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OCTOBER 1994

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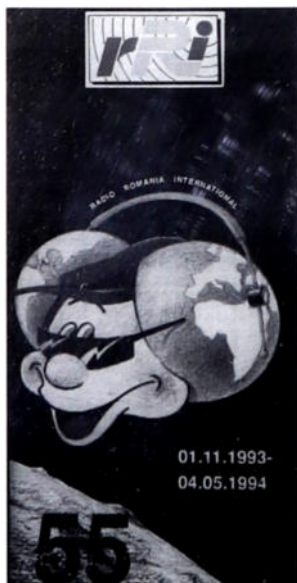
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This month's cover: Atlanta, Georgia Police Officer A. E. Foster checks into headquarters using one of the many public safety frequencies available. Photo by Larry Mulvehill, WB2ZPI.

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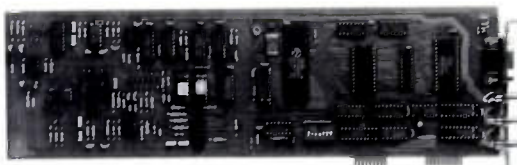
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The Case of the Abandoned Listeners

Bill L., a reader in Honolulu, Hawaii, wrote to complain that 10 kW local station KDEO/940 dropped its country music format. New owners changed it into station KJPN with 14 hours of Japanese language programming. Bill was angry and frustrated, and hoped that *POP'COMM*, could explain why stations are so indifferent to their loyal listeners.

A man at my local car wash was venting his annoyance to anyone who would listen about how WMJC/94.3, his favorite station, had recently stopped playing the easy listening music he liked. The station had suddenly become the simulcast outlet of WRCN/103.9, a rocker. He felt betrayed and abandoned by a station he had listened to daily for three years.

This was similar to something mentioned in the May issue, when the *Broadcast DX'ing* column carried a letter from a Connecticut reader. He described what can be only categorized as culture shock when he awoke one morning to find that New York City classical music station, WNCN/104.3, had suddenly metamorphosed into WAXQ/104.3, playing alternative rock. Roger Sterckx, our columnist commented that if the man intended to continue to listen to the station, he'd have to "forget that long hair stuff" and learn to enjoy music from groups such as Megadeth and White Zombie. Roger didn't give up there, but went on to offer facetious suggestions on the steps one might take to make a transition from listening to Mendelssohn to enjoying Metallica.

What valuable lessons do we learn from these things? That listeners who find themselves abandoned by their favorite stations and formats are angry and confused as to why fate has dealt them such an unkind blow. Not only can't they get any answers, they haven't even been able to register a proper complaint. Good thing *POP'COMM* is here.

POP'COMM's reply in the May issue brought me a letter from reader Raymond Osborne, of Somerset, New Jersey, who saw no humor in either the loss of WNCN or what he perceived as my columnist's irreverent and flippant attitude towards the same. He predicted that when chided for those sassy remarks, I'd try to wriggle our man off the hook and "probably say it was all in jest." In jest? Why would he think I might claim that?

Raymond correctly mentioned that the loss of WNCN's classical music format has left only two stations in the New York City metro area offering "classical" programming. He wrote that our column's uncalled-

for commentary was "to dance on the grave of a format which gives pleasure to many listeners."

No offense had been intended, but solemnity was not necessarily a requirement. Raymond's interesting response brings up the typical and serious dilemma facing all abandoned-format listeners, and there are many. This topic is worthy of discussion since it represents an honest listener reaction to a common problem, that of having a program format dropped.

First, it should be pointed out that the reader responded to in the May issue had the opportunity to tune in two other classical music stations. *POP'COMM* only suggested to him how to enjoy alternative rock because, curiously, he claimed he wanted to stay tuned to 104.3 MHz. Under those circumstances, columnist Sterckx dealt with it accordingly.

In the May issue it could have noted that once before, about 15 years ago, WNCN/104.3 had ditched its classical music format, and also its call letters. Rock music was starting to be brought in, but that was short-lived. There was a sufficiently large classical music audience at that time to raise enough of a ruckus for the WNCN call letters and classical music format to be reinstated. In 1994, that audience had dwindled to the point where WNCN decided classical music was not a commercially viable programming format.

There is always a core of listeners avidly loyal to every station, particular programming format, or on-air personality. This audience is generally unaware of the requirements for a station to survive. The core audience bitterly resents when format or staff changes take place, such as happened in the case when WNCN became WAXQ. This is only one example of something that happens to radio stations in all areas. Look at the AM and FM call letter changes chart in *Broadcast DX'ing* any month and you'll get some idea of this.

WNCN certainly hasn't been the only broadcaster in the New York City metro market to vanish in recent years. Each took along with it a program format that wasn't working. Each failed (but loyally supported) format left behind an isolated small band of disappointed and annoyed listeners. Ten years ago the following commercial AM and FM stations were operating along with WNCN in the New York metro market, but no longer exist: WNBC, WHBI, WBNX, WLYQ, WKER, WEVD-FM, WYRS, WHN, WNEW-AM, WQXR-AM, WVNJ/620, WPOW, WGLI, WTFM, WRFM, WJIT, WLIR-FM, WKHK, WKTU, WCTO,

WPIX-FM, and WAPP. This isn't even a complete listing.

More Big Apple changes are in the works, including the possible sale of non-commercial WNYC-FM, one of New York City's two remaining classical music stations. Should WNYC-FM get sold, the price would be at least \$50-million. After paying that price, a new owner would almost certainly dump its classical music format in order to make the investment pay off.

Fact is, during the past decade, stations that existed in every major market failed to make it to 1994 at all, or without radical changes. These include, for instance WCFL-AM, CBO, KOH, WGY, WRNL, CKGM, WCAU, CJCA, WKBW, KIOT, WFAA, KHJ, CKXL, WWGM, KJET, WCBF, CJOR, WGST, KFAC, WHTT, WRC, WAMO, WCXI, KFMK, KHHT, WGAR-AM, WMRE, and WFBR (to highlight just a very few). Remember now-defunct commercial shortwave station KUSW and its interesting programming?

It's obviously not easy for the listening public to remember that radio stations are part of the Broadcast Industry. That means, stations not only broadcast, but, they are part of an *industry*. The name of the game is reaching out to the largest possible number of listeners and signing up the most advertisers at acceptable rates. Radical program format and staff changes seek to improve these factors. Changes are not (as it may seem) made arbitrarily or capriciously, or to deliberately taunt or anger listeners.

In order to operate, a station must at least break even. With luck, it will produce a reasonable profit for its owners. A great many independent commercial AM and FM stations operate on the fringes of their break-even points. If a station can't attract a sufficiently large audience in its listening market, it has no, or low, Arbitron ratings. Advertisers seek to run their commercials on stations rated as having an impact on the market. Without ratings, a station can't attract advertisers at reasonable rates. That's when drastic changes must be made, possibly including a sale to new owners. Otherwise the station goes dark.

A successful program format often goes sour due to changing audience demographics, changing audience tastes, and/or competition from other stations or media.

In broadcasting, radical format changes have become such a common occurrence they're considered "business as usual" to owners, deejays, and station personnel. They learn to pick themselves up, dust off,

(Continued on page 81)

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CIRCLE 170 ON READER SERVICE CARD

MAILBAG

LETTERS TO THE EDITOR

Each month we select representative reader letters for our Mailbag column. We reserve the right to condense lengthy letters for space reasons. All letters submitted 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.

Freebanding Comments

I am a communications enthusiast who could pass the Novice and Tech written tests, but I am a tad on the lazy side when it comes to the code. Rather than take the codeless exam and become an operator restricted to 30 MHz and above, I'll wait until the day when I can copy 5 WPM so I can get in on 10 Meters. Until then, I'll enjoy Freeband and QSO Europe, Australia, and elsewhere.

"WA-333,"
Georgia

The November issue brought up questions about why people continue to be attracted to the illegal "Freeband" frequencies (27.415 to 27.995 MHz). Also, why the FCC has considered those operators "out-of-band CB'ers" rather than "out-of-band amateurs" (as they usually use ham radio transceivers).

In my opinion, the FCC's categorizing illegal freeband operators as mutant of CB'ers rather than rogue hams is intended as a subtle put-down. Hams perform emergency services, and are presented as being astronauts, doctors, lawyers, and kings. This is the accepted public image everyone prefers. The popular media image of CB'ers is long-haul truckers who talk funny, people who call one another "Goodbuddy," and kids. It would have been politically incorrect for the FCC to label freebanders as anything other than part of CB radio.

As for why people operate there, apparently a major attraction is getting into HF operation without the need for learning CW. In addition, I think some people have a strong desire to resist government regulations when they feel it isn't going to do any harm. They don't feel shooting skip on 27 MHz is harming anyone or anything. This is a very active band.

Sometimes the band opens up and DX comes through on Freeband. Then it's filled with stations, yet at the same time the 10 meter band seems practically devoid of DX stations. Very often licensed hams drop down into the Freeband.

(Name withheld)
Columbus, Ohio

The writer of the above letter operated on Freeband from 1979 to 1982. Running 25 watts into a dipole, he had contacts all over the world. In 1988, he got Novice and Tech ham licenses, and went on 10 meters. He qualified for DXCC and WAC in 18 months, but then left the band because he didn't find the same level of activity or friendship he had previously enjoyed on Freeband. He never returned to Freeband, however.—Editor.

I have been an outbander for five years. It should not be called any type of CB, for it is nothing at all like CB radio. There is no foul language, nobody plays music, there are no malicious jammers, no barnyard sound effects, there are no "radio checks" or people asking for a "10-36." The subject matter in the contacts is articulate and interesting. The FCC shouldn't compare people who are seriously interested in communicating with the chaos that exists on failure of their 40 authorized CB channels. Because of the lack of noise on the Freeband frequencies, I can regularly contact stations 80 miles away via groundwave, using SSB, 45 watts PEP. My antenna is a 5/8-wave stick.

It may appear to some that Freeband is a collection point for anarchists. In truth it is no more than a haven where people go to communicate, shoot skip, and try to make the most of what gives every appearance of being an otherwise wasted and unused slice of spectrum. There are no formal rules, no callsigns: none are needed.

Recently, I passed the test for my ham ticket and I am awaiting my callsign. My quasi-ham experience as an outbander played a strong part in getting me interested in ham radio. It let me see that there is more to two-way radio hobby than CB, for that would not have spurred my interest in ham radio.

"Unit 592,"
Virginia

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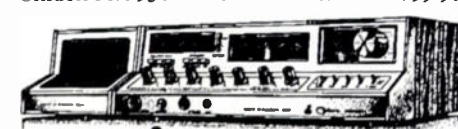
Frequency Coverage:
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54,000 - 71,995 MHz. (WFM), 72,000 - 75,995 MHz. (NFM),
76,000 - 107,995 MHz. (WFM), 108,000 - 136,995 MHz. (AM)
137,000 - 173,995 MHz. (NFM), 174,000 - 215,995 MHz. (WFM),
216,000 - 224,995 MHz. (NFM), 225,000 - 399,995 MHz. (AM)
400,000 - 511,995 MHz. (NFM), 512,000 - 549,995 MHz. (WFM)
760,000 - 823,9875 MHz. (NFM), 849,0125 - 868,9875 MHz. (NFM)
894,0125 - 1,300,000 MHz. (NFM).

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Scanning Police & Fire Mutual Aid Systems

Large Numbers of Public Safety Stations Assembling on Commonly Used Frequencies Put you where the Action is!

BY CHAD GATES, KWY7DW

Law enforcement and fire agencies, medical and other emergency services find that it benefits their operations when they can communicate with one another. Towards that end, the national police emergency frequency 155.475 MHz has been established. A police car in hot pursuit should be able to summon help on this channel even if the chase crosses county and state lines.

Throughout the nation, most states have frequencies commonly used by large numbers of public safety agencies on a statewide basis. By knowing certain channels, scanner owners can be in on communications relating to large-scale events affecting several departments and agencies. Agencies use these frequencies to exchange information, ask for support, or to coordinate wide-area emergency activities.

There are many designated or popularly used national frequencies for inter-system and mutual aid purposes. In addition to, or sometimes instead of, them, some states have additional frequencies hosting large numbers of stations operating in formal and/or informal enforcement and emergency communications networks. On a smaller scale, there are many hundreds of regional, county, and local-area public safety and emergency networks.

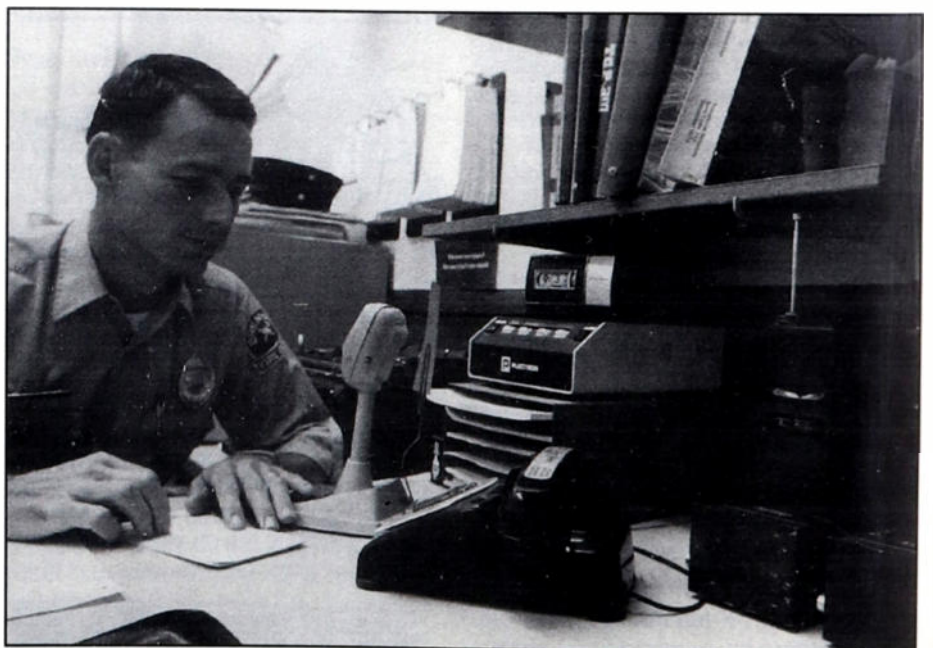
Presented here is information showing the designated and popular national mutual aid and inter-system frequencies, along with supplementary information for specific states illustrating channels used by large numbers of stations. Regional, county, and local-area network frequencies are not included in these statewide listings.

Our suggestion is to program your scanner with all of the national channels, plus any shown for your particular state as well as neighboring states. You'll get an earful.

Be aware that frequency usage and networks change. For example, the Michigan State Police is spending \$187-million to switch over to an 800 MHz trunked system using digital scrambling. This system will incorporate statewide mutual aid communications with local police and county sheriffs, replacing the existing systems



Inter-system communications allow officers in hot pursuit to summon assistance on 155.475 MHz, the national police emergency frequency.



Mutual aid systems permit firefighting agencies to request and coordinate assistance from nearby communities.

Statewide Public Safety Mutual aid & Intersystem Frequencies

General National Use

Police	39.46 45.86 155.37 155.475 866.0125 866.5125
	867.0125 867.5125 868.0125 868.5125
Fire	45.88 154.265 154.28 154.295
EMS & Misc.	45.92 45.94 155.28 155.34 462.975-463.175 band
	467.975-468.175 band
All Pub. Safety Agcys.	453.05-453.95 band
REACT	462.675
Amer. Red Cross	47.42

Alabama
Police 155.01

Alaska
Police 155.25
Fire 154.445
EMS & Misc. 155.16

Arizona
Police 460.375
Fire 460.375

Arkansas
Police 37.10 37.20 37.24
Fire 37.10 154.28
EMS & Misc. 155.28 155.34

California
Police 460.025
Fire 153.83
EMS & Misc. 153.755 156.0/5

Colorado
Police 460.10 463.625
Fire 154.28

Connecticut
Police 45.86
Fire 33.78 46.16

Delaware
Police 154.86

District of Columbia
Police 453.55
Fire 154.295
EMS & Misc. 852.6125

Florida
Police 45.06 154.95 155.37 460.275
Fire 154.265 154.28 154.295

Georgia
Police 154.905 154.935 155.37
Fire 154.28

Idaho
Police 460.025 460.50 460.125 460.275 460.525
Fire 159.285
EMS & Misc. 155.28

Illinois
Police 39.50 45.36 155.025 155.055
Fire 154.265
EMS & Misc. 155.34 155.40

Indiana
Police 154.89 155.13 155.61 155.85
FMS & Misc. 155.295 155.34

Iowa
Police 155.475
Fire 154.28
EMS & Misc. 155.34

Kansas
Police 39.46 39.58 39.70
Fire 155.34

Kentucky
Police 155.37

Louisiana
Police 39.50
EMS & Misc. 155.845

Maine
Police 154.695
Fire 151.40 154.19 154.25 154.31

Maryland
Police 39.26 453.55
Fire 155.28 155.295



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Massachusetts
Police West/460.225 460.275 East/158.97
EMS & Misc. 155.34

Michigan
Police 39.82 155.37 155.865 156.15
Fire 154.28 154.295
EMS & Misc. 155.28

Minnesota
Police 155.37
Fire 154.295
EMS & Misc. 155.34

Mississippi
Police 45.02 45.18 45.22 155.01 155.49 155.73
Fire 154.16
EMS & Misc. 155.34

Missouri
Police 155.37 155.73
Fire 154.28
EMS & Misc. 155.34

Montana
Police 39.82 39.88 155.79
Fire 154.07 154.265 154.28
EMS & Misc. 39.90 153.905

Nebraska
Police 39.90
Fire 39.98 154.22 154.325
EMS & Misc. 39.82

Nevada
Police 155.655
Fire 154.265 154.28 154.295
EMS & Misc. 155.145 156.075

New Hampshire
Police North/155.91 South/156.09

New Jersey
Police 153.785 154.68 154.725
EMS & Misc. 153.785 155.28 155.34

New Mexico
Police Southeast/Northwest/154.875 Southwest/154.80
All areas/155.55
Fire 154.31

New York
Police 39.46 155.37

North Carolina
Police 155.97 West/154.875 Central/453.70
EMS & Misc. 155.28 155.34

North Dakota
Police 155.37

Ohio
Police 39.58 154.68 154.935 155.37
Fire 33.86 154.28

Oklahoma
Police 155.37 155.49 155.67 155.76
Fire 154.13 155.76

Oregon
Police 155.475
Fire 154.28
EMS & Misc. 46.58

Pennsylvania
Police 151.01 155.475 159.195

Rhode Island
Police 155.19 155.43 155.655 156.09 158.97
Fire 154.19

South Carolina
Police 460.05 460.25

South Dakota
Police 39.10 39.32 39.36
Fire 39.10
EMS & Misc. 155.34

Tennessee
Police 37.26 154.755 460.40
Fire 154.265 154.28 154.295
EMS & Misc. 155.205 155.28

Texas
Police 154.95 155.37
Fire 154.28
EMS & Misc. 155.28 155.34

Utah
Police 155.70 460.125
Fire 154.265 154.28
EMS & Misc. 155.28 155.34

Vermont
Police 460.025 460.45 460.50
EMS & Misc. 155.28 155.34

Virginia
Police 39.50 39.54 453.55 453.80
EMS & Misc. 155.34

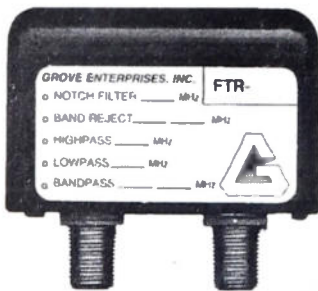
Washington
Police 155.37 155.97
EMS & Misc. 151.415 156.135

West Virginia
Police 37.28 39.98
EMS & Misc. 155.28

Wisconsin
Police 151.28 151.46 155.475 155.37
Fire 154.295
EMS & Misc. 155.34

Wyoming
Police 154.875 155.64
EMS & Misc. 151.43

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CIRCLE 69 ON READER SERVICE CARD

which went into service in the 1940's. The system will be opened in stages, with the planned opening of part of the system about a year from now. The final phase, in the Upper Peninsula, won't begin until its construction until 1996.

This is one example, just to remind you that public safety systems are always subject to change and upgrading. ■

POP'COMM Reviews:

Optoelectronics OptoScan456 Computer Interface for the PRO-2005/6 Scanner

When Optoelectronics, Inc. announced the availability of their OptoScan456 Computer Interface for the Realistic PRO-2005/6 scanners, both scanner monitors and computer scanning enthusiasts worldwide rejoiced with the news! The success of the Realistic PRO-2005/6 scanner line is well known to hobbyists around the world. The OptoScan456 Computer Interface converts this superb scanner line into high-performance computer controlled scanning receivers.

Overview

With your personal computer, the OptoScan456 Computer Interface provides high speed computer controlled scanning, searching, and logging of up to 50 channels per second with the PRO-2005/6 scanner. The OptoScan456 decodes and selectively scans and logs sub-audible tones (CTCSS) and codes (DCS) with time stamp and air time. Touch-tone (DTMF) characters are decoded and logged with time stamp. The interface uses a built-in CI-V to RS-232C level converter and offers CI-V protocol for multi-radio capability.

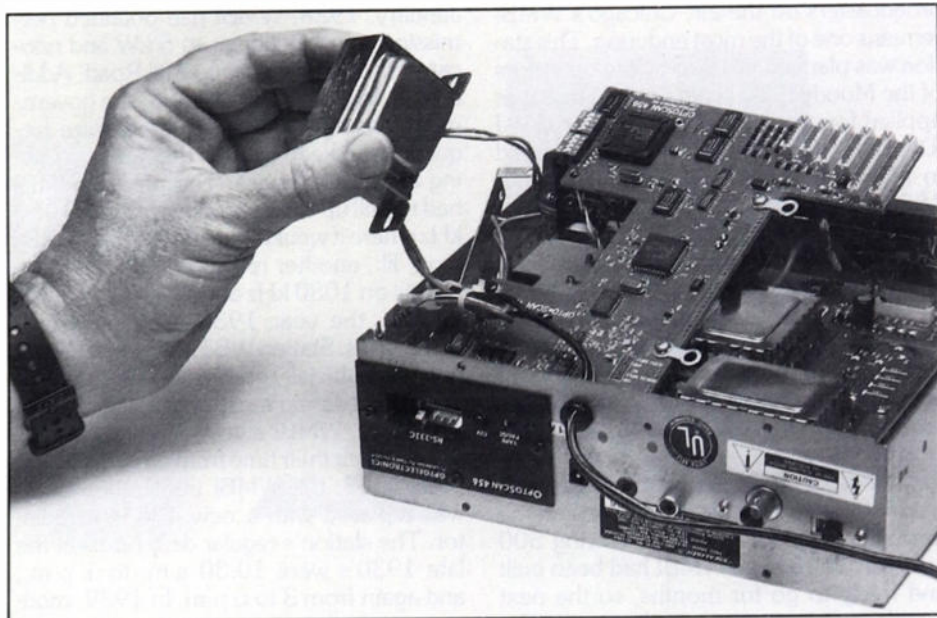
Tape recorder pause, spectrum display and received signal strength display are also supported. The OptoScan456 truly offers "state-of-the-art" computer control of the PRO-2005/6 scanner.

Installation

The Optoelectronics design team should be commended for producing a "third party" product with such a high level of system integration. The approximately 6 7/16" x 5 1/2" asymmetrical controller board, using the latest in surface-mount component technology, installs onto the bottom chassis of the PRO-2005/6.

No drilling or soldering is required! All connections between the microprocessor/display board, the analog board, and the PLL board to the OptoScan456 circuit board are made with easily detachable cables. By simply plugging-in these supplied cables, installation is finished within a few minutes. The entire circuit board assembly and its integration with its surroundings appear to be "part and parcel" of the original PRO-2005/6!

The OptoScan456 installation kit also includes a "silk screened" panel that replaces the battery cover on the rear of the



PRO-2005/6. This panel covers the DB-9 RS-232C serial port for connection to the computer, the CI-V multi-radio interface connector, and the tape recorder pause connector—all part of the main OptoScan456 controller circuit board. The 9-volt battery used for memory back-up is relocated to the left rear bulkhead by double-stick foam tape.

The installation requires setting two DIP switches mounted on the OptoScan456 circuit board. Switch SW1 selects the CI-V interface address. Switch SW2 selects the serial port data rate.

Typically, 9600 bps is selected for the serial port data rate as this enhances optimum scanning speed. All of these settings are covered very well in the installation instructions, including the original factory "default" settings of both DIP switches.

Once this is accomplished, all work with the scanner is finished and the covers can be re-installed. An included RS-232C serial cable is then connected from the OptoScan456's serial port to an available serial port on the user's computer. This completes the hardware installation. The installation procedure couldn't be easier thanks to the professional design of the hardware package and the "user friendly" photo-annotated installation instructions.

Operation

Prior to system operation, the scanning software must be installed on the comput-

er. Optoelectronics currently supplies a custom version of the popular Scan*Star scanning software package with the OptoScan456. (NOTE: Optoelectronics provides complete "third party" software package developmental support. Thus, many existing computer scanning software packages may be fully compatible with their system. Please check with Optoelectronics or your software vendor for compatibility with the OptoScan456.) Once you have loaded the scanning software package, the system is now ready for operation.

One unique aspect of the OptoScan456 is its ability to sense when the computer interface is established. The OptoScan456 "takes control" of the scanner's own internal microprocessor and places it into a stand-by mode. The control of all the scanner's functions passes to the OptoScan456, the computer, and scanning program.

A complete coverage of the software's operational capability will not be covered in this review, as this will vary with the software used with the OptoScan456. However, the custom (read "basic") version of the Scan*Star program included in the OptoScan456 package does its basic job well. It provides for scanning, searching, scan bypass, frequency lockout, temporary nuisance channel lock-out, tone and code control and recording, and comprehensive printer support for report printing. A screen saver is even included!

(Continued on page 81)

Olde Tyme Radio

Wandering Through Radio's Past

BY ALICE BRANNIGAN

Of the many non-commercial, religious broadcasters on the air, Chicago's WMBI remains one of the most enduring. This station was planned in 1925 by the operators of the Moody Bible Institute. A license was applied for, and in May, the former WWJ (Detroit) 500-watt transmitter was installed in Moody's seven story Men's Building, 153 Institute Place. Due to a shortage of available frequencies to meet the increasing demand for broadcast licenses, Moody was turned down by the government.

Moody Bible Institute had faith, filing papers again with the Dept. of Commerce. They kept right on building their station, next installing two steel towers on top of the building. Then, at the Smith Hall Men's Dormitory, next door (152 Institute Place), they set up a studio. Moody's persistence paid off. The license for WMBI came through on July 27, 1926, allowing 500 watts on 1040 kHz. WMBI had been built and ready to go for months, so the next day it went into operation calling itself "The West Point of Christian Service."

In June of 1927, the government told WMBI to shift to 1140 kHz and start shar-

ing time with WJAZ, Mount Carmel, Ill. By January, 1928, WMBI had obtained permission to up its power to 5 kW and relocate its transmitter site to Mill Road, Addison, Ill. In November of 1928, the government was again forced to reorganize frequencies to keep up with the rapidly growing broadcast service. That meant WMBI had to pull up stakes and shift over to 1080 kHz where it would share time with WCBD, Zion, Ill., another religious station.

Still on 1080 kHz and sharing time with WCBD, the year 1930 brought unwelcome news. Station WBT, Charlotte, N.C., had been officially granted unlimited use of 1080 kHz during most of the night hours. Therefore, WMBI and WCBD had to split most of their their time from daylight hours.

In 1937, the WMBI transmitter tower was replaced with a new 496-foot radiator. The station's regular daily hours in the late 1930's were 10:30 a.m. to 1 p.m., and again from 3 to 5 p.m. In 1939, modern studios were constructed at the Institute's new Administration Building, 812 LaSalle Street, Chicago.

In January, 1941, WMBI asked the FCC

to allow them to use WCBD's hours on 1080 kHz in the event WCBD's petition for move to another frequency were to be granted. This point became moot in March of 1941 when the FCC expanded the high frequency end of the band from 1505 kHz to 1605 kHz. This brought about another forced massive reshuffling of most stations from coast to coast, with WMBI ordered to operate on 1110 kHz. There it was told it was to continue sharing time with WCBD, and still have its night operation limited because of WBT. Luckily for WMBI, by July, WCBD was assigned to a new frequency and WMBI had full daytime use of 1110 kHz. This arrangement didn't last.

KFAB, in Omaha, was licensed on 1110 kHz, but since 1941 had been operating with Special Authority on 780 kHz (synchronized with Chicago's WBBM). In February, KFAB came home to 1100 kHz, forcing a cut back in WMBI's hours as it had to share time on the frequency again.

In 1960, WMBI increased the height of its antenna at Addison. It continues operating today with 5 kW on 1110 kHz. Hours are still limited by KFAB and WBT. WMBI



The Moody Bible Institute Building, LaSalle Street, Chicago, around 1925. The original WMBI towers are in place. (From Jan Lowry, Calif.)

About 1925, the WMBI studios were established in an Institute dormitory building. (From Jan Lowry, Calif.)

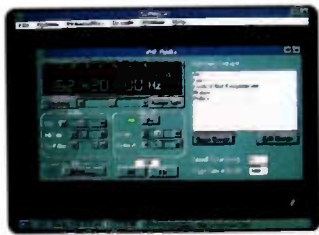


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April 27, 1931

Mr. Joseph Leo Hueter
1610 North 18th Street
Philadelphia, Pa.

My dear Mr. Hueter:

Your letter in response to the midnight hour broadcast is greatly appreciated.

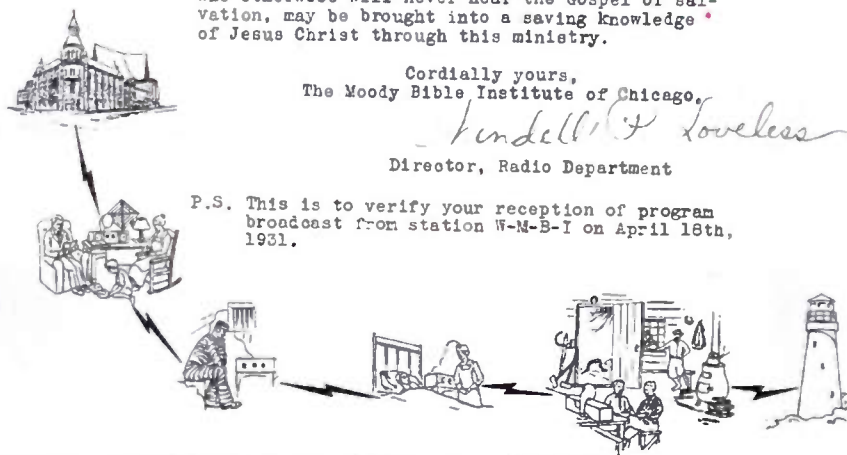
It is very encouraging to hear from our listeners telling of blessings received, reminding us of the privilege that is ours to send the message of life, light and hope out through the channels of the night.

We earnestly desire your prayers for the radio ministry so that, if it be His will, many, who otherwise will never hear the Gospel of salvation, may be brought into a saving knowledge of Jesus Christ through this ministry.

Cordially yours,
The Moody Bible Institute of Chicago.

Wendell T. Lovelace
Director, Radio Department

P.S. This is to verify your reception of program broadcast from station W-M-B-I on April 18th, 1931.



This 1931 WMBI veri letter indicates that, although the station was primarily a daytimer, it did show up at night once in a while.

remains owned by the Moody Bible Institute, and is the 22nd oldest continuously licensed broadcasting station in Illinois.

This information was based upon a lengthy in-depth history of WMBI prepared especially for our reference use by Jan Lowry of Broadcast Pro-File, P.O. Box 982, Hollywood, CA 90078. Jan also furnished us with two WMBI photos. Broadcast Pro-File is a professional service that (for a reasonable fee) researches the histories American AM/FM/TV broadcast stations between 1921 and the present. The Broadcast Pro-File catalog is available from them for \$1.

Canadian Station Still Growing at 60

Station CHSJ began broadcasting in 1934 on 1150 kHz with 100 watts. Located in Saint John, New Brunswick, the CHSJ antenna was a longwire strung be-

tween two buildings in the center of town. This simple antenna served CHSJ well for several years, but in 1941 it was decided the time had come to change the transmitter site.

The CHSJ transmitter was changed to farmland approximately two miles from its former location. The new site was marshland and offered a good ground plain. The down side was that in the springtime, it was prone to flooding. A 1 kW transmitter was installed at the site, with its signal fed into a newly erected 1/8th-wave omni-directional vertical radiator.

In the late 1940's, the power went up to 5 kW. By the mid-1950's, CHSJ had blossomed into a station running 10 kW during the day (5 kW at night). This remained in effect for more than 30 years.

Major changes came about in 1988. Most notably, CHSJ left the frequency it used for more than 50 years, and began broadcasting on 700 kHz. The transmitter

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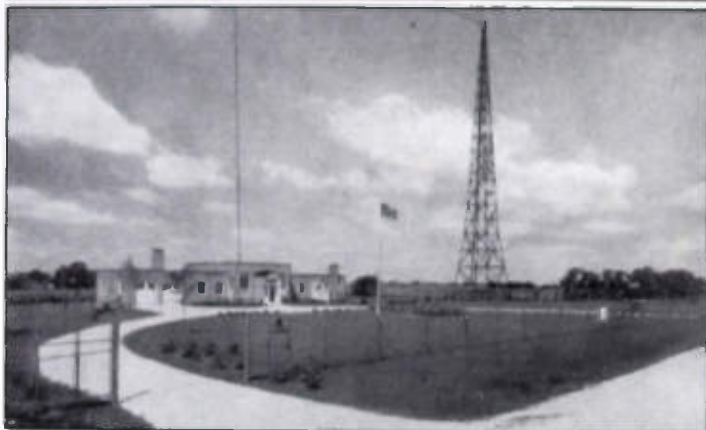
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An undated postcard view of the WMBI transmitting site at Addison, Ill., showing one of the two towers.



One of the two former KXA towers in downtown Seattle, Wash., as it appeared in 1987.



The abandoned WPCH tower still stands as a part of the New York City skyline. (Photo by Jim Douglass, New York.)

This was the 500 watt transmitter used by WFBH, which was the early version of WPCH.



site was moved to a location west of Saint John, where three towers were erected on an east-west line. CHSJ ran its daytime 10 kW power in an omni-directional pattern, but the 5 kW night pattern was directional towards the east. Operations were full time, using the C-QUAM stereo system.

Still growing, last year CHSJ increased its daytime power to 25 kW, which it transmits in a directional pattern. Two towers are used for the daytime signal pattern, all three generate the night pattern. The new transmitter is a Nautel solid state unit with a maximum operating voltage of 80 VDC.

CHSJ plays country music, and verifies by letter. This information on the history of CHSJ was generously supplied by David

Sage, Registered Monitor KMA1CW, of Boston, Mass.

Big City Tower

CHSJ's original antenna was located in the center of the city it serves. That's the way it was with many old time AM stations. The majority of those historic old towers are long vanished from their cities' skylines, but not all of them. Readers have told me about one ancient radio tower that still exists in Los Angeles. Two that once served station KXA remain in downtown Seattle. One that continues to bring us numerous inquiries boldly stands atop the Park Central Hotel, 7th Avenue and 55th Street, New York

City. It catches the attention of all radio enthusiasts visiting or living in the Big Apple.

Most recently, the Park Central Hotel antenna caught the attention of reader Jim Douglas, of New York City. Jim knew that it once belonged to station WPCH, which no longer exists. Jim snapped a photo of this famous landmark and asked if we would provide information on WPCH, and write about its fate. WPCH hasn't been mentioned here in years, so its time to tell about it for those who see the antenna, then become curious.

The station began in 1924 as WFBH, 500 watts, on 1010 kHz (soon changed to 1100 kHz). This station, owned by the Concourse Radio Corp., called itself, *The*



The luxurious WFBH studios were acoustically modified with carpeting, plus velvet covered walls and ceilings. Microphones were concealed to prevent "mic fright."

WPCH
810 KILOCYCLES 370.4 METERS
1697 BROADWAY
West New York, N.J.

VERIFICATION

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P.M. E.D.S.T.

EASTERN BROADCASTERS, Inc.
HARRY CARSON
By _____

A rare 1932 WPCH veri. This was just before it was kicked off 810 kHz by the FRC. After that, it was combined with WMCA on 570 kHz until its license expired a few months later, then it was gone.

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was located there. Both stations ran different programs, but operated in such close quarters that WMCA's listeners sometimes complained that they could hear the WPCH programs taking place off-mike in the background.

WMCA was annoyed about being on 570 kHz, where it shared time with non-com-

mercial WNYC, operated by the New York Municipal Government. WMCA objected its air time had been substantially reduced. WMCA was also displeased with the arrangement. Before being moved to 570 kHz in the national 1928 reallocation, WMCA had operated on 680 kHz, sharing time with a religious station, WLWL. This had been acceptable inasmuch as WLWL didn't need more of the frequency. After the reallocation, WLWL was shifted over to 1100 kHz. WMCA had ended up in the coveted slot and didn't need to split its use with any other station. The Federal Communications Commission arranged matching of frequencies between both stations. WMCA's owners, other corporate name, purchased and regained control of 810 kHz. WMCA less, they continued to battle for air time on 570 kHz.

WMCA provided a Solomon-like solution. The FRC told WMCA that it could continue to operate on 570 kHz, but it would consolidate WPCH on that frequency with WMCA. WPCH was finished with 810 kHz, which the FRC was assigning to WMCA so that it would no longer need to share hours with WMCA.

WMCA identified itself as "WMCA/WMCA" on 570 kHz until mid-1933, when its license expired. Then WPCH from New York City dials forever. WMCA still operates on 570 kHz, now a commercial religious station. WNYC continues as a non-commercial broadcaster, operating on 820 kHz.

So, the picturesque tower that has so long been the focus of attention, is actually the only half of what had at one time been twin towers. One tower was razed during the 1950's. Considering the amount of attention the remaining land-

mark WPCH tower receives, it's ironic that it was in actual use for only a few months, and that was 67 years ago.

Reader support of this section of POP-COMM has been enthusiastic, useful, and appreciated. We always look forward to receiving material relating to old time wireless and radio, such as station photos, QSL's (originals or copies), picture post cards, skeds, newspaper clippings, station listings, personal memories, and questions.

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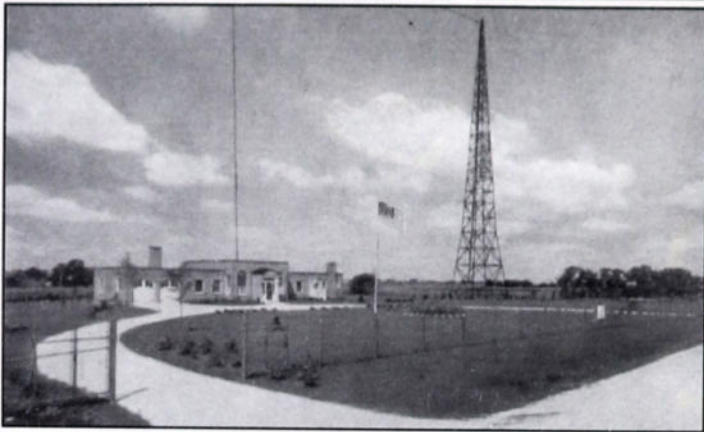


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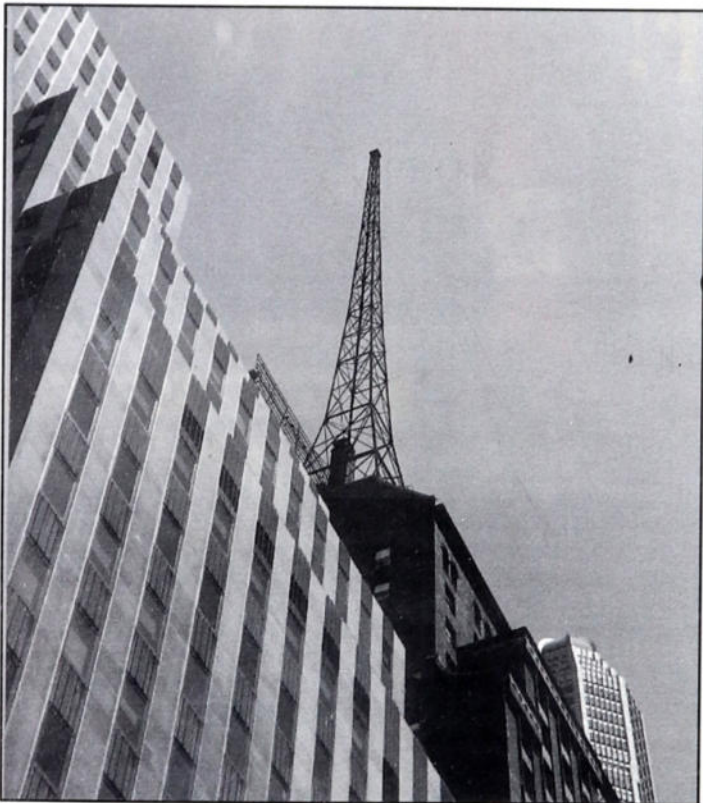
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The abandoned WPCH tower still stands as a part of the New York City skyline. (Photo by Jim Douglass, New York.)

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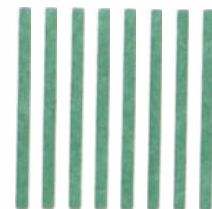
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The luxurious WFBH studios were acoustically modified with carpeting, plus velvet covered walls and ceilings. Microphones were concealed to prevent "mic fright."

Voice of Central Park. WFBH was located at New York City's elegant Hotel Majestic, Central Park West at 72nd Street. Built around 1890, the hotel was an 11-story structure built in the French Renaissance style. WFBH constructed opulent studios there, which caused one newspaper to call it "one of the most beautiful broadcasting stations in the nation."

In 1927, the owners of the Hotel Majestic announced that the 37-year old structure was to be torn down to make way for a luxury Art Deco apartment building to be constructed on the site. Without delay, the Concourse Radio Corp. checked out of the Hotel Majestic and moved their station into the Park Central Hotel, which in later years would be known as the Park Sheraton Hotel. It was once Jackie Gleason's TV production headquarters.

The move to the Park Central Hotel ended the WFBH call letters as the station became known as WPCH, incorporating the new hotel's initials into their callsign. Two imposing steel transmitting towers were erected on the roof of the hotel, and the frequency became 920 kHz (changing to 810 kHz in November, 1928). Unfortunately, the use of the transmitting facilities in the hotel didn't work out as well as planned. In short order, WPCH switched over to using a remote transmitter located in Hoboken, N.J.

By 1929, WPCH moved its entire operation out of the Park Central Hotel, and into the Hotel McAlpin, Broadway and 34th Street. That happened because WPCH had been sold to the owners of WMCA, which operated on 570 kHz, and was located there. Both stations ran different programs, but operated in such close quarters that WMCA's listeners sometimes complained that they could hear the WPCH programs taking place off-mike in the background.

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The federally arranged matching of WMCA and WNYC on 570 kHz caused instant bickering between both stations. Each constantly complained to the Federal Radio Commission that it needed more hours on the frequency. WMCA's owners, under another corporate name, purchased WPCH, and regained control of 810 kHz. Nevertheless, they continued to battle for more WMCA air time on 570 kHz.

FRC provided a Solomon-like solution. In 1932, the FRC told WMCA that it could operate full time on 570 kHz, but it would have to consolidate WPCH on that frequency with WMCA. WPCH was finished on 810 kHz, which the FRC was assigning to WNYC so that it would no longer need to split its hours with WMCA.

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1697 BROADWAY
New York City

810 KILOCYCLES

370.4 METERS

VERIFICATION

PROGRAM HEARD **MAR 19 1932** AT **2-5:30** A.M. E.S.T.
P.M. E.D.S.T.

EASTERN BROADCASTERS, Inc.

HARRY CAMPBELL

By **FRANCIS [unclear]**

A rare 1932 WPCH veri. This was just before it was kicked off 810 kHz by the FRC. After that, it was combined with WMCA on 570 kHz until its license expired a few months later, then it was gone.

mark WPCH tower receives, it's ironic that it was in actual use for only a few months, and that was 67 years ago.

Reader support of this section of POP-COMM has been enthusiastic, useful, and appreciated. We always look forward to receiving material relating to old time wireless and radio, such as station photos, QSL's (originals or copies), picture post cards, skeds, newspaper clippings, station listings, personal memories, and questions.

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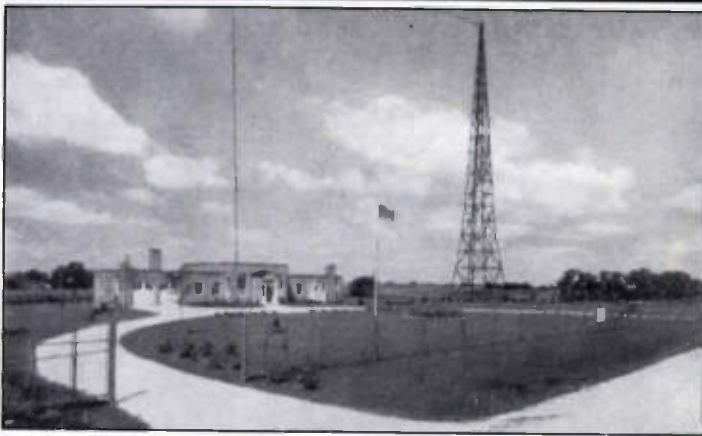


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An undated postcard view of the WMBI transmitting site at Addison, Ill., showing one of the two towers.



One of the two former KXA towers in downtown Seattle, Wash., as it appeared in 1987.



The abandoned WPCH tower still stands as a part of the New York City skyline. (Photo by Jim Douglass, New York.)

This was the 500 watt transmitter used by WFBH, which was the early version of WPCH.



site was moved to a location west of Saint John, where three towers were erected on an east-west line. CHSJ ran its daytime 10 kW power in an omni-directional pattern, but the 5 kW night pattern was directional towards the east. Operations were full time, using the C-QUAM stereo system.

Still growing, last year CHSJ increased its daytime power to 25 kW, which it transmits in a directional pattern. Two towers are used for the daytime signal pattern, all three generate the night pattern. The new transmitter is a Nautel solid state unit with a maximum operating voltage of 80 VDC.

CHSJ plays country music, and verifies by letter. This information on the history of CHSJ was generously supplied by David

Sage, Registered Monitor KMA1CW, of Boston, Mass.

Big City Tower

CHSJ's original antenna was located in the center of the city it serves. That's the way it was with many old time AM stations. The majority of those historic old towers are long vanished from their cities' skylines, but not all of them. Readers have told me about one ancient radio tower that still exists in Los Angeles. Two that once served station KXA remain in downtown Seattle. One that continues to bring us numerous inquiries boldly stands atop the Park Central Hotel, 7th Avenue and 55th Street, New York

City. It catches the attention of all radio enthusiasts visiting or living in the Big Apple.

Most recently, the Park Central Hotel antenna caught the attention of reader Jim Douglas, of New York City. Jim knew that it once belonged to station WPCH, which no longer exists. Jim snapped a photo of this famous landmark and asked if we would provide information on WPCH, and write about its fate. WPCH hasn't been mentioned here in years, so its time to tell about it for those who see the antenna, then become curious.

The station began in 1924 as WFBH, 500 watts, on 1010 kHz (soon changed to 1100 kHz). This station, owned by the Concourse Radio Corp., called itself, *The*



The luxurious WFBH studios were acoustically modified with carpeting, plus velvet covered walls and ceilings. Microphones were concealed to prevent "mic fright."

Voice of Central Park. WFBH was located at New York City's elegant Hotel Majestic, Central Park West at 72nd Street. Built around 1890, the hotel was an 11-story structure built in the French Renaissance style. WFBH constructed opulent studios there, which caused one newspaper to call it "one of the most beautiful broadcasting stations in the nation."

In 1927, the owners of the Hotel Majestic announced that the 37-year old structure was to be torn down to make way for a luxury Art Deco apartment building to be constructed on the site. Without delay, the Concourse Radio Corp. checked out of the Hotel Majestic and moved their station into the Park Central Hotel, which in later years would be known as the Park Sheraton Hotel. It was once Jackie Gleason's TV production headquarters.

The move to the Park Central Hotel ended the WFBH call letters as the station became known as WPCH, incorporating the new hotel's initials into their callsign. Two imposing steel transmitting towers were erected on the roof of the hotel, and the frequency became 920 kHz (changing to 810 kHz in November, 1928). Unfortunately, the use of the transmitting facilities in the hotel didn't work out as well as planned. In short order, WPCH switched over to using a remote transmitter located in Hoboken, N.J.

By 1929, WPCH moved its entire operation out of the Park Central Hotel, and into the Hotel McAlpin, Broadway and 34th Street. That happened because WPCH had been sold to the owners of WMCA, which operated on 570 kHz, and was located there. Both stations ran different programs, but operated in such close quarters that WMCA's listeners sometimes complained that they could hear the WPCH programs taking place off-mike in the background.

WMCA was annoyed about being on 570 kHz, where it shared time with non-com-

mercial WNYC, operated by the New York City Municipal Government. WMCA objected because its air time had been substantially reduced. WMCA was also displeased with this arrangement. Before being ordered to 570 kHz in the national 1928 frequency reallocation, WMCA had operated on 810 kHz, sharing time with a religious station, WLWL. This had been acceptable to WMCA inasmuch as WLWL didn't need much use of the frequency. After the reallocation, WLWL was shifted over to 1100 kHz. WPCH had ended up in the coveted 810 kHz slot and didn't need to split its use of the frequency with any other station.

The federally arranged matching of WMCA and WNYC on 570 kHz caused instant bickering between both stations. Each constantly complained to the Federal Radio Commission that it needed more hours on the frequency. WMCA's owners, under another corporate name, purchased WPCH, and regained control of 810 kHz. Nevertheless, they continued to battle for more WMCA air time on 570 kHz.

FRC provided a Solomon-like solution. In 1932, the FRC told WMCA that it could operate full time on 570 kHz, but it would have to consolidate WPCH on that frequency with WMCA. WPCH was finished on 810 kHz, which the FRC was assigning to WNYC so that it would no longer need to split its hours with WMCA.

WMCA identified itself as "WMCA/WPCH" on 570 kHz until mid-1933, when the WPCH license expired. Then WPCH was gone from New York City dials forever. WMCA still operates on 570 kHz, now as a (commercial) religious station. WNYC continues as a non-commercial broadcaster, operating on 820 kHz.

So, the picturesque tower that has so long been the focus of attention, is actually the only half of what had at one time been twin towers. One tower was razed during the 1950's. Considering the amount of attention the remaining land-

810 KILOCYCLES

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EASTERN BROADCASTERS, Inc.
HARRY CARSON

By _____

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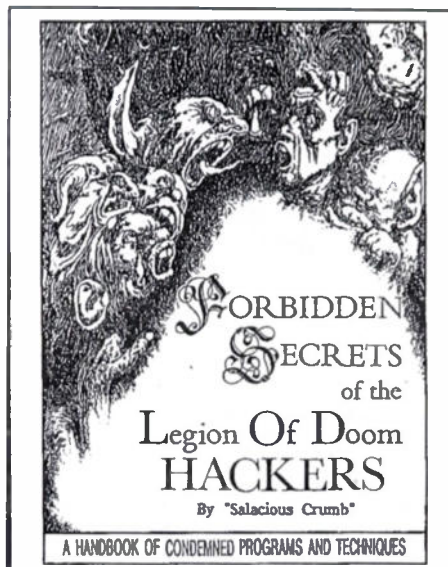
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Hacking a Wonderful Time

In 1990, the Secret Service shut down hundreds of underground computer BBS, including those considered by hackers to be the most influential and important—such as the now-infamous “Legion of Doom.”

The LOD may no longer exist. The unique knowledge, insights, programs, and techniques they and many other hacker pioneers left behind does, forbidden and condemned though they are. Problem is that this material has not been readily available to novices and the many others interested in hacking. That is, until now.

Forbidden Secrets of the Legion of Doom Hackers: A Handbook of Condemned Programs & Techniques, is a 224-page collection of rather amazing information from the former LOD (and a few other) BBS. It is presented exactly as it originally appeared there, covering hacking, phreaking, and other topics. The book is a limited edition, offering a rare opportunity to access the material. Inasmuch as the contents appeared on BBS' around 1990, it is only for historic reference and informational purposes. No other uses are suggested, recommended, or implied.

A small sampler: Included is a history of the LOD, and a novice's guide to hacking, plus an intro to the hacking Top 20's. There's a hackers guide to the UUCP, intros to the Iris, PRIMOS, IBM VM/CMS operating systems, the networked UNIX, discrete UNIX hacking, password hacking, and lots more.

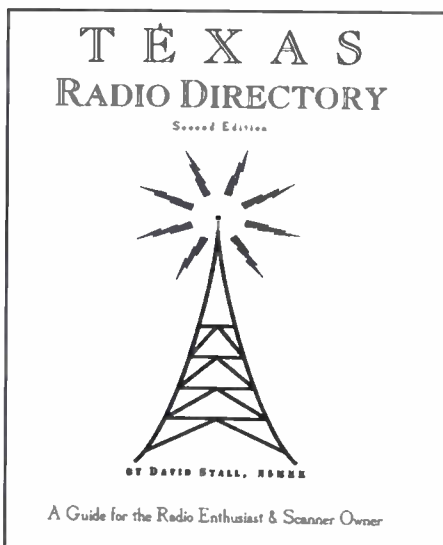
The phreaking section has information on switching, on the Teradyne “4Tel” system, outside loop distribution system, cus-

tom local area signaling service, plus other information.

A miscellaneous section touches upon *Blue Boxes*, bypassing and defeating intrusion systems, secure data encryption with cellular automatons, the radar guidebook, intelligence processes, and additional items. There's also a glossary to round out this most interesting and enlightening volume.

The intricacies and finer points of hacking and phreaking, as done by the notorious Legion of Doom, became legend. Here is this information, deftly assembled by the hacker archivist who uses the BBS handle “Salacious Crumb.”

Forbidden Secrets of the Legion of Doom Hackers is \$20.95, plus \$4 shipping/handling (Canada \$5). Residents of NY State please add \$2.12 tax. It may be ordered from CRB Research Books, P.O. Box 56, Commack, NY 11725. VISA/MC welcomed. Phone orders: 1-800-656-0056. Canada/AK/HI phone orders: (516) 543-9169.



Lone Star Directory

Texas Radio Directory, 2nd Edition, by Dave Stall, N5MKK, is out. In its pages, Dave's book provides hobbyists with Texas radio listings in more than 50 categories between 200 kHz and 1.2 GHz.

This includes broadcast, public safety, ham repeater, EMS, schools and universities, public utilities, tow trucks, private security services, plus information on business, industrial, transportation and other communications users. Police, fire, and ham repeater systems are sorted by county and also by frequency.

There is an abundance of good information in this book, but it's all fit into 68 pages.

That means the type size used is a tad smaller than usually encountered in frequency guides. This is pointed out here as an advisory to those readers who have written to advise us that they encounter problems dealing with some texts utilizing small print.

Texas Radio Directory, 2nd Edition, is sold for \$15.95 in selected electronics stores across Texas. Those wishing to order by mail can send \$18 (which includes shipping and taxes) to Luna Lumen Press, P.O. Box 58023, Houston, TX 77258-8023.

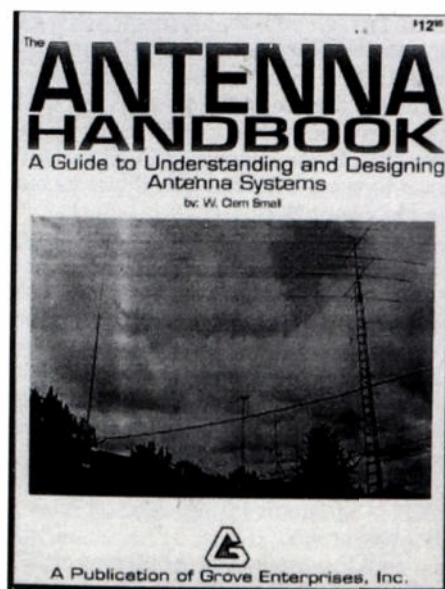
Antenna Information

W. Clem Small's 201-page book *The Antenna Handbook* is subtitled, *A Guide to Understanding and Designing Antenna Systems*. This is a well-done compendium of antenna system theory combined with practical applications of different types useful on HF and VHF bands. This information applies to antenna systems used by SWL's hams, and scanner users.

Clem has information on constructing many different kinds of antennas, providing all of the measurements and data necessary to make the process as easy as possible. The book is filled with charts, photos, and drawings to illustrate the text.

He provides directional antennas, verticals, slopers, collinears, loops, DF types, mobile types, underground types, and improved antennas. More than this, Clem explains how and why antennas work, and which are best suited for particular applications. This is worthwhile information, and it's explained clearly in this book.

This is not a technical treatise or textbook filled with formulas and algebra. The text is in a style that most hobby-level read-



ers should be able to appreciate and use without any difficulty.

The Antenna Handbook, by W. Clem Small, is \$12.95, plus \$5.50 for UPS (Canadian UPS \$8.50) from Grove Enterprises, P.O. Box 98, Brasstown, NC 28902. Phone orders: (800) 438-8155. Phone orders outside North America: (704) 837-9200.

Hide & Sneak

What do flagpoles, fences, tomato growing supports, and arbors have in common? They can all hide effective ham radio antennas. Amateur radio operators who face antenna restrictions or hassles from neighbors, zoning laws, or landlords will discover a galaxy of ideas in *Hidden Ham Antennas*, by Frank P. Hughes, VE3DQB.

Frank's various hidden and disguised antennas can go inside, or outdoors, and they will operate on the HF bands, as well as VHF/UHF bands. He provides all kinds of different antenna ideas, and the most ingenious and devilish ways to hide or disguise the things. You can build these antennas using standard materials, although there

HIDDEN-HAM ANTENNAS

by
FRANK P. HUGHES
VE3DQB

T TAB PUBLICATIONS

are also exotic designs making use of things such as broomsticks, water pipe, balcony rails, kids' toys, etc. Nothing is sacred. In addition, Frank provides details on sources for commercially manufactured covert and incognito antennas.

The 46-page book also covers antenna tuners, grounds, and counterpoises. The book is illustrated with over 40 diagrams.

Can't let that bare sky hook hang out? Don't give up! This book could solve your problems in a jiffy.

Hidden Ham Antennas is \$12.95, plus \$2 shipping (outside USA \$3) from Tiare Publications, P.O. Box 493, Lake Geneva, WI 53147. VISA/MC accepted. Phone orders from 8 a.m. to 6 p.m. Central Time: (800) 420-0579.

Anita Louise McCormick

THE SHORTWAVE LISTENER'S Q and A BOOK

Everything you need to know to enjoy Shortwave Listening

Got Any Questions?

SWL'ing has experienced a healthy influx of new entrants during recent years. Major world events fell into place at the right point in the solar cycle, and as some good shortwave ("world band") portables began appearing at popular prices. So, new entrants came in, but so many never seemed to grasp any more than the most basic precepts of SWL'ing. As a result, they have enjoyed the hobby, but only to a very partial degree of its fullest potentials.

Anita Louise McCormick, KA8KGI, is a seasoned DX'er whose byline is becoming familiar in the communications hobby. Her latest work, *The Shortwave Listener's Q & A Book*, seeks to point recently started shortwave enthusiasts in directions that will enable them to achieve maximum use of their equipment, and best enjoyment of the hobby. Her efforts are most worthwhile.

This is an excellent book, containing 100 photos and other illustrations.

Here are clear and concise answers to the most commonly asked questions. The answers are presented in Anita's readable and straightforward style which cuts through the window dressing to get to the basic essence of the matter. The book covers equipment, tuning-in various nations and types of programs, pirates, station souvenirs, reception reports, keeping up with developments, different signals to be heard, and far too many more things to be listed here.

Appendices include shortwave broadcasters, clubs, and sources of reference materials.

The Shortwave Listener's Q & A Book is \$12.95, and is available from many dealers carrying TAB Books. It may also be ordered directly from TAB Books by calling 1-800-822-8158. ■

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CIRCLE 51 ON READER SERVICE CARD

The Anti-Castro Broadcasters

Fidel Taking Hits Across the Bands

BY GERRY L. DEXTER

In decades since Fidel Castro and his rebel forces overthrew Cuban dictator Fulgencio Batista in 1959, radio has been used continuously as a tool in the fight to bring him down. In fact, Castro himself employed radio broadcasters as a tool against the Batista government. His forces operated Radio Rebelde (from which the current Cuban on 5026 gets its name) in the Sirra Madre mountains to help in fomenting the Cuban revolution.

It's very doubtful anyone could come up with an accurate number of broadcasters who have used radio to inveigh against Castro since he took power. However, the list certainly runs well into the high double digits, perhaps even to triple figures, especially if one includes all the programs which have been aired on Florida medium wave stations over the years.

Anti-Castro broadcasting on shortwave has been a matter of a relative few groups active at any one time. Along with private anti-Castro organizations, the U.S. government was deeply involved in broadcasts to Cuba during the earlier days of Fidel's reign, and is equally so today, although in a quite different form. In the 1960's, U.S. involvement was very much a secret affair, in contrast to today's fully above board Radio Marti.

The fortunes of private, U.S.-based anti-Castro broadcasters have always depended to a large degree upon the level of anti-Castro zeal or whatever U.S. administration was in power at any given time. Kennedy, embarrassed by the Bay of Pigs mess-up, didn't appear to be overly concerned about unlicensing, anti-Castro stations broadcasting from U.S. soil. Neither did Reagan. The Nixon, Bush, Carter, and Johnson administrations were less so, or at least appeared somewhat ambivalent about the practice.

So, there were ups and downs in the activity level of such stations, as well as how much the FCC concerned itself with locating and closing them. One rumor in those days even claimed Cuban agents in Miami would sometimes track an offending station and then anonymously tip off the Feds!

Recuerdos

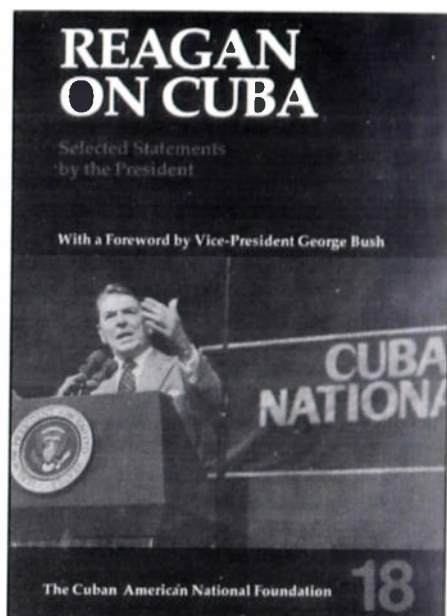
The government's biggest anti-Castro radio involvement in the early days was

Radio Swan (later Radio Americas), and it made a lot of news in both the hobby and the lay press. No one was sure at the time but Swan/Americas later proved to have been a CIA operation all the way. The station operated from Swan Island, off the coast of Honduras, a speck of land claimed by both the U.S. and Honduras (years later Honduras finally got the island). Radio Swan pretended to be a commercial broadcaster beaming to Cuba and the Caribbean on both medium and shortwave. It was supposedly owned by the Gibraltar Steamship Corporation, (which didn't even own a rowboat, much less a steamship) with offices in New York City. Gibraltar proved to be a CIA front.

Radio Swan went on the air in May, 1960, almost a year before the Bay of Pigs invasion the following April. Its commercial programming grew more anti-Castro in nature as time went on and the date for the invasion advanced.

When the big day arrived, Radio Swan swung into action, airing mysterious messages such as "The fish will rise tonight," and "Look well to the rainbow." It was a futile attempt to make Castro think there were resistance groups already planted in Cuba, just waiting for the word to rise up. E. Howard Hunt (of Watergate fame) authored some of the meaningless messages.

Sometime after the Bay of Pigs, Gibraltar moved its offices to Florida and soon



President Reagan addresses a meeting of the Cuban American National Foundation, producers of the *La Voz de Fundacion* program.

after that disappeared, only to be replaced by something called the Vanguard Service Corporation, another CIA front. Those in charge of making this transition should have spent more time in spy school. They used the same offices and phone number

This will verify your reception of Radio Americas

on 1160 kcs, at _____ EST, on 3-19 1967.
6000

Our 1160 kc transmitter is a 50 kw RCA using two 250-foot vertical radiators. The 6000 kc transmitter is a 7.5 kw RCA feeding a full-wave dipole.

Thank you for your interest.

73's


Radio Americas

QSL text on the back of the Radio Americas QSL card.

as Gibraltar! At almost the same time, Radio Swan's name was changed to Radio Americas, and the former operations manager of Gibraltar became the new manager of Radio Americas. This station continued to pose as a commercial operation and kept up the call for Castro's overthrow. Eventually Vanguard Service vanished and the station's parent "company" became Radio Americas Incorporated, headquartered in Coral Gables, Florida.

Eventually it must have been decided the project was going nowhere because Radio Americas left the air for good on May 15, 1968—having announced its intention to do so well in advance.

Radio Libertad was another major anti-Castro radio effort of the 1960's. It came on the air several months after the Bay of Pigs, operating from a secure, fenced-in location near Caracas, Venezuela, with offices (or at least a mail drop) in a high rise building in one of the suburbs. It never identified its backers. For whatever reason, Radio Libertad did not capture the imagination of either shortwave radio enthusiasts or the general media anywhere near as much as Radio Swan/Americans did. Although it was unsettled as to frequency and operating schedule in its early days, the station eventually made regular use of 15050, a frequency it kept in use for several years. Although it is generally believed that Radio Libertad was at least funded by American intelligence interests, no real proof was ever found.

Beyond government or suspected government involvement, the last 30 years have seen a number of anti-Castro operations by Cuban exile groups of various size and reputation.

"Commandante David" (the name Castro used on his own Radio Rebelde) operated Radio Libertad Cubana down in the low end of 7 MHz for quite awhile, often claiming to be able to predict such things as the date and time of the next sabotage effort on the island. He was eventually tracked and closed by the FCC. Next followed conflicting reports and claims about who had done what to whom, whether it had been done at all, or what was or wasn't done in the courts. Some years later another individual popped up in the 40-meter area claiming to be Commandante David.

The Movimiento Insurreccional Martiano operated Radio Antorcha Martiana (Torch of Marti), while the Junta Patriotica Cubana ran Radio Mambi and is, again today, represented amongst the anti-Castro voices. Agrupacion Abdala operated Radio Abdala in the late 1970's and claimed to have once been bombed off the air by Castro's agents. It returned and operated into the early 1980's until closed by the FCC.

The 1450 Brigade organization, veterans of the Bay of Pigs, ran Radio 1450. Unknown groups or individuals were behind such stations as Radio Trinchera (fox-hole), Radio Revolucion, "Radio Havana



The fellow that's the cause of all the hillabaloo.

Cuba," "Radio Rebelde" (which claimed to be in Cuba's Oriente Province but, like so many of these stations, was actually in the Miami area). There were many others, especially during the 60's and 70's, of various degrees of professionalism and longevity.

Through the years, it apparently seemed to prospective anti-Castro broadcasters not such a good idea to attempt to accomplish very much by using a hidden, converted ham transmitter. Whether there was a real or imagined sense that the climate in Washington was growing less favorable to such efforts and closure by the FCC, or whether the arrival of bigger voices broadcasting from safe areas outside the U.S. was the reason, the number of efforts fell way down through most of the last decade.

One of the last of the clandestine "do it yourselves" was La Voz de la Federacion Mundial de Expresos a Politico de Cubanos (the FCC was probably able to get a fix on the transmitter in the time announcer to give the ID!), active briefly from Tampa, Florida, in 1991 (on 7080) before being closed down.

As the 80's wore on, a "new"—this time legal—way of accomplishing the same thing presented itself: buying time on U.S. commercial shortwave stations. This, actually, had been done in the early days of Castro, over then WRUL (now WYFR).

This new phase of anti-Castro broadcasting has proved, in its own way, as volatile as real clandestine types. In the few years this practice has been in vogue we have seen quite a parade of programs, producers, and organizations come and go.

A few of those which have already come and gone include the National Cuban Commission's Radio Conciencia, the Cuban Independence Party's Radio General Ochoa, the Cuban Patriotic Junta and their program Pueblo Libre, the Cuban Patriotic Council's "Esperanza" program and the

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0420-1200		La Voz del CID	6305
0420-1200		La Voz del CID	11940v
0800-0900	Monday through Friday	Alpha 66	7355
1000-1300	Monday through Friday	Voz de Fundacion	9850
1100-2300		La Voz del CID	11635
1200-0415		La Voz del CID	7340v
1200-1530		Radio Caiman	9695
1700-1800		Radio Caiman	9695
2000-2000	Tuesday/Friday	Colegio de Pedagogos Cubanos	15675
2100-2200	Sunday	La Voz del Veterano	15675
2200-2230	Saturday	Radio Roquero	15675
2200-2300	Sunday	La Voz del Caribe	15675
2300-0200		Radio Caiman	9965
2300-0000	Monday through Friday	Alpha 66	9495
2330-0000	Monday through Wednesday	LV de Junta Patriotica Cubana	15675
2330-0000	Friday/Saturday	LV de Junta Patriotica Cubana	15675

Cuban Alliance's La Voz de Tribuna Libre. Also Radio Volunta Democratica (Voice of the Authentic Cuban Revolutionary Party), Voz Medicios Cubanos Libres, La Voz Directoria de Revolucionario Democratico Cubano and many others.

The Action Today— Beginning with the Big Four

La Voz Del Cuba Independiente y Democratica (CID) began as a typical Cuban clandestine, using a doctored ham transmitter from a location in Florida. The FCC soon put a stop to it. But the CID organization had money and the connections and fundraising ability to get more. So not long

afterward it was back on the air, this time from a location outside the U.S., almost certainly from Guatemala.

CID was founded by Hubor Matos, a former commander in Castro's army who had a falling out with Fidel, which landed him in jail for 20 years. Matos organized CID after he left jail (and Cuba!). CID is a large operation and for most of its existence seldom hurt for the dollars necessary to operate the radio service. At one point La Voz del CID had a staff of 30, and was spending about \$750,000 a year on its radio effort. At one time CID even talked of putting on a television service to Cuba (TeleCID), which would have operated from a boat off the Florida coast.

During its earlier days CID had a num-

ber of services, each intended for a different slice of the Cuban population: Radio Camilo Cienfuegos, Radio Maximo Gomez, Radio Ignacio Agramonte, Radio Antonio Guiteras, Radio Frank Pais Radio Antonio Maceo (this was also aired over Venezuelan shortwave station Ecos del Torbes). A "Music Libre" service was carried by Radio Clarin in the Dominican Republic for several hours a day, but Cuban government protests to the Dominican government ended that.

La Voz del CID is nominally scheduled from 0420-1200 on 6305, 1200-0415 on 7340v, 1100-2300 on 11635 and 0420-1200 on 11940v. Its U.S. address is 10020 SW 37m Terr, Miami, FL 33165.

La Voz de Fundacion is a program service to Cuba produced by the Cuban American National Foundation, said to be the largest and most influential of the Cuban exile groups. CANF originally planned to apply for its own shortwave station but ended up buying time on the now-defunct Radio Clarin for their program, produced in CANF's Miami office. Broadcasts were soon added on commercial/religious shortwave station WHRI in Indiana. Some CANF broadcasts began to suffer slightly from jamming in the summer of 1992, as did those of CID and Radio Caiman.

La Voz de Fundacion is on the air eight hours a day, broadcasting news, interviews, Cuban-American music, and talks on human rights violations in Cuba. The programming can be heard Tuesdays through Saturdays (UTC days) at 000-0500 on 9495 (WHRI) and Monday through Friday (UTC) from 1000-1300 on 9850 (also WHRI). The address is P.O. Box 440069, Miami, FL 33144.

Radio Caiman is the only remaining mystery station among anti-Castro broadcasters. It began testing in March, 1965, playing continuous vocals by a Spanish language Nat King Cole-sound alike (leading

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PRESENCIA

Organo Oficial de la Junta Patriótica Cubana

VOL. IV

SEPTIEMBRE 30 DE 1983

NUMERO 39

LA VOZ DE LA JUNTA
PATRIÓTICA CUBANA
WOCN OCEAN RADIO
DOMINGOS: 11 P.M.
1450 KCS. (MIAMI)

CUBANOS REFUGIADOS EN JAMAICA SALEN PARA CANADA

Desde hace varios meses, para la Junta Patriótica Cubana fue de gran preocupación la situación de los cubanos exiliados en Jamaica. A los efectos de tratar de resolver esta situación y ayudarles en el orden económico, la Junta representada por su presidente Dr. Varona, visitó Jamaica para llevar a los cubanos ayuda material y moral, además de hacer gestiones ante las autoridades de aquel país para tratar de solucionar la situación en extremo difícil en que se encontraban los cubanos.

A raíz de aquella visita, los cubanos, ya organizados, comenzaron a recibir ayuda remitida por la Junta sobre todo de ropas y zapatos, así como cantidades en metálico. Esto produjo un gran afecto entre los refugiados, que por primera vez se sintieron participantes de la producción de sus hermanos de Miami. Todos los esfuerzos han dado resultados. Ahora vemos como han partido para Canadá un grupo de los cubanos de Jamaica, haciéndose gestiones para que otros sigan la misma ruta.

Las fotos que presentamos y las cartas de la Sra. Luisa María Serrano, así lo atestiguan. La Junta Patriótica, como siempre, está presente y ayudando de acuerdo con sus posibilidades. Pasa a p/6



Fotografías de los cubanos que partieron para Canadá, para residir en aquella nación. Aparecen en las fotos, además de otros cubanos que esperan ser seleccionados, los que ya están viviendo en Canadá. Son ellos: Tony Labrada Alcolea, Ernesto Labrada Machado, Johnny Labrada Alcolea, Clemente Pulg. Barrios, Eddy Labrada Alcolea, Casilda de Labrada y Camillo Labrada Machado. También aparece Luisa María Serrano, Coordinadora de la Sección Femenina.

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Presencia, the official organ of the Junta Patriótica Cubana.

to a quick dubbing of the station as "Radio Nat King Cole"). These broadcasters were on the air every day but there were never any announcements. The first station ID wasn't given until that September and, even then, the same music tape continued playing until that October.

Caiman translates to "alligator" or "clever man," which never seemed to make much sense as a station name. But note, the outline of Cuba on a map does look a bit like that of a crocodile! Male announcers had Cuban accents, the female announcer did not—though she identified herself on the air using a Hispanic name, Cristina Tamayo. Caiman never indicated its backers, announced location, nor an address. At one time there was some indication the station was run by a group called Comité Pro Libertad de Cuba (a group which those in the exile community apparently never heard of). From the start the station had a polished and professional

sound. It was always both very stable in frequency and on the nose with its sign on and sign off times, unlike the efforts of the exile broadcasters using their own transmitters. In itself, that led to the suspicion that Caiman might have "interesting" connections. Some years later the Iran-Contra hearings revealed that \$1 million of the funds obtained through the sale of arms to Iran were set aside to buy equipment for radio broadcasting to Cuba, though no particular station or effort was identified.

The BBC Monitoring Service (now BBCM), well known for not missing very much when it comes to activity on shortwave, made no mention of Radio Caiman during the entire first six months it was on the air! This interesting fact is made doubly so once one becomes aware of that mot of the BBCM Western Hemisphere information is (or at least was at that time) supplied by the U.S. government's Foreign Broadcast Information Service (FBIS) a

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July 6, 1987
YEAR 29 OF THE REVOLUTION

Garry L. Dexter
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Lake Geneva, WI 53147
U.S.A.

Dear Friend,

Thank you for your correspondence. We're glad to learn you're interested in keeping in touch with us.

We invite you to listen to our broadcasts and, whenever you catch up with our signal please, send us your reception report and comments which will always be appreciated.

We would also be glad to answer any questions you might have about Cuba, and to send you a selection of Cuban publications. So, let us hear from you again.

Sincerely,

Rolando Peláez
Head of Correspondence Dept.

P. S. Sorry but, we don't have any information on "Radio Caiman". We only know it's a counterrevolutionary radio station but, we don't know any more about it.

IM12



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We really appreciate in its value your interest in our efforts in favor of the liberation of Cuba and hope your understand and approve them.

Sincerely yours,

Movimiento Insurreccional Martiano.

Luis A. Crespo,
Secretario General.

TE: Enclosed please find your Certificado de Acreditación properly processed.

Even Radio Havana Cuba claimed not to know anything about Radio Antorcha Martiana (Torch of Martii) sent a letter, acknowledging reception.

part of the CIA. When asked, the FCC did say they had observed Radio Caiman's signal and said the signals were coming from Central America.

At one point Radio Caiman was broadcasting from early morning until late at night, but that schedule was cut back some time ago. The station's currently schedule is: 1200-1530, 1700-1800, 2300-0200 on 99650. There is no known address.

Radio Marti went on the air mid-1985 as the U.S. government's surrogate broadcaster to Cuba, along the same lines as Radio Free Europe/Radio Liberty. Radio Marti broadcasts via the Greenville, North Carolina transmitters of the Voice of America.

The schedule runs 0300 to 0600 (Monday through Friday) on 9525, 0600-0900 (Monday through Friday) on 6030, 0900-1200 on 6030, 1200 to 1400 on 9590, 1400 to 2300 on 11930 and 2300 to 0300 on 9525. The address is Radio Martii, Office of Cuba Broadcasting, Washington DC 20547.

Other Voices

La Voz de Alpha 66, operated by the Alpha 66 group, had two or three clandestine transmitters on the air over the years, each closed down by the FCC. The last ended in May, 1989. This version had been the most consistent, most stable (on 666 kHz) and most widely heard. The station was run by Dr. Diego Medina who operated the equipment from a Ford van. After the last FCC raid some press reports

speculated that the Reagan Administration had turned a blind eye to the Alpha 66 operation, however the then-new Bush administration had warned the group to stop broadcasting. Not many months after the FCC bust, La Voz de Alpha 66 began broadcasting via WHRI. The group claims to have a large and active underground within Cuba. The Alpha 66 organization is described as one of the more hard-line exile groups. Its programs include comments by the organization's secretary-general, Dr. Andres Nazario, and interviews by producer Dr. Diego Medina. It is on Mondays to Fridays, at 2300 to 0000 on 9495 and 0800-0900 on 7355.

La Voz de la Junta Patriótica Cubana airs Monday, Tuesday, Wednesday, Friday, and Saturday at 2330-0000 on 15675. The Junta Patriótica Cubana organization was active with its own transmitter for a time back in the early 1980's, but was silent for many years before coming back on via a licensed broadcaster.

La Voz de Cuba 21 is on the air Mondays from 0100-0130 via WRNO-7355. Cuba 21 was formerly a part of the Cuba National Commission. Based in Puerto Rico, the program is aired live from there, via phone line. The frog sounds which can sometimes be heard in the background are "live" noises of the coqui—a small Puerto Rican frog vocalizing during nighttime hours. Apparently the program is done outdoors.

La Voz Del Veterano broadcasts Sundays 2100-2200 on 15675 via Radio Copan International in Honduras. It is pro-

duced by the Cuban American Veterans Association, made up of Cuban-American veterans of the U.S. military. The program focuses on the Cuban military, encouraging members to stop supporting Castro.

Colegio de Pedagogos Cubanos is produced by a group of former teachers, many of whom now teach in the Miami area. The program includes some emphasis on teaching Cuban youngsters. It airs Tuesdays and Fridays from 2000-2100 on 15675.

La Voz del Caribe is probably the most subtle of the anti-Castro type programs. The focus is on news, especially of Latin America. It also includes reports from Radio Moscow's Latin American service, as well as items the producers have picked up from their monitoring of shortwave broadcasts. The sponsoring group, Caribe Info Press, favors a dialogue with Castro, moving towards free electronics. This one is on the air Sundays at 2200-2300 on 15675.

Radio Roquero broadcasts rock 'n roll for those born after Fidel's revolution (which some estimate is now more than half the population). The Cuban government calls them delinquents, while they call themselves roqueros, and emulate North American and European fashions. The program was originated by Victor Garcia-Rivera, a young Cuban exile who headed up the underground music group "The Ege" in the 1980's (it's their version of the Cuban National Anthem heard on the program, although their name for it is "Rational Anthem"). The lyrics are rather different from the official version! The

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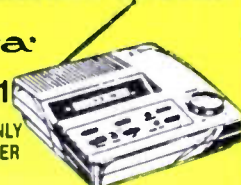
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CIRCLE 115 ON READER SERVICE CARD

show carries a lot of "mainstream exile music" and airs Saturdays at 2200-2230 on 15675. Garcia-Rivera's address is 5862 Windmere Lane, Fairfield, OH 45014.

(Note: where addresses are not given for the above programs, reception reports may be sent in care of Radio Miami International, 8500 SW 8 Street, Suite 252, Miami, FL 33144.)

Keeping the Cuban Clandestine Watch

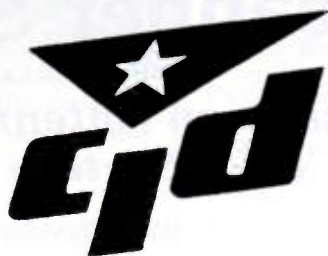
Ironically, now that most people feel we are closer than ever to the end of the Cuban game, times have gotten tough for many of the anti-Castro broadcasters just when one would suspect they would want to be firing all their verbal guns. Outside backers seem to feel the fall of Fidel is inevitable—and fairly soon—so putting more money into broadcasting to help achieve that end isn't necessary. Knowledgeable sources indicate the U.S. government also feels that way, at least to some degree. CIDs funding (some of which is said to have come or still come from the U.S. government) seems to have been cut back and CID is busy appealing for money.

To catch new entries in this ever-changing line-up, monitor the schedules and broadcast activities of WRNO, WHRI, and WWCR, as well as Radio Copan International (15675). These stations are the main carriers of the legitimate (i.e., bought and paid for) anti-Castro broadcasts. A long list of programs has come and gone since this "buy the time to tell your story" approach became popular a few years back. That pattern is sure to continue as the budgets of anti-Castro organizations fluctuate, or as many such groups learn of the opportunity and decide to try their hand.

When Radio Miami International airs regularly on 9955 (if it hasn't already), expect that a good portion of its schedule will be anti-Castro programming from various groups. The schedule will very likely contain some new programs from groups not currently represented on shortwaves.

Actual unlicensed clandestine broadcasts by anti-Castro organizations are much fewer in number than they were a decade or more ago and, from that standpoint, the whole Cuban radio scene is less exciting than it was. But a bit of this kind of freelance activity occurs every now and again. Prowl the general area between 7000 and 7100 during the hours from 0000 to around 0300. You never can tell what might turn up. If you can keep an eye or ear on what's happening on the island you may be able to pick up on the events that could trigger some genuine clandestine action.

The author wishes to thank Jeff White of Radio Miami International for supplying background notes on the groups whose programs are currently being placed by RMI. ■



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Ref: Rye Canyon Antenna Lab File #870529

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27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
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27.315	1.95	57
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Scanner Super Beam

Here's an Antenna that will Increase Base Station Range—Build it!

BY DENNIS P. BLUM, KA7AWD

Living in a rural area, my 50 channel scanner had no problem keeping up with the local action, in fact it was rather "under-worked." The squelch circuit would open up on a channel in Tucson or Phoenix (both over 150 miles away) but the audio was always down in the "mud." If I could only add more gain—maybe a preamp or high gain antenna. After looking over all available literature, any amplifier I found was either out of my price range or was limited to one or two bands. The search for an antenna was even more frustrating, as high gain vertically polarized units were commercial items only, and once again out of my price range.

Then it hit me—that old 30 element television antenna behind the garage! If I repaired the broken elements and mounted it vertically (most scanner action is vertically polarized), it just might work. Televi-

sion channels 2 through 13 are in the range of 55 MHz to 210 MHz and the TV antenna covered UHF also, going all the way to 885 MHz.

I used a length of RG58/U for the down lead which matched my scanner's input impedance and a 75 to 300 ohm TV antenna matching transformer to take care of the antenna end (see Figure 1). The transformer does not provide a perfect match, but the performance is still outstanding.

How well does it work? Well, the old scanner isn't "under-worked" now! It picked up over 25 channels as the antenna pointed towards Phoenix. It's so directional you might want to add an antenna change-over switch to retain "omni," while using your old vertical. I have a few new stations that are down in the "mud" now, maybe a VHF/UHF mast mounted TV pre-amplifier would do the trick!

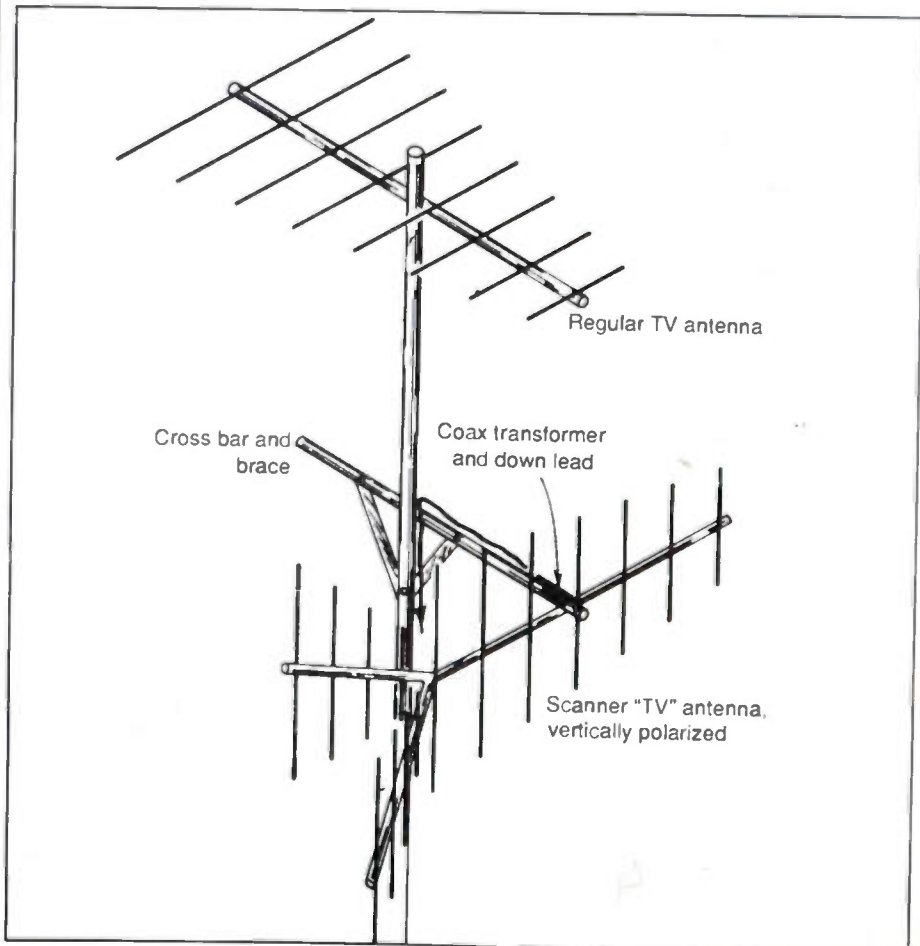


Figure 1. Typical installation.

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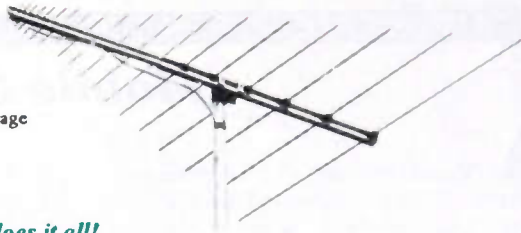
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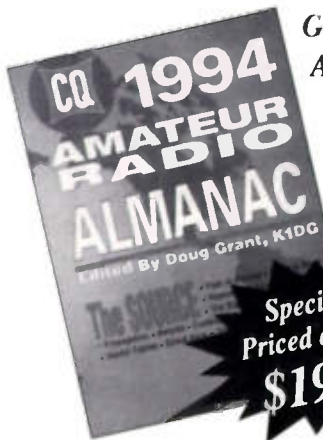
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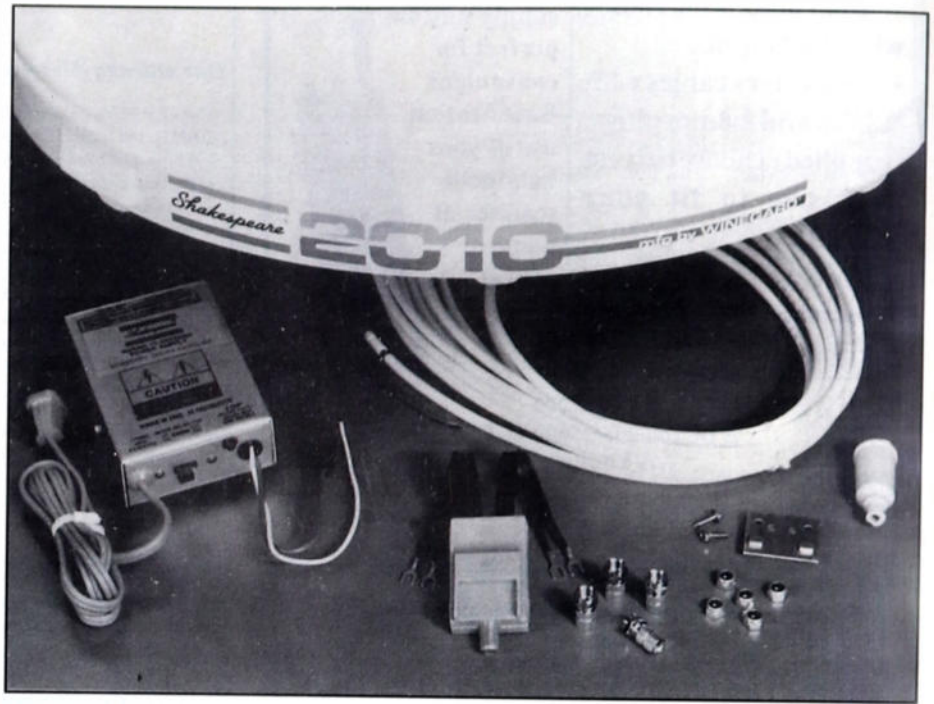
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Mobile Scanner/TV Antenna

An important part of any emergency communications command post is local television reception. Since most news agencies utilize live video of disaster scenes, emergency personnel can get a bird's eye view of the entire disaster area just by tuning in the local news channel. But sometimes picking up the local news channel from a mobile command post is difficult. Rabbit ears are out, so the next option is an externally-mounted antenna system.

Conventional home-style aluminum Yagi antennas don't hold up well on the top of tall command post vehicles. The relatively lightweight aluminum elements could tangle with other antennas on the roof, or many times get wiped off completely by overhead tree branches. Ask any RV owner how many times they have replaced conventional home-style TV antennas from atop their coach.

Omnidirectional hoop antennas have been used unsuccessfully for 360 degree FM radio and TV reception. It's not that these antennas can't pick up the signals, but they pick up too much signal in too many directions. Since hoop antennas are omnidirectional loop devices, multi-path



Try and mount the television antenna far away from any rooftop transmitting antenna to avoid desense of the incoming television signal.



The rocker switch allows the beam to turn left or right for the best reception.

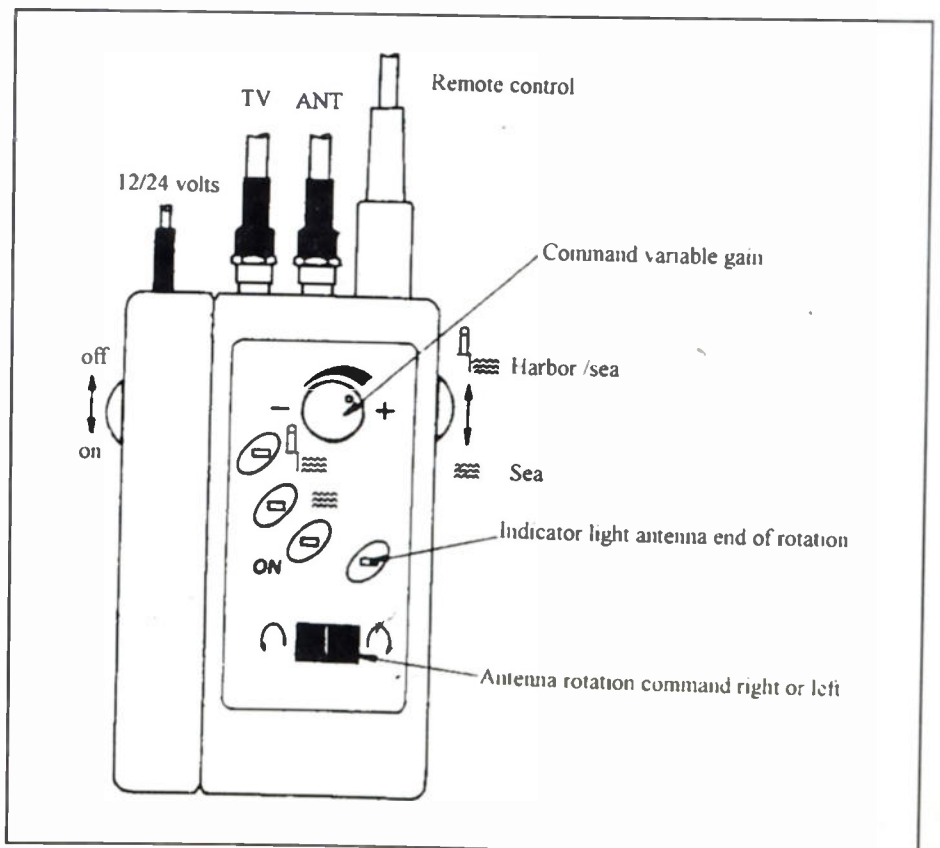
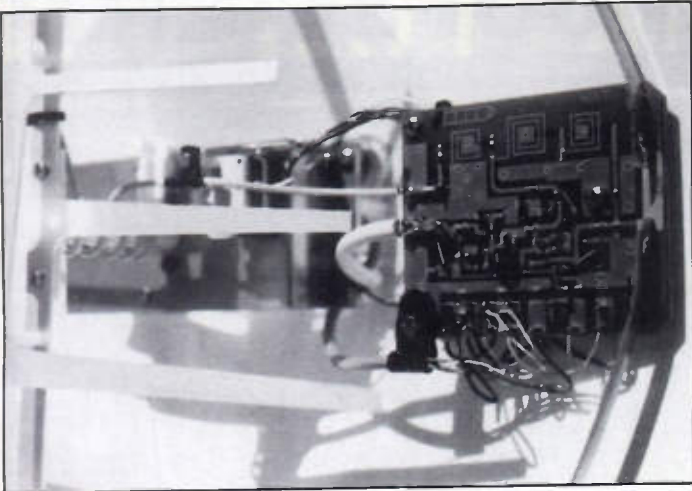
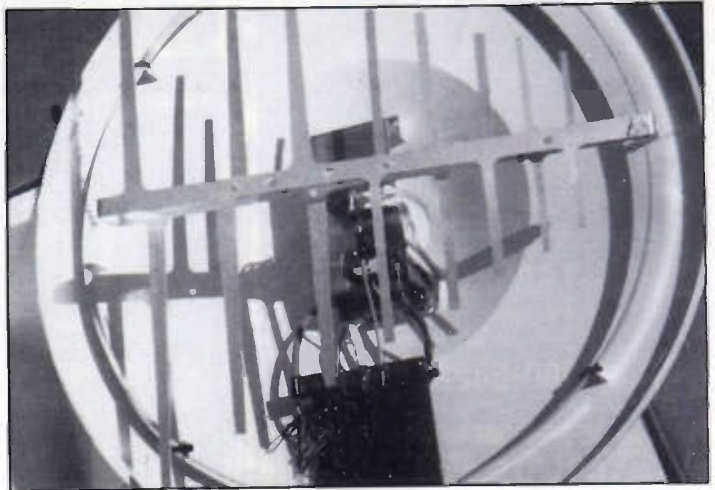


Diagram displaying rocker switch.



Weatherproof preamplifier seen on right side of antenna. The circuit board is coated with a weatherproof sealer.



The internal beam is rotated by the motor drive assembly in the center base of the Yagi. Note the omni directional loop surrounding the beam.

"ghosting" usually occurs when attempting to pick up TV stations in any urban area characterized by multi-path reflections. If you are out in the open with no buildings or mountains near you, the omnidirectional TV antenna may work fine.

A relatively new command post mobile FM/TV antenna system has met with rave reviews. "Inside the small white radome is both a circular loop antenna as well as a tiny Yagi antenna, and this gives us the best of both worlds for FM and TV reception," comments Bill Alber, an emergency communications specialist. "If we are out in the clear, we go omni—but if we need to reduce ghosting, we switch over to the Yagi elements and electronically rotate it for best reception," adds Alber.

This two-in-one, rotating, directional, and omnidirectional TV/FM antenna is imported from Europe by specialty antenna manufacturer Dantronics, Inc. (Boca Raton, Florida; 407/368-1116). The unit operates on 12 volts DC, and features a weatherproof white plastic radome that encapsulates the inside omnidirectional loop and directional Yagi antenna system. During our trials of the MAT-220 antenna system, we were able to pick up distant TV stations as far as 80 miles away on the directional antenna, and 50 miles away on the loop. A flick of the switch alternates between omni or directional capabilities, and push buttons allow you to steer the VHF/UHF antenna in any direction for best reception and minimum ghosting.

During our tests, we found the adjustable gain 12 dB to 32 dB amplifier an important feature to "dial in" just the right amount of gain for best picture reception. We even split off the UHF side of this amplified antenna system, and found that the adjustable pre-amp worked perfect in capturing public safety communications on 150 MHz, 460 MHz, and 850 MHz with the programmable scanner. The 72 ohm impedance of the antenna system matched our scanner perfectly, and adjustable gain allowed us to pull in signals on the direc-



More TV antennas for emergency communicators.

tional antenna that we could barely hear on the dedicated scanner whip. The only problem is that most scanner signals are coming in vertical, and this antenna uses a horizontal Yagi for reception. Even though this is cross-polarized reception on the scanner radio, the horizontal antenna sys-

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CIRCLE 5 ON READER SERVICE CARD

Popular Communications invites readers to submit, in approximately 150 words (more or less), how they got started in the communications hobby. They should preferably be typewritten, or otherwise easily readable. If possible, a photo of the submitter should 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 N. Broadway, Hicksville, NY 11801.

Our September Winner

This month Francisco Garcia writes us from Valencia, Spain. Though he is from a foreign country, his story may not differ from yours:

"I started in radio communications back in the early 1980's when my parents bought me a Super Star 360 CB rig, which I still own. I have become very keen on different aspects of radio since first learning short wave on an old 1940's vacuum receiver my grandparents gave me. I enjoy monitoring with a handheld scanner, and I am DXing through ham communication. Currently I

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Un paso más.

POST MFA

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- SSB
- AM

am trying to understand packet radio, and I hope I am able to learn SSTV, FAX, satellites, and how each works!

"Through the years I have been active in investigating on wire antennas, mainly dipoles. Though my English is not good, I have enjoyed many hours improving it on the radio, mostly with English and American operators. I am very fond of studying the radio phenomenon, especially the Citizen's Band One

"Presently I collaborate on an important monthly CB publication in Spain called *Correo C.B.*, which has given me lots of satisfaction. This includes one exciting time last year when I interviewed Al Gross, known as the 'Father of CB,' or as he calls himself, 'CB Number One.'

"I don't like bullfighting, but this hobby is just as interesting. I hope I can win a subscription to *Popular Communications*."

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CALIFORNIA, STATE OF	WZR248	42.5400	FB	KIB954	463.0000	FB
CALIFORNIA, STATE OF	WZR248	72.2200	FX2	KIB954	463.0250	FB
CALIFORNIA, STATE OF	KME385	75.7500	FX1	KIB954	463.0500	FB
CALIFORNIA, STATE OF	KME385	75.9600	FX1	KIB954	463.0750	FB
CALIFORNIA, STATE OF	KSO945	154.9200	FB	KIB954	463.1000	FB
CALIFORNIA, STATE OF	WNBV336	155.4750	FB	KIB954	463.1250	FB
CALIFORNIA, STATE OF	WNBV336	155.4750	FB	KIB954	463.1500	FB
CALIFORNIA, STATE OF	WNBV336	155.4750	FB	KIB954	463.1750	FB
800MHZ PUBLIC SAFETY						
CALIFORNIA, STATE OF	KNBG973	857.7375	FB2	WZJ219	156.2400	FB2
CALIFORNIA, STATE OF	KNEM203	857.9375	FB	KA48363	159.0150	MO
CALIFORNIA, STATE OF	WNNS451	858.2625	FB2			
CALIFORNIA, STATE OF	WNNS451	859.2625	FB2			
CALIFORNIA, STATE OF	WNNS451	860.2625	FB2			
CALIFORNIA, STATE OF	KNBG973	860.7375	FB2			
CALIFORNIA, STATE OF	WPBO561	867.5375	FB2			
FIRE						
CALIFORNIA, STATE OF	KPC41	1600	FX1			
CALIFORNIA, STATE OF	KPC41	1600	FX1			
CALIFORNIA, STATE OF	KOR617	1600	FB2			
LOCAL GOVERNMENT						
CALIFORNIA, STATE OF	WNLK418	37.2600	FB2			
CALIFORNIA, STATE OF	WNLK418	153.7550	FB2			
FORESTRY CONSERVATION						
CALIFORNIA, STATE OF	WNJZ478	44.6400	FB2			
CALIFORNIA, STATE OF	KWE503	44.8000	FB			
CALIFORNIA, STATE OF	KWE503	44.8000	FB			
CALIFORNIA, STATE OF	KWE503	44.9600	FX1			
CALIFORNIA, STATE OF	KBM647	151.2500	FB2			
CALIFORNIA, STATE OF	KBM647	151.3550	FB2			
CALIFORNIA, STATE OF	KBM647	151.3850	FB2			
CALIFORNIA, STATE OF	WNJZ479	151.4150	FB2			
CALIFORNIA, STATE OF	KVY51	159.2700	FX1			
CALIFORNIA, STATE OF	KVY51	159.3000	FX1			
CALIFORNIA, STATE OF	KVX90	159.3300	FX1			
CALIFORNIA, STATE OF	KVY51	159.4050	FX1			
CALIFORNIA, STATE OF	WGC761	169.5000	FXO			
CALIFORNIA, STATE OF	KO093	171.9250	FXO			
HIGHWAY MAINTENANCE						
CALIFORNIA, STATE OF	KAE7576	453.8500	FXO			
CALIFORNIA, STATE OF	WGU627	47.2000	FXO			
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COUNTY GOVERNMENT						
POLICE						
DEL NORTE, COUNTY OF	WCL735	154.8150	FX1			
FIRE						
DEL NORTE, COUNTY OF	WNMG296	154.0100	FX1			
DEL NORTE, COUNTY OF	WNGY257	154.2500	FB			
DEL NORTE, COUNTY OF	WNMG296	154.4150	FB2			
DEL NORTE, COUNTY OF	WNGY257	154.4450	FB			
LOCAL GOVERNMENT						
DEL NORTE, COUNTY OF	WNGN647	39.8200	FB			
DEL NORTE, COUNTY OF	KSS224	153.9800	FB2			
DEL NORTE, COUNTY OF	WXM691	154.0850	FB			
DEL NORTE, COUNTY OF	WGP60	155.0850	MO1			
SPECIAL EMERGENCY						
DEL NORTE, COUNTY OF	WCL656	462.5250	FX2			
DEL NORTE, COUNTY OF	KIB954	463.0000	FB			
DEL NORTE, COUNTY OF	KIB954	463.0250	FB			
DEL NORTE, COUNTY OF	KIB954	463.0500	FB			
DEL NORTE, COUNTY OF	KIB954	463.0750	FB			
DEL NORTE, COUNTY OF	KIB954	463.1000	FB			
DEL NORTE, COUNTY OF	KIB954	463.1250	FB			
DEL NORTE, COUNTY OF	KIB954	463.1500	FB			
DEL NORTE, COUNTY OF	KIB954	463.1750	FB			
HIGHWAY MAINTENANCE						
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CRESCENT CITY						
FIRE						
CRESCENT FIRE PROTEC	WNKJ623	154.2500	FB			
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CRESCENT FIRE PROTEC	WNKJ623	154.4450	FB			
LOCAL GOVERNMENT						
CRESCENT CITY, CITY OF	KD790	156.0000	FB			
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DEL NORTE AMBULANCE INC	WPC896	155.1750	FB			
DEL NORTE UNIFIED SCHOOLS	WNLY9708	155.2800	FB			
SUTTER COAST HOSPITAL	WNQD425	155.2350	FB			
SUTTER COAST HOSPITAL	KNDV810	463.0000	FB			
SUTTER COAST HOSPITAL	KNDV810	463.0250	FB			
SUTTER COAST HOSPITAL	KNDV810	463.0500	FB			
SUTTER COAST HOSPITAL	KNDV810	463.0750	FB			
SUTTER COAST HOSPITAL	KNDV810	463.1000	FB			
SUTTER COAST HOSPITAL	KNDV810	463.1250	FB			
SUTTER COAST HOSPITAL	KNDV810	463.1500	FB			
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KLAMATH RIVER						
KLAMATH FIRE PROTECTION DIST	KNAI398	153.7700	FB			
SMITH RIVER						
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MC ALIOTO FISH CO INC	WHU798	158.9000	FB			
IF AMERICAN DETENTION SERVICES	WNM0243	151.7150	FB			
IF ARCATIA REDWOOD COMPANY	WNB01	154.5400	FB			
IF ARCATIA REDWOOD COMPANY	KMB577	48.8400	FX1			
IF ARCATIA REDWOOD COMPANY	KMB577	48.1200	MO			
IF ARCATIA REDWOOD COMPANY	KMB577	49.2000	FB2			
IF ARCATIA REDWOOD COMPANY	KMB577	451.7125	MO			
IF ARCATIA REDWOOD COMPANY	KMB577	458.7125	MO			
IF BAKER CHOPPING	KAE7376	153.3950	MO			
IF BAKER GALE	KD22580	153.3950	MO			
BA BER TEC BROADCASTING INC	WLP748	947.8750	FX			
BA BER TEC BROADCASTING INC	WLP748	948.1250	FX			
IF BETTENDORF TRUCKING	WNOC678	153.2750	FB4			
IF BETTENDORF TRUCKING	WNOC678	158.4150	FX1			
IF BETTENDORF TRUCKING	WNO678	159.5100	FX1			
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BY CHUCK GYSI, N2DUP

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If you are planning on doing a lot of scanning over the long winter months, now's the time to take some action. When the biggest winter storm of the season blows your way, you don't want to miss any communications. By taking a few minutes now during the relatively mild fall temperatures, you can prevent antenna failure when you need your system the most.

If you have one of the many outside scanner antennas, let's get up on the roof, climb the tower, or lower the mast and check the connections. Summer rains may have entered your coax connectors and caused water damage. The connections may be looking corroded, or even rusty. If that's the case, clean up the antenna end of things and install a new connector on the cable. Make sure the cable is still usable, too. If there's any doubt, replace as many elements of your antenna system as necessary. If the antenna system doesn't work, you won't hear what you should when you need the information the most.

The fall is the best time for antenna work, because it isn't too hot and it's just starting to cool off. Take advantage of the weather and make sure you don't miss any signals this winter.

From the mailbox this month comes a letter from Howard Glaser of North Merrick, New York, who is interested in buying a scanner and getting it programmed for police and public service agencies in New York, New Jersey, Pennsylvania and Ohio while he is traveling. I guess the easiest answer is it would be too difficult to give explicit frequencies to monitor. Each time you travel as little as 10 or 20 miles down an interstate highway or toll road, you may be in a new patrol zone that requires monitoring a different frequency. Since I don't know the highways you will be driving or exactly where in the listed states you will be rolling through, it's hard to tell you what frequencies to monitor.

A good source for motoring scanner listeners is *Monitor America*, available from many POP'COMM advertisers. This 800-plus-page directory details state police and highway patrol radio systems for every state and many maps showing patrol and radio zones also are included. If you travel to any extent with your scanner, you'll want to have a copy of this guide at your side. By going through directories such as these, you can pull out the appropriate frequencies you need to monitor for the various areas you will be traveling through. In addition to dispatch frequencies, be sure to monitor car-to-car channels for radar traps as well as mobile extender frequencies that indicate a trooper is nearby.

Bob Owens of Ashley, Pennsylvania,



Here's the well-equipped listening post of Mike Ehrhardt, Registered Monitor KNY2AEO of Alden, New York. Mike likes to listen to everything from AM broadcast band DX to satellite phone calls, and lots of FM DX. His scanning receivers include the following: AOR AR950, Regency Turbo Scan, Uniden Bearcat 210XLT and 800XLT and Icom R7100. Mike's been monitoring since he was 13 years old; he's 38 now.

says he owns Uniden Bearcats 855XLT, 100XL and 220XL, as well as an older JIL SX-200. Here's a list of northeastern Pennsylvania frequencies he likes to monitor: 155.535 and 155.475, Ashley police; 154.415, Ashley fire; 154.145, Ashley fire pager; 155.340, EMT pager; 154.845, Wilkes-Barre police F-1; 154.800, Wilkes-Barre police F-2; 155.940, Wilkes-Barre fire; 155.505 base and 155.850 mobile, Pennsylvania State Police Wyoming barracks; 453.325, state prison guards; 43.70, Martz bus; 168.525, Veterans Affairs Medical Center; 155.160, Luzerne County ambulance to hospital; 155.025, Luzerne County ambulance pager; 155.700, Luzerne County police alert; 155.535, Luzerne County police—east; 155.565, Luzerne County police—south; 155.595, Luzerne County police—west; 159.045, Pennsylvania Turnpike northeast extension; 154.995, Kingston police dispatch; 120.100, Wilkes-Barre-Scranton International Airport tower; 126.300, Wilkes-Barre-Scranton International Airport arrivals; 124.500, Wilkes-Barre-Scranton International Airport departures.

Bob adds that he's been a scanner hobbyist since 1967 and likes to keep lists of frequencies for stuff like taxis, buses, railroads, road departments, TV stations, and newspapers.

We received a copy of a newsletter put out by the Houston Area Scanner and Monitoring Club. While there wasn't any meat to their newsletter (no frequencies!), they have some promise if the members start contributing (sounds like a common problem among club newsletters). Apparently the club is putting together a pager notification system to alert other members when the scanning gets hot. There was no mention of dues or other fees in the newsletter sent to POP'COMM. If you want to find out more information, write to the club president, Glen Dingley, at HASMC, 909 Michael St., Alvin, TX 77511-2513.

Speaking of pager notification systems, a group in the Toledo, Columbus, Cleveland, Akron/Canton/Youngstown, Erie and Pittsburgh areas in Ohio, Pennsylvania and West Virginia has formed. The northern Ohio and western Pennsylvania News Net system uses Motorola Advisor alphanumeric pagers and operates similar to a system described in the April 1994 edition of POP'COMM. Members of this new group will receive information on major incidents and severe weather warnings for their area. Members also will be able to use the pager for personal alpha messaging.

Regional nets will be set up, so that participants will receive only information for their own area and won't be bothered by

out-of-the-area incidents. The areas planned include: Toledo; Columbus; Cleveland-Akron-Canton-Youngstown; Erie; and Pittsburgh-Wheeling-Weirton. Persons interested in participating or becoming dispatchers for the system should send a self-addressed, stamped envelope to: R.E. Christian, P.O. Box 12763, Pittsburgh, PA 15241-0763, or reply via the Internet at rconson!pagenet@telarama.pgh.pa.us and a message will be sent in reply.

Carl R. Hartzman, Registered Monitor KMI8KY of Marlette, Michigan, says he lives in the "thumb" of Michigan and is located in the middle of a four-county area. Because of his location, he can hear most scanner activity for the four counties. He's new to scanning, having started about two years ago. Carl emphasizes that he is a "low-budget listener" in using his Uniden Bearcats 560XLT and 100XL. He hopes to put up an outdoor antenna soon to increase his listening range a bit.

Carl also passes along some frequency information for his area: 46.42, Marlette fire; 39.86, Sanilac County sheriff dispatch F-1; 39.74, Sanilac County sheriff F-2 and Marlette police F-2; 39.42, Sanilac County repeater; 37.98, Sanilac County roads; 42.58, Michigan State Police F-1; 42.74, Michigan State Police F-2; 39.80, Lapeer County police dispatch F-1; 39.54, Tuscola County sheriff F-4; 46.22 and 46.32, Tuscola County fire fireground; 151.055, Tuscola County roads; 155.085, Caro Regional Mental Health Center paging; and 453.750, Caro Regional Mental Health Center handhelds.

Charles Biebl of Baltimore, Maryland, reads POP'COMM in Braille. He inquires whether he can get his Uniden Bearcat 300 scanner reconditioned so he can sell it, because it doesn't have 800 MHz. There are only a handful of shops that will do something of that nature, Charles. However, after you factor in the cost to perform the work and any necessary parts, you won't make back what the scanner may then be worth to you. You probably will do better selling the scanner "as-is" and let the purchaser make any adjustments, if necessary. You may find someone who is just looking for a cheap scanner to keep in their garage or basement and if it has a few problems, it doesn't bother them.

In any event, Charles says that he used to take the Bearcat 300 with him to Ocean City, Maryland, but apparently the services there have switched to the 800 MHz band. Since the BC300 won't receive the 800-MHz band, Charles is using his Regency R4030 scanner (same as the Uniden Bearcat 200XLT) to listen to Ocean City's 800 MHz trunked radio system. Charles complains that on these systems there's no way to separate the police calls from the fire calls and from other city departments. There's not much you can do about that, but you will have an increased awareness of what goes on around you. And in many major incidents, you will find other city

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CIRCLE 8 ON READER SERVICE CARD

departments and agencies get involved, too. For instance, at a large fire, you may be able to hear water department workers increasing water pressure in the area for the fire department, animal control trucks assisting police, or streets department crews responding to an accident scene to sweep up broken glass. Instead of taking a negative view of trunking, look at it as an enhancement to knowing what goes on around you.

Tim Ravenscroft of Trenton, New Jersey, writes to find out why the frequency of 170.150 is used for fire calls in his area, but seems to be a news media frequency in some other areas. That's a very good observation, Tim. The frequencies 166.250 and 170.150 may be assigned to fire departments within 150 miles of New York City only. The frequencies are in use primarily in northern New Jersey, Connecticut and Philadelphia. The Philadelphia Fire Department probably is the biggest user of the two frequencies; it uses 166.250 as a repeater input frequency for repeaters on

170.150. The system is used there for rescue and paramedic service.

However, in the rest of the nation, radio and TV stations get to use 166.250 and 170.150 for remote broadcasts. In many areas, a station may use both of the frequencies in one way or another. The usage of those frequencies may be in conjunction with channels in the 161-MHz band (161.640, 161.670, 161.700, 161.730 and 161.760) stations also may be licensed on. For instance, in my area, a radio station uses 166.250 for the actual remote broadcasts, but uses 161-MHz channels for cuing on that system.

What are your favorite frequencies? Do you have any scanner-related questions? Do you have any listening tips worth passing along to your fellow readers? How about sending in a photo of your listening post or antenna farm? Write to: Chuck Gysi, N2DUP, Scanning VHF/UHF, Popular Communications, 76 N. Broadway, Hicksville, N.Y. 11801-2909, or Email to scan911@aol.com through the Internet. ■

SIMPLE ANTENNAS AND ACCESSORIES FOR SIGNAL IMPROVEMENT

Antennas for DXing Jupiter (The Planet!)

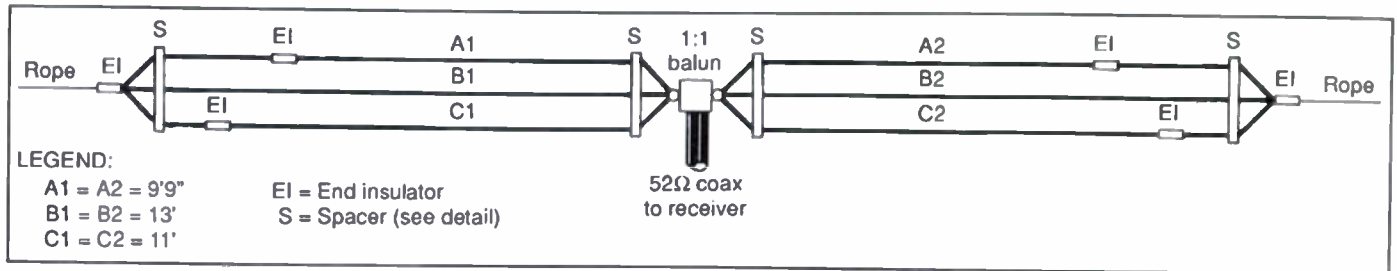


Figure 1. Wideband dipole optimized for 18-24 MHz.

For many centuries astronomers scanned the heavens with optical telescopes, and still do. But today, astronomers have many more tools in their bag, and one of them is radio astronomy. The field of radio astronomy emerged in the 1930s and 1940s through the work of Grote Reber and Carl Jansky. Even while World War II progress was made, many tens of thousands of operators were listening to frequencies from DC to near daylight (well, actually, the microwaves). British radar operators noted during the Battle of Britain that the distance at which they could detect German aircraft dropped whenever the Milky Way was above the horizon.

Although there is a lot of amateur radio astronomy being done, most of it requires microwave equipment with low-noise front-ends. However, there are several things that almost anyone can do. The VLF receiver mentioned previously in this column (and for which 57 readers availed themselves of my offer for the schematic diagram) can track solar hiccups. Another alternative is the planet Jupiter.

Jupiter is a bodacious radio source (next to the Sun, it's the strongest in the sky). It produces noise-like signals over the spectrum 5 to 40 MHz, with peaks between 18 and 24 MHz. One source claims that the radio signals come from massive storms on the largest planet's surface, apparently triggered by the transit of the jovian moons through the planet's magnetic field. The signals are plainly audible on the HF band any time Jupiter is above the horizon, day or night. However, in order to eliminate the possibility of both local and terrestrial skip signals from interfering, Jupiter DXers prefer to listen during the hours 2100 (or whenever the maximum usable frequency, MUF, drops significantly below 18 MHz) and local sun-up. Listen to the amateur 17-meter or 15-meter bands. If you hear zilch activity, then it's a good bet that the MUF has dropped enough to make listening worthwhile. Even during the day, however, it is possible to hear jovian signals, but differentiating them from other signals or solar noise.

So what do you need to DX Jupiter? It would help to have a decent radio receiver that works well over the range 18 to 24 MHz. Some cheaper radio receivers are not desirable, but most modern communications receivers are fine. The radio signals are rising and falling "swooshing" noises. The chances of receiving a signal from Jupiter are about one in six, according to several radio astronomers.

The antenna can be a simple dipole cut for the middle of the 18 to 24 MHz band, which is a 15-meter amateur radio band antenna. The antenna should be installed in the normal manner for any dipole, except that the wire must run east-west in order to pick up the southerly rising planet.

Figure 1 shows a broadband dipole that covers the entire frequency region of inter-

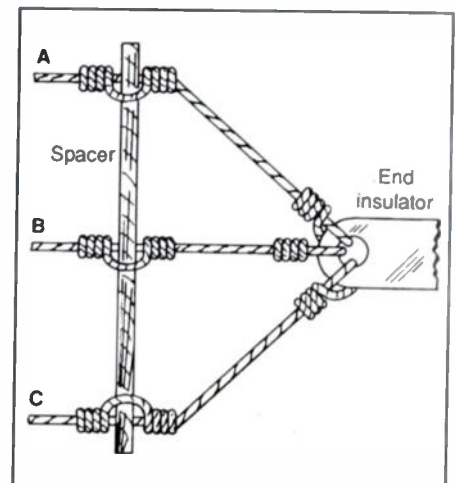


Figure 2. Detail for dipole spacers.

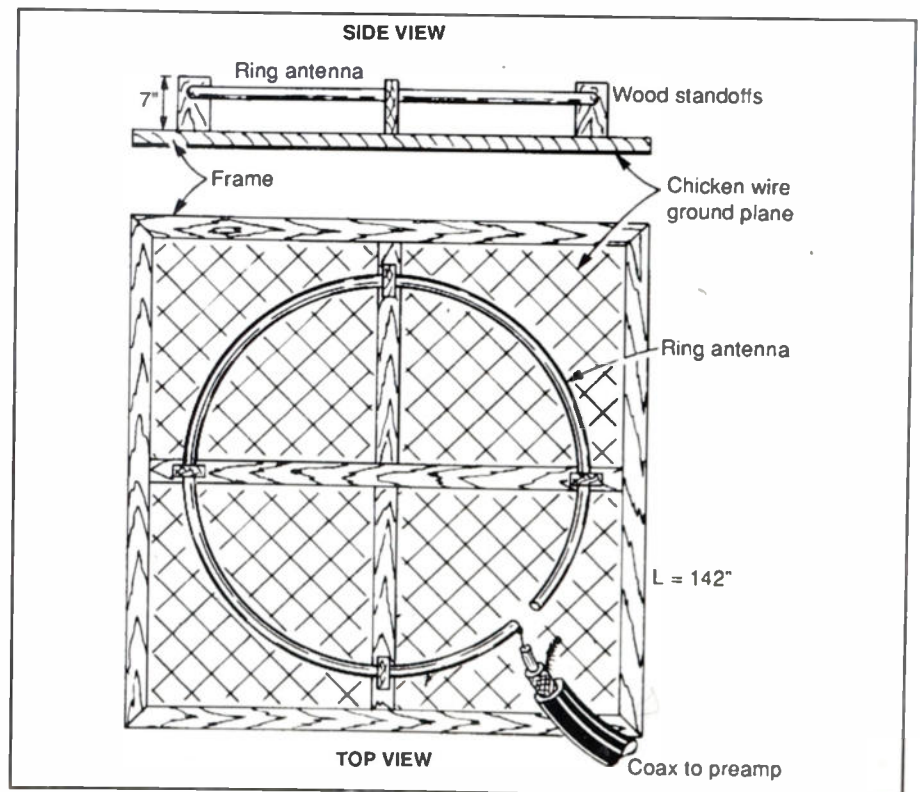


Figure 3. Ring radiator antenna.

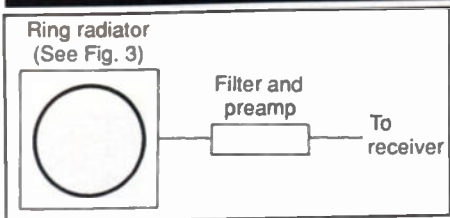


Figure 4. Connection of antenna into the system.

est (18-24 MHz) by paralleling three different dipoles: one cut for 18 MHz, one cut for 21 MHz and one cut for 24 MHz. There are several approaches to making this type of antenna. One is to use three conductor wire, and cut the wires to the lengths indi-

cated in Fig. 1. Another, which is the subject of Fig. 1, is to use a homemade spacer ("S") to spread the wires apart.

Figure 2 shows the detail of the spacer element. It is made from 1/4 or 3/8 plexiglass or lucite (although wood would do if it was strong). The overall spacer is eight inches long, with holes drilled at three points to accept the wire. Small pieces of antenna wire are used to solidify the mechanical connection. Each wire is wrapped around the antenna wire in front of, and behind, the spacer.

Another popular jovian radio antenna is the ring radiator shown in Figure 3. This antenna is a take-off on the DRRR transmitting antenna. It is made of a five-foot

diameter loop of soft drawn copper plumbing pipe. If this were a DRRR transmitting antenna, one might be advised to use pipe diameters up to two inches, but for our purposes 1/2-inch diameter pipe is sufficient ...and bends a lot easier.

The loop is mounted seven inches above a ground plane made of chicken wire, metal window screen or copper sheeting (or copper foil). The copper is best, but costs more, and turns an icky puke green after a couple weeks in the elements. The center conductor of the coaxial cable feedline is connected to one end of the ring radiator, while the coax shield is connected to the chicken wire ground plane.

The ring radiator antenna should have

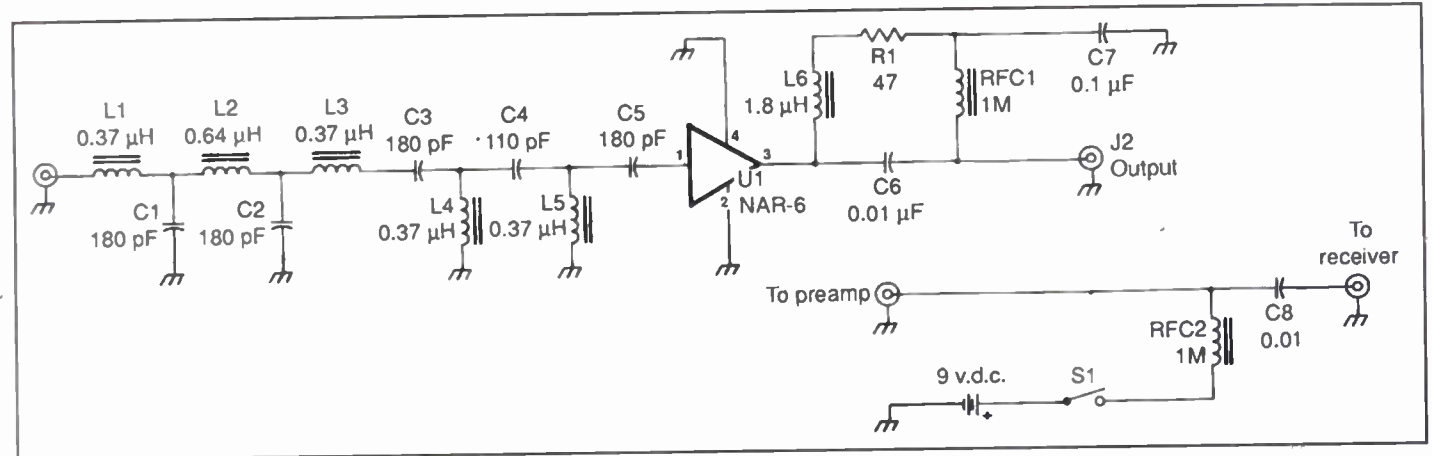


Figure 5. Filter/Preamplifier.

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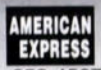
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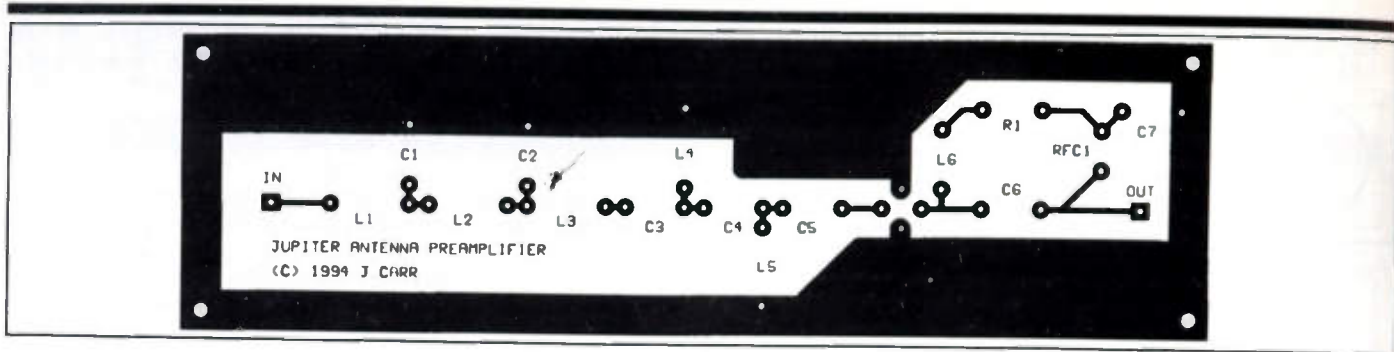


Figure 6. Printed circuit pattern.

a bandpass preamplifier. The preamp is needed because of the low pick-up of this kind of antenna, and that preamp should be mounted as close as possible to the antenna. The bandpass characteristic is obtained by filtering. The idea is to get rid of terrestrial signals in the adjacent bands. The typical preamplifier is broadbanded (which is what we want), so it will pick up not only the desired signals but others as well (which is what we don't want). Even a 5-watt C.B. station a few blocks away can drive the preamplifier into saturation, so it's wise to eliminate the undesired signals before they get into the preamplifier.

For those readers who would like to try homebrewing the preamplifier/filter combination, the circuit in Figure 5 is offered. This circuit uses a 24.5 MHz low-pass filter in cascade with a 15.6 MHz high-pass filter. The preamplifier element is the Mini-Circuits MAR-6 low-noise preamplifier.

The MAR-6 is a MMIC device, and works from near-DC to more than 1,000 MHz. A printed circuit pattern for the preamplifier is shown in Figure 6, although the larger sizes of Radio Shack perf-board (the kind with solder pads) will also work.

DC power to the preamplifier is supplied through the coaxial cable. The DC is blocked from affecting the MAR-6 output by C6, but passes to the power network through RFC1, R1 and peaking coil L6. At the receiver end of the coaxial cable a small, shielded DC power supply box must be provided (see inset to Fig. 5).

The capacitors used in the preamplifier are ordinary disk ceramic or silver mica units, and can be obtained locally. The values are: C1=C2=C3=C5=180 pF and C4=110 pF.

The inductors are wound on toroidal cores of #26, #28 or #30 enameled insulated ("magnet") wire. The cores selected

are the T-37-6 (YELLOW), 3/8-inch powdered iron type. The coils are as follows:

L1,L3,L4,L5	0.37 μ H	11 turns
L2	0.64 μ H	15 turns
L6	1.8 μ H	25 turns

Don't forget to scrape the insulation from both ends of the toroid inductors' wire, and then tin with solder, before attempting to solder the coils onto the printed circuit board, or perf board if you try to make it that way.

If you just want the MAR-6, then contact Ocean State Electronics, P.O. Box 1458, Westerly, RI 02891, 1-800-866-6626. To obtain the MAR-6 device, plus the printed circuit board, 47 ohm resistor, the capacitors and all six T-37-6 (YEL) toroid cores, write me at P.O. Box 1099, Falls Church, VA 22041. I will make them available postpaid for \$20 for a limited time. You have to supply the magnet wire.

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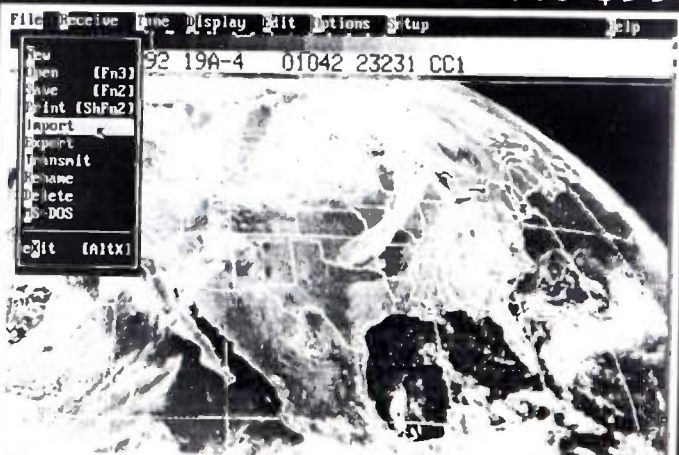
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2360	R. Maya, Guatemala	1130		6060	RAI, Italy	0300	II
2460	R. Alvorada, Brazil	0900	PP	6060	R. Nacional, Argentina	0500	SS
3205	R. Ribelrao Preto, Brazil	0000	PP	6095	Vatican Radio	0250	
3210	R. Mozambique	0300	PP	6100	R. New Zealand Int'l	0800	
3220	HCJB, Ecuador	0000	Quechua	6105	R. Universidad de Costa Rica	0300	SS
3220	Radio Orange, S. Africa	0400		6115	R. Union, Peru	0900	SS
3222	R. Kara, Togo	0600	FF	6120	R. Globo, Brazil	0900	PP
3230	R. Oranje, S. Africa	0400	EE/Afk	6130	CHNX, Halifax, Canada	0500	
3255	BBC, Lesotho	0300		6150	AWR, Costa Rica	0600	
3280	La Voz del Napo, Ecuador	1000	SS	6150	R. Record, Brazil	0030	PP
3290	R. Centro, Ecuador	1000	SS	6165	Swiss Radio Int'l	0530	
3316	SLBS, Sierra Leone	0600		6180	R. Nacional Mendoza, Argent.	0830	SS
3325	R. Maya, Guatemala	1100		6185	R. Educacion, Mexico	0600	SS
3340	R. Altura, Peru	1000	SS	6195	R. Yugoslavia	0100	
3356	R. Botswana	0400		6205	HCJB, Ecuador	0300	
3370	R. Tezulutlan, Guatemala	1100	SS	6235	R. Quisqueya, Dominican Rep.	0200	SS
3375	R. Nacional Sao Gabriel, Brazil	1000	PP	6245	Vatican Radio	0640	
3380	R. Chortts, Guatemala	1130	SS	6280	King of Hope, Lebanon	0400	AA
3385	Educadora Rural, Brazil	0930	PP	6305	La Voz del Cid, anti-Cuba	0600	SS
3925	R. Tanpa, Japan	1030	JJ	6900	V of Meteorology, Turkey	0530	TT
3985	Swiss R. Int'l	0600		7100	VOIRI, Iran	0028	s/on
3995	Deutsche Welle, Germany	0400	GG	7105	VOA via England	0330	
4409	R. Eco, Bolivia	0100	SS	7150	Capital Radio, S. Africa	0330	
4510	R. Paucartambo, Peru	1000	SS	7160	BBC via Singapore	1100	
4725	V of Myanmar	1100	Burmese	7190	R. Africa, Eq. Guinea	0500	s/on
4753	RI Unjang Pandang, Indonesia	1100	II	7200	Rep. of Sudan Radio	0300	AA
4760	ELWA, Liberia	0555	s/on	7215	TWR, Swaziland	0430	
4765	RTVC, Congo	0355	s/on, FF	7250	Vatican Radio	0600	
4770	R. Nigeria, Kaduna	0500		7255	V of Nigeria	0500	
4777	R. Gabon, Libreville	0500	FF	7265	Sudwestfunk, Germany	2200	GG
4780	Onda Musical, Dominican Rep.	0200	SS	7275	ELBC, Liberia	0655	s/on
4790	R. Atlantida, Peru	0200	SS	7325	BBC, England	0000	
4800	R. Lesotho	0400	vernacular	7345	Czech Rep. Radio	0700	
4810	Afrikaans Stereo, S. Africa	0300		7355	KNLS, Alaska	1300	
4820	LV Evangelica, Honduras	0300		7385	TWR, Monaco	0700	
4830	R. Tachira, Venezuela	0200	SS	7390	V of Broad Masses, Eritrea	0330	vernacular
4835	R. Tezulutlan, Guatemala	1200	local	7475	RTT Tunisienne, Tunisia	0500	AA
4845	R. Mauritania	0600	FF	9195	R. Omdurman, Sudan	0255	sign on, AA
4845	R. Fides, Bolivia	0130	SS	9280	WYFR via Taiwan	1400	CC
4865	La Voz del Cinaruco, Colombia	0100	SS	9400	R. Centras, Lithuania	1330	
4870	ORTB, Benin	0500	FF	9420	Voice of Greece	0130	GG/EE
4885	R. Clube do Para, Brazil	0830	PP	9435	Kol Israel	0500	
4890	Africa No. One, Gabon	0400	FF	9445	Voice of Turkey	2330	TT
4900	RTV Guineenne, Guinea	0600	FF	9475	R. Cairo, Egypt	0200	
4910	Zambia Broadcasting Corp.	0345	lang.	9480	TWR, Monaco	0730	
4915	R. Cora, Peru	1100	SS	9500	Trans World R., Swaziland	0330	
4920	R. Quito, Ecuador	0300	SS	9505	R. Record, Brazil	2300	PP
4930	R. Internacional, Honduras	0300	SS	9510	R. Romania Int'l	0200	
4935	R. Tropical, Peru	1000	SS	9510	R. Tashkent, Uzbekistan	1200	
4980	Ecos del Torbes, Venezuela	0300	SS	9530	R. Singapore Int'l	1100	
4990	R. Nigeria	0500		9535	R. Japan	1400	
5010	R. Garoua, Cameroon	0500		9535	Canadian Forces Radio, via RCI	0200	
5010	R. Populares, Ecuador	0200	SS	9540	R. Nacional Espana, Spain	0100	
5020	Solomon Is. Bc Corp.	0700		9540	R. Slovakia Int'l	0500	
5025	R. Rebelde, Cuba	0300	SS	9570	R. Portugal	0230	
5034v	RTV Centrafricaine, Central African Republic	0500	FF	9570	R. Romania Int'l	0230	
5045	R. Clube do Para, Brazil	0100	PP	9575	Radio Medi Un, Morocco	0730	FF
5055	TIFC, Costa Rica	0400		9580	R. Tirana, Albania	0230	
5056	RFO, Fr. Guiana	1000	FF	9580	Africa No. One, Gabon	2200	FF
5060	R. Nac. Progreso, Ecuador	0300	SS	9580	R. Yugoslavia	0000	
5075	Caracol, Colombia	0300	SS	9590	R. Netherlands via Bonaire	0500	SS
5131	R. Vision 2000, Peru	0100	SS	9600	R. Moscow, Russia	0430	
5895	Croatian Radio	0800		9610	R. Japan	1100	
5900	R. Vlaanderen Int'l, Belgium	0000		9615	KNLS, Alaska	0800	
5905	Swiss Radio Int'l, via Brazil	0100		9620	Spanish Nt'l Radio, via Costa Rica	0200	SS
5930	R. Prague, Czech Rep.	0000		9635	R. Portugal	0230	
5960	R. Japan, via Canada	0130		9645	TIFC, Costa Rica	0900	
5995	R. Melodia, Peru	0800	SS	9650	R. Korea, S. Korea, via Canada	1130	
6005	CFCX, Canada	0800	relay CICQ	9675	R. Japan via Fr. Guiana	0830	
6015	R. Austria Int'l, via Canada	0530		9685	R. Ukraine Int'l	0030	
6020	R. Netherlands	2330		9690	China Radio Int'l, via Spain	0300	
6030	R. Globo, Brazil	0900	PP	9695	Channel Africa, S. Africa	0500	
6040	R. Cl. Paranaense, Brazil	0800	PP	9700	R. New Zealand Int'l	0800	
6050	HCJB, Ecuador	0700	PP	9725	RAI, Italy	0050	
				9735	R. Nacional, Paraguay	0100	SS

Freq.	Station/Country	UTC	Notes	Freq.	Station/Country	UTC	Notes
9745	HCJB, Ecuador	0730		13750	AWR, Costa Rica	1200	s/on
9746	R. Bahrain	2130	AA	13750	Reshet Bet, Israel	1415	Yiddish
9750	R. Korea, S. Korea	1200		13760	R. Pyongyang, N. Korea	0000	s/on
9755	Radio Canada Int'l	0000		13830	Croatian Radio	1800	
9760	R. Tirana, Albania	0330	Alb.	15010	V of Vietnam	1200	
9765	V of Mediterranean, Malta	0630		15020	All India Radio	1400	
9770	V of UAE, Abu Dhabi	2200		15084	VOIRI, Iran	0100	Farsi
9779	Rep. of Yemen Radio	2100	AA	15095	R. Damascus, Syria	2030	
9780	China Radio Int'l, via Mali	0300		15105	R. Moscow, Russia	1500	
9800	R. France Int'l, via Fr. Guiana	0530	SS/FF	15115	Radio New Zealand Int'l	0200	
9810	FEBA, Seychelles	1500		15155	HCJB, Ecuador	0130	
9820	Radio Havana Cuba	0200	USB	15165	R. Havana Cuba	2145	
9830	R. Jordan	1900	AA	15168	R. Tahiti	0300	FF/TT
9840	R. Kuwait	2100	AA	15175	FEBA, Seychelles	1100	AA
9850	R. Sweden	0230		15185	R. Finland Int'l	2300	
9875	R. Nacional Espana, Spain	1700		15195	R. Ukraine	0030	
9880	R. Austria Int'l	0130		15200	RFI, France via Fr. Guiana	2300	SS
9885	Swiss R. Int'l	0100		15235	V of Great Homeland, Libya	2000	AA
9900	R. Cairo, Egypt	2230		15240	Channel Africa, S. Africa	1600	
9925	R. Vlanderen Int'l, Belgium	2000	SS	15240	R. Sweden	1330	
9955	WRMI, Miami	due on		15260	VOIRI, Iran	0030	
9965	KHBN, Palau	1330		15270	HCJB, Ecuador	1930	
9977	R. Pyongyang, N. Korea	1100		15290	R. Dniester Int'l, Pridnestrovye	2030	
10060	V of Vietnam	0000	VV	15305	UAE Radio, Abu Dhabi	2340	
10848.5	Australian Defense Forces Radio	1600	M-F	15325	R. Japan via Fr. Guiana	0300	
11550	RTV Tunisienne, Tunisia	1600	AA	15345	RTV Moroccan, Morocco	1800	AA
11580	KFBS, Saipan	1130		15345	RAE, Argentina	0200	SS
11610	AWR, Slovakia	1700		15390	RAI, Italy, via Ascension	0130	II
11620	All India Radio	2000		15395	UAE Radio, Dubai	1330	AA
11645	Voice of Greece	1600	Greek	15400	R. Finland Int'l	1330	
11645	R. Bulgaria	2100		15415	R. Clube Ribeirao, Brazil	2200	PP
11660	Radio Australia	1500		15420	R. Tashkent, Uzbekistan	1200	
11665	R. Netherlands, Madagascar	0030		15425	SLBC, Sri Lanka	1500	
11680	China Radio Int'l via Fr. Guiana	0400		15430	Radio Japan	2300	
11690	FEBC, Philippines	1200	VV	15475	Africa Number One, Gabon	2100	FF
11710	RAE, Argentina	0200		15505	Swiss Radio Int'l	1500	
11710	V of Turkey	2230		15515	R. Portugal	1900	
11715	China R. Int'l, via Mali	0300		15530	R. Australia	2200	II
11720	R. Bulgaria	1900		15545	R. Vlaanderen Int'l	1300	
11725	R. Korea, S. Korea	1000	SS	15565	R. Australia	1200	
11740	R. Vlaanderen Int'l	2330		15575	R. Korea, S. Korea	0030	
11745	R. Tirana, Albania	0200		15610	KTWR, Guam	1500	
11755	R. Finland Int'l	0130		15630	V of Greece	1430	GG/EE
11780	R. Nacional Amazonia, Brazil	2200	PP	15640	Kol Israel	1400	
11785	Rdf. Nacional, Colombia	1900	SS	15675	R. Pakistan	1430	Urdu
11785	R. Guaiba, Brazil	2330	PP	15675	R. Copan Int'l, Honduras	2300	SS
11800	R. Australia	1300		15770	ISBS, Iceland	1230	Icelandic
11805	R. Moscow, Russia	2230		17490	HCJB, Ecuador	1000	
11810	R. Romania Int'l	1400		17500	RTV Tunisienne, Tunisia	1330	AA
11815	Spanish Ntl Radio, via Costa Rica	0100	SS	17510	KWHR, Hawaii	2300	
11825	R. Tirana, Albania	2200		17535	V of Greece	1430	GG/EE
11827	R. Tahiti	0300	FF/TT	17590	R. Finland	1430	
11830	Vatican Radio	2230		17595	R. Cairo, Egypt	1200	
11840	R. Japan	1100	JJ	17620	R. France Int'l	1600	
11855	KSDA, Guam	1300		17625	R. Bulgaria	1230	
11860	R. Norway Int'l	2300		17630	Africa No. One, Gabon	1430	FF
11870	R. Yugoslavia	0000		17655	R. Netherlands via Bonaire	1830	
11880	R. Japan via Fr. Guiana	0300		17670	Swiss Radio Int'l	1500	
11885	UAE Radio, Abu Dhabi	2300		17725	R. Ukraine Int'l	1600	UU
11900	R. Finland Int'l	1230		17740	R. Finland Int'l	1430	
11915	R. Gaucha, Brazil	0000	PP	17745	R. Algiers, Algeria	1930	
11925	HCJB, Ecuador	0600		17745	R. Tashkent, Uzbekistan	1200	
11945	R. Canada Int'l	2100		17760	R. Havana Cuba	2130	
11950	R. Ukraine Int'l	2130		17775	R. Romania Int'l	1300	
11970	R. Havana Cuba	0430	SS	17790	HCJB, Ecuador	2130	
11990	R. Kuwait	1800		17805	R. Romania Int'l	1730	
11995	FEBC, Philippines	1400		17810	R. Japan	2300	
12000	R. Jordan	0500	AA	17820	R. Canada Int'l	1300	
12015	R. Ulaan Baator, Mongolia	1400		17845	Spanish National Radio	1500	SS
12025	R. Netherlands via Alma Ata	0030		17870	R. Sweden	1500	
12085	R. Damascus, Syria	2030		17875	R. Canada Int'l	2030	
13580	R. Prague, Czechoslovakia	1500		17880	R. Finland Int'l	1300	
13605	Capitol Radio via UAE, Abu Dhabi	2230		17890	Spanish National R., via Costa Rica	2130	SS
13615	R. Bangladesh	1230		17900	R. Portugal	2000	PP
13620	R. Kuwait	2000		21455	HCJB, Ecuador	1330	
13625	KWHR, Hawaii	1800		21515	R. Portugal	1500	PP
13635	Swiss Radio Int'l	1700		21520	R. Pakistan	1100	
13660	R. Havana Cuba	0200	USB, EE	21590	R. Netherlands, Bonaire	1800	
13670	R. Canada Int'l	2030		21605	UAE Radio, Dubai	1430	AA
13675	UAE Radio, Dubai	1630		21605	R. Yugoslavia	1230	
13680	V of Russia	1700	RR	21740	R. Australia	2330	
13715	R. Havana Cuba	2200	SS, USB	25705	R. Caracas, Venezuela	1900	M-F (SS)
13720	AWR, Guam	1600	non-EE				

NEW PRODUCTS

REVIEW OF NEW AND INTERESTING PRODUCTS

Motorola Launches New Generation of Spirit Portables

Motorola Inc., announces updated versions of its *Spirit Pro Series 2-Way* portable radios. These FM radios are designed to stand up to the punishment of job-site, industrial, and business applications.

All radios in the Spirit line are available on popular color-coded "Dot" and "star" frequencies within VHF and UHF bands.

Designed to support operators by helping them to stay in touch with the people on their team, the line features three models with different performance characteristics and capabilities. Rugged high impact cases have been ergonomically designed to withstand tough use. Some models are supported by audio accessories including headsets, ear pieces, and remote speaker microphones. And, each radio is backed by Motorola's one year replacement warranty.

Spirit 2-Way

The Spirit 2-Way is a compact (6.2 inch high, less antennas) two-way radio weighing slightly more than 11 ounces and operating on VHF local and itinerant job site frequencies. With one channel and one watt of transmit power, this radio can communicate within a two-mile radius depend-



ing on terrain and environmental conditions. A Private Line (PL) squelch module to screen out unwanted calls from nearby users is an option. The NiCad batteries provide up to 13 hours of use and can be recharged overnight using a Battery Charging Adapter which plugs into the radio.

Spirit Pro

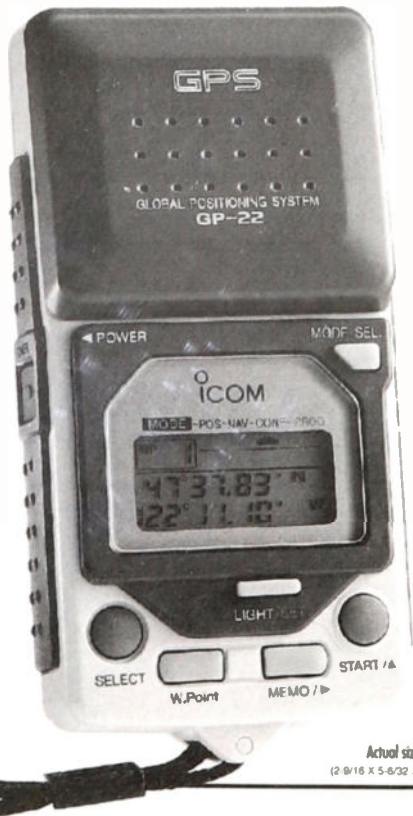
The Spirit Pro comes in an ultra-compact housing (just 5.3 inch high, less anten-

na), with the same performance features as the Spirit 2-Way. Also, an audio accessory connector allows the use of a remote speaker microphone, a headset with a swivel boom microphone and an ear microphone. Both the headset and ear microphone can be equipped with a Voice Activated (VOX) Adapter for hands-free operation. Open or private line (PL) squelch modes are available plus charging accessories.

Spirit Pro+

The Pro+ features one channel with a full 2 watts of transmit power for up to two miles of talking range. The Spirit Pro+ is 5.3 inches tall and operated on UHF frequencies for both FCC-designed local and itinerant use. These radios are suited to applications around steel or concrete structures. Battery life for the Pro+ radio is rated at eight hours. The Pro+ model also features an audio accessory connector for remote speaker microphone, headset and ear microphone, the latter two being VOX-capable. Open or private line (PL) models are available plus a wide range of charging accessories.

Each spirit radio comes equipped with an antenna, a removable rechargeable battery, wall charging adapter and belt clip. A desktop battery charger is available for Pro and Pro+ models.



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Actual size
(2 9/16 X 5 5/32 X 1 3/8)

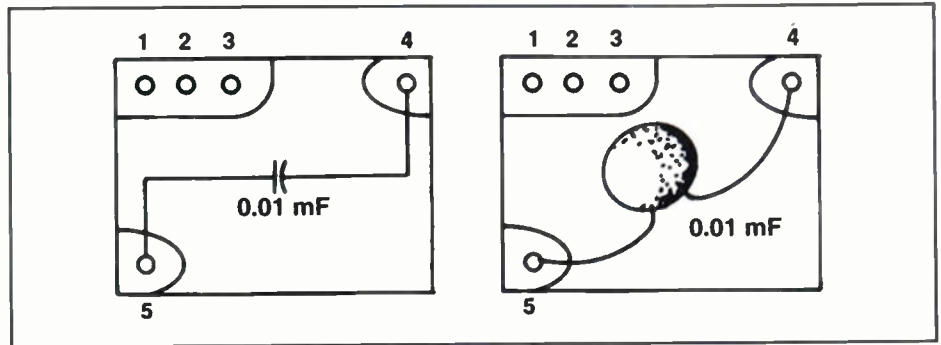
CIRCLE 7 ON READER SERVICE CARD

Weather Satellite Station II

Our first stop this month is your desk. What type of receiver is required to hear weather satellites, and how much does it cost? Reasonable questions.

As you recall, last month we introduced you to weather satellites, and their orbits and frequencies. This month we begin with the receiver. If your only interest in weather satellites is tracking and monitoring their signals, all you will need is a scanner covering the 136 to 138 MHz band. Most do. If, however, you plan to display weather maps or WeFAX, you will need a receiver with a wider bandwidth. Public service station signals are 15 kHz wide, while signals from weather satellites are between 30 to 50 kHz wide depending on the type of satellite. Vanguard Electronic Labs, one of the oldest and most trusted receiver manufacturers in the industry, offers a WEPIX-2000B push-button APT and WeFAX receiver switchable between the two satellite systems (polar and GEO). No pre-amp is required if less than 100 feet of coax is used. Another manufacturer, Quorum Communications, Inc., has a PC-137 receiver which is a half-slot IBM plug-in card. Both pieces work well for receiving signals from orbiting weather satellites.

There is another method you might try. Ron Burke, KB9DJA, an old salt at weather satellites, has been experimenting with receivers and antennas for some years. He brings to our attention the weather maps being downlinked on Spacenet 3, trans-



"Before and after" the addition of a .01 mfd ceramic capacitor soldered across contact points 4 and 5.

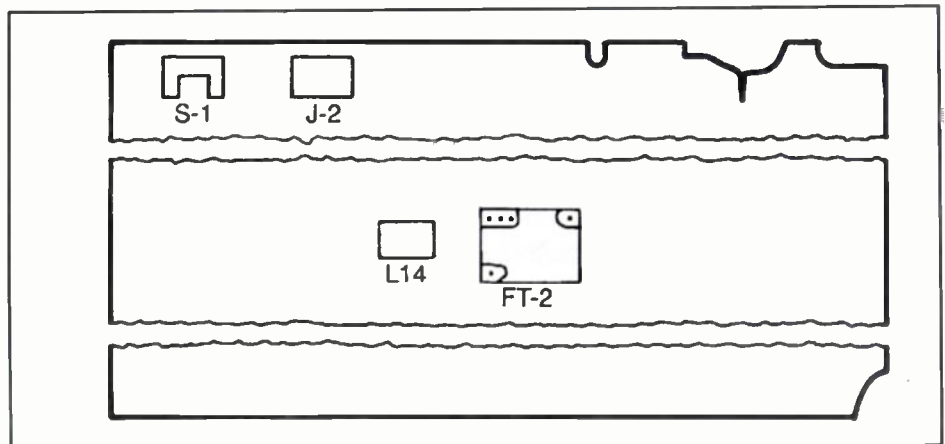


Diagram of main circuit board of Pro-59 scanner. The location of FT-2 (second IF can) on circuit board. The IF filter (can) marked SFR-450D CAY (FT-2) has been removed by unsoldering five solder joints.



Here's a little peek at Ron's antenna installation.



Ron Burke at the console of his weather station.

Modification of the Pro-59 Scanner

1. Remove knobs.
2. Remove set screws from back.
3. Open case—carefully.
4. Lay scanner face down.
5. Turn it so you can read markings on the circuit board.
6. If you have a manual, see page 17.
7. S1 and J2 should be at top left-hand side of circuit board.
8. Locate square box marked FT-2. It is in the center of the board. This is the second IF can (filter). It may be yellow block and marked SFR-450D CAY.
9. FT-2 is soldered at five points on the reverse side of the board. Carefully unsolder all five contact points.
10. Gently remove FT-2.
11. In the empty space (square) you removed FT-2 from, you will note there are three solder joints at the top left-hand side, one at the lower left, and one at the upper right side (see diagram).
12. Solder a .01 mfd ceramic capacitor across the two single solder joints. From the bottom left side of the box to the top right side (see diagram).
13. Reassemble.

NASA Resources

For a copy of the following publications, write the Director of Resources for Earth Observation in Education at NASA Headquarters, 300 East Street, S.W., Washington, D.C., 20564, write or call the NASA facility nearest you:

Educators Guide for Building and Operating Environmental Satellite Receiving Station

Looking at Earth from Space Direct Readout from Environmental Satellites: A Guide to Equipment and Vendors

WEATHERSTAR: An Educator's

Guide to Satellite Tracking and Space Related Activity

NOAA Resources

National Oceanic and Atmospheric Administration
National Climatic Data Center
Satellite Data Services Division
Washington D.C., 20233

Request the following publications:

TIROS-N Series Direct Readout Service Users Guide

NOAA Polar Orbiting Satellites

NOAA GEO-Stationary Satellites

The GOES User's Guide

Contact the NASA facility nearest you for weather satellite information from the Teacher Resource Center.

NASA Teacher Resource Center
NASA Ames Research Center
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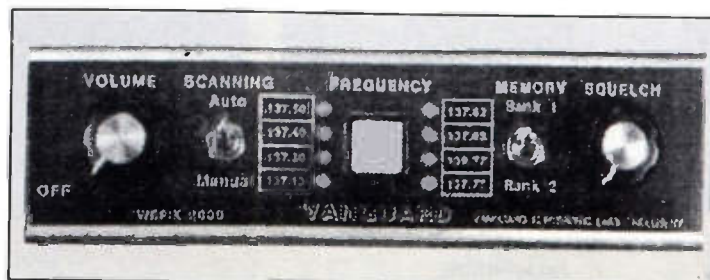
Related Equipment Suppliers and Information Sources:

Advanced Electronic Applications Inc.



← Realistic Pro-59 scanner.

WEPIX 2000B Vanguard receiver ↓



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NOAA WeSat Frequencies:
NOAA 9/11—137.620 MHz
NOAA 10/11—137.500 MHz

Geo-Stationary Frequencies:
GOES WeFAX—1691.000 MHz
Meteosat—1691.000 MHz

ponder 17. Ron discovered that he could use a Radio Shack Pro-59 scanner to receive weather satellite signals with a simple modification. Don't panic! It really is a simple modification. If you have the Pro-59 manual, turn to page 17 where you will see a schematic of the main circuit board. In the middle of the page there is a square box marked FT-2. This is the second IF (Intermediate Frequency) can. Ron unsoldered this can, found five contact points and removed them, and placed a .01 mfd ceramic capacitor across it. The three top left contact points from which the FT-2 was removed are ignored. The capacitor is

placed across the box from the lower left-hand contact point to the upper right-hand side (see diagram). These two contact points, from bottom left to top right, are where the capacitor is soldered. Then you simply remount the circuit board to the case, put the case back together, and program in your WeSat frequencies.

Your Pro-59 is now ready to operate with the proper bandwidth to receive satellite signals from weather satellites transmitting in the APT or WeFAX modes.

Next time we will look at antennas and feed lines for your weather satellite station. See ya' next month. ■

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CLANDESTINE COMMUNIQUE

WHAT'S NEW WITH THE CLANDESTINES

The Colombian government claimed that its army located and closed down the ELN's Radio Patria Libre, confiscating the station's equipment. But just a matter of days after that report Radio Patria Libre was on the air and its 15050 frequency heard in the US. Whether this means the government's report was false or Patria Libre has a second standby installation somewhere, is unknown. Probably the best time to log this station is during their 0030 to 0110 broadcast, which normally shows on 6530. All broadcasts are in Spanish.

Radio Dniester International says it transmits from Grigoriopol (formerly Kishinev) in support of independence for Pridnestrovie, located in the eastern part of Moldova (once known as the Moldavian Soviet Socialist Republic). The breakaway region declared itself independent as the Moldavian Republic of Pridnestrovie in September of 1990, and the Moldavian government responded by sending in the troops. The government also jams the station's signal. The station operates on 9620 and has an English broadcast at 2130 to 2200.

The Voice of the Palestinian Islamic Revolution is scheduled on 7230 from 1900 to 1930, in Arabic. This is a move from the formerly used 9610. There's a chance that this may be aired via a transmitter belonging to the Iranian government radio, the Voice of the Islamic Republic of Iran.

Radio Mogadishu, which supports Somalia's General Aideed, is operating at 0330 to 0500 and to 1900 sign off on such frequencies as 6830, 6840 or 6850. The station is also using the slogan "voice of the Somali people," for some reason having dropped the adjective "great" (people).

The Voice of the Tigray Revolution signs on at 0358 on 6770.1.

The Papua New Guinea Military and the country's National Broadcasting Commission jointly operate Radio United Bougainville on 3880, which broadcasts until sign off at 1205. This station was put on the air as an answer to Radio Free Bougainville broadcasting in support of a Bougainville independent of Papua New Guinea. Information is still hazy as to whether Radio Free Bougainville is still on the air.

The US Congress has approved the idea of a Radio Free Asia, operating after the fashion of Radio Free Europe/Radio Liberty, which would act as a sort of surrogate broadcaster for countries in the Asian sphere, especially China but also Laos, Vietnam, Cambodia, North Korea and other "usual suspects." The station will operate through existing Voice of America facilities but, so far, we've seen no mention of when this new service will be airborne.



On Radio For Peace
International

YOUR REPORT ON RECEPTION OF
RADIO NEG MAWON 15,030 kHz
Transmission on 12 Dec 1992 1993
has been checked with RFPI
log for the date mentioned and
is duly verified herewith

JEAN JEAN-PIERRE
Jean-Jean-Pierre
Producer

Radio Neg Mawon is one of the broadcasters opposing the military government in Haiti. It is carried on Saturdays over Radio For Peace International.

A reader in Texas requests several clandestine station addresses. You may still be able to reach the Voice of the Great National Union of Cambodia Free Somalia in care of: First Secretary, Permanent of Democratic Kampuchea to the United Nations, 747 3rd Ave., 8th Floor, New York, NY 10017. Radio Free Bougainville: c/o Sam Voron, International Amateur Radio Network, 2 Griffith Ave., Roseville, NSW 2069, Australia. Don't think we've run across an address for the Voice of Free Somalia, operated by the Somali Salvation Democratic Front.

Incidentally you can find addresses for clandestine stations (where known!) in the new *Clandestine Broadcasting Directory*, by Mathias Kropf, published by Tiare Publications, PO Box 493, Lake Geneva, WI, at \$12.95 plus \$2 shipping/handling.

The civil war in Rwanda has put both the regular stations there—the government's Radio Rwanda and the Deutsche Welle relay station out of business. At last report the Rwandan Patriotic Front station, Radio Muhabara, was still active. It's a toughie to hear in the US but several determined DXers have managed it. Try at 0415 sign on, on 6285.

All the hue and cry over the Haitian situation hasn't brought any new anti-Haitian

voices on the air, or any increase in broadcast time for those which are active. They are Radio Neg Mawon, aired via Radio For Peace International on Saturdays from 2000 to 2100 on 9400, 15030 and 21645. Radio 16 Desanm is the official voice of the Aristide camp and it is broadcast at 0000-0100 Tuesdays through Sundays on 7355, Sundays at 1100-1300 on 9850, Monday through Fridays at 1300 to 1400 on 11790 and 2200 to 2300 on 17835, all via WHRI.

A third program aimed at Haiti is Focus on Haiti, aired Tuesdays and Saturdays at 2100 on RFPI on all of the above mentioned frequencies plus 7375.

Keep listening for the start of full time broadcasts of Radio Miami International (WRMI). When this station gets going with its regular schedule it should be airing a number of anti-Castro programs and perhaps those of other flavorings as well. The station will operate on 9955 and be on the air between 2100 and 0500.

That does it for now. Remember, we welcome your clandestine station loggings, QSL and address data, background information on the stations and the groups operating them and anything else having to do with the murky world of clandestine radio.

Till next month—good hunting!

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CIRCLE 75 ON READER SERVICE CARD

COMMUNICATIONS CONFIDENTIAL

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Recent U.S. Navy information covering changes in 1993 shows that 17 ships were transferred to foreign countries. There were 50 decommissionings, 23 commissionings, six former naval ships sold for scrapping, and eight ships transferred to the Military Sealift Command (MSC).

The USNS Relentless (T-AGOS-18) was transferred to NOAA and converted to an oceanic research/survey ship. This also was the case when USNS Titan (T-AGOS-3) was turned over to the U.S. Coast Guard.

Starting in 1990, 70 nuclear powered submarines and ships were disposed of or selected for disposal through the U.S. Navy recycling program.

In view of the above, it is apparent why it is hard to stay abreast of QSL addresses.

Susan Wilden, IN, tells us she has given herself a birthday present of a Sangean ATS-803A receiver and put up a 40 foot dipole outside which is "picking up things left and right."

Okay Sue, we are looking forward to receiving some loggings.


Mark Heywood, Alberta, Canada reports good luck with the use of the following address for SPEEDBIRD QSL's:

The Captain, Speedbird Flight
Date _____
c/o British Airways, P.O. Box 10
Speedbird House
Hounslow, Middlesex, England
TW6 2JA

Several first-time contributors join us this month. T. Fletcher, Alberta, Canada, says "This is my first time writing in to your column. As time goes on and I get more familiar with my new Sangean ATS-818, I hope to write more often. I use a 50-foot wire for an antenna."

Michael W. Jacobs, PA, writes, "I am enclosing a logging record from my SW listening station. Although I do not get as much time to listen as I would like, I occasionally get a good one. The medevac operation I heard on 6738 kHz, a USAF GHFS channel, was a bit unusual, considering that one of the stations heard was an unidentified Russian ship. The aircraft (USAF or maybe Navy) was searching for the ship, so as to guide in the helo. The Russian operator was very excited and seemed not to know the position of his ship too well.

"At one point, Stalker (the A/C) was eight miles south of the Russian's reported position. A few minutes later, presumably after the helo got to the supposed position and found nothing, he called back and asked the ship if he saw the helo's lights overhead. Stalker then again attempted to

		OSL	
		Rijeka	8th March 1994
VERIFICATION			
This card certifies the reception of our station Rijeka-radio			
Date	6th Oct. 1993.		
Time	0140	GMT	
Frequency	8700	KHz	
Call sign	9AR		
Power	6 KW		
			Signature: 

Here is a QSL received by Thomas K. Duncan, GA.

R/V Atlantis II
Port Astoria, Oregon
August 23, 1993

Dear Kevin,

Thank-you for your letter, and for the box of maple blend candy, both of which were very thoughtful.

Your interception of our radio telex traffic of August 1st occurred while our ship was underway from Woods Hole. We were steaming for Panama, and the Canal, destined for the West Coast and the port of Astoria Oregon. The radio telex frequency of 8,098.60 KHz is one four allocated by the FCC to the Woods Hole Oceanographic Institute for communication by RTTY. We are currently seeking higher frequency privileges us, thus far, we may transmit no higher through Woods Hole than on 8-MHz, limiting our effective range between ship and shore using our limited coast station license. At night, however, on 8,098.6 KHz, I am able with ease to connect ARQ mode, to Cape Cod from here in Oregon. I will add it is by this license and radio equipment we try to effect as much of our formal traffic as possible as it is far less expensive than going through marine satellite, or marine radio telex.

Of further interest to you might be these following frequencies:
8,295 KHz 12,353 KHz 16,528 KHz

By these, each morning 0930 EST, Woods Hole communicates with its entire fleet of oceanographic ships, by name you will find enclosed, over Single-Sideband.

A note about myself: currently employed as this vessel's communications officer on a part time, relief operator basis. Have worked these past six years as a radio operator for the Merchant Marine. Have been a radio amateur since 1976, my call NV1U. It is a pleasure to hear from you, and that you are able to confirm for us that our transmitters are performing as designed. My best regards.

Harry Wilson

Reception verification letter received by Kevin Tubbs, VT.

clarify the ship's position. Eventually, both stations either faded out, or switched to another channel."

Michael uses a Kenwood R-5000 receiver fed by a 200 foot random-length wire for his antenna. This wire is oriented north to south.

Here is an interesting letter from Wayne Rankin, CA. "I found the SLHFM informa-

tion from Kurt Muller, Switzerland, very interesting in the May 1994 POP'COMM. I heard what I think were the same markers while in Lillehammer working the Olympics with CBS. In spite of the long working hours, I managed to get the Kenwood TS-680 fired up on the ham bands using just a 35-foot wire tossed over the roof of our little cabin. While attempting to work

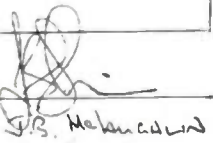
This Confirms Reception of:

Callsign	Aircraft type	Airline
Speedbird 222	B767 C-BJWC	British Airways

Frequency	Mode	Selcal	Aircraft Home Base
5598	USB	HPBM	London, HAMPTON

Date	Time	Approx. Transmission Location
31.03.94	0344 UTC (01.04.94)	46°N 50°W

Captain's signature



This PFC was used by Mark Heywood, Alberta, Canada.

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)

just act as radio operators. Rather, the new trend will be for additional skills to be required, such as installation and maintenance/repair of communications systems. The article also indicated, "Sending a radio message is a task that every soldier should be able to do."

Another article detailed changes taking place at the Signal Corps training facility located at Fort Gordon, GA. Various military intelligence elements such as the 513th MI Brigade, 202nd MI Battalion, and 297th MI Bn., 513th MI Bde., and the 407th MI Bde., will all be stationed at Fort Gordon. MI requires a lot of communications support so the inclusion of MI units at Fort Gordon certainly seems to be a logical step.

In Spring of this year, Harris Corporation, RF Communications Group, was awarded a \$40 million contract by the Royal Netherlands Army for secure tactical radio systems for fixed site, mobile, and optional airborne communications. Some of the components will be supplied by leading Dutch companies. Philips Crypto BV will supply encryption modules endorsed by the Netherlands National Communications Security Agency, and van Rietschoten en Houwens will provide installation support and other services.

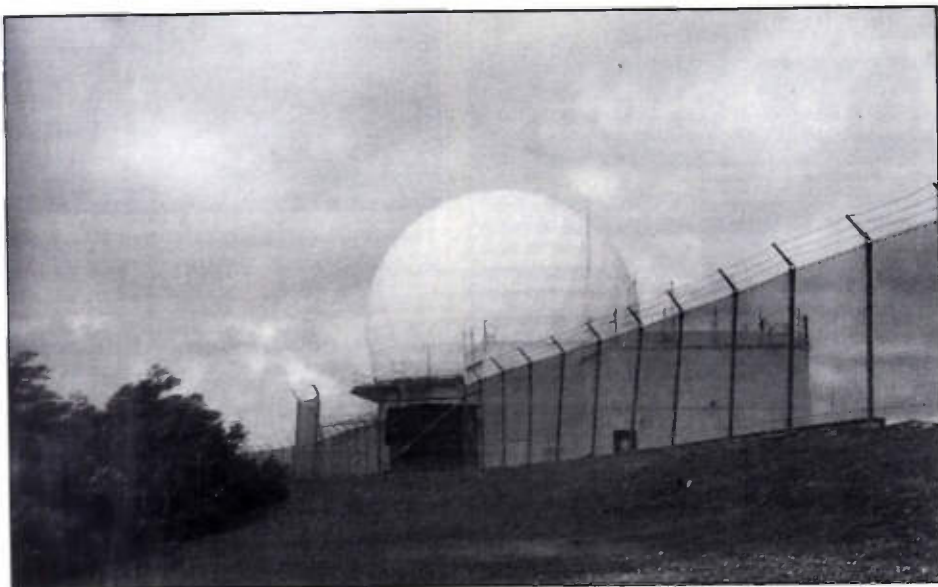
The systems are capable of providing secure digitized voice, high-speed data communications, digital encryption, secure remote control, and other defenses against jamming and location by way of electronic counter counter measures (ECCM).

The system will be deployed with the new Airmobile Brigade, the Quick Reaction Multinational Division, and the traditional national and NATO defense units.

Effective with this issue, RTTY, FAX, Sitor, and digital mode loggings will be featured with this column's loggings. Therefore, it is requested that readers forwarding RTTY items send them to POP'COMM's address marked "ATTN: Communications Confidential column." Thanks.

UTE Intercepts. All Times UTC.

159.4 GWEN transmissions at 0536. (Jacobs, PA)
227: Beacon GDX, Upperville (Goodwin Lake), VA at 2343. (Ed.)



An individual signing as "Bug Hunter" provided these photos of various electronic installations on Guam. This view shows the FAA Air Traffic Control radar which is located in northern Guam.

a bit of 40-meter CW, I noticed the markers on 7039 sometimes concurrently while the D marker was found 200 kHz lower at 7038.2 (200 Hz above C and S). I wonder if what we are hearing is actually a family of markers spaced at 200 Hz intervals?"

Wayne, there is a great deal of speculation regarding these SLHFM signals. One theory is that some of them represent activity referred to as DF Tip-Off. The constant repetition of the marker supposedly serves to keep the channel open and then periodically some target information is sent to the outlying DF sites.

A series of articles on this subject have appeared in past POP'COMM issues. For those interested, see articles by William I. Orr in POP'COMM December 1984, January 1985, February 1985, and June 1986.

Brad Low, who works part-time for

KOOI/KEBE in Jacksonville, TX, says the station engineer set up a 10-meter propagation beacon on 28200 kHz. The beacon runs 8 watts to a dipole antenna and was placed into operation March of this year. The ID is KG5YB, and the beacon is located at 31° N, 95°W in the extreme northern portion of grid square EM21. If any readers should happen to hear this beacon and want to QSL, send your report to KG5YB, c/o KOOI/KEBE Radio, P.O. Box 1648, Jacksonville, TX 75766.

While doing some background reading, several articles in the June 1993 issue of Soldiers (the official U.S. Army magazine), caught my eye. As the state-of-the-art equipment changes, it is evident that one soldier will very likely have to do the job of three. For example, one article pointed out that there will no longer be individuals who

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CIRCLE 50 ON READER SERVICE CARD

265: Beacon XPZ, Mt. Weather VIP Facility, Berryville, VA at 2342 (Ed.)

278: Beacon HG, Hagerstown (Washington County) D at 2341 (Ed.)

285: Beacon EUD, York, PA at 2339 (Ed.)

328: Beacon BZJ, Indiantown Gap (Belgrove Muir), PA at 2338 (Ed.)

339: Beacon RYP, Cumberland (Municipal Cresap), MD at 2337 (Ed.)

342: Beacon MTN, Baltimore (Glenn Martin State), MD at 2336 (Ed.)

365: Beacon TZ, Winchester (Municipal Boyce), VA at 2335 (Ed.)

400: Beacon AB, Allentown, AP hrd 24 hrs (Jacobs, PA)

530: TIS in Washington County, MD/info re river safety msgs, attractions, accommodations, traffic advisory Hrd at 2348 (Ed.). TIS Dayton area, OH Chamber of Commerce with traffic directions to points of interest and hrs or operations for USAF Museum and Dayton Art Institute. Some of QRM from aviation NDB "HEH" This TIS station is weak but at times is copied in Chillicothe, OH about 70 miles away Hrd at 2110 hrs local (Grandstaff, OH)

3380: White noise type data xmsns at 0408 Freq is very close to Mt. Weather (WGY912) freq of 3378 kHz (Sevart, KS)

3485: New York Radio w/aero wx in USB at 0230. (Jacobs, PA)

3824: Sunday sked at 2200, Swedish Rhapsody tune being rptd until 2205 when YL/GG sent 5F grps (Mason, England)

4017: U/i CW stn sending 5F (cut numbers, ANDUWRIGMT), ended with AR AR AR SK SK SK (Sevart, KS)

4029: At 0500 Friday, "Atencion 96955, then 96955 125 and into 5F grps in SS. At 0600 Monday callup was 51070 112. (Mazanec, OH)

4036: FYN in CW at 0413 clg YAZ for rdo check. (Sevart, KS)

4369: WLO, Mobile, AL In USB at 0504 w/maritime wx for Gulf of Mexico, Caribbean Sea & North Atlantic (Narde, NY)

4466: New York State Civil Air Patrol training net in USB at 2347. (Narde, NY)

4485: YL "Bulgarian Bette" from 1355 1400 rptng 555 x3 313 x3 05 in Czech. At 1400 42 42 05 05 & then rptd 58051 until close. (Mason, England)

4564: XOEN sending 5F grps to SLF-4 in CW at 0724. Used XNME as marker between msgs. Sent MSG w/heading: 3507 TO 830 BT 313 XNME BT & into msg t/c. Later sent msg to NXMN. (Sevart, KS)

4821: YL rptng Victor Oscar from 1930-1935 foll by 5F GC msg for 507. (Mason, England)

5182: YL rptng Oscar Alpha w/electronic tones from 2200-2205. Then 5F GG grps for 039 and 122. (Mason, England)

5230: Mossad bcst. YL rptng Victor Lima Bravo 14D10011D12D13D14 at 1905. Also on 4665/7605 kHz. 5230 kHz is usually a M1W bcst. At 1945 YL on all three freqs w/VLB2. (Mason, England)

5269: YL/EE Mossad stn rptng SYN2 in USB at 0331. (Sevart, KS)

5547: San Francisco ATC w/New Zealand 6981 at 0456. (Low, TX)

5598: New York ATC wrkng Delta 40 Selcal CKBL, N767DL, Swissair 121, Atlanta-Zurich: Air France 007, Selcal CPEQ, JFK Paris; El Al 008, JFK-Tel Aviv; Speedbird 222, Washington-London. Above flights hrd between 0151-0344 (Heywood, Alberta, Canada)

5616: Gander wkg 005, Continental 62, Delta 108 & Delta 38 w/pos rpts & selcall checks. USB at 0104. (Narde, NY)

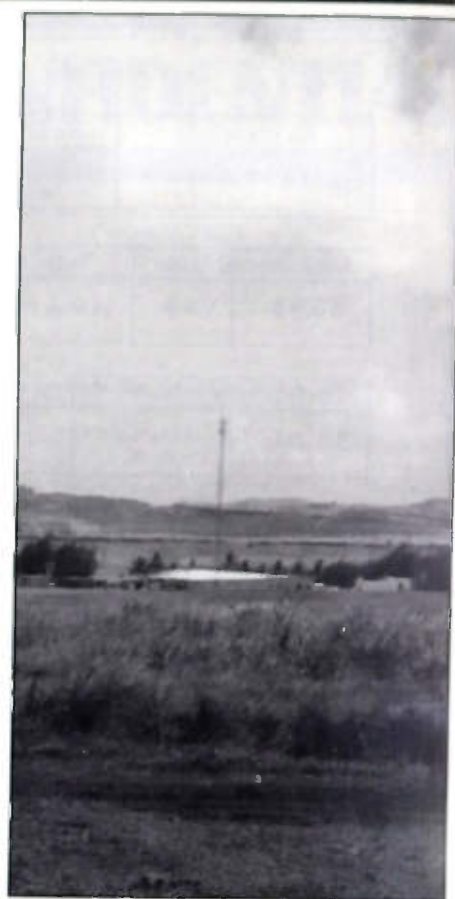
5649: Speedbird 226 wkg Gander in USB at 0121 for selcall check. (Jacobs, PA)

5716: At 2000 continuous tone sent until 2010 when typical counting station "chugging carrier" was hrd. At 2100 YL/EE w/1 0 count and "36." At 2110 ten tones sent & :Count 42" then into 3/2 grps. (Mason, England)

5740: Every Tues/Thurs at 1745 strange Slavic YL w/5F msgs. Previously unhrd, poor modulation and faint warble jammer in background. (Mason, England)

5821: At 2000 NNN...being sent in CW foll by YL/GG w/Gruppe 20 and into 5F grps. (Mason, England)

6227: AAEF, USAV Lt. Gen. William B Bunker



This is an unidentified U.S. Government communications site in southern Guam.

(LSV 4) wkg AAC2, Ft. Eustis, VA Harbormaster at 0006 for status report. At 0209, AAEB, USAV Chichasaw Bayou (LCU-2012) clg AAC2 & AAC2 clg AAEB, neither could hear the other. Foll hrd w/rdo or t/c cks: AAEL, USAV Churubusco (LCU 2013), AAEC USAV Gen. Frank S. Besson Jr., (LSV-1), AADX USAV Buena Vista (LSU-2008); AADT, USAV Aldie (LCU-2004), AAEL, USAV Macon (LCU-2003) AAEG, USAV Runnymede (LCU-2001) All U S Army Transportation Corps., Fort Eustis, VA Hrd in USB (along with river boats) between 1243 1912 (Baker, OH)

6501: MNM, CAMSLANT, Chesapeake, VA wkg vs! "Diamond" at 1713 (on 6200 kHz) in USB Calls it TWR-1 Diamond. This is hull number of USS Diamond (TWR-1) a torpedo retriever. Vsl hrd often w/CG, now private contractor? (Baker, OH)

6504: Canadian stn "CGF" clg Vsl Terry Fox at 1112 in USB, no joy. Fox is icebreaker leased to Canadian Govt. CGF hrd here several times past months 1100/1200 w/Canadian CG icebreakers (Baker, OH)

6604: Gander Volmet in USB at 0220 (Jacobs, PA)

6720: 8LJ clg 9TU at 2140 for rdo check. USN (Jacobs, PA)

6738: Toadstool w/EAM bcst in USB at 0312 Stalker (US aircraft) in USB at 0509 wkg u/i Russian ship re helo medevac of injured seaman. Stalker trying locate ship for helo. Ship reported its position several times with different numbers every time. Stalker asked ship to QSY 129.9 MHz to talk to helo. If position heard correctly, Vsl was in Caribbean off coast of Panama (Jacobs, PA)

6756: Andrews AFB in USB w/pp to Protocol 972. Later tried to set up digital link w/same a/c but had modem trouble. (Sevart, KS)

6779: German Navy replenishment ship FGS Glucksburg (A 1414), DRKD, at 0407 clg/wkg D14J 59, Wilhelmshaven Naval in EE/GG/RTTY comms. Callsigns later shortened to "KD" & "59 er" At 0426, DRDM, FGS U 19 (S 198), Attack sub, clg/wkg D14J 59 for rdo ck. Also hrd at 0731. At 0459, DRJM, u/i

German naval ship clg/wkg DHJ59 for rdo ck then into RTTY. At 0537 DRHX, multipurpose tender FGS Rhein (A-58) Triton (P. 6055) wkg DJH59 w/same. At 0556 DRHD, missile boat tender FGS Donau (A-69) wkg DHJ59 w/same. At 0632, DRES, u/i ship wkg DHJ59 w/same. At 0642 DRAX, masted training sailing Barque FGS Gorch Fock (A-60), w/same. Is sister ship of USCGC Eagle. All in USB & were hrd nightly. (Baker, OH)

6814: OTH radar bursts at 0055. (Sevart, KS)
6815.6: Echo in comms w/Foxtrot Charlie waiting for data dump at 0239. Tango w/radar contacts at 0241. (Low, TX)

6840/9222: YL/SS in AM at 0200 w/405 x3, 1-0 rptd. At 0210 Grupo 68, then 4F. At 0216 Repita and at 0221 Fin. At 0230 short tones for 20 secs foll by 4F grps. (Low, TX)

6980: YL/EE w/5F grps in AM at 0736. Ended with/00000. (Sevart, KS)

7348: WGY901, Maynard, MA; WGY912, Special Facility, Berryville, VA; and WGY905, Battle Creek, MI w/test transmissions & encrypted RTTY. Hrd at 1609 in USB. FEMA stations. (Jacobs, PA)

7535: USN SESEF Norfolk, VA wrkd foll for rdo & equipment checks 1638-1926. NZKI, USS Pensacola (LSD-1); NSFEE, USS Santa Fe (SSN-763); NNGH, USS Gunston Hall (LSD-44); NKID, USS Kidd (DDG-993); Norfolk Naval Shipyard; NVLA, USS Vella Gulf (CG-72); NIKE, USS Dwight D. Eisenhower (CVN-69); NFBS, USS Stump (DD-978); NQUB, USS Donald B. Berry (FFT-1085); and USNS San Diego (T-AFS-6) former USS San Diego (AFS-6). Primary mode was USB. (Baker, OH)

7586: RFVITT, French Foreign Legion (DET-LEGETINF) in Dzaoudi?? to RFFHCN, COMLEGET Aubagne. ARQ-E, hrd 2208, 400/96. (Tubbs, VT)

7692: RJ38, u/i CW stn at 0134 sending 5F msg. At end of msg, rptd certain grps for another stn (w/kg duplex). (Sevart, KS)

7741: CG1710 & NRUF, USCGC Mohawk (WMEC-913) doing search patterns looking for Haitian refugees. USB at 1111. (Tubbs, VT)

7751.5: A4Q & 6LD & others, OM/EE & some w/FF accents, poss Canadian military?? (Tubbs, VT)

7821.5: U/i stn rptng LYNX in CW & ARQ phasing signal at 0604. (Sevart, KS)

7888: At 0300 Friday "atencion 24561" then "24561 86" & into 5F SS grps. (Mazanec, OH)

8125: NARACS Eastern Region net at 1545. KDM50, Hampton, GA was NCS of this FAA activity. (Low, YX)

8176: VIS, Sydney, Australia at 0740 in USB w/wx & tlc list which included "warship Annalade." (Baker, OH)

8191.7: 9MR5/11/15, Malaysian Naval station, Johor Baharu at 1116 w/RY's & SG's. 850/75. (Tubbs, VT)

8216: Cruise ship M/V Starship Majestic, C6UK9, at 0106 in USB concluding R/T tlc w/WOO, Ocean Gate, NJ. (Baker, OH)

8320: New station using name YL/EE as "Lincolnshire Poacher" but with a new, as yet, u/i marker tune. At 1900 YL was rptng "13172" w/tune in between. Also on 7484 kHz. (Mason, England)

8346: C6ID7, M/T Nausicaa (Bahamas flagged tanker) wkg EAD, Madrid, Spain for CW "telegrams" at 2211 after clg EAD on 8368 kHz. (Baker, OH)

8462: PPO, Olinda, Brazil in CW at 0200 w/NAVAREA V warnings. (Sevart, KS)

8645: UAT, Moscow, Russia at 0249 wkg UIHM, Raminbas, a seagoing tug, in CW. Hvy QRM from u/i RTTY close by. (Baker, OH)

8719: NKXR, USNS Powhatan (T-ATF-166) at 2043 clg COMSUPRON 8 (Combat support Squadron 8, Little Creek, VA) w/no joy. At 2126, wkg COMSUPRON 8 for rdo ck. Both in USB. (Baker, OH)

8823: Sloppy CW stn at 2322 sending 5F cut nbr mgs (1-0 AU34E67DNT). (Sevart, KS)

8846: New York ATC wrks foll flights between 0033-0147. Speedbird 292 Miami-London; American 1566 Selcal BPLG, N70074 Airbus A300; UPS 2014; Air France 031 Miami-Paris. (Heywood, Alberta, Canada)

8891: Cambridge Bay ATC wrks Canadlan 74, Selcal DLGH, DC-10, Calgary-Frankfurt at 0311; Air Canada 896 at 0427. (Heywood, Alberta, Canada)

8906: 143B wkg New York Oceana w/medical emergency, possible heart attack on board, requested

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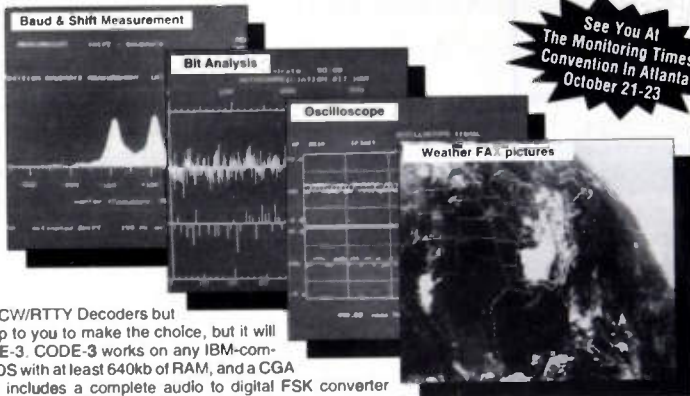
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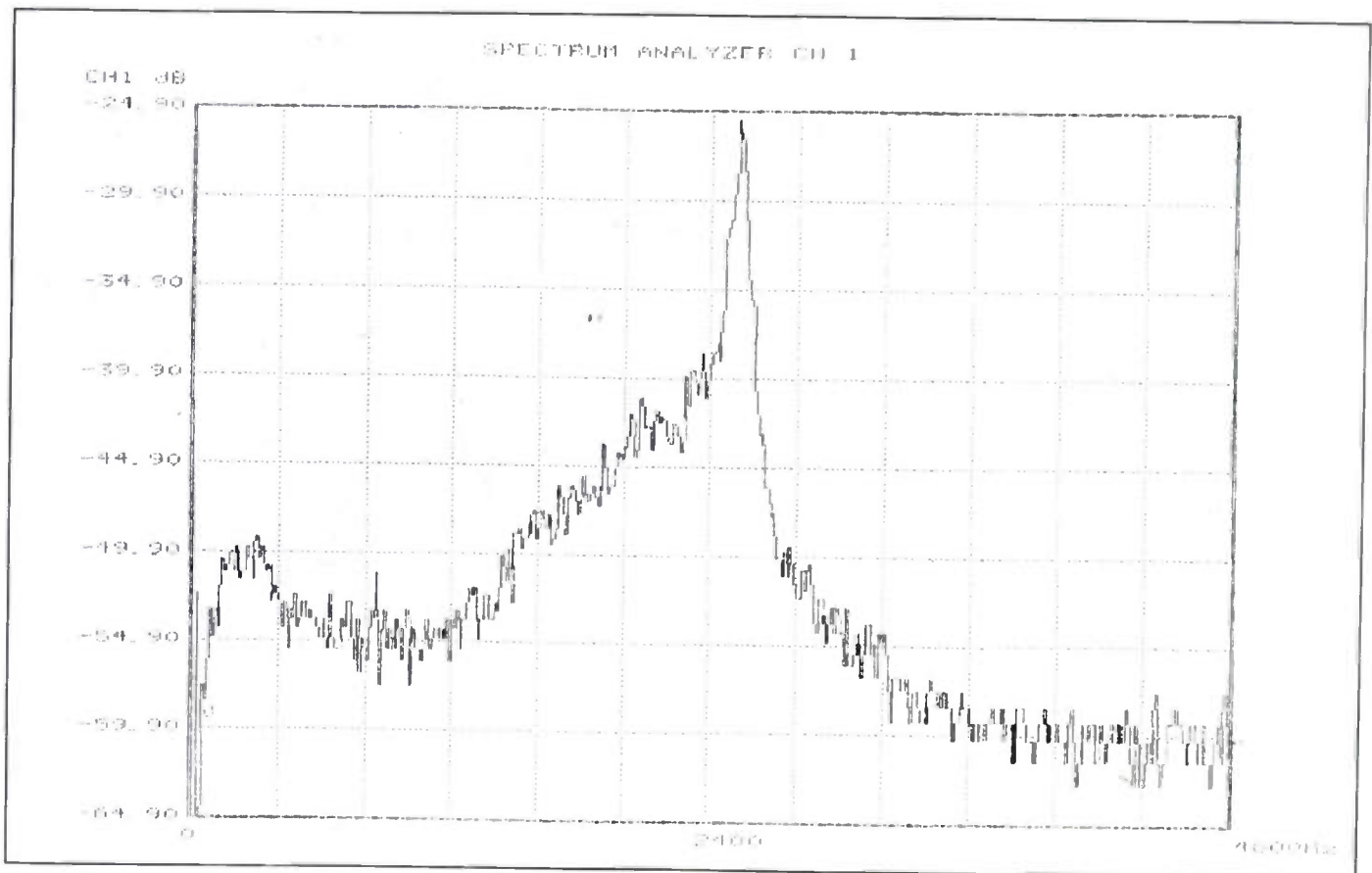
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This long-range shot shows the satellite trackers at the left. (They are the objects resembling golf balls.) Off in the distance, to the right of center, is the "elephant cage" listening antenna.

Andersen Air Force Base, Guam.



Analyzer chart of NAM, COMMSTA Norfolk, VA. FAX on 8080 kHz. Thanks to Kevin Tubbs, VT.

another ambulance upon arrival at St. Johns. USB at 0119. (Narde, NY)

8967: Offut wkg Gopher 29 at 2050 for pp to aircraft ops. (Low, TX)

9001: VCS, Halifax, NS, Canada at 1948 in CW. (Tubbs, VT)

9072.4: TL050, ASECNA stn Bangui, Central African Republic at 1953 in ARQ-M2B, 600/96. Circuit prefix is OFA. (Tubbs, VT)

9114: HGG31, Budapest, Hungary w/EE/NX at 1749. This RTTY xmsn was 400/50. (Tubbs, VT)

9136: OM/EE & possibly FF in USB at 2003 w/tacticals & mentioned Belgian Congo. (Tubbs, VT)

10493: WGY912, FEMA Special Facility, Berryville, VA wkg FEMA stn WGY908, Denver, CO & then WGY912 QSY'd to 14776 kHz and QGY908 to 21866 kHz. (Narde, NY)

10536: CFH, Halifax, NS, Canada w/FAX xmsn at 0501. (Humphrey, TX)

10780: Track Star w/Cape Radio at 1535 making frequency adjustments. (Low, TX)

10865: NAM, USN Norfolk, VA w/wx FAX, 120/576 at 1605. (Kaminsky, NJ)

11176: Reach 259 in USB at 1605 requesting pp/Travis AFB for 1030 local wx. (Low, TX); MacDill in USB wkg u/i tanker a/c at 2215 which had a "brute force disconnect" and could not retract refueling boom. (Sevart, KS)

11226: Deersign wkg Nightwatch 01 1746 in USB on X905 for rdo ck. W109 was secondary freq. (Baker, OH)

11243: RIFF 13 at 1730 wkg Offutt GHFS pp, Robbins AFB, re status of Watch 75 for tanker refueling. At 1732 Hawk 84 (B-1B out of Dyess) wkg

McClellan GHFS pp, u/i CP Both in USB. (Baker, OH)

11336: United 930 wkg Gander in USB at 0110. (Jacobs, PA)

11491: YL/SS in AM at 1830 w/ten tones and rptd 2284 3351 2574 1353. Also hrd next night at same time. (Sevart, KS)

12212.5: YZ1234, Belgrade, Serbia (Poss TAN-JUG press agency) w/nx in EE at 1648. RTTY 400/50. Bandslip has call/freqs as YZ1213=5243, YZ1223=7806, YZ1227=7996. All in kHz. At 1700 into FF/nx. (Tubbs, VT)

12221: YL/EE "Counting stn" in USB at 1515 w/3+2F grps. (Sevart, KS)

13080: KMI, Dixon, CA (CH 1201) wrk u/i vessel at 0207. Captain asking Company for \$500 advance when he got to Vancouver, Canada from Singapore. Approval granted by Company Official. Also

stated ship would be looked at in Vancouver, due to problems, but could take up to three weeks. (Fletcher, Alberta, Canada)

13264: Aero wx for Brussels, Zurich, Hamburg & Frankfurt. USB at 2031. (Narde, NY)

13890: YL rptng Mike Delta from 1400-1405 w/electronic tones then 5F grps in EE for 221 & 241. (Mason, England)

13927: AFA2XZ, USAF MARS stn trying to contact Reach 5002 in USB at 1825, also wrkng stn in Western Sahara w/pp's. (Sevart, KS)

14296: WA3NAN, Greenbelt, MD at 1930 w/post-landing comms of STS-60 (Discovery) and NASA. (Low, TX)

14311: PY2YB clg CQ Washington DC area for medical tlc. No joy. USB at 0045. QSY's to 14312 kHz. (Narde, NY)

14431.4: U/i RTTY Diplomatic tlc, 75/500. hrd 1555. Heading was WASHINGTON NR 00264/54644 GR 162 DDDDDDDDDDD and went into encrypted mode. Upon completion went down with FB FB T K S. (Ed.)

14470: NNN0CRZ, USS America (CV-66) through NNN0EAC, u/i w/pp. (Narde, NY)

15035: St. John's Military w/aero wx for Gander, Goose Bay, Clearwater, Greenwood, St. John's, Sidney and Halifax. USB at 2141. (Narde, NY)

15614: At 1400 strange rptng tune playing on electric organ. At 1405 msg sent using ten musical notes rptd rapidly. Ended with original slow tune played once then off at 1407. Hrd this tune for many years but this is first time a message has been logged. (Mason, England)

15655: YL/EE in AM at 2013 w/5F grps. YL rptd grps and signed down w/168 168 55 55 00000. (Sevart, KS)

16084: YL/FE rptng 01350 in between "Lincolnshire Poacher" tune at 1400. Also on 14487/15682 kHz. (Mason, England)

16153.5: GYA, London (Northwood) Naval, England DE MTT, u/i stn (poss UK Naval) in RTTY, 76/868 at 1400 w/QBF tape. (Ed.)

EXERCISE EXERCISE EXERCISE

TS ALPHA

WARNING NUMBER #01

LOCATED NR 16.6N3 061.4W1

AT 161200Z

WINDS-060 KTS, GUSTS 080 KTS

50KT WIND 40NE 40SE 40SW 40NW

35KT WIND 70NE 70SE 70SW 70NW

MOVEMENT 300 DEGREES AT 10 KTS

FCST VALID AT 170000Z

LOCATED NR 17.3N1 062.8W6

WINDS-060 KTS, GUSTS 080 KTS

50KT WIND 40NE 40SE 40SW 40NW

35KT WIND 70NE 70SE 70SW 70NW

FCST VALID AT 171200Z

LOCATED NR 18.4N3 064.8W8

WINDS-090 KTS, GUSTS 100 KTS

55KT WIND 30NE 30SE 30SW 30NW

50KT WIND 60NE 60SE 60SW 60NW

35KT WIND 90NE 90SE 90SW 90NW

FCST VALID AT 180000Z

LOCATED NR 19.1N1 066.8W0

WINDS-080 KTS, GUST 100 KTS

65KT WIND 30NE 30SE 30SW 30N

50KT WIND 60NE 60SE 60SW 60N

35KT WIND 90NE 90SE 90SW 90N

FCST VALID AT 181200Z

LOCATED NR 19.8N8 066.8W2

WINDS-080 KTS, GUST 100 KTS

65KT WIND 30NE 30SE 30SW 30N

50KT WIND 60NE 60SE 60SW 60N

35KT WIND 90NE 90SE 90SW 90N

FCST VALID AT 191200Z

LOCATED NR 20.3N5 072.8W7

WINDS-100 KTS, GUSTS 125 KTS

100KT WIND 10NE 10SE 10SW 10E

85KT WIND 40NE 40SE 40SW 40N

50KT WIND 70NE 70SE 70SW 70N

35KT WIND 100NE 100SE 100E

100NW

NEXT WARNING AT 162100Z4

EXERCISE EXERCISE EXERCISE

Marv Kaminsky, NJ, sent in this copy of an USN weather FAX.

16434: At 1330 YL/EE after ten tones rptng 9297/0497 until 1340. Also on 13425 kHz. (Mason, England)

16605: OTH radar hrd here at 2107. (Sevart, KS)

16802.1: U/i RTTY stn, 48/157 at 1301 w/encrypted tlc. Went down w/PSE VDV??? (Ed.)

17004: HKB, Barranquilla, Colombia in CW at 1930 w/CQ mkr. (Low, TX)

17124.7: PW233, Rio de Janeiro, Brazil at 2030, RTTY 850/75, w/tlc. (Tubbs, VT)

18739.4: RTTY tbcst to KAC, unlocated Russian Embassy stn. Two msgs upcoming with total grps of 227. Hrd at 2050, 75/500. Headings 11177 00128

00000 26090 00511 and 11177 00128 00000 26091 02261. Upon completion msgs resent on 16891.2 kHz. (Ed.)

20037.8: EmbaCuba Nigeria from Havana MFA, RTTY 50/500 at 1439. 5F grps. (Ed.)

20474: YL/EE at 1200 w/alternative "Lincolnshire Poacher" tune. Also on 19884. (Mason, England)

22537: FUF, Fort de France, Naval, Martinique in CW at 1907 w/VVV mkr. (Low, TX)

22711: Portshead Radio w/pp in USB at 1719. (Narde, NY)

28200: KG5YB propagation beacon, Jacksonville, TX at 0215. (Low, TX)

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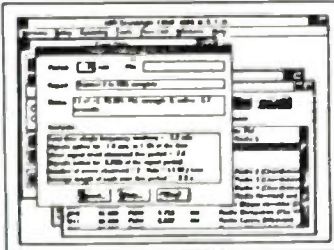
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- ◆ Dot-matrix type LCD which will allow alphanumeric display
- ◆ Simultaneous Dual VFO display
- ◆ SCAN/SEARCH speed of 30 channels per second
- ◆ Comprehensive SCAN methods standard (i.e. Delay Scan, Audio Scan, Free etc.)
- ◆ Supplied with helical antenna, NiCads & wall charger.
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FOCUS ON FREE RADIO BROADCASTING

E Wallesen, of Illinois, sends a *Chicago Tribune* clip reporting the famous British pirate station Radio Caroline is returning to the airwaves. Caroline (named after JFK's daughter) first hit the air in the 1960's, broadcasting from a ship in international waters. Its popularity inspired the creation of many other pirate stations, eventually forcing the government-run broadcasting monopoly to add channels devoted to pop music. Although Caroline's return was only a one day event, celebrating the 30th anniversary of the first broadcast, Caroline officials said they hoped it might launch a real return, this time using satellites to broadcast the Caroline signal.

KRI—Kranker Radio International is a new one (to me, anyway) logged by Matt Kiner, in Pennsylvania, on 7415 at 2348 to 0021. The format featured "New Sounds for a New Era," with music from the 70's, 80's and 90's. Also public service announcements about AIDS and drunk driving. The broadcast went off the air abruptly at 0021. They announced an address of Box 25302, Pittsburgh, PA, but zip code wasn't fully copied.

K-2000 was picked up by Chris White, in Massachusetts, on 7417 lower sideband at 1450, with racial slurs and lots of gutter language. Chris says his reception report (to the Wellsville address) brought a four page letter telling him he wasn't good enough to get a QSL. Ah, more help for pirate radio's fine image, eh?

Chris also logged WLIS (We Love Inter-Val Signals) on 7417 at 2040, announcing the Blue Ridge Summit address.

And he had WPIG, also on 7417, lower sideband, at 2015, airing a Winnie the Pooh story, pig news and pig sound effects.

Kiner had Radio USA on 7445 at 0033 to 0054. "Eclectic programming" says Matt—"speed metal followed by the Beatles" and "Health Bites" by "Joe" concerning the health hazards of cigarettes and the benefits of a low-fat diet. Also "Science News" about how chewing gum is better for your teeth than eating raisins, and why you should eat cheese before bedtime. Announces the Wellsville address.

Solid Rock Radio was spotted by Harry Betts, of Illinois, using 7415 upper sideband, but later they changed to lower sideband. Heard from 2340 tune in, playing mostly oldies rock. The announcer gave the Wellsville address for reports.

Betts also added Radio QSL to his log. They were on with a test broadcast on 7470 at 0030, just counting off numbers. The broadcast was in upper sideband.

Jack Sheldon, Michigan, checks in with a logging of Radio Free Salvation on 7385 at 0117 to sign off at 0140. Hard to tell if

the religious programming was for real or was a satire on the plethora of such broadcasters on shortwave these days. Included a prayer for pirate radio DXers!

Wireline Radio was picked up by Kiner from 2146 to 2212 on 7435. Featured Mark Russell satirical songs and a promo announcement for Radio New York International and a mention of their ship "The Fury." Announces the Blue Ridge Summit address.

Jack Sheldon reports Radio X on 7445 at 0035 to sign off around 0100 with rock music of some kind and talking about same, mentions of "a Radio X production" and "voice of evolution" (?).

Reception was generally poor and hard to tell what was being played or said.

WEED, was heard by Mike Chaney in Virginia on 7385 upper sideband at 0250 with heavy rock and pro-pot pitches.

Trevor Fletcher of Alberta, Canada had something announcing as the Vietnam Veterans Radio Network on 9.398, which he hopes is his first pirate logging. Sorry to disappoint, Trevor, but afraid not. This is a program aired on Radio For Peace International out of Costa Rica. The actual frequency is 9400.

There are a number of programs on the air with names that sound as though they could be pirates so it is sometimes very easy to mistake one for an actual pirate. Whenever possible it's always a good idea to listen across the time periods when a program might end.

It's quite common for me to receive letters bemoaning the fact that the writer has



been constantly trying, but can't seem to hear any pirates. The best way to catch a pirate is to listen—listen—listen! The more time you spend monitoring the better your odds of success. Hang out on the current most popular frequencies (7415 and 7465 and others mentioned in this column) as much as you can, especially evenings... especially weekend evenings... especially holiday weekend evenings! Patience and persistence will pay off but it can take time and it can get frustrating, especially when others seem to be hearing them at every turn. Experience pays off, though your location is also a factor—someone in Nevada isn't going to hear as many pirates as someone in Ohio, simply because the Buckeye guy has more potential targets within easier range.

That'll keep us covered for this time. Please let me have your pirate loggings on a regular basis, along with copies of any QSLs you've received. Thanks to all the good guys who carried the load this month.

Until next month, happy pirate hunting!

WSM

Grand Ole Opry Radio Network
Post Office Box 605
Huntsville, AL 35804

Free Radio Listener:

This confirms your reception of the history making live test broadcast from WSM on October 16, 1993 from 2302-2331 UTC on the FCC approved frequency of 7413 kHz. WSM transmits to North America and Canada from "Music City, U.S.A." - Nashville, TN!

Although the shortwave service is new, the Grand Ole Opry radio program has been around since 1925. In 1974, it was moved to Opryland, an entertainment park near Nashville. The staff of pirate station WSM enjoy bringing to you the best of country music--past and present! We invite music requests, questions, comments and whatever else you may have. Please keep listening for more and feel free to write in again; QSL cards are being printed up. Until we meet again over the airwaves, keep on supporting free radio!

Thanks for the reception report.

QSL#ZZ (22)

Charles Walters in New York state got this QSL from WSM - the "Grand Ole Opry Radio Network" - but there's no connection to the real WSM in Nashville.



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FOR THE HANDICAPABLE COMMUNICATIONS HOBBYIST

Hello again, and welcome to this month's grab bag. First, allow me to make a correction to the April profile of Joe Elliott. The WHAS "Sunday-Morning Talk Show" is broadcast from 8:30 A.M. till noon, Eastern, not 9:00 A.M. till noon as previously stated.

At the time April's column was appearing in print, I received a letter from another blind professional broadcaster, Robert Ulm, of Delphos, Ohio. Robert began working at WDHO FM (107.1) in Delphos back in 1973, while still in high school. He currently wears several hats at the station—selling advertising, serving as news director, and co-hosting a daily one-hour morning show. Robert uses an IBM-compatible computer, specially equipped for synthesized speech. Braille wire-service copy is generated by a Romeo RB40 braille printer. Three standard braille writers—two manuals and one electric—are also on call, and cart labels are produced on an IBM braille typewriter. (How many of you remember when those hit the market?)

Like many other communications professionals, Robert is also a communications hobbyist. A ham for the past 25 years, he holds the call WB8FBD, and may be found on any band from 80 meters to 2 meters. He is also a scanner enthusiast, a handy avocation for a newsman. Last, but not least, he is an unabashed POP'COMM fan. "Yours is the first magazine I read every month, and I always find something interesting in every article." Gee, Robert, we're blushing to the roots of our hair. It's good to know that a lot of professionals find what we do useful and enjoyable. Thanks, and 73. Robert would like to hear from other handicapped professional broadcasters. Anyone wishing to respond should contact Robert J. Ulm (WB8FBD) at 719 W. Second St., Delphos, OH 45833.

Speaking of broadcasting, TV viewers in the District of Columbia are now the beneficiaries of an interesting technical breakthrough. Over the past several years, "closed captioning"—a process which scrolls dialog across the screen for the benefit of deaf or hearing impaired viewers—has been widely implemented. After-market decoders are available, and built-in decoders are even slated to become standard equipment on all sets in the immediate future. Unfortunately, the use of standard closed-caption transmission technology blocks "crawls"—on-screen warnings of impending heavy weather, or other emergency information all viewers need to know about.

Now Washington DC's WRCTV has implemented a system known as TOBI (Television On-line Biscreen Information). TOBI

uses digital-signal-processing technology to squeeze the picture onto the left-hand side of the screen, allowing room for crawls at the top, graphics (such as weather maps) down the right-hand side, and closed captions along the bottom. According to Jim Powell, Managing Director of Station Operations, the DSP hardware can be added to any existing closed-caption system. Alan Horlick, President and General Manager of WRC, says the necessary technical information will be made available to any other station upon request.

Dee McVicker, writing in the trade publication of *Radio World*, notes that the National Radio Club, headquartered in Mannsville, New York, produces *Sound Guide*—a monthly audio news magazine for broadcast DX'ers. Originally just a straight reading of the club's monthly newsletter, *Sound Guide* now boasts its own format, complete with feature interviews, and a host of air checks from stations around the country. In addition to the monthly, annual "best-of" issues may be purchased separately. For more information, contact the National Radio Club, Publications Center, PO Box 164, Mannsville, NY 13661.

The year 1994 has brought at least one new book which could well join such titles as the *World Radio-TV Handbook*, *Passport to World Band Radio*, and the extensive ARRL library as a standard reference for communications hobbyists. This promising newcomer is General Editor Doug (K1VG) Grant's *CQ 1994 Amateur Radio Almanac*, from CQ Communications, the company bringing you *Popular Communications* magazine. No mere summary of "The Year in Amateur Radio," this book yields a wealth of information on every aspect of the hobby. How much information? The table of contents is longer than this column, preceding nearly 500 densely-packed pages. Highlights include a current copy of Part 97, extensive sections on VHF operation, contesting, awards, DX'ing, QSL'ing, plus exhaustive lists of equipment manufacturers and dealers. Have you thought of pursuing packet radio? "It's in there." Are you a no-code tech who wants to make the move to HF? The explanations contained herein may help demystify the code. The book is a gold mine for beginners, but there is plenty for the experienced ham as well.

The book may be purchased directly from CQ Communications, Inc. (same address as POP'COMM), for \$19.95, or from most major radio-supply stores.

As indicated in our June discussion of amateur radio, much of the activity on the ham bands occurs within various nets. Nets provide a structured communications for-

mat, and a chance to become acquainted with other hams who share your interests. They can be found on virtually all HF and VHF bands in all modes, and cover a huge variety of topics.

Traders' or swap nets facilitate the buying, selling, and trading of amateur-related equipment for personal use (licensed dealers are, of course, prohibited from participating). Maritime nets provide communication with hams on or near the high seas. Various occupational and/or professional nets can be heard—airline employees, the Tuskegee Airmen, survivors of Pearl Harbor—guests are often welcomed by these specialized groups. Similarly, there are YL nets, missionary nets, DX spotter nets, even an SWL net. This last one was featured on Radio Canada International's late great SWL Digest, and meets at 10 a.m. Eastern time on 7.240MHz in the 40-meter band.

But perhaps the most common and useful of all are the traffic nets which form the National Traffic System. Relaying messages goes back to the beginnings of the hobby. Spark gap transmitters were terribly inefficient—covering a lot of spectrum, but producing a poor signal. Therefore, if a ham in Connecticut wished to communicate with another in California, the message would inevitably pass through several hands along the way. Today's National Traffic System stands ready in case of disasters or emergencies. But readiness requires an ample supply of savvy operators. Therefore, hams across the country stay in shape by participating in a daily series of traffic nets, handling mostly routine messages to friends and family, and often engaging in friendly chitchat along the way. Traffic handling can be one of the most rewarding aspects of ham radio. Delivering hamegrams is fun, and gilt-edged PR for a great hobby. If you want to find out more, find a state-wide or regional net, and listen for a while. Eventually, you may want to check in during the comment section. Sooner or later, a piece of traffic will head your way, and, before you know it, you will have delivered your first message.

Next month, we'll profile one of this area's most active and skillful traffic handlers. But for now we're out of time. Remember to keep those letters coming; it may be my byline, but it's your column. Type, braille, MS-DOS diskettes, and audio tape are all acceptable. So break out those Elvis stamps you've been saving for a special occasion and do it your way. I guarantee your letter won't be marked "Return to Sender." For now, "Thank you ver' much, ladies and gentlemen. You've been a fantastic audience." ■

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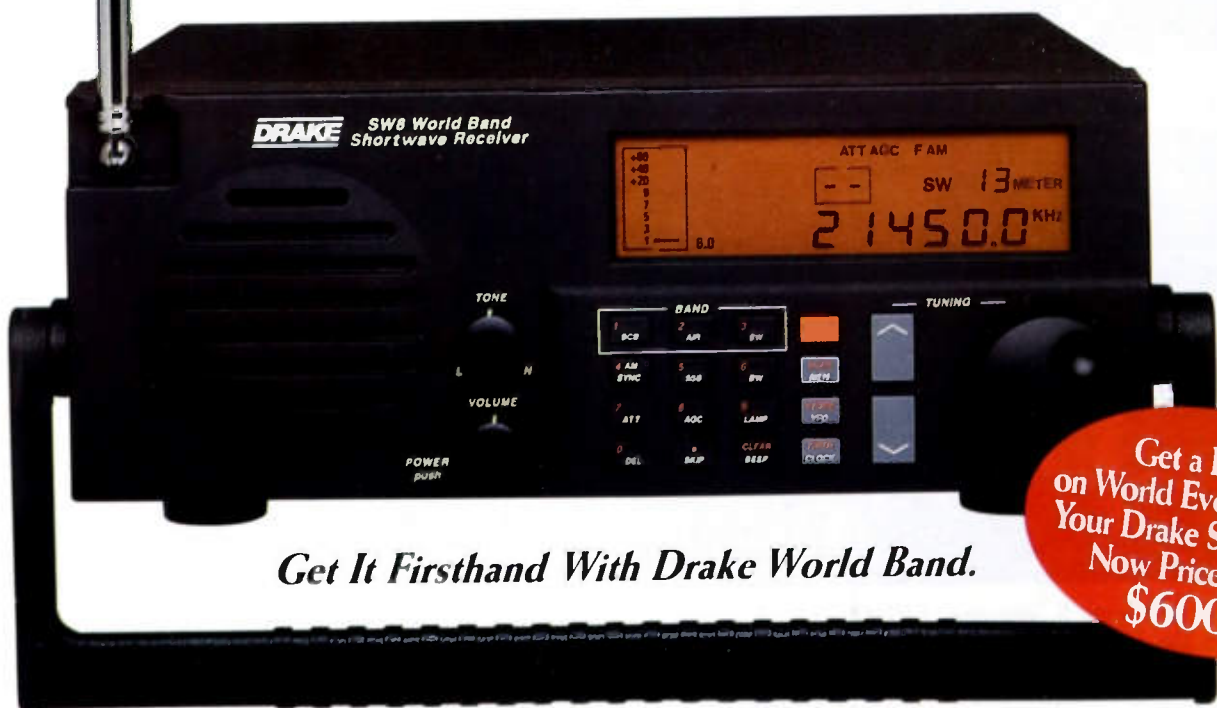
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27 MHz COMMUNICATIONS ACTIVITIES

Last month we looked at the Cobra 18 ULTRA, so this time we'll eyeball the Cobra 19 ULTRA mobile unit, which the company claims is one of the smallest full-featured CB radios they have ever offered. The 19 ULTRA is approximately 4.5-inches wide, 1.75-inches high, and 6.6-inches deep. It sports the distinctive ULTRA series gray and amber color combo.

Features include an oversized green LED channel read-out, electronic up/down channel tuning, detachable mic, ANL, instant Channel 9 access, five-segment three-color LED bar graph indicates received signal strength, transmit indicator, jack for optional external speaker, built-in PA for use with optional external speaker, full maximum 4-watt power output.

The receiver sensitivity is less than 0.1 uV for 10 dB (S+N)/N. Selectivity is rated at 6 dB at 7 kHz, 60 dB at 10 kHz. The

first IF is 10.695 MHz, second IF is 455 kHz. Image rejection (typical) is rated at 80 dB. Adjacent channel rejection (typical) is rated at 45 dB.

The transmitter's output transistors are protected against mismatch up to an SWR of 20:1. It sure would be pretty hard to pop those puppies!

The average price of the Cobra 19 ULTRA is \$59.95. It's from our old friends at Cobra Electronics Corp., 6500 West Cortland Street, Chicago, IL 60635. Phone: 1-800-COBRA-22 for more information, the name of a dealer near you, or to place an order. Please mention you saw it in *Popular Communications*. For more information, you can also circle 102 on our Readers Service.

The Big Ear Got Better

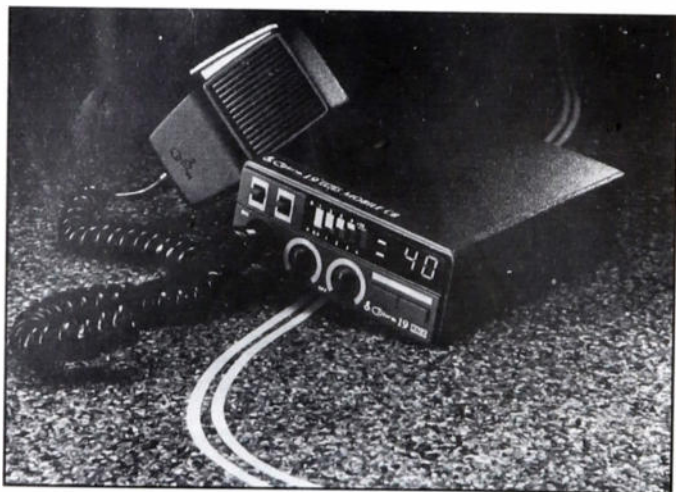
Ron Marshall, N7YLV, of Lincoln City,

Ore., wrote very kind words about *POP'COMM* (we are all blushing, Ron). He included special information that ended up in the CB Scene mailbag, although it is also of interest to many, including readers of *Pirates Den*.

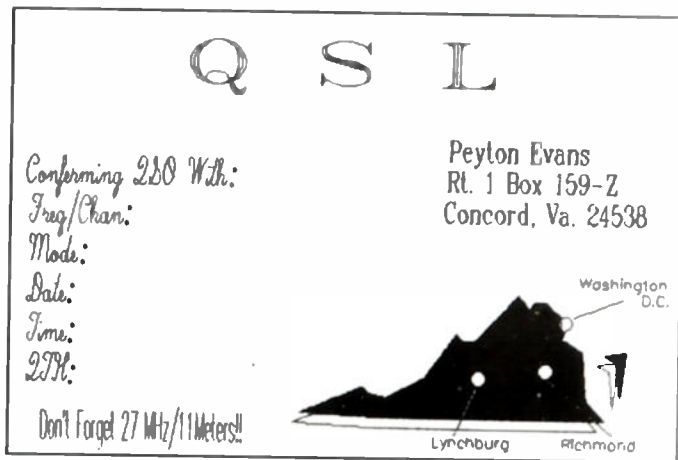
This is news of the FCC's ten new high-tech monitoring vans. Each of the vehicles has been outfitted with \$75,000 worth of equipment used for locating unlicensed stations and signals that cause unintentional interference. The technology for doing this has improved greatly during recent years, and these new vans will take fullest advantage of this.

The news article Ron sent mentioned the FCC had not announced which of its 35 local offices will be assigned the new vans.

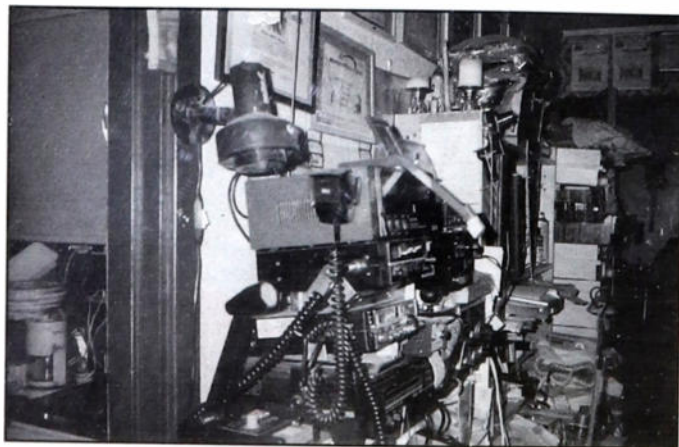
Through our own sources, we have developed more information on the FCC's Mobile Digital Direction Finder (MDDF)



Cobra's 19 ULTRA is a full-featured CB in a small package.



Peyton Evans, of Concord, Va., designed this QSL using his computer.



The station of Magne S. Wangen, 1-RN-0578 (also known as LA6XQ on the ham bands), P.O. Box 106, 2001 Lillestrom, Norway. Photo submitted by J.J. Dawe, SSB Network member SSB-53L, Pasadena, Newfoundland, Canada.



Good view of Trevor Fletcher's CB shack, Edmonton, Alberta, Canada. Those picture frames on the wall to the right contain articles from *POP'COMM*! That's the kind of reader loyalty we like. Trevor's known on the band as Cornbinder 174.

fleet. The FCC feels that three MDDF vans operating as a team can hunt down a signal's source in as little as five minutes. Presently, there aren't enough of these vans to provide any one office with three vehicles, but more vans are being placed in service (slowly) or planned on a continuing basis.

The MDDF vehicles are equipped with enhanced radio spectrum displays (can monitor from DC to 2 GHz) to permit visual observation of signals, enabling easier tracking of targeted stations. Backing this up are two computers featuring flat-panel computer displays touch-screens and virtual instrumentation, and a color printer. In addition, there are voice and packet comms to link the vehicles to other vehicles, and two command posts that monitor the locations of the vehicles on map displays.

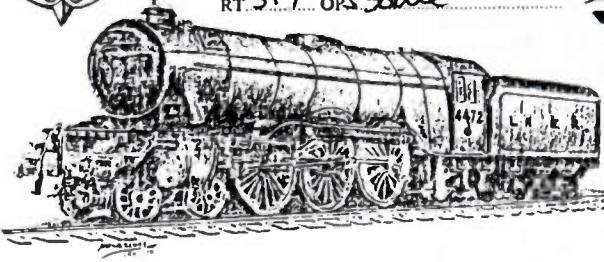
Each van also has a Global Positioning Satellite (GPS) receiver installed.

There are presently 80 older FCC monitoring cars and vans in the agency's fleet, with two or three at each field office. These don't have the sophisticated electronics of the MDDF vehicles, although they have hand-held GPS receivers (*sluggers*, as they are called).

The FCC presently has about 2,000 employees, which includes 300 specially added because of the 1992 Cable TV Act. It has long complained that the agency is grossly understaffed. If you exclude the 300 special Cable TV Act employees, there are fewer FCC employees now than there were

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in 1980. The FCC therefore wants to add 500 more employees, which would bring its regular staff up to the 2,200 size it was in 1980. They may get another 82, but it's 500 doesn't look promising right now.

Mailbag

In the June issue, we wrote about how United Scientific Labs (USL) used to manufacture CB radios during the 1960's on behalf of several different leading companies, including Lafayette Radio, Allied Radio, and Olson Electronics. What a pleas-

ant surprise it was when that mention brought us a letter from none other than Mr. Irving J. Olson, of Akron, Ohio.

Mr. Olson, a POP'COMM reader, was the founder of Olson Electronics. He retired from the company about 30 years ago when the firm was sold to Teledyne. Today, at age 80, Mr. Olson continues his interest in electronics with an ICOM IC-R9000, a Universal M-8000, and a printer.

Mr. Olson is also interested in computers, especially with respect to their ability to reproduce and alter photographs. The

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negs are transferred to CD-ROM and brought up on the screen of an Apple Quadra 950, and the images printed on an Iris 4012 printer.

Speaking of Lafayette Radio, a reader wrote in that he has an old Lafayette Telsat SSB-50 rig, with a power mic. He also has the original stock mic, but reports that at some point in the past the connector was rudely cut off by an infidel. At this point he would like to restore the plug on this mic, and wonders if any reader can provide him with a possible source for that connector. Further, a manual is needed. Also, he's curious about the original cost of the radio.

Any reader who can offer help regarding the Telsat SSB-50 is invited to contact Peyton Evans, Rt. 1, Box 159-Z, Concord, VA 24538.

The Telsat SSB-50 was a 23-channel AM/SSB transceiver—Lafayette's top of the line CB in 1976. The radio was \$329.95, which was serious money for a CB set in those days. The set featured a multi-stage noise limiter and a built-in burglar alarm.

Coming Down with a Code?

The ever-popular ten-code has been overworked on the CB channels to the point of sheer exhaustion. Not only has the poor thing become worn out and bedraggled, it has retained its position as a major source of confusion for the CB'ers of the

world. So, let's give it a going over.

There is no single "official" ten-code in use in CB radio. That's because there is nobody to make it official. Neither the FCC nor the Canadian DOT publishes nor endorses a ten-code for CB use. The ten-codes you hear on the CB channels are essentially based upon the traditions established by the CB operators of 25 to 30 years ago.

There are local variations to a code that is somewhat similar in most areas of the nation. Individual operators may be familiar with, or need to use/know, only a few specific popular and useful selections from this code, such as 10-4, 10-7, 10-20, 10-42, etc. The meanings of the most-popular signals remain constant on CB in all areas, though this isn't necessarily true with lesser used signals. The ten-code is used only by AM CB operators, but never by SSB operators.

A ten-code also exists called the APCO code. This was the original ten-code that later inspired the impromptu creation of CB ten-code. The APCO ten-code was created for official law enforcement agency use on police and sheriff frequencies. The APCO ten-code, or localized variations based upon it to one extent or another, have, at times, given the mistaken impression that signals used by CB'ers and those used by police are either the same, or very similar. While a few specific signals may coincide, the bulk of them do not match up between one and the other.

Attempting to use a common CB ten-code to a police officer could run the risk of having a misunderstood message. This could be a real problem. For example, a CB'er wishing to "sound official" when radioing a highway accident might elect to refer to the incident as a 10-42. The APCO code's 10-42 means, "Ending tour of duty." A local agency's own ten-code could have it mean something else altogether, like, "Barking Dog," or "Riot." Any response a 10-42 brought, might either be too little, too much, or too late.

Fortunately, by now most police are apparently aware that CB'ers use a set of signals that only sound like police ten-codes. I've heard them demand that CB'ers explain their messages. CB'ers who want to play it safe and smart should avoid using CB or any ten-codes when communicating with emergency personnel (including when calling 9-1-1 over a cellular). Just say what you mean and nobody will misunderstand.

While you're at it, think about cutting back on your CB ten-code usage, and reducing it to just a few you simply can't do without. Or, drop it altogether. Is it absolutely necessary for CB'ers to still be numbered among the "10-4 people" after all these years? It was a bad habit to begin with 25 years ago.

Drop us a letter, or send along a QSL or a photo of your (or a friend's) station. Ask us questions, pass along your thoughts, and keep in touch. This is your column! ■

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WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

The usual kaleidoscopic assortment of shortwave news confronts us this month.

Two more major shortwave broadcasters have done some restructuring. Radio Netherlands now focuses on just three languages—Dutch, English and Spanish, with the first two getting increased hours on the air. Arabic, French, Indonesian and Portuguese have all gotten the ax. None of this, it's claimed, is due to tighter budgets, but rather is portrayed as a redirecting of priorities. Additional use will be made of re-broadcast arrangements on local stations taking the RN signal via satellite.

Swiss Radio International has also "re-structured" its program schedule, adding a 24-hour English news and information service transmitted via satellite. Shortwave services for Europe have been cut back to just the "prime time" hours. One big casualty of all this was the loss of the venerable "Swiss Shortwave Merry-go-Round." Some observers say they see a decided loss of interest in shortwave on the part of the Swiss Radio management and sense that this may be the first step in a long (or maybe not so long) downhill slide, steadily decreasing emphasis on shortwave. Apparently shortwave broadcasts to America (their length, not contents) won't change, at least for the time being.

Adventist World Radio (a.k.a. Radio Lira) in Costa Rica has finished making the move from Alajuela to Cahuita on the Atlantic coast—so all AWR Costa Rica frequencies (5030, 6150, 9725, 11870 and 13750) now come from that site. The former 11870 transmitter will eventually end up at AWR Guatemala so sometime in the future that should mean better reception from Radio Union, there, which is now heard—usually not so well—only on 5980v.

Can't say how much it'll help us hear 'em, but Lao National Radio has obtained a new 50 kW Australian-built transmitter which they hope to have on the air by next spring. It will be used to provide improved domestic coverage.

About as hard to hear as Laos is Thailand. Rather than placing all your hopes on Radio Thailand you might have a go at getting Bangkok Meteorological Radio on 6764.9 upper sideband. It broadcasts weather for the Gulf of Thailand eight times per day in both Thai and English. The best time to try is probably at 1155. Most shortwave broadcast DX'ers consider this station as a broadcaster, not a utility, though the utility fans count it as one of theirs.

Australian Armed Forces Radio has been renamed Australian Defense Forces Radio (ADFR). It broadcasts to Australian forces serving in places like Somalia, from two transmitter sites. The transmitter at Ex-



Radio One is one of Singapore's domestic services relayed on shortwave. (Thanks to Andy Johns, Mansfield, TX)

mouth broadcasts at 1600 to 1700 Monday to Friday with 40 kW USB on 10848.5. The Belconnen site airs daily at 0430-0530, 0930-1030 and 0100-0200 (the last two repeat broadcasts) on 18735 USB. If you don't find them there try 13525.

Shortwave broadcasting in Cameroon is reported to be in a raggedy state—but we could have figured that by the absence of so many of the Cameroon regional stations. The only outlet reported to be currently active is Garoua on 5010 (check around 0500). Facilities at Buea, Baffoussam, Bertoua, Douala and the capital, Yaounde, are all under repair and are supposed to return eventually.

The Guyana Broadcasting Corporation's shortwave service is currently off shortwave. It seems someone apparently walked off with some of the wires from their antenna! No telling how long it will be before this station returns. It's a difficult one to hear, even when it has all its wires. Check 5950 around 0800 or 0900.

You can hear the Salvation Army Radio program "Wonderful Words of Life," aired over Equatorial Guinea's Radio Africa at 2100 Saturdays on 7190 and 0730 Thursdays on 15190. Well, with such a schedule let's revise the statement and say you can try to hear it!

Some interesting news from South America: Watch 15200 for the possible appearance of Radio Cardinal AM Stereo from Paraguay, which is reported to have applied for a license. Of course it won't be in stereo on shortwave!

Radio Caracas in Venezuela is, at the moment, running tests on 25705 USB using 120 watts. The programs are relays of

the station's medium wave news broadcasts. They're aired at 1900 to 1930 Monday to Friday, 1800 to 1830 Saturdays, and on Sundays at 1500, 1600 and 1700, though the Sunday schedule is said to be a bit erratic. Reception reports are wanted to P.O. Box 65657, Caracas, Venezuela.

Some reports indicate the return of what may be the original La Voz del Atlantico in Nicaragua, which was active some years before the Civil War. It was noted at 2300 with sports programming in Spanish on 10125. Could be this is a studio link for live sports remotes, in which case you won't find it operating on a regular schedule.

HCJB has published a special issue of its monthly *Andex International*, the bulletin of its Andes DX'ers International Club. The issue is titled "An Introduction to Shortwave Radio" and includes answers to some basic, commonly asked questions, the uses to which shortwave frequencies are put, a couple of simple indoor antennas, some basics of writing reception reports and lists of a number of shortwave publications and suppliers. Nicely done! A couple of dollars should bring you a copy if you're interested. Write to: Andex, HCJB, Casilla 17-17-691, Quito, Ecuador.

Mail Notes: John R. Matthews has acquired a Dymek DR-22 shortwave receiver and needs information about it, including where he can get an operator's manual. If you can help, contact John at 224 Avenida St., Apt. 6, Costa Mesa, CA 92627.

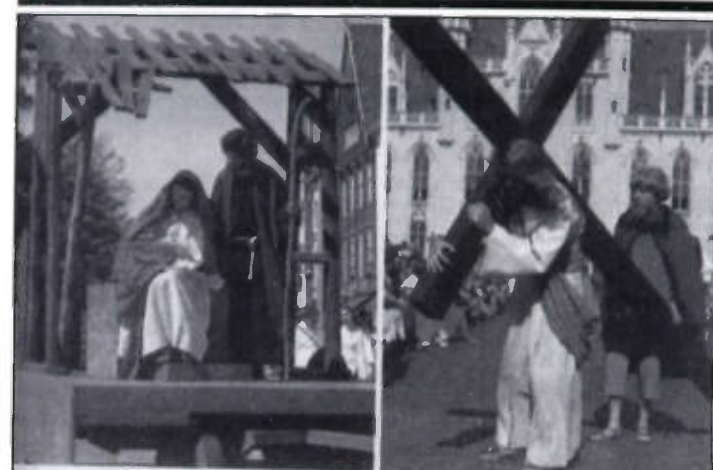
Del Flemmer has inherited his grandfather's Zenith Trans Oceanic "Wave Magnet" L600 shortwave portable. He says it is in mint condition—not even a mark on the logbook which came with the set. Del wonders how old the receiver might be. Probably sometime around the very late 50's or possibly very early 60's would be our guess, Del. We understand a book for collectors of Zenith Transoceanics will be published late this year—it should have all the answers you could want.

Don't forget us while you're tuning the shortwave bands! We rely on your logs to help our readers tune new and interesting stations. Please list your loggings by country, leave some cutting space between loggings, and put your last name and state abbreviation after each one. Also wanted are photos of your shack (with or without your smiling face!), spare QSL cards you don't need returned, program schedules, station photos and literature and all that sort of stuff. Your help and cooperation is always welcome, always valued.

Here are this month's logs. All times are UTC, which is five hours ahead of Eastern Standard Time, i.e. midnight (0000) UTC is the same as 7pm EST, 6pm CST, etc.

This full color, multi-scene QSL is from Belgium's Radio Vlaanderen, but the back still says BRT. (Thanks to John Dawe, Pasadena, Newfoundland)

Like stations in several other countries, Radio Prague now issues a series of QSL cards depicting animal life. (Thanks to John Dawe, Canada)



H. BLOEDPROCESSIE BRUGGE



The language broadcast is assumed to be English (EE) unless otherwise indicated (FF=French, SS=Spanish, GG=German, AA=Arabic, etc.).

ALBANIA—Radio Tirana, 11839.8 at 0240. (Rocker, NY) 11840 at 0229 with IS, ID and news. (Jeffery, NY)

ANTIGUA—BBC relay, 5975 at 2300 with "Newsdesk." (Jeffery, NY)
Deutsche Welle relay, 17810 at 2025 in GG. (Harris, TN)

ARGENTINA—Radio Nacional, 6060, at 0805 with music and ID in SS. (Flemmer, WA)

ARMENIA—Radio Yerevan, 4810 at 0250 with news, ID in Armenian and pops, including some American numbers. (Flemmer, WA)

ASCENSION ISLAND—BBC relay, 13660 at 2128 with IS and "Calling the Falklands." This program is Tuesdays and Fridays only, 2130-2145 and only on this frequency. (Lamb, NY) 15260 at 2100. 15400 at 1947 and 2031 and 17880 at 1902. (Jeffery, NY)

AUSTRALIA—Radio Australia, 6080 at 0744 with request show. 13605//15365//15415//17860 at 0448 with "Correspondent's Report," music, ID, news. (Lamb, NY) 11800 at 1252 and 1401, 17860 at 0303. (Jeffery, NY) 13605 at 0437 with news. (Harris, TN)

AUSTRIA—Radio Austria Int'l, 9655//9820 at 0130. (Rocker, NY)

BELGIUM—Radio Vlaanderen Int'l, 9925 at 0610 in DD. Into music and news in EE at 0630. (Flemmer, WA) 15445 at 1300 sign on with ID, news, "Radio World" and tourist feature. (Lamb, NY)

BOLIVIA—Radio Illimani, 6025 at 0142 in SS with ID, Gipsy Kings and Bolivian music, slogans are "Para Bolivia por el mundo" and "La voz de la capital Boliviana." (Lamb, NY)

BOTSWANA—Radio Botswana, 3356 at 0251

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/iou
SA	South America/n
SS	Spanish
UTC	Coordinated Universal Time (ex-GMT)
v	Frequency varies
w/	With
WX	Weather
YL	Female
//	Parallel Frequencies

with animal IS at sign on, anthem, ID, news in presumed SeTswana and rock. 4830 at 0512 in EE with news, ID, disco, into presumed SeTswana at 0523. (Lamb, NY)

BRAZIL—Radio Record, 9505 at 2305 with talk, jingle, ID, time checks, sound effects, echo ID. All PP. (Paszkievicz, WI)

2318 with Brazilian pops, jingles, ID, sports. (Lamb, NY)

Radiobras, 15445 at 1238 in EE with news. fea-

tures and music. (Jeffery, NY) 17750 at 1906 in PP to Europe with Brazilian pops, IDs, presumed news, closing announcement over "Girl From Ipanema." (Lamb, NY)

Radio Guaiba, 6000 at 0923 in PP with religious talk over classical music, ID, frequencies, bank commercial. (Lamb, NY)

Radio Anhanguera, 4915//11830 at 0101 in PP with IDs, jingles, news, Brazilian Pops. Off at 0113. (Lamb, NY)

BULGARIA—Radio Bulgaria, 9700 at 2104 with news, comment and news features. (Jeffery, NY) 9700//11645//11720 at 2102 with news, ID, sports, "From the Weeklies." (Lamb, NY)

CANADA—BBC via Sackville, 9515 at 1300 and 1500. (Jeffery, NY)

Radio Japan via Sackville, 11705 at 1400 with news, Japanese lesson, "Media Roundup," "Viewpoint" and "Tokyo Pop In." (Jeffery, NY)

Radio Canada Int'l, 9755 at 0102. (Harris, TN) 0205 with sports news, "Royal Canadian Air Force" and "Double Exposure."

(Jeffery, NY) 11955 at 1500 with news. (Low, TX)

CHINA—Voice of Fujiang, Shanghai, 4950 at 1211 in CC with talk show and classical piano.

China Radio Int'l, 11715 (via, and see also, Mali, editor) 0021 in EE. (Vaage, CA)

COLOMBIA—La Voz de la Selva, 6170 at 0755 with SS ID and Caracol network. Music in SS. Listed 2 kw. (Flemmer, WA)

Radiodifusora Nacional, 11785 in SS at 0340 to 0355 close with salsa music, ID, national anthem. Mention of announcer names. (Paszkievicz, WI)

COSTA RICA—Radio For Peace Int'l, 7375 at 2258 with "Far Right Radio Review." Also at 0404 with DX show. (Jeffery, NY)

Adventist World Radio, 6150 at 0350 with religious programming in SS. (Flemmer, WA)

Radio Exterior de Espana relay, 11815 in SS at 2015. (Harris, TN)



RADIO ROMANIA INTERNATIONAL



01.11.1993-
04.05.1994

Radio Romania International sends out this full color, multi-fold schedule. A bit fancier than in the old days.

CUBA—Radio Havana Cuba, 6010 at 0200 with news. (Harris, TN) New 9820 at 0200. (Rocker, NY) 9820 (ex 9510) at 0059 in SS with news, ID, into EE at 0159. Also 13700USB (ex-9815) and//6010 at 0100 in EE with ID, lineup, news, tourist feature. Also on new 13715 at 2312 in FF. (Lamb, NY) 2326 in FF. 17760 at 2059 in EE with IS, ID, international news. (Jeffery, NY) 15165 at 2138 with DX program. (Low, TX)

Radio Rebelde, 5025 at 0341 with news, music, ID, all SS. (Flemmer, WA)

CYPRUS—BBC relay, 7235 at 0325 in EE with sports scores, frequencies for world service to Africa and off at 0330. (Lamb, NY)

ECUADOR—Radio Centro, 3290 at 0645 in SS with Andean music, talk, IDs, promos. (Lamb, NY)

Radio Centinela del Sur, 4770 at 0316 with Latin pops, ID, sign off announcement with frequency, power, phone number and anthem. Off at 0339. (Lamb, NY)

EGYPT—Radio Cairo, 9475 at 0200. Poor modulation. (Rocker, NY) (as always! editor) 12050 at 1839 in AA with Egyptian music, ID for the General Program, radio drama. (Lamb, NY)

ENGLAND—BBC, 11750 at 0030. (Vaage, CA) 12095 at 1800 with "Newsdesk." 13660 at 2127 to the Falklands (see Ascension, editor) and 15070 at 1722 with sports and news. (Jeffery, NY)

15260 at 2003. (Harris, TN)

FINLAND—Radio Finland Int'l, 11900 at 1229 in EE with IS, ID and "Compass North." 15400 at 1330 with "Compass North" and "Closeup." (Jeffery, NY)

FRENCH GUIANA—Radio France Int'l relay, 13625 at 1228 with "Spotlight on Africa," weekly FF lesson and headlines. (Jeffery, NY)

GERMANY—Bayerischer Rundfunk, 6085 at 0256 with 50s songs, ID. GG. (Paszkiwicz, WI)

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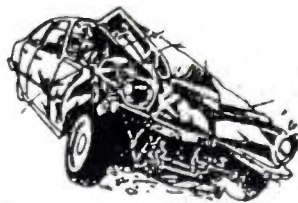
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October 1994 / POPULAR COMMUNICATIONS / 67



Here's the transmitter building of KSDA on Guam. (Thanks to "Bug Hunter")

VOA Wertachtal relay, 9745 at 2037 in AA with US pops, IS, presumed US entertainment news, ID, news. (Lamb, NY)

Deutsche Welle, 9670 at 0130. (Low, TX)

GREECE—Voice of Greece, 9380//9420//11645 at 0139 with Greek music, feature about an art exhibition, ID, back into Greek at 0144. (Lamb, NY) 17535 at 1343 with news in EE. (Jeffery, NY)

GUAM—KTWR—Trans World Radio—on 9785 at 0951 with religious programming in CC. (Flemmer, WA)

GUATEMALA—Radio Tezulutlan, 4835 at 0348 in SS with music. (Flemmer, WA) 1105 in SS/local language with religious music and talks, IDs, frequencies, marimba music, possible SS lesson including sound effects. (Lamb, NY)

HAWAII—KWHR on 17510 at 0006 with audio portion of a TV infomercial for Biblically-inspired vitamins. "Call the number on the screen." (Lamb, NY)

HONDURAS—La Voz Evangelica, 4820 at 0352 with weekly EE religious program. (Flemmer, WA)

HUNGARY—Radio Budapest, 9835 at 0245 with DX program. (Rocker, NY)

INDIA—All India Radio, 11620 at 2104 in EE with news, commentary, sports, music, interview. (Jeffery, NY)

INDONESIA—RRI Jakarta, 9524.8 at 1200 with music and ID in Malay. (Jeffery, NY)

IRAN—VOIRI, 7100//9022 at 0122 in EE with Islamic reading, Iranian music, ID, address, frequencies, IS. Into SS at 0130. (Lamb, NY)

ISRAEL—Kol Israel, 11640 at 1925 with "Cutting Edge." (Rocker, NY)

JAPAN—Radio Japan, 5960 at 0128. (Harris, TN) (Via Canada, editor.)

KUWAIT—Radio Kuwait, 11900 at 1745 in AA, into EE at 1800. Also EE at 1928 on 11990. (Jeffery, NY) 13620 at 1329 in AA with local music, IDs. (Lamb, NY)

LESOTHO—BBC relay, 6190 at 0419 with "Newshour." (Jeffery, NY)

LIBERIA—ELWA, presumed, 4760 at 0612 in EE with African and contemporary Christian music, religious talks. (Lamb, NY)

LITHUANIA—Radio Vilnius on new 11770 at 2300 sign on with ID, choral anthem, EE news for 5 minutes then 25 minutes in Lithuanian. The full 30 minute EE program airs weekends only. (Lamb, NY)

LUXEMBOURG—Radio Luxembourg, 15350 at 1908 in GG with oldies rock, commercials for classical and oldies CDs, ID "RTL Radio." (Lamb, NY)

MALI—China Radio International relay, 11715 at 0021. (Vaage, CA) 15110 at 2105 with world and China news. (Jeffery, NY)

MEXICO—Radio Mil, 6010 at 0715 in SS with "When the Saints Go Marching In" in SS, ID, jingles, Mexipop. (Lamb, NY)

MOROCCO—RTV Marocaine, 15345 at 1419 in AA. (Low, TX)

15360, presumed, at 1506 in AA with news, flute and drum music, off at 1520. Also 17595 at 1452 with oldies and announcer in possible EE. FF ID and news

at 1500, relay of domestic "Musique FM" service. (Lamb, NY)

VOA relay, 15205 and //Portugal-9760 at 2006 with "Music USA Jazz Hour." 15280 at 1933 in Serbian with news, EE sound bites with running translation. Off at 1959. (Lamb, NY) 15205 at 1800, 15410 at 1956 with "Music Time in Africa" and "Nightline Africa." (Jeffery, NY)

NIGER—La Voz du Sahel, 5020 at 0527 in FF with African music, ID, news. Fade by 0537. (Lamb, NY)

NIGERIA—Radio Nigeria, Kaduna, 4770 at 0423 sign on with carrier, drums, anthem, "Pledge of Allegiance," religious talk and Christian music. (Lamb, NY)

NETHERLANDS—Radio Netherlands, 9840 at 0107 to close at 0125. (Harris, TN)

NETHERLANDS ANTILLES—Radio Netherlands Bonaire relay, 6165 at 0024. (Vaage, CA) 17605 at 1927 with IS, ID, news and 21590 at 1743 with "Newslines." (Jeffery, NY)

NEW ZEALAND—Radio New Zealand Int'l, new 6100 at 0836 with time check, ID, address. (Lamb, NY) 1045 with Asia/Pacific news, into BBC at 1100 to domestic service at 1130. (Flemmer, WA) 0845 with features on New Zealand history. 15115 at 0218 and 0418. (Jeffery, NY) 0425 with "Pacific Beat." (Harris, TN) New 11900 at 0459. (Rocker, NY)

NORTHERN MARIANAS—KFBS, Far East Broadcasting Co., 9495 at 1244 in CC with music. (Flemmer, NY)

KHBI, 13625 at 1314 with Christian Science Sentinel weekend program. (Lamb, NY)

NORTH KOREA—Radio Pyongyang, 6560 at 0956 with news in JJ, anthem and sign off at 1000. (Flemmer, WA) 13760 at 0013 with commentary on tension between North and South. (Jeffery, NY)

PAPUA NEW GUINEA—NBC, Port Moresby, 4890 at 1042 with news, ID and oldies songs. (Flemmer, WA) 0946 in presumed Pidgin with local news, talks, drums, ID, music. (Lamb, NY)

Radio New Ireland, 3905 at 1235 with island music and talk in local language. (Flemmer, WA)

PERU—Radio Andina, 4995.8 at 0217 in SS with mentions of Peru, theme from "Exodus" as background, IDs, time checks, vocals. (Paszkiwicz, WI)

Radio Union, 6115 at 0642 in SS with music and ID. (Flemmer, WA)

Radio Ancash, 4990 at 0548 in SS with music, ID. (Flemmer, WA)

PORTUGAL—Radio Portugal, 9570 at 0150 with DX program. (Rocker, NY)

VOA relay, 9760//15160//15425 at 1406 with news, "Music USA Jazz," editorial to close at 1459. (Lamb, NY)

VOA via Gloria, 11905 at 1856 in Croatian with talks, rock, headlines, ID. (Lamb, NY)

Deutsche Welle Sines relay, 15425 at 2351 in SS with 20s-sounding jazz, ID, frequencies, news. (Lamb, NY)

ROMANIA—Radio Romania Int'l, 9510 at 0200. (Rocker, NY)

11940 at 1310 with news, music, press review and

"Welcome to Romania." (Jeffery, NY)

RUSSIA—Radio Moscow, 7165 at 0039. (Low, TX) 11630 at 2016 with "Culture and the Arts" 15105 at 1829 with news, "Contacts and Contracts." (Jeffery, NY) 11675 at 2041, folk music program, 11805 at 2218 "Commonwealth Update." (Harris, TN) 15290 at 2010. (Rocker, NY)

Deutsche Welle Samara relay, 12045 at 0133 with "Economic Notebook," jazz, ID, frequencies, IS. (Lamb, NY)

RWANDA—Deutsche Welle relay, 11740 at 1916 with various programs and frequency info. (Jeffery, NY) (Note that the Rwanda relay has since been closed due to the civil war there editor)

SEYCHELLES—FEBA, 9875 at 0238 to 0245 close. Music, talk in unidentified language, IS (Paszkiwicz, WI)

SINGAPORE—BBC relay, 11750 at 1505 with news and sports. (Lamb, NY)

SLOVAKIA—Radio Slovakia Int'l, 5930 at 0100. (Rocker, NY)

SOUTH AFRICA—Afrikaans Stereo, 4810 at 0500 in Afrikaans with ringing phone, ID. (Lamb, NY) Radio Oranje, 3230 at 0240 in EE with US pops, ID, Afrikaans news. On earlier than normal. (Lamb, NY)

SPAIN—Spanish National Radio, 9540 at 0023. (Harris, TN)

0500 with IS, ID, address, news. (Jeffery, NY) 0140 with "Entertainment in Spain", ID, SS lesson. Also 11880//17870 via Costa Rica at 1859 in SS with IS, ID, news. (Lamb, NY)

SUDAN—Sudan National Radio, 7200 at 0250 with IS, national anthem, ID, news. (Paszkiwicz, WI)

SWAZILAND—TWR, 4775 at 0410 in unidentified language IS and close at 0415. (Paszkiwicz, WI)

SWEDEN—Radio Sweden, new 6040 and //9580 at 0331 with "60 Degrees North" and "Media Scan/Sweden Calling DXers." (Lamb, NY)

SWITZERLAND—Swiss Radio Int'l, 13635 at 2019. (Harris, TN)

2001 with news and "Dateline." (Jeffery, NY)

TAIWAN—Voice of Free China, via WYFR, 9680 at 0200 sign on. (Low, TX)

Broadcasting Corporation of China, 9610 at 0605 with news in CC. (Flemmer, WA) 1235 in CC with sporting event, crowd noise, commercials, ID. (Lamb, NY)

TURKEY—Voice of Turkey, 9445 at 0302 with news and "Outlook." (Jeffery, NY)

UKRAINE—Radio Moscow relay, 15290 at 1426 with "News and Views," "News in Brief" and music. (Jeffery, NY)

Radio Ukraine Int'l, 11950 at 2050 with IS, ID, news, "Ukrainian Diary" and "Hello From Kiev." (Jeffery, NY)

UNITED ARAB EMIRATES—UAE Radio, Abu Dhabi, 11885 at 2300 with ID, press report, "Heart Enlightened with the Blessing of Islam." (Jeffery, NY) 2227. (Harris, TN)

UAE Radio, Dubai, 21605 at 1600 with "Holy Prophet" program. (Low, TX)

VATICAN RADIO—7305//9605 at 0250 with DX program. (Rocker, NY) 9650//11935 with religious talk, country/gospel songs, ID, church news, IS and off at 0159. (Lamb, NY)

VENEZUELA—Radio Tachira, 4830 at 0345 with news in SS. (Flemmer, WA)

YUGOSLAVIA—Radio Yugoslavia, 9580//11870 at 2358 sign on with IS, ID, news, interview, "Musical Heritage" and schedule. These frequencies are also used for EE to North America at 0430 to 0500. (Lamb, NY)

ZAMBIA—ZNBC-2, 7234 at 0300 with anthem, ID, news. (Lamb, NY)

That wraps things up for this month. A snappy salute and a hearty thank you to the following who made it possible:

Marie Lamb, Brewerton, NY; Del Flemmer, Tacoma, WA; Daryl E. Rocker, Herkimer, NY; Sheryl Paszkiwicz, Manitowoc, WI; Dave Jeffery, Niagara Falls, NY; Paul Harris, Columbia, TN; Brad Low, Jacksonville, TX; Bjorn F. Vaage, Granada Hills, CA. Thanks to each of you!

Until next month—good listening! ■

BROADCAST DX'ING

BY ROGER STERCKX, KVT1JH

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

Hope to Save Clear Channel: A few issues back, we mentioned how Ft. Wayne's 50 kW WOWO has long had the status of a clear channel station on 1190 kHz. Possible problems loomed on the horizon when New York City's WLIB, also on 1190 kHz, sought to purchase WOWO. There were speculations that, once WLIB owned WOWO, it would seek to shift the clear channel to New York, thereby signing off WOWO at sundown, or operating it at night with greatly reduced power. Both possibilities were unpleasant to WOWO's large night-hour audience, which covers a wide area of the Midwest and South.

Now, a radio engineering firm has come up with an alternate proposal. This idea would let WOWO remain on the air at night with its full power and calls for reconfiguring the WOWO antenna system. This would shift the direction of the WOWO night signal away from the east and south in order to protect WLIB's signal. At night, WOWO would no longer have signals that went east beyond Ohio, or south past Tennessee. The signals would be increased towards the north in the direction of Michigan, Wisconsin, and Canada. Daytime coverage would remain unchanged.

This is merely one suggestion among several the FCC will be considering. As this column is being written, the sale of WOWO to WLIB was still pending, and awaiting FCC approval.

Thanks for this information goes to Jim Weiler, of Fort Wayne, Ind. Jim tells us that WOWO means a lot to local people, espe-



"B96" on this bumper sticker represents Chicago's WBBM/96.3, a Top 40 station. (Sent to us by Boris Kazinsky, N9SUW, Niles, Ill.)

cially those who winter in Florida and enjoy hearing this friendly voice from home.

Format Change? What Format Change?: Seems word got around that WKDC/1530, of Elmhurst, Ill., was to be sold to a car dealer who would turn it into a talk-radio station. Listeners protesting the rumored impending loss of WKDC's all-jazz program format flooded the station with mail.

This was passed along to us from Elmer Wallesen, of LaGrange Park, Ill. Elmer also advises that WCFL-FM/104.7 doesn't sound much like the old WCFL-AM, which was a stalwart pop and rock station. The new FM incarnation plays only religious-oriented rock music as part of the New Life Radio Network.

Low Power Broadcaster: Station

WPCF719 is a challenge for the DX'er. This new station operates with flea power on 590 kHz from its location on US Route 41, near College Avenue, Grand Chute, Wisc. Grand Chute is a suburb of Appleton, Wisc. US Route 41 is the main highway in the Fox Cities area.

Programming is not fancy. Instead, it is merely a repeating 90-second informational tape announcing events and attractions relating to the Fox Cities Convention and Visitors Bureau.

The WPCF719 signals are reputed to reach south to the exit at State Route 441, and north just past the exit at Washington Avenue.

This sent in by Michael Gostas, Appleton, Wisc. Do they QSL?

Permit Granted to Construct New Shortwave Station

GA	McCassville	(Various frequencies)
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Cancelled

KKLC	Susanville, CA	96.3 MHz	25 kW
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Applied for Changed AM Facilities

KZPM	Bakersfield, CA	1100 kHz	Seeks power to drop to 4.2/800.
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Changed AM Facilities

WHRT	Hartselle, AL	860 kHz	Moved to 890 kHz, 5 kW days.
WJNO	West Palm Beach, FL	1230 kHz	Increased night power of synch xmtr. to 800 watts.

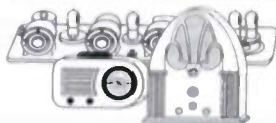
Applied for Changed FM Facilities

KIRC	Shawnee, OK	105.5 MHz	Seeks 105.5 MHz, 6 kW.
KKOL	Hampton, AR	107.1 MHz	Seeks 106.5 MHz, 17.5 kW.
WKMD	Loogootee, IN	94.1 MHz	Seeks 93.9 MHz.
WSEA	Pawley's Island, SC	100.3 MHz	Seeks move to Atlantic Beach.
WSHV	South Hills, VA	105.5 MHz	Seeks 98.9 MHz, 15 kW.

Changed FM Facilities

WTGA-FM	Thomaston, GA	95.3 MHz	Moved to 101.1 MHz, 6 kW.
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Applied for Permits to Construct New FM Stations

AK	Houston	92.1 MHz	6 kW
AZ	Kingman	94.3 MHz	50 kW
CA	Antioch (KITS booster)	105.3 MHz	32 watts
CA	Crescent City	91.9 MHz	1.4 kW
CA	Madiera	91.1 MHz	7.5 kW
CA	Monterey	104.7 MHz	3.4 kW
CA	Point Arena	102.3 MHz	25 kW
CA	San Ardo	91.7 MHz	2.7 kW
CA	Santa Cruz	89.3 MHz	300 watts
IL	Freeport	89.1 MHz	2.2 kW
IN	Portland	91.7 MHz	2.1 kW
IN	Veedersburg	92.9 MHz	6 kW
LA	Amite	96.5 MHz	6 kW
MS	Centreville	89.7 MHz	70 kW
MS	Mound Bayou	102.1 MHz	50 kW
MS	Potts Camp	95.9 MHz	6 kW
NC	Norlinda	94.1 MHz	6 kW
NH	Nashua	88.3 MHz	100 watts
NY	Grand Gorge	105.3 MHz	340 watts
OH	Athens	95.9 MHz	2.8 kW
OK	Sulphur	90.7 MHz	3 kW
OR	Bonanza	102.9 MHz	785 watts
OR	Coos Bay	106.5 MHz	3.3 kW
OR	Malin	100.3 MHz	750 watts
OR	Merrill	105.7 MHz	112 watts
TX	Midland	95.1 MHz	3 kW
WI	Balsam Lake	104.9 MHz	25 kW
WY	Ethete	89.5 MHz	100 kW

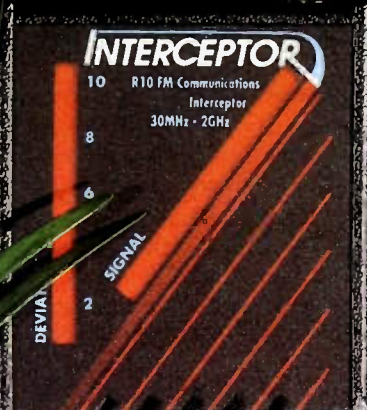
Permits Granted to Construct New FM Stations

AR	Mountain Pine	101.9 MHz	6 kW
IL	Carbondale	91.1 MHz	70 kW
IL	Dwight	98.9 MHz	
IL	Oregon	106.1 MHz	3 kW
IL	Saint Joseph	89.9 MHz	3 kW
KS	Silver Lake	92.5 MHz	6 kW
MO	Kennett	104.3 MHz	6 kW
NJ	Atlantic City	88.9 MHz	100 watts
NY	Grafton (WNGN booster)	97.5 MHz	140 watts
PA	Galeton	100.7 MHz	14.5 kW
PA	Kane	90.1 MHz	17 kW
TX	Big Sandy	90.7 MHz	10 kW
TX	Junction	93.5 MHz	2.72 kW
TX	Littlefield	95.5 MHz	25 kW
WI	Kaukauna	103.1 MHz	25 kW
WI	Three Lakes	93.7 MHz	50 kW



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AZ	Kingman	94.3 MHz	50 kW
CA	Antioch (KITS booster)	105.3 MHz	32 watts
CA	Crescent City	91.9 MHz	1.4 kW
CA	Madiera	91.1 MHz	7.5 kW
CA	Monterey	104.7 MHz	3.4 kW
CA	Point Arena	102.3 MHz	25 kW
CA	San Ardo	91.7 MHz	2.7 kW
CA	Santa Cruz	89.3 MHz	300 watts
IL	Freeport	89.1 MHz	2.2 kW
IN	Portland	91.7 MHz	2.1 kW
IN	Veedersburg	92.9 MHz	6 kW
LA	Amite	96.5 MHz	6 kW
MS	Centreville	89.7 MHz	70 kW
MS	Mound Bayou	102.1 MHz	50 kW
MS	Potts Camp	95.9 MHz	6 kW
NC	Norlinda	94.1 MHz	6 kW
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OK	Sulphur	90.7 MHz	3 kW
OR	Bonanza	102.9 MHz	785 watts
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OR	Merrill	105.7 MHz	112 watts
TX	Midland	95.1 MHz	3 kW
WI	Balsam Lake	104.9 MHz	25 kW
WY	Ethete	89.5 MHz	100 kW

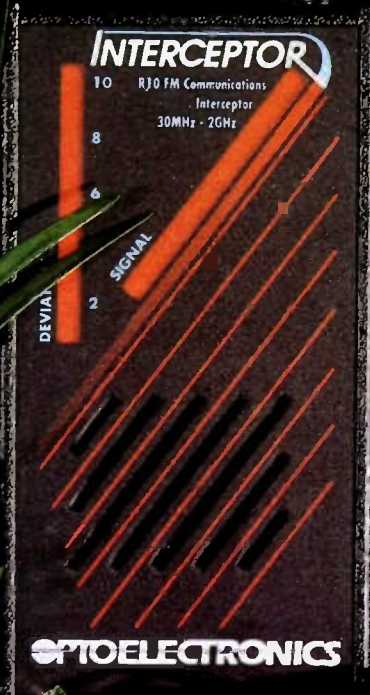
Permits Granted to Construct New FM Stations

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IL	Saint Joseph	89.9 MHz	3 kW
KS	Silver Lake	92.5 MHz	6 kW
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Changed AM Call Letters

New	Was	
KABD	KVBR	Brainerd, MN
KESQ	KDES	Palm Springs, CA
KJPN	KDEO	Waipahu, HI
KKGO	KNOB	Frazier Park, CA
KRFE	KJBX	Lubbock, TX
KSVE	KINT	El Paso, TX
KVNA	KCLS	Flagstaff, AZ
KYFO	KJOE	Ogden, UT
WAOZ	WSAI	Cincinnati, OH
WBBL	WLAV	Grand Rapids, MI
WCKY	WLWA	Cincinnati, OH
WCVT	WLMX	Rossville, GA
WDFN	WWWV	Detroit, MI
WDJC	WCEO	Birmingham, AL
WFNE	WNRB	Niles, OH
WFYN	WNLB	Rocky Mount, VA
WGFE	WMTI	Morovis, OR
WIBB	WKXK	Macon, GA
WLOL	KBCW	Brooklyn Park, MN
WRFX	WAQS	Charlotte, NC
WWZD	WPMX	Tupelo, MS

New FM Call Letters

KAIH	Jacksboro, TX
KBAU	Big Sandy, TX
KRIG	Yreka, CA
KVIK	Decorah, IA
KXPK	Evergreen, CO
WAHZ	Mt. Vernon, GA
WAIE	Springfield, IL
WAIG	Marlboro, VT
WAIH	Potsdam, NY
WAI	Walton, IN
WCOC	Hollywood, AL
WNLD	Decatur, IL

Pending FM Call Letter Changes

Now	Seeks	
KACH-FM	KKEX	Preston, ID
KDEE	KNOZ	Cameron, MO
KXIQ	KXIX	Bend, OR
WKJR	WZNX	Sullivan, IL
WZNX	WKJR	Arcola, IL
WZTT	WHDG	Rhineland, WI

Changed FM Call Letters

New	Was	
KABD-FM	KABD	Brainerd, MN
KACD	KAJZ	Santa Monica, CA
KAKL	KBPI-FM	Denver, CO
KBCD	KBJZ	Newport Beach, CA
KBPI	KAZY	Denver, CO
KBYN	KAGV	Arnold, CA
KDAG	KRAZ	Farmington, NM
KEEN	KAGW	Palmer, TX
KGGM	KKR	Delhi, LA
KJCC	KAGT	Lake Havasu City, AZ
KJR-FM	KLTX	Seattle, WA
KPIX-FM	KKHI-FM	San Francisco, CA
KRNV-FM	KTHX	Reno, NV
KTKS	KGGS	Versailles, MO
KXTM	KAHL	Benavides, TX
KYFO-FM	KKBE-FM	Ogden, UT
KZBZ	KCVS	Salina, KS
KZRU	KAGK	Elk City, OK
WBOZ	WLMM	Woodbury, TN
WDJC-FM	WDJC	Birmingham, AL
WFGZ	WIST	Lobelville, TN
WFRQ	WTNR-FM	Waynesboro, TN
WJIA	WAHF	Guntersville, AL
WIBB-FM	WIBB	Ft. Valley, GA
WIKO	WWDQ	Morehead, KY
WJJS	WWFO	Vinton, VA
WNJN-FM	WNJN	Atlantic City, NJ
WOEI	WPER	Union City, IN
WOSQ	WOSX	Spencer, WI
WPER	WAHH	Asheboro, NC
WPPT	WIMJ	Cincinnati, OH
WQSL	WFXZ	Jacksonville, NC
WRED	WQEZ	Chillicothe, IL
WQFX-FM	WRFX	Kannapolis, NC
WUMR	WSMS	Memphis, TN
WWZZ	WTUN	Pocatlico, WV
WWST	WWZZ	Kams, TN
WWZD-FM	WWZD	New Albany, MS

Pending AM Call Letter Changes

Now	Seeks	
KKGD	KRGS	Rifle, CO
KOAK	KCSI	Red Oak, IA

Sayonara, Garth!: Michael Schwartz, N9HAI, of Honolulu, Hawaii, was one of several readers who mentioned to us that station KDEO was sold. The station changed its call letters to KJPN and instituted programs from Japan, including news, cultural programs, and other material for the Japanese community. The station's coverage includes all of Oahu and the nearby islands. The station (as KDEO), under its former owner, had run a country music format.

Luana Del Rey, a popular deejay during the KDEO country music era, said that five full-time on-air personalities plus several part-times lost their jobs. She is endeavoring to keep the country music listeners organized and, at last report, was hoping to put out a Country Caravan newsletter to

keep in touch with the many friends she made on her program. Her mailing address is: 98-1033 Kupuwao Pl., Aiea, HI 96701.

Speaking of Country Music: The Country Company is the name of a new consulting firm organized to promote Classic Country programming for AM or FM stations already in a Country format, or contemplating a format change. This format targets the affluent 35-plus demographic.

President of The Country Company is Steve Warren, who has had a career in Country radio dating back to the 1960's. Credentials include air staff, Program Director, and other positions at WIRE, WHN, WKHK, WPTR, KKYX, WNBC, WNEW, WDAE, KNBR, WPEN, WING, and others. He is the author of *Radio: The Book*.

For further information on The Country

Company, write to them at 21-54 44th Dr., Long Island City, NY 11101. Phone: 1-800-827-1722, or (718) 786-3703.

AM Stereo Comment: A letter from reader Geoffry S. Oliver, of Radiolink, South Penrith, N.S.W., Australia, comments on AM stereo. Geoff is in the communications business.

He tells us that in the early 1980's there were four AM stereo systems being tested in Australia, Harris, Kahn-Hazeltine, Magnavox, and Motorola C-QUAM. In late 1984, the Dept. of Communication selected the Motorola C-QUAM system, with the official starting date being February, 1985. Australia was the first country in the world to establish an AM stereo standard, followed soon after by New Zealand. Recently, Geoff tells us, Japan has also selected

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Geoff agrees with our observation (in March) that the Kahn system is superior because of its independent sideband modulation. However it is expensive with respect to receiver design. The Motorola system may have been selected partially because the proprietary Motorola decoding chip was available at a reasonable price.

Geoff feels that the FCC has done broadcasting a disservice by "sitting back all this time and doing nothing as to selecting an industry AM stereo standard."

Not All that Powerful: WHJY, an FM rocker in Providence, R.I., had a transmitter problem last winter that reduced its signal coverage into certain areas. After straightening out the situation, the WHJY folks thought it would be good to let everybody know that the station was again operating at its full 50 kW power level.

Their way of doing this was to rent space on a prominently located roadside billboard that could be seen by motorists on Interstate 95. There they announced that the station had "more power than God."

This billboard got a lot of attention, but not in any way WHJY had planned. It offended people, and the public let the sta-



WIYD

100 FM 1260 AM
GIVE 'EM HELL PELL

WIYD/1260, Palatka, Fla., offered this bumper sticker, which also mentions its FM outlet. (Thanks to Kevin Scott, Lake Worth, Fla.)

tion know they didn't like it. WHJY didn't intend alienating anybody, so the billboard was quickly removed.

Wonder what new job assignment they gave the staffer who came up with the wording for the billboard.

Footing the Bill: All FCC licensees, including broadcasters, paying user fees, we have news. You may have to ante up a lot more in FY 1995 for the same "user fee." Maybe even double what you paid in FY 1994, if the Administration gets its way. The hope is to put the FCC on a self-supporting basis. Well, not quite self-support-

ing, but supported entirely by revenues the agency can generate on its own without any help from the US Treasury.

FCC revenues may be generated by means of user fees as well as the agency's issuance of fines (NAL's) to all types of licensees alleged to have violated rules and regulations.

In FY 1994, the broadcasting industry's user fees are approximately \$18-million, out of some \$82-million in total user fees from all services. Individual radio stations kicked in somewhere between \$200 and \$900 each.

Originally, the FCC was budgeted for FY 1995 for \$167.4-million, with \$95-million penciled-in from user fees. In the event the entire \$167.4-million needs to be rung-up by the FCC's own efforts, licensees can guess what the user fees will become. You can speculate about the potentials it offers for increased enforcement efforts with more and larger NAL's being issued.

The Treasury money originally scheduled for funding the FCC is being proposed for diversion to other purposes, such as helping states pay for the imprisonment of aliens guilty of felonies.

But don't worry, this isn't the worst of it. There has also been talk of some sort of spectrum royalty fee scheme that could rake in nearly another billion dollars a year over a five year period.

As this column is being written, nothing has been passed or finalized. The National Association of Broadcasters has reacted with outrage. The organization is taking all possible steps to head off diverting Treasury funds originally scheduled for regulating telecommunications.

Virtually full Treasury funding of the FCC was the situation before FY 1994. In FY 1992 and FY 1993, the Bush Administration unsuccessfully attempted to introduce partial Treasury funding of the FCC by the creation of user fees. FCC fees collected in past years went into the general US Treasury fund, and did not go not directly to the FCC.

Please pass along your AM and FM station photos, bumper stickers, recent QSL's, newspaper clippings, format changes, questions, and thoughts. ■

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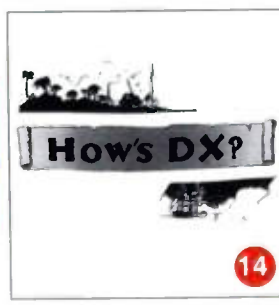
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FCC ACTIONS AFFECTING COMMUNICATIONS

Automatic Control for HF Digital Communications in Amateur Services

The Commission proposed amending the amateur service rules to authorize automatic control of stations transmitting a digital emission on the High Frequency (HF) amateur service bands.

This action was requested in petitions filed by the American Radio Relay League, Inc. (ARRL), and the America Digital Radio Society, Inc. (ADRS).

The propagation characteristics of the HF bands allow for long distance communications. Amateur operators take advantage of these characteristics to communicate with other amateur stations all over the world. Establishing and maintaining an HF communications link, however, presents operating demands not encountered on the Very High Frequency (VHF) and higher frequency bands. The variables affecting communications in the HF bands are highly complex.

To maintain the communications link and avoid causing interference to the communications of the other amateur stations, the control operator constantly monitors the activity on the channel being used and adjusts the station's transmitting parameters as needed. Because the presence of the control operator has been necessary for proper operation in these systems, automatic control of an amateur station transmitting on any HF band or on the 160-meter MF (medium frequency) band has not been authorized.

In 1986 the Commission authorized automatic control of amateur stations transmitting digital communications on the VHF and higher frequency bands and indicated it was interested in authorizing automatic control of stations using the HF bands.

To determine solutions to the problem of avoiding interference from automatically controlled HF digital stations the ARRL conducted a successful feasibility project under special temporary authority the Commission granted to 50 amateur stations. The ARRL's petition is based on the results of that study. The ADRS's petition contained an additional recommendation from amateur operators who have been experimenting for several decades with digital communications on the HF bands.

The Commission said it was gratified by the cooperation and dedication of organizations within the amateur service community in determining the conditions necessary to allow automatic control of stations transmitting data and RTTY (narrow-band direct printing) emission types on the HF amateur service bands. It agreed with the petitioners that automatic control of ama-

teur stations in the HF bands can, with safeguards, make the transmission of both emission types practical and effective.

Therefore, the Commission proposed to authorize automatic control for stations transmitting data and RTTY emission types on one specific subband of each HF band where such emissions are authorized. It also proposed to authorize communications between a locally or remotely controlled station and an automatically controlled station on any frequency where data and RTTY emission types are otherwise authorized.

The Commission said that it firmly believes in the principle that government should be responsive to user needs. It noted that the rules it proposed were the result of a successful feasibility project planned and carried out within the amateur service community. They represent the recommendations of two organizations dedicated to bringing the benefits to be derived from the transmission of digital communications on the amateur service HF bands to amateur operators in the United States and elsewhere without causing unnecessary interference to other types of communications.

Control Operator Responsibility in Amateur Message Forwarding Systems

On April 13, 1994, the Commission released a *Report and Order* in PR Docket No. 93-85. This decision relaxed the amateur service rules to hold the control operator of the station originating a message primarily accountable for volatile communications. The control operator of the first forwarding station in a message forwarding system is responsible for authenticating the identity of the station from which it accepts communications, or accepting accountability for any violation of the rules in messages it retransmits to the system. Previously, the control operator of every station in the system was responsible for the contents of every message the station transmitted.

Since the release of this decision, the Private Radio Bureau received a number of inquiries indicating that there is a misunderstanding by some amateur service licensees about this rule change. The inquiries generally ask if the Commission's decision authorized automatic control of amateur service frequencies below 50 MHz.

In its decision, the Commission amended Section 97.109(e) to allow a station participating as a forwarding station in a message forwarding system to be automatically controlled while transmitting third party communications. Section 97.109(d), however, limits automatic control to stations

transmitting RTTY or digital emissions on amateur service frequencies above 50 MHz. This latter section was not amended.

The Commission has under consideration two petitions for rule making, RM-8218 and RM-8280, requesting that we amend Section 97.109(d) if the rules to allow automatic control of stations transmitting on the high frequency amateur service bands. These petitions were submitted by the American Digital Radio Society Inc., and the Radio Relay League, Inc., and will be addressed in a future proceeding.

Contact the Private Radio Bureau's William T. Cross at (202) 632-4964.

Propose Temporary Conditional Operating Authority for Commercial Radio Operator License Applicants

The Commission proposed amending Part 13 of the rules to permit persons who have passed the examinations necessary to qualify for a commercial radio operator license, but have not yet received the license, to temporarily and conditionally perform the functions of a commercial radio operator. The Commission said the proposed rules should be viewed as yet another step in creating a government agency that works better and costs less.

A commercial radio operator license, certificate, or permit (license) is required for persons who operate stations in a number of radio services. To qualify for certain licenses, an applicant must pass an examination that is administered by one of the nine Commission-certified Commercial Operator License Examination (COLE) Managers. Within ten days of completing an examination element, the COLE Manager must issue a Proof-of-Passing Certificate (PPC) to an examinee who scores a passing grade. When the examinee is credited for all examination elements required for the commercial operator license sought, the examinee then applies to the FCC for the license. The Commission processes the application and, if the applicant is fully qualified, grants the license. The Commission stated that the total processing time may be as much as eight weeks.

The Commission said because it is dedicated to providing better and friendlier service to its customers, it is proposing to issue temporary conditional operating authority to successful examinees upon properly filing an application with the FCC. This proposed temporary operating authority, however, would not apply to any person who has previously had a commercial radio operator license revoked, suspended, or is

the subject of an ongoing suspension proceeding. In addition, he proposed rules provide that the Commission, at its discretion, may cancel the temporary conditional operating authority without a hearing, if the need for such action arises.

With respect to log entries, the Commission proposed that commercial operators exercising temporary conditional operating authority would enter the PPC serial number and date of issue in place of the FCC-issued license serial number and expiration date. Possession of the PPC document would activate the operating authority and would thereby serve in place of the license temporarily and conditionally. The Commission said this procedure would be verifiable and simple to implement.

Comments are invited on this proposal.

Question Pool Released for Global Maritime Distress and Safety System (GMDSS) Operator Examination

The FCC released the question pool for Commercial Radio Operator written examination Element 7. Passing Element 7, in addition to the previously released Element 1, is a requirement for a GMDSS Radio Operator License.

Copies of released question pools are available through the Commission's dupli-

cating contractor, International Transcription Services, Inc., 2100 M Street, N.W., Washington DC 20037, (202) 857-3800, but not from the FCC. A printed copy of each released element may be viewed during business hours in the Special Services Division, Room 5322, 2025 M Street, N.W., Washington DC, (202) 632-7197, and in the Public Reference Room, Licensing Division, 1270 Fairfield Road, Gettysburg, PA, (717) 337-1212.

Commercial Operator License Examination Managers must use questions from these pools when preparing the sets they administer to examinees. Each pool contains at least five times the number of questions that are asked on one set. The minimum passing score for Element 7 is 57 correct answers on a 76 question set.

Question pools for other written examination elements will be released by Public Notice as they are compiled.

Question Pool Released for Ship Radar Endorsement Examination

The FCC released the question pool for Commercial Radio operator written examination Element 8. Passing Element 8 is a requirement for a Ship Radar Endorsement.

Copies of released question pools are available through the Commissions dupli-

cating contractor, International Transcription Services, Inc., 2100 M Street, N.W., Washington DC, 20037, (202) 857-3800. Copies are not available for the FCC. Each released element is available for viewing during business hours in the Special Services Division, Room 5322, 2025 M Street N.W., Washington DC, (202) 632-7197, and in the Public Reference Room, Licensing Div., 1270 Fairfield Road, Gettysburg, PA, (717) 337-1212.

Commercial Operator License Examination Managers must use questions from these pools when preparing the sets they administer to examinees. Each pool contains at least five times the number of questions that are asked on one question set. The minimum passing score for Element 8 is 38 correct answers on a 50 question set.

Question pools for other written examination elements will be released by Public Notice as they are compiled.

Rules to Require Registration of 406 MHz Radiobeacons with the NOAA

The Commission amended Parts 80 and 87 of the rules to require registration of emergency position indicating radiobeacons (EPIRBs) that are carried on ships, and emergency locator transmitters (ELTs) carried on aircraft, operating on the frequen-

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This amendment will enhance maritime and aviation safety by providing valuable distress information to search and rescue personnel concerning the type, size, and itinerary of the aircraft/vessel, as well as prevent launching potentially dangerous missions on false distress signals.

The NOAA maintains a database for 406 MHz beacons that contain more than 13,400 unique identification codes and registration information. Although registration is strongly encouraged through education programs by the United States Coast Guard and NOAA, at present, such registration is voluntary.

The rules require manufacturers to program into each EPIRB or ELT a unique code and provide an equipment plate or label on each 406 MHz EPIRB or ELT displaying the unique NOAA identification code and registration instructions. Manufacturers must also include a pre-paid, pre-addressed post card soliciting the owner's name, address, telephone number, the type of ship or aircraft, and the unique identification code for registration in NOAA's database. Rules now require users to mail the pre-paid registration card to the NOAA.

FCC Increases Processing Fees

Effective July 18, 1994, the Federal

Communications Commission (FCC) increased the processing fees it charges applicants, licensees, and permittees to reflect changes in the cost-of-living increases in the Consumer Price Index-Urban (CPI-U).

The cost-of-living adjustments were made pursuant to Section 8(b) of the Communications Act of 1934, as amended in the Omnibus Budget Reconciliation Act of 1989. The Act allows for adjustments to the fee schedule every two years after October 1, 1991; however, this is the first adjustment to the schedule since the current fee schedule was enacted by Congress.

Increases in the dollar amounts under the cost-of-living adjustments apply to all fees based on the percentage change in the CPI-U from the date of enactment of the legislation. The new Schedule of Charges will reflect the net change in the CPI-U of 14.8 percent, calculated from December 1989 through August 1993 in accordance with the Section 1.1113 of Part 1 of the Commission's Rules.

All revenues generated by this fee collection program are deposited in the general fund for the Treasury.

For additional information on the Fee Collection Program, please contact Regina Dorsey, Chief, Billings & Collection Branch, Financial Management Division, at (202) 632-0241. For general information, contact Martha Contee, Chief, Public Service Division, or Mickey Williams, Chief, Consumer Assistance Branch, on the Fees

Hotline, (202) 632-FEES (337), or on the TT line at (202) 632-6999.

Implement New Section 9 of the Communications Act—Assessment and Collection of Regulatory Fees

The FCC adopted a new Section 9 of the Communications Act. Section 9 authorizes the Commission to assess and collect annual regulatory fees to recover costs incurred in carrying out its enforcement, policy and rule making, user information services, and international activities.

Like its application fee collection program, the Commission said its goals are to ensure the fee collection process does not have an adverse impact on its regulatory activities; that fees are collected and deposited in the most cost effective manner possible; and that fees impose little or no additional paperwork burden on the public.

Implementing these rules furthers the National Performance Review goals of reinventing government by requiring beneficiaries of the Commission's services to pay the costs associated with these activities.

Specifically, the Commission has adopted: 1) the Schedule of Regulatory Fees for FY 1994 as established by Congress in the Omnibus Budget Reconciliation Act of 1993; 2) exemptions from regulatory fees.

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3) rules and procedures for installment payments of "larger fees; 4) rules and procedures for installment payments of "small" fees; 5) fee forms and payment procedures, including payment by electronic transfer and credit card; 6) procedures for waiver, reduction and deferment of fees; 7) penalties for late payment and non-payment of fees, including monetary penalties, dismissal of applications, revocation of FCC authorizations, and use of remedies under the Debt Collection Act.

The Commission also decided that only fee payers in a limited number of service categories, with payment requirements above the average in those categories, would be eligible for installment payments. However, the Commission did modify eligibility standards to allow space station licensees installment payments since there are only 30 such licensees. Authorizing installment payments in this service will not have significant resource impact.

In recognition that some fee payers may face financial hardship, rules provide that any regulatee may petition for waiver, reduction or deferment of a fee before it is due. The filing of a petition for deferment enables a payor to pay no fee until disposition of its petition. Filing a petition for reduction lets the payor to make only a partial payment until disposition of its petition.

The Commission also modified its rules to allow use of a single payment instrument to cover multiple payments, so long as all the payments are remitted at the same time at the same lockbox.

Finally, the Commission revised its rules to clarify that any petition for reconsideration application for review, or any petition for reconsideration, application for review or any petition for waiver or deferral of a fee payment accompanied by a payment, must be submitted to the lockbox bank. If no fee payment is required and the matter is within scope of the fee rules, the petition of the Commission or application for review should be filed with the Secretary and clearly marked to the attention of the Managing Director. Petition for deferral or waiver for which no fee payment is required should also be directed to the attention of the Managing Director.

Fact Sheet on Future Changes in Telephone Numbering

Several important changes will affect the North American Numbering Plan during the next few years. These changes involve new area codes, new dialing procedures, and new carrier identification codes.

These changes will require telephone companies to modify their network switches. They will also require some users to modify their customer premises equipment. The equipment affected includes payphones and privately owned switchboards (generally known as private branch exchanges or PBXs).

A Fact Sheet has been prepared to an-

swer the most frequently asked questions about upcoming changes in telephone numbers. It also provides sources of further information and assistance.

Copies of the Fact Sheet can be obtained by contacting the Industry Analysis Division, Common Carrier Bureau, at (202) 632-0745.

Joint Licensing and Use of the Common Carrier Paging Transmitters for Private Carrier Paging

The Commission proposed deleting Section 22.119 of the Public Mobile Service rules which prohibits the concurrent licensing and use of transmitters for common carrier and non-common carrier purposes. It proposed permitting the joint licensing and use of transmitters in the common carrier and private carrier services.

The Commission granted interim waivers of Section 22.119 to Paging Network, Inc., PacTel Paging, and Arch Communications Group, Inc., to be in effect during the pendency of this rule making. The waiver will allow transmitter use presently li-

censed for common carrier paging service.

The Commission said that while the original intent of Section 22.119 was probably to assure that the capacity of radio common carrier transmitters was devoted to common carrier services in an effort to protect subscribers, several factors make it appropriate to reevaluate it at this time. The first is advances in technology, such as improved digital transmission techniques and store and forward technology that have dramatically increased capacity. The second is that licensees providing wider-area coverage could achieve substantial economies by sharing transmitters when building out a system. Finally, increased competition in the industry provides an assurance that service to existing customers will not suffer from joint use of transmitters.

Nevertheless, the Commission asked for comment on whether the proposed rules should be limited to circumstances where the joint use will facilitate the provision of national and/or regional service as an overlay to local paging service or where the Part 22 licensee uses batched paging. It also asked whether there may be other circumstances where the FCC should not permit shared use. ■

Optoelectronics (from page 11)

The OptoScan456 met or exceeded all of its operational specifications using the included software package. As Optoelectronics offers the embedded microprocessor commands to "third party" software developers, overall system performance and "bang for the buck" will continue to grow.

Summary

The OptoScan456 is a unique "after market" product designed for the Realistic PRO-2005/6 scanner line. Unique, in that the product represents the latest in com-

puter scanning technology applied in an exceptional, and professional manner to an existing product. Again, Optoelectronics should be highly commended for bringing such a well-designed product to market at a reasonable price. The OptoScan456, Model OS456, with assembled and tested controller board, mounting hardware, cables, OptoScan456 scanning software for IBM-compatible computers, and full photo-annotated installation instructions is introduced at a price of \$299. Contact Optoelectronics, Inc., 5821 NE 14th Avenue, Ft. Lauderdale, FL 33334 (800) 327-5912 for more information.

Reviewed by POP'COMM Staff

Beaming In (from page 5)

and start over again. Broadcasters learn to muster a laugh or two through the ordeal; they have no choice. Jimmy Buffett's song, "Changes in Attitudes" sums it up: "If we couldn't laugh, we'd all go insane."

An independent station owner is in radio primarily because he loves and is dedicated to broadcasting. Commitment notwithstanding, an owner's AM, FM, or AM/FM stations still need to produce at least enough income to pay his loans or notes, FCC fees, salaries, the electric bill, the rent, ASCAP, the tax collector, and maintain the equipment. Hopefully there's enough left over for him to treat himself to an aspirin and a *Big Mac* once a day. As the accountant told the station owner, "How do you want your profit paid this month, heads or tails?"

Raymond should look at the bright side. WNCN's demise must have served to enlarge the audience and strengthen the format position of WQXR, the healthier of the

two remaining classical music competitors. No use crying over spilt milk. It was neither alternative rock nor our column's unappreciated affront to "that longhair stuff" that put WNCN in its grave. POP'COMM can't accept the blame for that loss. *Merci, no!*

Like most independent radio stations that change formats, or fail, WNCN's programming died from lack of having enough listeners to generate the revenue it needed to keep the station in business. This doesn't reflect poorly upon the quality of the programming or the intent of the station.

Independent broadcast stations have become somewhat of an endangered species. Sometimes they're gone rather suddenly, and all too soon. As hobbyists, we can log them, send them reception reports, collect their QSL's while we can. As audience members, we should actively support our favorite local AM or FM stations. Let their advertisers know we heard about their products and services over the stations. Tell our families and friends about the programming they can enjoy by tuning in. ■

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(color slide)

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