts as a separate country, editor)

All India Radio, Delhi, 4860 at 1220 with ID, news, commentary, 5 plus 1 time pips and into Hindi. (Rausch, NJ)

7412//9950//11620 (Bangalore) at 2016 in

Hindi, with EE starting at 2045. (Lamb, NY) 11620 at 1919. (Moser, PA) 15050//17895 at 1000. (Bush, Japan)

**IRAN**—VOIRI, 9022 at 0116 with woman, Islamic music. (Gentry, IL)

**ISRAEL**—Kol Israel, 7465 at 2013 with current affairs talk. (Gentry, IL) 11603 at 2229 with IS, EE news. (Moser, PA) 15640//15650 at 1409 with "Israel Mosaic." (Lamb, NY)

**ITALY**—RAI, 9710 at 1930 with news, music. (Moser, PA)

**JAPAN**—Radio Japan, 6120, via Canada at 1100. (Pappas, ND)

6750 at 1500, 7140//9660 at 2300, 9535 at 1500, 11815 at 0900, 11885 at 0500, 15195//17775//17810//17845 at 0100, 17810//17860//21575//21610 at 0700. (Bush, Japan)

Radio France relay via Japan on new 15445 at 2351 in FF. (Lamb, NY)

**KENYA**—Kenya Broadcasting Corp., 4935 at 2055 to 2108 sign off with news, local info, IDs, music. (Urbelis, NY)

**KUWAIT**—Radio Kuwait, 13620 at 1847 with religious talks and American pops. (Moser, PA)

**LEBANON**—Wings of Hope, 11530 at 2000 with Gene Scott. (Urbelis, NY) (This station is reported to have since moved to 9960, editor)

**LESOTHO**—BBC relay, 3255 at 0300 with news, home news, sports. (Urbelis, NY)

**LIBERIA**—ELWA, 4760 at 0602 with religious programs, ID. (Urbelis, NY)

**LITHUANIA**—Radio Vilnius, 7150 at 0013 with news. (Gentry, IL)

**MADAGASCAR**—Radio Netherlands relay, 9605 at 1835 to 1930 close. (Rausch, NJ)

**MALI**—RT Maliene, 4783//4835//5995 at 2315 in French with local music and announcements, ID. (Urbelis, NY)

China Radio via Mali on new 9780, parallel 11715 at 0312. (Lamb, NY) 11715 at 2039. (Moser, PA)

**MAURITANIA**—ORTM, 48945 at 2315 with news in FF, local announcements and music. (Urbelis, NY)

**MOROCCO**—Radio Medi-Un, 9575 at 2030-2100 in AA/FF, AA and pop music mix, several IDs. (Urbelis, NY) 0734 in FF with news, sports, ID, commercials, 50's rock. (Lamb, NY)

**NETHERLANDS**—Radio Netherlands, 6020 and 6165 (Bonaire) at 0001. (Gentry, IL) 6165 at 0331. (Fenwick, VA) 7260//9810 at 1000, 9895//15330 at 1330. (Bush, Japan) 15530 at 1338. (Moser, PA)

**NEW ZEALAND**—Radio New Zealand, 9510 at 1300, 9700 at 0700. (Bush, Japan) 9700 at 1146 with pop and jazz, ID, news, sign off at 1206. New 15115 at 0439. (Lamb, NY)

**NIGERIA**—Voice of Nigeria, 7255 at 2005-2055 with news, "60 Minutes" program. (Urbelis, NY) 0603; 0621. (Gentry, IL; Moser, PA)

**NORTHERN MARIANAS**—Monitor Radio, 9425 at 1200, 9530 at 1500 and 17555 at 0930. (Bush, Japan)

**NORTH KOREA**—Radio Pyongyang, 4780 at 1215 in KK with vocals and talks. (Rausch, NJ) 6576//9977 at 1130. (Lamb, NY) 9345 at 1300, 1500; 11335//13670 at 0000; 15180//15280 at 0800 and 15340 at 0700. (Bush, Japan)

**OMAN**—BBC relay, 15310 at 1030. (Bush, Japan)

**PAKISTAN**—Radio Pakistan, 21730 at 0230 for 15 minutes of news, then off. (Bush, Japan)

**PAPUA NEW GUINEA**—NBC Port Moresby on new 9675 at 1200, replacing 4890. ID, local news, pops. (Rausch, NJ)

Radio Madang, 3260 at 1140 in Pidgin with island vocals, time check, 70's pops. (Rausch, NJ)

Radio Milne Bay, 3365 at 1235 in EE with man announcer, time checks, light pops. (Rausch, NJ)

**PARAGUAY**—Radio Nacional, 9735 at 2210 in SS with "informativo", classical music. (Urbelis, NY)

**PERU**—Radio Atlantida, Iquitos, 4790 at 1030 in SS with Andes music, commercials, time checks. (Urbelis, NY)

Radio Oriente, 6190 at 2343-0020 with lively vocals, TC, ballads, ID, all SS. (Paszkievicz, WI)

Radio Melodia, 5995 at 0912 in SS with folk music, time checks, IDs, talks with echo effect. (Lamb, NY)

La Voz de la Selva, 4824.3 in SS at 1040 with time check, ID, mention of Iquitos, program "Ninos Musical." (Rausch, NJ)

Radio Ancash, 4990.6 at 0130 in SS with ID as

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CIRCLE 77 ON READER SERVICE CARD

"Ancash en el corazon de Peru en el capital de la Republica Radio Ancash" over local music. (Rausch, NJ)  
**PHILIPPINES**—VOA relay, 6110//9760 at 1100, 11720//15425 at 1000; 9770//11760//15185//15290//17735//17820 at 0230, (Bush, Japan)

FEBC, 15450 at 0030. (Bush, Japan)  
 Radio Pilipinas, 17760//17840//21580 at 0230. (Bush, Japan)  
 Radio Veritas Asia, 6165 at 2100 with crooner. EE ID, schedule and into CC (with China Radio on the same frequency).

(Paszkiwicz, WI) 9520 at 1159 with easy listening music, EE ID and frequency announcement, religious program in Indonesian. (Lamb, NY)

**PORTUGAL**—Radio Nacional, 11840 at 2025 in PP with soccer game. Better on 9780. (Urbelis, NY)  
 Radio Renascenca, 9680 at 1827 in PP with IDs, news, religious talks, contemporary Christian music, off at 1900. (Lamb, NY)

**RUSSIA**—Radio Moscow 5930//7160//9575 at 1600, 5950 at 1200, 5960//9530//17750//17765//17890//21615 at 0700, 7195 at 1330, 7205//9780 at 1100, 11710 at 1000, 11765//12050 at 1500, 12015 at 1130, 17655//21690 at 0830. (Bush, Japan) 9380 to Asia via Tadjikistan at

1300. (Rausch, NJ) 12020 at 1222. (Moser, PA)  
 Radio Aum Shinrikyo, 9550 at 2030 with religious talks. (Urbelis, NY)

University Network via Irkutsk, 12040 at 0251 with Gene Scott. (Lamb, NY)  
 Radio Netherlands via Irkutsk, 9810 at 0927. (Urbelis, NY)

**RWANDA**—Radio Rwanda, 15340 in FF at 1800 with IS, national anthem, news, music. (Rausch, NJ)  
 Deutsche Welle relay, 9510 at 0403. (Moser, PA)  
**SIERRA LEONE**—SLBC, 3316 at 2145 with news, local announcements, time check, public service announcements, many IDs. (Urbelis, NY)

**SINGAPORE**—BBC relay, 6195//9740 at 1030, 11750 at 1000, 11955 at 0930, 15360 at 0700, 17830 at 0900, (Bush, Japan) 9740 at 1100. (Moser, PA) 15340 at 2150. Lost to Cuba at 2200. (Rausch, NJ)

**SLOVAK REPUBLIC**—Slovak Radio, 5930 at 0107 with travel feature and "Front Page Review." (Lamb, NY) //7310 at 0121. (Moser, PA) 7345 at 1930. (Urbelis, NY)

**SOLOMON ISLANDS**—SIBC, 5020 at 0935 with news at 1000, local information, weather, IDs. (Urbelis, NY)

**SOUTH AFRICA**—Channel Africa, 9730 at

0313. Economics talk. (Gentry, IL) 15240 at 1700 with IS, ID, regional news. (Rausch, NJ)

**SOUTH KOREA**—Radio Korea, 5975 at 1600, 7550//13670 at 0800. (Bush, Japan)

**SPAIN**—Spanish National Radio, 6125 at 2105 with news, "Panorama." (Urbelis, NY) 9540 at 0000 sign on: 0135. (Moser, PA; Gentry, IL)

China Radio Int'l relay, 9690 at 0326 with music, letters. (Lamb, NY)

**SRI LANKA**—VOA relay, 9645 at 1500. (Bush, Japan)

**SUDAN**—Omdurman, 7200 and 9165 at 1940 in AA with political talks, Arabic music, news. (Urbelis, NY)

**SURINAM**—Radio Apinte, 4990.9, tentative, at 0215 with piano music and announcements. (Paszkiwicz, WI) 0130 in SS/EE with ID, top 40. Very little talk and infrequent IDs. (Rausch, NJ)

**SWEDEN**—Radio Sweden, 15240//17740 at 1229 with IS, ID to sign on and "60 Degrees North." (Moser, PA)

**SWITZERLAND**—Swiss Radio Int'l, 6135 at 0103 with news, QRM from 6130. (Gentry, IL) 7480 via China at 1300 and 9420 via China at 1500. (Rausch, Japan) 17636 at 1702 with news. Moser, PA)

**TAIWAN**—Voice of Free China, 5950 via WYFR at 0319. (Gentry, IL) 9765//11860//15345 at 0200. (Bush, Japan)

**THAILAND**—VOA relay in CC at 1648 on 9680. Off at 1659. (Lamb, NY)

**TOGO**—Radio Kara, 3222 at 0602 in FF with news and music. Poor. (Urbelis, NY) (Presume this was in French, Errol? Editor)

**TUNISIA**—RTT Tunisienne, 7475 at 2115 with Arabic music, ID. (Urbelis, NY)

**TURKEY**—Voice of Turkey, 9445 at 2259 with IS, ID, sign on. (Moser, PA) 2349 with IDs, frequencies, close. (Gentry, IL) Here and parallel 11895 at 2300. (Urbelis, NY)

**UGANDA**—Radio Uganda, 4976 at 2000 with news, hi-life music, local information, IDs, prayers. (Urbelis, NY)

**UKRAINE**—Radio Ukraine, 7195 at 0120, 7195//9505 at 2228. (Moser, PA) 17605//17690 at 0100. (Bush, Japan)

**UNITED ARAB EMIRATES**—Capital FM service, via Voice of the UAE, 11710 at 2230 with pop program. (Urbelis, NY)

Voice of UAE, 9770 at 2226 with "Women In Islam" program. (Moser, PA)

UAE Radio, Dubai, 11945//13675 at 0331 with middle east news. (Gentry, IL) 15435 at 0530. (Bush, Japan)

**UZBEKISTAN**—Radio Tashkent, 9540 at 1200. (Bush, Japan)

**VATICAN**—Vatican Radio with a test broadcast on 3945 (parallel to 7150) at 0600 with IS, ID, news. Into Italian at 0620, Latin Mass at 0630, 5882 at 2236 in Italian with news, ID, features. (Lamb, NY) 9695//11625//15090 to Africa at 0630. (Bush, Japan) 11640 at 1601. (Pappas, ND)

**VENEZUELA**—Radio Rumbos, 9659 at 2210 with noticias. (Urbelis, NY) (Presume SS, editor)

**VIETNAM**—Voice of Vietnam, 9730 at 1100. (Bush, Japan)

**YEMEN**—Republic of Yemen Radio, 9780 at 2105 in EE with Sana ID, international news, cultural program, regional music. Into AA at 2135. (Paszkiwicz, WI)

**YUGOSLAVIA**—Radio Yugoslavia, 9580 at 0119 with comments on refugees. (Moser, PA)

That'll do it for this time. Raise your glasses in a toast of "thanks and well done" to the following reporters this month:

Marie Lamb, Brewerton, NY; Sheryl Paszkiwicz, Manitowoc, WI; Steve Bush, Japan; Marina Pappas, Huron, SD; Scott Gentry, Matteson, IL; Charles Fenwick, Chesapeake, VA; William Moser, New Cumberland, PA; Ed Rausch, Cedar Grove, NJ; Errol Urbelis, King's Park, NY and Bjorn F. Vaage, Granada Hills, CA. We thank you all. ■

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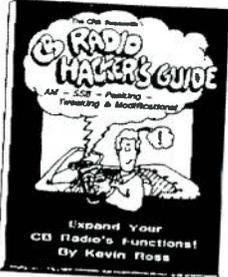
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# WASHINGTON PULSE

## FCC ACTIONS AFFECTING COMMUNICATIONS

### **Rules Concerning Notification Procedures**

The FCC amended Section 1.423 of its rules by deleting its provision that, in rule-making proceedings, the Commission will notify parties by mail of the time, place and nature of oral arguments, hearings, or such other actions that the Commission deems warranted. Notices of any such proceedings will continue to be published in the *Federal Register*, as required by the Administrative Procedure Act.

Because this amendment to the rules is a matter of agency organization, procedure or practice, the notice, comment and effective date provisions of the Administrative Procedure Act are not applicable.

### **Policies and Rules Regarding Toll Fraud**

The Commission proposed policies and rules regarding toll fraud. The purpose of this rulemaking is to develop effective and efficient measures to address both existing and developing toll fraud problems, without hindering the development of new technologies that provide benefits to the public.

Specifically, the Commission is asking for comment on proposals to: 1) achieve closer coordination between the industry, consumers, vendors, law enforcement agencies, Congress, and the FCC to aid in detection and prevention of toll fraud; 2) improve consumer education initiatives by the Commission, consumer groups, and the telecommunications industry; 3) determine tariff liability provisions that fail to recognize an obligation by the carrier to warn customers of risks using carrier services are unreasonable; 4) establish a federal policy assigning liability for telephone fraud; 5) codify a requirement for written warnings for all telecommunications equipment registered under Part 68 of the rules; and 6) determine measures to prevent cellular and line information database (LIDB) fraud.

According to Secret Service and industry data, \$1 to \$5 billion are lost to toll fraud annually. Both consumer and carriers suffer the effects of toll fraud. To encourage solutions to the fraud problem, the Commission held an *en banc* public hearing on toll fraud in October 1992, and had issued five consumer education bulletins (Consumer Alerts) on the subject. In addition, the Commission has resolved formal complaints involving both toll fraud. As a result of the information learned at the hearing, the LIDB investigation, and petitions filed by Pacific Mutual Life

Insurance Company and the Florida Public Service Commission, the Commission was persuaded to propose the initiation of a comprehensive rulemaking on issues relating to toll fraud.

In this proceeding, the Commission tentatively concluded carrier tariff provisions historically have placed strict liability on customers, which considers provisions to be unreasonable. By carriers having no obligation to warn customers of risks of using carrier services, this makes consumers victims of fraud.

The Commission also expressed the belief that services protecting against fraud are in the public interest and seeks comment on whether failure to offer such services should be considered an unreasonable practice. Comments are requested on whether some form of prospective recovery damages for toll fraud should be available and if so, under what theory of liability. The Commission also tentatively found that where a payphone provider takes precautionary, anti-fraud steps, and is not a customer of the carrier, the payphone provider is not liable for the fraud.

### **Rules Concerning Accounting In the Maritime Mobile and Maritime Mobile-Satellite Radio Services**

The Commission proposed rules to establish basic qualifications and requirements for individuals or entities who wish to serve as accounting authorities for the settlement of international radio maritime accounts involving U.S. registered vessels (except distress and safety communications) operating in either foreign or international waters.

Specifically, the Commission has proposed rules regarding eligibility, application procedures, settlement operations, reporting requirements, and enforcement. Comments are requested on each proposal. By these rules, the Commission seeks to ensure that accounting authorities will operate in accordance with established international procedures.

The FCC's International Telecommunications Settlements Section, located in Gettysburg, PA, acts as a national clearinghouse for the settlement of both international maritime mobile service and mobile-satellite service accounts. In this capacity, the FCC is an accounting authority, and as such, settles accounts for messages transmitted or received by U.S. licensed vessels via foreign coast station facilities.

The Commission has also allowed pri-

vate entities to settle accounts with foreign administrators. By approving these additional accounting authorities, the Commission has, in effect, delegated a portion of its traditional responsibilities regarding settlement of maritime accounts to private enterprise, at least in those instances where in the accounting authority is settling accounts of U.S. licensed ship stations. However, there are currently no administrative rules or regulations issued by the Commission regarding approval and/or operations of accounting authorities. This proceeding puts forth standards for approval/cancellation of accounting authorities to be administered by the Commission.

### **Procedures For Grandfathered 929-930 MHz Paging Operators**

The FCC's Private Radio Bureau clarified the procedures that will apply to the 929-930 MHz applicants and licensees who are seeking exclusivity for "grandfathered" systems.

On October 21, 1993, the Commission adopted a *Report and Order* to grant channel exclusivity to qualified local, regional, and national paging systems at 929-930 MHz. *Report and Order*, PR Docket No. 93-35, FCC 93-479 (adopted October 21, 1993, released November 17, 1993). The *Report and Order* provided that incumbent licensees authorized under the prior rules would receive exclusivity on a grandfathered basis if they can demonstrate compliance with the new exclusivity requirements. On November 19, 1993, the Commission issued a Public Notice requiring incumbents to submit requests for designation of exclusive status to NABER no later than January 28, 1994. DA 93-1411, November 19, 1993.

The *Report and Order* provides that licensees who have not yet constructed their facilities may qualify on a conditional basis, but must demonstrate within eight months that they have constructed a qualifying system or exclusivity will be forfeited. We wish to clarify that in the case of incumbents who request exclusivity based on grandfathered licensees or applications (i.e., licensees granted or applications filed prior to October 14, 1993), the eight-month deadline for demonstrating compliance with our exclusivity requirements will run from the date that the Commission issues a public notice conditionally designating the incumbent's system as exclusive. This deadline does not affect the construction period authorized under any individual license.

The Commission will provide public

## Beaming In (from page 5)

to help him. The chopper arrived and flew Kahn away. Later, it turned out that he didn't require any medical treatment. The helicopter rescue cost the citizens of San Diego County more than \$500.

There were no complaints about Kahn's use of the sheriff's frequency to call for aid. It was perfectly acceptable to the Sheriff and the FCC. Kahn says that's because he was authorized to be on the frequency by virtue of his being a sheriff's employee. Remember, Kahn is a civilian employee with no law enforcement authority or duties. Still, he is "on-call" at all times, even when not working at headquarters, and he is authorized to carry a sheriff's radio.

The FCC's Jerome Mann, of the San Diego office, agreed that Kahn was authorized to use the frequency, but Chris Boyer was not supposed to be operating there. Mann's boss, the FCC's William Grigsby, supported the concept that Chris Boyer should not have used the sheriff's frequency to call for help for his injured friend.

Chris feels that since he got in trouble for summoning help, and Bill Kahn didn't, then the whole thing smacks of elitism. County Supervisor Dianne Jacob was not at all pleased with this turn of events. Supervisor Jacob said that if one person can use the sheriff's channel for an emergency then it should be available to all for this use.

In early December, the San Diego Board of Supervisors offered public recognition to Chris Boyer. The board proclaimed him a Good Samaritan for summoning aid to an injured person.

After the county officially commended Chris, his critics were either singing a different tune, or none at all. When pressed for an opinion on the Board's commendation to Chris Boyer, the FCC's Jerome Mann said he had no comment.

Bill Kahn was also not noted in the *San Diego Union-Tribune* as having anything to say. Amidst the silence, Sheriff Jim Roache, came forward to say that nobody objected to Chris intervening to offer to help someone. He explained that this wasn't the problem!

Sheriff Roache took the occasion to reveal that, in fact, no problem at all existed between Chris and the sheriff's department. He said the whole problem was that Chris Boyer shouldn't have reprogrammed his radio, and that the reprogramming is strictly a matter between Chris and the FCC. He added that it was up to the FCC whether Chris would get his radio back. Chris Boyer hired an attorney to help him do just that.

When asked by reporter Pat Flynn if he thought the Board of Supervisors' commendation had been a slap at him, Sheriff Roache said, "No." Could this indicate some lack of perception on the part of the sheriff?

Let's keep in mind that Chris Boyer had been given temporary authority to use the frequency as by virtue of the sheriff's dispatcher telling him to go ahead and send his traffic. Chris could have been told to clear off the channel, but he wasn't. And what about FCC rule 97.403? It is quite specific in spelling out that any means may be used to summon emergency aid when normal systems are not available. FCC rule 97.111(a)(2) very clearly states that amateur hams may exchange emergency messages with other FCC-regulated radio services. The only way to do this with a ham transceiver is after it has been reprogrammed.

The most obvious symptoms of a brain concussion might not appear until several hours after a head injury. In cases of head trauma, and severe bleeding from the nose, it is prudent for a lay person to assume that an injured party could have a concussion and must receive immediate emergency medical attention. This was going to be available only by contacting the sheriff. The only way the sheriff could have been reached was via a reprogrammed radio.

Did Chris Boyer do right or wrong? I, for one, admire what he did. His deed was done selflessly and in the best interests of his friend. It portrayed resourcefulness, humanity, technical expertise and other things that I feel are great about hams, and the amateur radio hobby. The members of his community view Chris' deed as heroic. To the bargain, Chris also scored some good points for ham radio. Under the same conditions, wouldn't you hope that any ham would take the same action Chris Boyer took?

If you don't agree, imagine that it was someone in your immediate family who took that same face-first header off the bike. Now decide if you would have done just what Chris did. Alternately, would you hope that Chris might have done it on their behalf?

I wasn't at all impressed with the callous and shabby way in which Chris Boyer's act of heroism was dealt with, either by the San Diego Sheriff's Department, or the San Diego office of the FCC. In my opinion, they screwed-up. Both looked silly and heartless, and struck me as contemptuous of the people whose interests they are supposed to serve. The Sheriff's Dept. trying to distance itself from the original complaint after the commendation was issued by falling back into a clumsy attempt at face-saving, didn't help.

Maybe you once thought the kind of people that hassled Chris were employable only by the Dept. of Motor Vehicles. Wrong, Bureaucracy Breath. Apparently they are everywhere. In the film, "Leap of Faith," the character Jonas Nightingale (Steve Martin) observes, "Give a little power to a little man, and the schmuck thinks he's powerful."

We tip the POP'COMM hat to Chris Boyer. Keep on keepin' on. Chris. We hope they give your radio back, just in case someone else needs your help. ■

notice of each incumbent's conditional designation as an exclusive system only after NABER has reviewed the information submitted to it and provided its exclusivity recommendations to the Commission. Where an applicant's exclusivity request is based on pre-October 14 applicants that are pending but not yet granted, the designation of exclusivity will occur when the last such application is granted.

For further information, please contact NABER at (703) 739-0300 (Contact: Don Vasek), or the Private Radio Bureau Consumer Assistance Branch, (717) 337-1212.

## Notice of Apparent Liability Issued For Uncertified Cordless Telephones

The FCC's New York Office issued a \$7,000 Notice of Apparent Liability of 31st Street Photo Inc., New York, NY. The Notice of Apparent Liability was issued for marketing uncertified cordless telephones. The telephones cannot obtain FCC certification because they operate at powers greater than that allowed by the FCC rules.

## AM Groundwave Propagation Curves Are Made Available

In the recent *Report and Order*, MM Docket No. 88-510, 5 FCC Rcd 4489 (1990), the Commission adopted new groundwave propagation curves to supersede the set of curves currently in use under 47 C.F.R. Section 73.184. The use of these new curves was stayed until such time as all the rule changes included in MM Docket No. 87-267, 6 FCC Rcd 6273 (1991), became effective. This date has been fixed as April 19, 1992. The curves have been available on 11 inches by 17 inches of paper.

The curves (Graphs 1 through 20) are now available on 8 1/2 inches by 11 inches of paper and can be purchased through the Commission's contractor for public records duplication, International Transcription Service, 2100 M Street, N.W., Washington D.C. 20037, telephone (202) 857-3800. For those interested in utilizing computerized methods, this material is also available on PC compatible floppy discs.

These discs contain the groundwave data points which constitute the essence of the curves and also contain the source listing (VAX Fortran) of the main programs and subroutines for generating the PostScript graph files. Floppy discs can also be procured from International Transcription Service. For further information, contact Thomas Lucey, 2025 M Street, N.W., Room 8111, Washington D.C. 20554, telephone (202) 254-3394. ■

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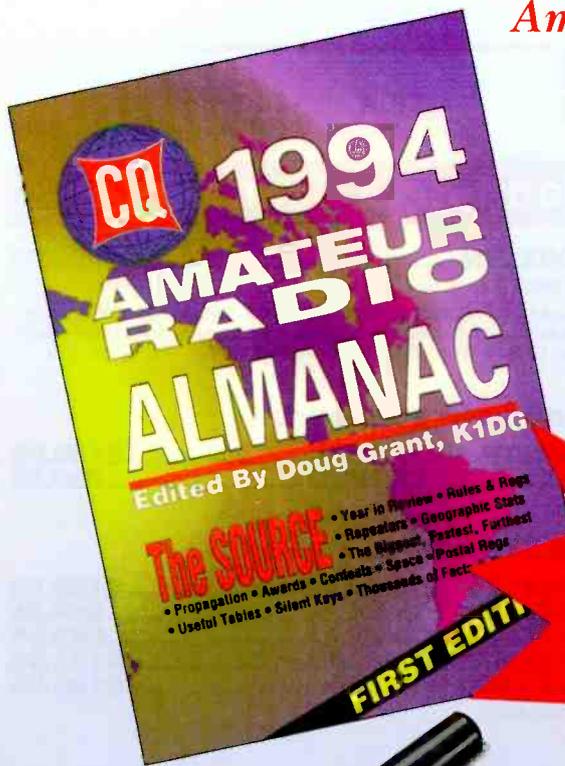
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## Total Coverage Radios

### TR 980

5MHz to 1.3GHz 125 Channels  
New! An economical total coverage hand held scanner. Five scan banks, five search banks. Scan lockout and search. AM/Narrow FM plus wide band FM. Priority, hold, delay and selectable search increments. Permanent memory. Ni-cad pack and wall charger included with belt clip, cast and antenna.  
Size: 5 7/8 x 1 1/2 x 2.  
Wt. 14 oz.  
Fax fact document # 150 **\$299.00**

### TR 1000XLT

AM Broadcast to Microwave 1000 Channels  
500KHz to 1300MHz coverage in a programmable hand held. Ten scan banks, ten search banks. Lockout on search and scan. AM plus narrow and broadcast FM. Priority, hold, delay and selectable search increment of 5 to 995 KHz. Permanent memory. 4 AA ni-cads and wall plus cig charger included along with belt clip, case, ant. & earphone.  
Size: 6 7/8 x 1 3/4 x 2 1/2.  
Wt. 12 oz.  
Fax fact document # 205 **\$389.00**

### TR 2500

2016 Channels  
1 to 1300MHz  
Patented Computer Control  
62 Scan Banks, 16 Search Banks, 35 Channels per second. Patented Computer control for logging and spectrum display. AM, NFM, WFM, & BFO for CW/SSB. Priority bank, delay/hold and selectable search increments. Permanent memory. DC or AC with adaptors. Mtng Brkt & Antenna included.  
Size: 2 1/4H x 5 5/8W x 6 1/2D.  
Wt. 1lb.  
Fax fact #305 **\$449.00**

### TR 1500

Full Coverage with SSB and 1000 Channels.  
500KHz to 1300MHz. Ten scan banks, ten search banks. Search lock and store. BFO. 2 Antennas. AM/NFM/WFM. Selectable increments. Tons of features, small size: 5 7/8 x 1 1/2 x 2.  
Wt. 14 oz.  
Fax fact document # 250 **\$449.00**

## Continuous Coverage

New Bearcat mobile/desktop offer continuous coverage of VHF/UHF/800 bands!. The Bearcat 890XLTB covers 29-956MHz with 200 channels, Turbo scan, WX search, VFO tuning, 10 priority channels and more! The Bearcat 8500XLTB covers 25-1300MHz in AM/NFM/WFM modes with 500 channels, turbo scan, 10 priorities, VFO tuning, and more. Fax fact documents 477 & 475.

**Bearcat 2500XLTA ..... \$349.00**  
**Bearcat 8500XLTB ..... \$379.00**  
**Bearcat 890XLTB ..... \$259.00**

## Mobile Scanners

**Bearcat 760XLTM ..... \$229.95**  
100 Channel 800 MHz

Five banks of 20 channels each. Covers 29-54, 118-174, 406-512 and 806-954MHz (with cell lock). Features scan, search, delay, priority, CTCSS option, lockout, service search, & keylock. Includes AC/DC cords, mounting bracket, BNC antenna. Size: 4 3/8 x 6 15/16 x 1 5/8. Weight: 4.5lbs. Fax fact document #550

## Other Mobile Scanners

**BC560XLTZ ..... \$99.95**  
Fax fact on above: #560

(color slide)

**Trident TR-2 ..... \$49.95**  
Scan/CB/Highway Patrol/ plus extra cost WX. X,K,Ka,Wide & Laser

Scans police pre-programmed by state channel plus full radar and laser alerts in one small unit. Weather, CB receive & mobile relay. Size: 5 5/8 x 4 7/8 x 1 3/4. Wt: 1.5lbs. Fax fact #580

## Other pre-programmed scanning receivers

**BC350AS.....\$129.00**  
**BCT2 .....\$149.00**  
**BC700AS.....\$169.00**  
Fax fact on all above: #580

## Hand Held Scanners

**Bearcat 200XLTN .....\$209.95**  
200 Channels 800 MHz

Ten scan banks plus search. Covers 29-54, 118-174, 406-512 and 806 956MHz (with cell lock). Features scan, search, delay, 10 priorities, mem backup, lockout, WX search, & keylock. Includes NiCad & Chrgr. Size: 1 3/8 x 2 11/16 x 7 1/2. Wt. 32 oz. Fax Facts # 450

## Other hand held scanners

**Bearcat 70XLTP 20Ch H/L/U..... \$139.95**  
**Bearcat 55XLTR 10 Ch H/L/U..... \$99.95**

Fax facts on all above: #475

## Table Top Scanners

**Bearcat 855XLTE 50Ch w/800..... \$159.95**  
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**Bearcat 172XM 20Ch H/L/U/Air..... \$124.95**  
**Bearcat 210 16Ch H/L/U/Air..... \$129.95**

Fax facts on all above: #675

## Shortwave Receivers

**ATS-818CS..... \$224.95**  
16 Band digital receiver with programmable cassette recorder, BFO for SSB, AM/FM Stereo, 45 preset memories LCD display with dual time. Signal & Btt. strength indicator. Sleep timer & tone control.  
Fast Fax #505

**ATS-818.....\$194.95**  
Same as 818CS but w/o cassette.  
Fax Fact #506

**ATS-803A.....\$174.95**  
The perennial best buy receiver. 16 band digital receiver with AM/FM/FM Stereo modes. 9 memory presets. Auto/Manual and Scan modes. BFO RF Gain and Dual Filter controls. Complete with adaptors and headphones.  
Fax Fact #507

**ATS-808.....\$184.95**  
Compact size, great performance in a 16 band digital receiver. AM/FM/Stereo with 45 memory presets. LCD display with dual time clock. Complete with adaptors and head phones.  
Fax fact #508

(photo)

**ATS-606 ..... \$154.95**  
16 band ultra compact digital receiver with auto tuning and scan system. 45 memory presets cover AM/FM/Stereo. Dual time display, alarm timer, adjustable sleep timer.  
Fax Fact #509.

**SG-621.....\$79.95**  
Compact 10 band receiver with AM/FM/Stereo. Analog tuning with a digital display.  
Fax Fact #513.

**ATS-800 .....\$94.95**  
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**SG-631.....\$99.95**  
10 band analog tuning with digital display which shows time and day for 260 cities throughout the world.  
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**SG-789.....\$54.95**  
10 band analog tuning super compact and very economical.  
Fax fact #512.

**SG-700L .....\$49.95**  
12 band AM/FM compact portable analog receiver  
Fax Fact #514



# TOTAL COVERAGE RECEIVERS



TR 2500



TR 980

TR 1000XLT

TR 1500



BC 200XLTM

# SCANNERS



BC 760XLTM

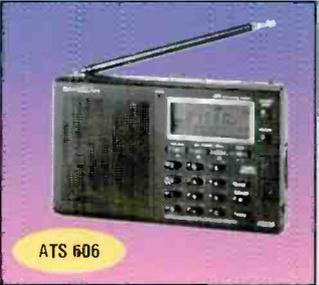


TR 2

# SHORTWAVE RECEIVERS



ATS 818CS



ATS 606

# NEW!



BC 8500XLT



BC 2500XLT

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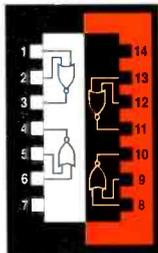
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