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ASLEEP...AWAY...ON-THE-JOB... DON'T MISS ANYTHING ON YOUR SCANNER

NITELOGGER™
Automatic Tape Recorder Activator

A permanent record even when you're not there!
"Before I installed NiteLogger I always seemed to miss the 'big stories'..." Now solve the biggest frustration of scanner enthusiasts: NiteLogger makes sure you'll hear it all, even if it happens at 3:47 a.m.!

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"I've tried rigging up recorders before only to be frustrated...I was amazed how well NiteLogger worked." Balky relays, transistor switch polarities, hum pick-up, distortion, and more are all problems most scanner users have faced trying to match recorders to various model scanners. NiteLogger works with any scanner... every time...guaranteed! Just plug into the scanner's external speaker jack and any standard cassette recorder.

VOX operation saves up to 7 days or more on a single C-90 cassette.
"I came back from vacation and could review the entire week's operation of my (police) department on tape." Depending upon the amount of activity on the channel, one cassette tape can hold many days—even weeks—of communications. And NiteLogger's exclusive VOX Delay control adjusts to minimize dead time on the tape, while still capturing reply messages without annoying tape start/stop noise.

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In 1980 BMI introduced the first commercially available military time format clock independent of power lines...now used in hospitals, airports, police and fire departments worldwide. BMI also designed and produced the Mission Time Clock used on the Space Shuttle and the contigency timer for Mission Control. You can purchase BMI-engineered products with confidence!

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CIRCLE 13 ON READER SERVICE CARD

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Special Purchase SALE!!

The Regency Z30

30 Channel Automatic/Programmable Scanner

Suggested Factory List Price $279.95

Z30 FEATURES:

- ***30 Channels***—*For full coverage and easy selection.*
- ***No Crystals Required***—*Your choice of over 15,000 frequencies just by pushing a raised type button on the keyboard face.*
- ***6 Bands***—*Covers high and low VHF, UHF and UHF "T" plus two FM Ham Bands.*
- ***Search or Scan***—*Scan frequencies you have entered or search for exciting new frequencies.*
- ***Priority Control***—*Automatically overrides all other calls to listen to your favorite frequency.*
- ***Alarm Clock***—*Quartz Clock with programmable alarm.*
- ***Permanent Backup System***—*Memory requires no batteries. Capacitor saves frequencies entered up to one week during power outage or storage.*
- ***Dual Level Display***—*Selects brightness level of green vacuum flourescent digital display.*
- ***Channel Lockout***—*Skips channels not of current interest.*
- ***Scan Delay***—*Lets you set a delay so that replies to calls will be heard before scanning resumes.*
- ***Display Messages***—*Display flashes verbal messages to aid in programming.*
- ***External Antenna Jack***—*Permits maximum reception*
- ***External Speaker Jack***—*Standard connection allows use of external speaker.*
- ***AC or DC***—*Use at home or on the go. AC Home Power Cord Included.*
- ***Telescoping Antenna***—*Electronically optimized for all frequencies, included.*
- ***UL Listed/FCC Certified*** *Assurance of quality, American made design and manufacturer, made in USA.*

Scanner World Special

REGENCY Z30

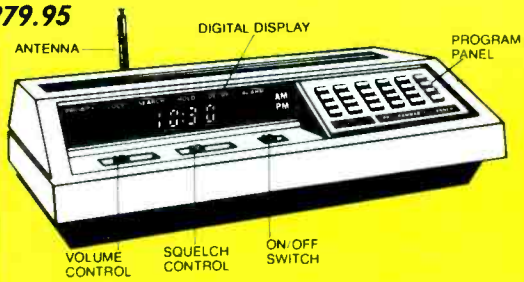
$129.99

(plus $5.50 shipping each)

Optional Accessories:

Cigarette Lighter Plug RGMPC . $4.95

Z Mobile Bracket — ***Special*** . . . $5.99



The Regency Z30 is a compact, programmable 30 channel, multi band, FM monitor receiver for use at home or on the road. It is double conversion, super heterodyne used to receive the narrow band FM communications in the amateur, public safety and business bands: 30-50, 144-174, and 440-512 MHz. Size 10¾"Wx2-7/8"Hx8-3/8"D.

Sophisticated microprocess-controlled circuitry eliminates the need for crystals, instead, the frequency for each channel is programmed through the numbered keyboard similar to the one used on a telephone. A "beep" acknowledges contact each time a key is touched. The Z30 scans approximately 15 channels per second.

Any combination of two to thirty channels can be scanned automatically, or the unit can be set on manual for continuous monitoring of any one channel. In addition, the search function locates unknown frequencies within a band.

Other features include scan delay, priority and a bright/dim switch to control the brightness of the 9-digit Vacuum-Fluorescent display. The Z30 can be operated on either 120 VAC or 12 VDC. Includes one year warranty from Regency Electronics (optional 3 yr extended warranty only $35, gives you a total of 4 yrs complete warranty or 2 yr extended warranty only $25, gives you a total of 3 yrs complete warranty.)

REGENCY HX1200

Digital programmable 45 channel hand-held Scanner. Frequency coverage 30-50MHz, 118-136MHz, 144-174MHz, 406-420MHz, 440-512MHz. Covers public service bands plus Aircraft. Has priority, search, lockout, scan plus much more. Package includes HX1200, AC charger/adapter, ni-cad battery, carry case, rubber antenna and 90 day factory warranty.

Complete package only. . . . **$216.99** *(6.50 shipping)*

(3 year extended warranty only $35.00, 2 year $25.00)

BEARCAT 50XL Programmable Hand-Held	124.99	(5.00)
AD100U AC Adapter/Charger for 50 XL	12.95	(*)
BP50 Ni-Cad Battery Pack for 50XL	12.95	(*)
BEARCAT 180 AC Digital Scanner	159.99	(5.00)
BEARCAT 140 AC Programmable Scanner	94.99	(5.00)
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BEARCAT 800 XLT AC/DC Digital Scanner	319.99	(6.00)
BEARCAT DX-1000 Shortwave Receiver	439.99	(12.00)
REGENCY HX-1200 Digital Hand-held 45 Channel	216.99	(6.50)
REGENCY MA-257 Cigarette cord for HX1000/1200	16.99	(*)
REGENCY MA-917 Ni-cad Battery for HX1000/1200	24.99	(*)
REGENCY HX-CASE Hvy Leath. case for HX1000/1200	34.99	(*)
REGENCY MA-256 Drop in charger for HX1000/1200	69.99	(3.50)
REGENCY R-1060 Programmable 10 chan. AC Scanner	94.99	(5.00)
REGENCY HX-2000 Digital Hand-Held	299.99	(6.50)
REGENCY MX-3000 AC/DC Digital Scanner	198.99	(6.50)
REGENCY MX-4000 AC/DC Digital Scanner	319.99	(6.50)
REGENCY MX-5000 AC/DC Digital Scanner	329.99	(6.50)
REGENCY MX-7000 AC/DC Digital Scanner	399.99	(7.00)
REGENCY Z-30 AC/DC Digital Scanner	129.99	(5.50)
REGENCY Z-45 AC/DC Digital Scanner	159.99	(5.00)
REGENCY Z-60 AC/DC Digital Scanner	178.99	(5.50)
Mobile Mounting Bracket for Z Scanners	5.99	(*)
REGENCY D-810 AC Digital Scanner	178.99	(5.50)
REGENCY ACT-R-106 AC/DC Crys. Scanner	96.99	(4.50)
REGENCY ACT-R-1 AC/DC Crys. Single Channel	75.99	(4.00)
REGENCY RH-256 High Band Transceiver	399.99	(7.75)
REGENCY UC 102 Hi-VHF Hand Transceiver	119.99	(5.50)
REGENCY RU150B UHF Transceiver	439.99	(7.75)
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Book "Rail Scan Directory"	7.95	(*)
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RCD MRP-1 Single Channel Hand-Held	38.99	(3.00)
JIL SX-200 AC/DC Digital Scanner	189.99	(6.75)
JIL SX-400 DC Digital Scanner	399.99	(12.00)
FANON M8HLU DC Crystal Scanner	99.99	(5.00)
FANON PSK-1 AC Adapted for M8HLU	12.99	(*)
FANON Slim-6 HLU Crystal Hand-held Scanner	98.99	(5.00)
FOX BMP-1060 AC/DC Digital Scanner	129.99	(5.50)
FOX Mounting Bracket for BMP-1060	9.99	(*)
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WHISTLER Remote Spectrum Radar Detector	199.99	(5.00)
ANT-1 Magnet Mount Mobile Scanner Antenna	29.99	(3.00)
ANT-6 Base Scanner Antenna w/50' cable	29.99	(3.00)

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2 EXTRA YEARS — ONLY $25.00

Scanner World is pleased to offer extended warranty protection on your scanner purchases. For a one time charge of only $35.00, we will provide you with 3 additional years of warranty protection after your original warranty expires. *Extended warranty program is available for all types of electronics such as two-way radios, scanners, TVs, VCR, 35mm cameras, personal computers, CBs, radar detectors, stereo equipment, etc. Scanner World can offer this program to all customers, even if product was not purchased from Scanner World. All we need is a copy of your invoice showing purchase within last 30 days. For more information and rates, refer to our latest Catalogue or drop us a note.*

Bearcat® 300

Special $239.99 (7.00 shipping)

50 Channels — Mobile/Base

Features include simple raised button keyboard programming of the following frequency ranges: 32-50 MHz, 118-136 MHz, 144-174 MHz, 421-512 MHz. Vacuum flourescent dipslay, dim control, priority, count transmissions, non-volatile memory retains memory without power back-up, automatic search, scan speed control, automatic search, scan delay, lockout, service search, automatic squelch, crystalless, digital clock, external speaker & tape jack, auxiliary equipment control, plus much more. Built inside the rugged metal cabinet. Includes AC & DC cords, telescopic antenna, mobile mounting kit, and one year factory warrantee on the Bearcat 300 for only $239.00 and $7.00 shipping. (Optional extended warranty: 3 years $35, or 2 years $25.

CIRCLE 28 ON READER SERVICE CARD

Bearcat 100 XL

$199.99 (6.50 shipping) *Handheld digital programmable, no crystal portable scanner. 16 channels, search feature, plus more! Frequency range: 30-50, 118-174, 406-512 MHz. Included in the package is a flexible rubber antenna, earphone, battery charger/AC adapter, 6 AA Ni-Cad rechargeable batteries and a heavy duty carry case. All for the low price of:*

$199.99 (6.50 shipping)

(3 year extended warranty only $35.00, 2 year $25.00)

REGENCY RH-256 B

PROGRAMMABLE TRANSCEIVER

RH-256B Transceiver, 16 channel 12 VDC 2-way Radio fully programmable in transmit and receive mode. Includes built-in CTCSS tones for encode/decode, time-out timer, scan delay, 25 watts transmit power, priority, plus more. Frequency spread as shipped 152-158 MHz. Package includes moblie mike, bracket, mobile antenna, and all cables and instructions for installation. ***Special package deal only:*** **$399.99** *(7.75 shipping)*

(2 year extended warranty $49.00 — 3 year $69.00)

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Call (518) 436-9606 to place orders by phone or mail orders to ***Scanner World***, 10 New Scotland Av., Albany, NY 12208. Orders will be shipped same day received by United Parcel Service. ***Scanner World*** accepts VISA, MasterCard (COD shipments by United Parcel will be for cash or certified checks only). Mail orders with personal or business checks will be held 4 weeks for bank clearance. Orders with cashiers checks or money orders shipped same day received. Prices, specifications and terms subject to change without prior notice. If items are out of stock we will backorder and notify you of delivery date. All shipments are F.O.B. ***Scanner World*** warehouse in Albany, NY. We are not responsible for typographical errors. All merchandise carries full manufacturers warranty. Bid Proposals and Purchase orders accepted from Government agencies. Free full line catalogue available upon request. No minimum order. New York State Residents add 7% sales tax.

SHIPPING CHARGES

(*) Add ($) per scanner, and $3.00* for all accessories ordered at same time. C.O.D. shipments will be charged an additional $3.00 per package. Full insurance is included in shipping charges. All orders are shipped by United Parcel Service. Shipping charges are for continental USA only. Outside of continental USA, ask for shipping charge per scanner.

Scanner World, USA

10 New Scotland Ave., Albany, NY 12208

(518) 436-9606

Most orders Shipped Same Day Received!

NEW! Lower Price Scanners

Communications Electronics,™ the world's largest distributor of radio scanners, introduces new lower prices to celebrate our 15th anniversary.

Regency® MX7000-EA

List price $699.95/**CE price $399.95/SPECIAL**
10-Band, 20 Channel • Crystalless • AC/DC
Frequency range: 25-550 MHz. continuous coverage and 800 MHz. to 1.3 GHz. continuous coverage.
The *Regency* MX7000 scanner lets you monitor military, F.B.I., Space Satellites, Police and Fire Departments, Drug Enforcement Agencies, Defense Department, Aeronautical AM band, Aero Navigation Band, Fish & Game, Immigration, Paramedics, Amateur Radio, Justice Department, State Department, plus thousands of other radio frequencies most scanners can't pick up. The *Regency* MX7000 is the perfect scanner for intelligence agencies that need to monitor the new 800 MHz. cellular telephone band. The MX7000, now at a special price from CE.

Regency® Z60-EA

List price $299.95/**CE price $179.95/SPECIAL**
8-Band, 60 Channel • No-crystal scanner
Bands: 30-50, 88-108, 118-136, 144-174, 440-512 MHz.
The *Regency* Z60 covers all the public service bands plus aircraft and FM music for a total of eight bands. The Z60 also features an alarm clock and priority control as well as AC/DC operation. Order today.

Regency® Z45-EA

List price $259.95/**CE price $159.95/SPECIAL**
7-Band, 45 Channel • No-crystal scanner
Bands: 30-50, 118-136, 144-174, 440-512 MHz.
The *Regency* Z45 is very similar to the Z60 model listed above however it does not have the commercial FM broadcast band. The Z45, now at a special price from Communications Electronics.

Regency® RH250B-EA

List price $613.00/**CE price $329.95/SPECIAL**
10 Channel • 25 Watt Transceiver • Priority
The *Regency* RH250B is a ten-channel VHF land mobile transceiver designed to cover any frequency between 150 to 162 MHz. Since this radio is synthesized, no expensive crystals are needed to store up to ten frequencies without battery backup. All radios come with CTCSS tone and scanning capabilities. A monitor and night/day switch is also standard. This transceiver even has a priority function. The RH250 makes an ideal radio for any police or fire department volunteer because of its low cost and high performance. A UHF version of the same radio called the RU150B covers 450-482 MHz. but the cost is $449.95. To get technician programming instructions, order a service manual from CE with your radio system.

NEW! Bearcat® 50XL-EA

List price $199.95/**CE price $114.95/SPECIAL**
10-Band, 10 Channel • Handheld scanner
Bands: 29.7-54, 136-174, 406-512 MHz.
The Uniden Bearcat 50XL is an economical, hand-held scanner with 10 channels covering ten frequency bands. It features a keyboard lock switch to prevent accidental entry and more. Also order part # **BP50** which is a rechargeable battery pack for $14.95, a plug-in wall charger, part # **AD100** for $14.95, a carrying case part # **VC001** for $14.95 and also order optional cigarette lighter cable part # **PS001** for $14.95.

NEW! Regency® XL156-EA

List price $239.95/**CE price $129.95/SPECIAL**
6-Band, 10 Channel • No-crystal Scanner Search • Lockout • Priority • AC/DC
Bands: 30-50, 144-174, 440-512 MHz.
Cover your choice of over 15,000 frequencies on 10 channels at the touch of your finger. Display messages. External speaker jack. Telescoping antenna. External antenna jack. AC/DC.

NEW! Regency® R1060-EA

List price $149.95/**CE price $92.95/SPECIAL**
6-Band, 10 Channel • Crystalless • AC only
Bands: 30-50, 144-174, 440-512 MHz.
Now you can enjoy computerized scanner versatility at a price that's less than some crystal units. The *Regency* R1060 lets you in on all the action of police, fire, weather, and emergency calls. You'll even hear mobile telephones.

Bearcat® DX1000-EA

List price $649.95/**CE price $349.95/SPECIAL**
Frequency range 10 KHz. to 30 MHz.
The *Bearcat* DX1000 shortwave radio makes tuning in London as easy as dialing a phone. It features PLL synthesized accuracy, two time zone 24-hour digital quartz clock and a built-in timer to wake you to your favorite shortwave station. It can be programmed to activate peripheral equipment like a tape recorder to record up to five different broadcasts, any frequency, any mode, while you are asleep or at work. It will receive AM, LSB, USB, CW and FM broadcasts.
There's never been an easier way to hear what the world has to say. With the *Bearcat* DX1000 shortwave receiver, you now have direct access to the world.

NEW! Regency® HX1200-EA

List price $369.95/**CE price $214.95/SPECIAL**
8-Band, 45 Channel • No Crystal scanner Search • Lockout • Priority • Scan delay Sidelit liquid crystal display • EAROM Memory New Direct Channel Access Feature
Bands: 30-50, 118-136, 144-174, 406-420, 440-512 MHz.
The new handheld *Regency* HX1200 scanner is fully keyboard programmable for the ultimate in versatility. You can scan up to 45 channels at the same time including the AM aircraft band. The LCD display is even sidelit for night use. Order **MA-256-EA** rapid charge drop-in battery charger for $84.95 plus $3.00 shipping/handling. Includes wall charger, carrying case, belt clip, flexible antenna and nicad battery.

NEW! Bearcat® 100XL-EA

List price $349.95/**CE price $203.95/SPECIAL**
9-Band, 16 Channel • Priority • Scan Delay Search • Limit • Hold • Lockout • AC/DC
Frequency range: 30-50, 118-174, 406-512 MHz.
The world's first no-crystal handheld scanner now has a LCD channel display with backlight for low light use and aircraft band coverage at the same low price. Size is 1⅜" x 7½" x 2⅞". The *Bearcat* 100XL has wide frequency coverage that includes all public service bands (Low, High, UHF and "T" bands), the AM aircraft band, the 2-meter and 70 cm. amateur bands, *plus* military and federal government frequencies. Wow...what a scanner!
Included in our low CE price is a sturdy carrying case, earphone, battery charger/AC adapter, six AA ni-cad batteries and flexible antenna. Order your scanner now.

Bearcat® 210XW-EA

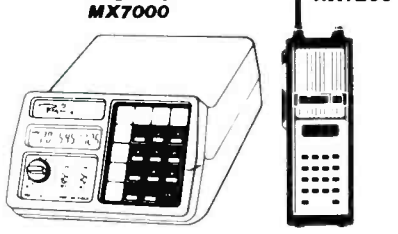
List price $339.95/**CE price $209.95/SPECIAL**
8-Band, 20 Channel • No-crystal scanner Automatic Weather • Search/Scan • AC/DC
Frequency range: 30-50, 136-174, 406-512 MHz.
The new Bearcat 210XW is an advanced third generation scanner with great performance at a low CE price.

NEW! Bearcat® 145XL-EA

List price $179.95/**CE price $102.95/SPECIAL**
10 Band, 16 channel • AC/DC • Instant Weather
Frequency range: 29-54, 136-174, 420-512 MHz.
The *Bearcat* 145XL makes a great first scanner. Its low cost and high performance lets you hear all the action with the touch of a key. Order your scanner from CE today.

TEST ANY SCANNER

Test any scanner purchased from **Communications Electronics™** for 31 days before you decide to keep it. If for any reason you are not completely satisfied, return it in original condition with all parts in 31 days, for a prompt refund (less shipping/handling charges and rebate credits).



CIRCLE 31 ON FREE INFORMATION CARD

NEW! Bearcat® 800XLT-EA

List price $499.95/**CE price $317.95**
12-Band, 40 Channel • No-crystal scanner Priority control • Search/Scan • AC/DC
Bands: 29-54, 118-174, 406-512, 806-912 MHz.
The Uniden 800XLT receives 40 channels in two banks. Scans 15 channels per second. Size 9¼" x 4½" x 12½."

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Panasonic RF-2600-EA Shortwave receiver $179.95
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UC102-EA *Regency* VHF 2 ch. 1 Watt transceiver . . . $124.95
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CIE-EA Covert Intelligenct, Elect. Eavesdropping . . . $14.95
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Add $3.00 shipping for all *accessories* ordered at the same time.
Add $12.00 shipping per shortwave receiver.
Add $7.00 shipping per scanner and $3.00 per antenna.

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To ***get the fastest delivery from CE*** of any scanner, send or phone your order directly to our Scanner Distribution Center.™ Michigan residents please add 4% sales tax or supply your tax I.D. number. Written purchase orders are accepted from approved government agencies and most well rated firms at a 10% surcharge for net 10 billing. All sales are subject to availability, acceptance and verification. All sales on accessories are final. Prices, terms and specifications are subject to change without notice. All prices are in U.S. dollars. Out of stock items will be placed on backorder automatically unless CE is instructed differently. A $5.00 additional handling fee will be charged for all orders with a merchandise total under $50.00. Shipments are F.O.B. Ann Arbor, Michigan. No COD's. Most products that we sell have a manufacturer's warranty. Free copies of warranties on these products are available prior to purchase by writing to CE. Non-certified checks require bank clearance.

Mail orders to: Communications Electronics,™ Box 1045, Ann Arbor, Michigan 48106 U.S.A. Add $7.00 per scanner for U.P.S. *ground* shipping and handling in the continental U.S.A. For Canada, Puerto Rico, Hawaii, Alaska, or APO/FPO delivery, shipping charges are three times continental U.S. rates. If you have a Visa or Master Card, you may call and place a credit card order. Order toll-free in the U.S. Dial 800-USA-SCAN. In Canada, order toll-free by calling 800-221-3475. Telex CE anytime, dial 810-223-2422. If you are outside the U.S. or in Michigan dial 313-973-8888. Order today.

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JUNE 1986 **VOL. 4, NO.10**

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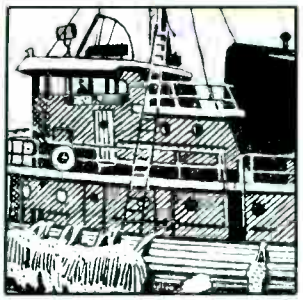
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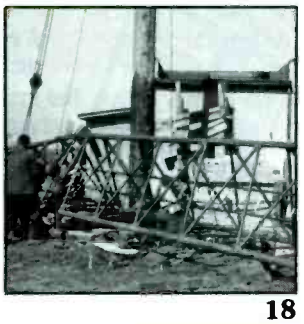
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FEATURES

This month's cover: *The Kachina MP-25 has earned a worldwide reputation for combat communications. It's also available to the general public. Read about it in this issue.*

DEPARTMENTS

BEAMING IN

AN EDITORIAL

Of Lore And Legend

BY TOM KNEITEL, K2AES

Odd how virtually every branch of the military, every sport, every hobby, every school, every profession, every occupation, and every local area has its own unique legends and tales of wonderful deeds and heroic events to tickle the imagination. These are things that never seem to have taken place in the presence of the person who tells about what happened. Invariably the story involves a friend of a friend, and it all took place at some point at least far enough in the past to preclude confirmation.

In my first year at college I was dazzled as the older students regaled me with tales of the daring antics that I had missed by not having been there only a year or two earlier. Then there was the totally outrageous story of the pre-med student on the date. He secretly sprinkled some sort of exotic chemical on his date's ice cream sundae. The bizarre details surrounding the aftermath of her first spoonful of Heavenly Hash were guaranteed to send any freshman into open-mouthed awe. Definitely the stuff of which dreams and legends are made.

I say *legends* because the following year I transferred to another university and was amused to find that each and every one of these colorful stories (with minor variations) were also part of my new school's heritage. Later I came to believe that these same yarns are part of the permanent lore and tradition of many colleges and have been so for decades, carefully handed down from one generation to the other. Like the story of Paul Bunyon. Or Johnny Appleseed. Or Casey Jones. Nobody really knows the exact details anymore, but they're still passed along.

Maybe it's the early-bird hours of traffic nets that bring out similar legends about radio. That's where I've heard some wonderful tales during those moonlit hours when the traffic is thin and the coffee and conversation are thick. Neither I nor anybody else can vouch for the veracity of these stories, but I can't disbelieve them because I've heard them so many times, in so many places, and over so many years—each time from someone who personally knew someone who was there, or knew someone who knew someone who was there.

Far be it from me to dispute such positive evidence!

Many people are sure that copying CW eventually gets you kind of batty. Maybe it does. A certain mental institution in San Pedro (some say New Orleans) has one patient who sits all day wearing a headset plugged into an empty White Owl cigar box. The attendants humor this old time "on watch" ship's radioman and swear it's the only way to placate him. He's quiet—in fact he insists on quiet in the radio shack—but he won't leave for chow unless someone else takes over the watch, headset, cigar box, and logbook. That's what they tell me!

"Call that idiot on the beach and tell him that his fix puts us in the Mark Hopkins Hotel!"

The legend of the cut zero and the bread must be true. I've heard it so many times in so many different places, including from readers who have written to me about it, that there must be something to the story.

Some CW operators use shortcuts to save on transmission time. One of these tricks is to send a single dash (*dah*) instead of five dashes to represent the figure zero; it's called a "cut zero."

A commonly related version of the story tells about the hotshot army operator who habitually used cut zeros. Upon reporting to a new duty station in Alaska (some say Canada's Yukon), he was given the assignment of running skeds with small weather reporting outposts in the boondocks.

His first message was from a one-man station requesting food and supplies for the coming two-month period. This message included a request for ten loaves of bread. The weather outpost op sent the standard five dashes for his zero. The hotshot receiving operator copied it as five separate zeros and promptly put through the order for 100,000 loaves of bread—a 1,600 year supply—for the one-man station!

Then there was the story of the bored radio operators at a U.S. Air Force ground communications station at an isolated Greenland post just after the close of WWII.

Having an abundance of leisure time with nothing much to do between shifts, legend has it that the operators devised a grand

(Continued on page 74)

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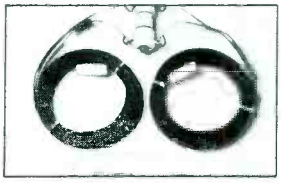

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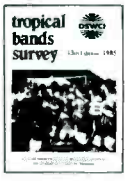
"World Radio TV Handbook 1986" The bible of shortwave listening $19.95



"Tropical Bands Survey." Latest ed. from Danish SW Clubs Intl. lists brcst. stations, 2000-5900 kHz, with scheds, locations etc. $4.50

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MAILBAG LETTERS TO THE EDITOR

The most interesting questions we receive will be answered here in each issue. Address your questions to: Tom Kneitel, Editor, Popular Communications magazine, 76 North Broadway, Hicksville, NY 11801.

Who Goes There?

As suggested several times in *POP'COMM*, I've tried placing my scanner in the "scan-search" mode in order to detect active frequencies previously unknown to me. On 154.455 MHz there are several stations noted using code names instead of callsigns. From the brief and cryptic messages they exchange, I'd say that these people are engaged in a criminal activity. Whose frequency is this, anyway?

Mike Winslow
New York, NY

Chances are that the stations are operating on or close to 154.45625 MHz, a frequency authorized only for telemetry and their non-voice purposes. If that's the case, they're on an unauthorized frequency, probably unlicensed, and—as you suspect—up to no good. The use of such frequencies by high-tech criminals isn't yet commonplace, but has been noted with more regularity than in previous years. Also listen in on 154.465, 154.47, 154.475, 169.425, 169.45, 169.475, 169.50, 169.525, 170.225, 170.25, 170.275, 170.30, 170.325, 171.025, 171.05, 171.075, 171.10, 171.25, 171.825, 171.85, 171.875, 171.90, 171.925, 173.20, 173.21, 173.235, 173.26, 173.285, 173.31, 173.335, 173.36, 173.39, and 173.395. These frequencies are all candidates for similar abuse.—Editor

Play It Again, Sam

Each month I eagerly await the arrival of my issue of *POP'COMM* because I'm certain it will be the issue that contains a story on monitoring the so-called "Forgotten Band." So far you haven't covered this band. When will you run this information?

Sam Bartichevsky
Paterson, NJ

Sorry, Sam, we seem to have forgotten what band you're talking about, and we can remember lots of bands—even Harry Horlick and his A&P Gypsies. Maybe you or some other reader could jog our memories here with some specific information.—Editor

DX Deluxe?

Permit me to especially thank you for two items that appeared in the May issue—Gerry Dexter's *Small Spots* and Tom Kneitel's *Beaming In*. Gerry's story about tiny and out-of-the-way nations was very helpful; Tom's expose of bizarre quasi-nations was hilariously irreverent. Those readers who share my interests in esoteric DX locations might be interested in two books angled along the lines of Tom's May issue *Beaming In*.

One is *The World of Donald Evans*, by Willy Eisenhart (1980, Harlin Quist Books distributed by Dial/Delacorte Sales, New York); the other book is *Surreal Stickers and Unreal Stamps*, by William Rowe (1982, Dover Publications, Mineola, New York). The books contain a whole array of "postage stamps" designed for imaginary nations around the world. These are all in color; the book by Eisenhart even contains histories of these "places," plus information on their cultures, products, and peoples. With only a little bit of effort, it's possible to plan DXpeditions to the likes of British Guiagu, Northern Desdesia, St. Bilena, Sung-Ting, the Tropides Islands, or dozens of other exotic lands. After I operate from Spratly Island (as described in your December '85 issue), I'll probably head for Nouvelle Wazoo!

Ev Collins, 1S8EC
Spratly Island
via Cadillac, MI

Glad to hear that you liked our offerings about some of the world's more interesting and unusual DX locales. Inasmuch as those two stories brought in lots of mail, we are passing along the information you furnished on the two books. Possibly they're available in larger libraries or can be obtained through local bookshops.—Editor

Looking For The Good Doctor

Help! I'm trying to track down "Dr. Rigormortis" and his publication known as *The Eleven Meter Times and Journal*. I thought he was in Colorado, but it looks as though he isn't after all. Can anybody let me know how to hook up with Doc? My local newsstand says he can't order *EMTJ*; why?

M. Sandoval
Globe, AZ

A couple of months back down the line, Doc took a notion to leave the high country for sunny California. Doc and his publication (covering CB and Freeband) are now located near the Tijuana "border country." The address of EMTJ is P.O. Box 1019, Lemon Grove, CA 92045 (a 10-issue subscription is $10). EMTJ is directed at the hardcore 11 Meter Band technical communications crowd; it views the "goodbuddy" denizens of the 11 meter band with abject disgust. That being the case, it's not a mass media effort, however, for what it strives to be, it is excellent!—Editor

Three Ring Circuits

I'm a circus fan of the highest magnitude. Therefore, I've been anxiously waiting for *POP'COMM* to provide information on scanner frequencies used by the nation's circuses. I've seen hand-helds in use by many of the crews erecting the "big top" and doing other chores. Please provide this information in the near future.

Edwin Franks
Universal City, CA

Although many circuses do have radio in use, these appear to be low-power jobs that don't require licenses, like 49 MHz hands-free FM transceivers. There are also VHF hand-helds operating on 151.625 MHz, but few appear to have had licenses issued for their authorized use. The Ringling Brothers Barnum and Bailey Circus and the Royal American Circus, however, do have licensed units on 151.625; Ringling also operates on 464.875 MHz. There are also two non-traveling circuses using communications gear—Circus Circus (in Nevada) uses 151.925 and 451.575 and Circus World (in Florida) is on 454.525 MHz.

Many circus performers travel in their own vehicles and these folks invariably have CB equipment for chatting with one another while enroute.—Editor

Electronics Privacy Axe

When I read about the Electronics Privacy Act, I could scarcely believe my eyes. The Cellular Mobile Telephone people pay no license fees to make millions of dollars by using the public's airwaves and, while they're getting this windfall, they've got the nerve to try to get legislation passed that adversely affects monitoring on many frequencies other than their own. Fooey on these people; you are to be commended for your stand on this issue.

Saul Brighton
Refugio, TX

Of the several magazines that took a stand against the Electronics Privacy Act, *POP'COMM* was the only one that lifted the veneer of hogwash and mentioned the phony business about supposedly stopping federal electronic surveillance. Also, you were the only one to quote one of the sponsors of this proposed legislation, thus revealing the honored legislator's abject ignorance of his "law." Thank you for taking the trouble to provide a deeper look than anybody else.

Ronald J. Marchetti
Greenwood, IN

In several articles you've pointed out how Hitler made it illegal for the people of Germany to listen to the BBC. You have also mentioned that Fidel Castro made it against the law for Cubans to listen to Radio Swan/Americas. Your discussion of the insidious Electronic Privacy Act should have pointed out the obvious similarities between this latest scheme and those imposed upon the residents of nations with totalitarian governments.

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Another Dimension To Scanner Listening

Many of us are passive listeners. Nothing wrong with that. We know a lot of what is happening in our communities, often more than the local newspaper reporter or even the mayor! Our scanners give us an insight to our town's activities—good and bad—that few other people have. But have you ever thought of using that information to help your community? That can really add an exciting new dimension to your scanner monitoring . . . .

Many SCAN members have written to us with news on how their scanner listening and action has helped capture a criminal, located a hit-run vehicle, or located a lost child. Without exception they were alerted to the problem by their scanners and then decided to take an active role to aid their local police. They became the "eyes and ears" for their local police. They became not just listeners but part of the story! How did they do it? Many are members of Neighborhood Watch programs, a concept sponsored by the National Sheriff's Association. Perhaps they listened to a hundred or more reports on their scanners before having any information to help the local law agency. But they kept alert . . . they kept their eyes open . . . and the satisfaction of helping in perhaps even saving a life can be overwhelming.

There are a few guidelines, though. In general it is NOT a good idea to go to a major emergency unless asked. Also, if the police are looking for a vehicle and you spot it, don't go near it. Apprehension of suspected criminals belongs in the hands of professionals; your quick phone call with all the details is the way to go. Think of yourself as a detective and train yourself to remember everything—the person's hair color, eyes, make-model-color of the car, license plate, exact time. Take a quick look at the next car you see and then close your eyes. Try to recall how much you remember. It's a skill that requires some practice!

Probably the best way to start is to join or start a Neighborhood Watch group. Your local law enforcement agency will almost always be glad to assist you. We also have free information booklets available if you send us a stamped, self-addressed business size envelope. In addition, we have a 12-minute video cassette tape produced by the Neighborhood Crime Prevention Coordinating Committee in cooperation with SCAN. It is available in Beta and VHS formats or 16-mm film for showing to groups. If you would like to borrow a copy, please give us the details of the organization, meeting date, how many people are expected, and the format you need. All requests should be sent to: Neighborhood Watch Program, SCAN, P.O. Box 414, Western Springs, IL 60558.

Where Is The Federal Trade Commission

While we may have delayed the enactment of the Federal Communications Privacy Act, I wonder if it isn't time for the FTC to take a close look at what the cellular telephone industry is planning to promote when and if it does become law. I can hear the claims now . . . "As private as your home phone, it's protected by the same wiretap laws." Fraud, I say! When you disperse a non-encoded signal widely through the airwaves on an unused TV channel, so that even a $59.95 TV set can pick it up, who are they trying to kid? If this crazy legislation should become law we should all write the FTC at the first moment an outlandish claim like that is made. We're telling it like it is. It is the cellular telephone industry that is intent on trying to have legislation change the reality that their system has as much security as a house of glass. If you have not yet written your Representative and Senators about House Bill HR-3378 and Senate Bill S-1667, I urge you to do it today. Even a postcard simply saying that you are against the legislation in its present form and asking him/her for a response on their position can have amazing results. The sponsors of the bill are already very nervous about the jam their staff and the Cell-Tel lobbyists have gotten them into; a letter or postcard from you can push them into withdrawing or substantially modifying this legislation that would put us in the same league as Eastern Europe in restricting citizen use of radio receivers.

Speaking Of Fraud . . .

It is hard to believe, but the cellular telephone boys are asking for more radio spectrum. When the service was proposed, the primary reason cited was radio spectrum conservation. The idea was to use and reuse frequencies. Grand presentations were made on how, as this fantastic service took off, they would simply divide and divide again those cells to reuse more frequencies. Guess what? The Cell-Tel folks now tell us that they don't want to divide those cells. They want more radio spectrum—frequencies that may be urgently needed for expanding police, fire, and emergency services in the future. But they want them now, because the grand plan has become unraveled and the truth is out. It costs too much to build new cell sights and devise the cells. The entire premise that the service was born on is flawed! Unless they are lying to us, the Cell-Tel people are telling us that their original plan is so expensive and impractical that it won't work. Let's hope the FCC asks some tough questions before they agree to turning over more spectrum to these people and perhaps impair future needed expansion of public safety communications frequencies.

No Better Way To Travel And Enjoy Scanning

I admit to being biased on this point. I am a train nut. But where else but on a train can you travel without the worry of state scanner laws and driving distractions? Fly? You're not even allowed to use a scanner on commercial aircraft. So give me a train trip any day. Several years ago I wrote about my experiences on Amtrak's Broadway Limited from Chicago to New York:

Rolling out of Chicago through the countryside of Indiana I got my first glimpse of how the railroad takes care of a priority movement like a passenger train. I must admit to being somewhat surprised with what seemed to me to be a great deal of concern on the part of tower operators to check on our progress. Almost always the tower operator would call the train crew, rather than the other way around, with a message like this: "Number forty . . . this is Crestline Tower." The reply: "This is forty, go ahead Crestline." "You've got a clear board . . . Anything we can do for you?" "Thank you, let me check . . . (a minute of silence) . . . we're all o.k." The tower again: "Highball!" And the reply from the engineer in control of the moving 70 mph train: "Highball."

Throughout the night the scene is repeated as tower after tower checks on our progress. Then, over a hill I spotted a reddish/orange glow that unmistakably says fire. Quickly I put my scanner into search of the "low band," where I suspected that many of the fire departments in this part of the country have their radio channels. Sure enough, I heard the frantic calls for additional assistance. For several tense minutes I listen to hear what is burning. From the conversations I finally determine that it's a warehouse of some sort and apparently no lives are in danger. As the glow and the radio signal fades I hear a reassuring report that the fire is now not expected to endanger other buildings. I can sleep.

Later the next day I am searching the high band and I hear a report "Here comes the Broadway, get set." Since I am not on a railroad frequency, my curiosity is piqued, and I lock in on that channel. In a minute I hear "Green Toronado at seventy two." Out the window, on a parallel highway, I see a police car in hot pursuit of—you guessed it—a green Toronado! The train crew later tells me that the police in this area regularly watch for motorists who can't resist pacing the train at well in excess of the 55 mph limit.

Those were a few of my experiences on just one trip. Since then I've had many others, often with porters and conductors huddled around my scanner to find out what's really going on! Try train scanning this summer, I think you'll enjoy it.

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CIRCLE 67 ON READER SERVICE CARD

Big Daddy

A Worldwide Look At The Voice Of America

BY GERRY L. DEXTER

"Daily at this time, we shall speak to you about America and the war. The news may be good or bad . . . we shall tell you the truth."

So said the first broadcast of the Voice of America, beamed to Nazi Germany in German on February 24, 1942. It was the beginning, the birth of a giant. But it was not the first broadcast to an overseas audience on behalf of the U.S. government. That came sometime earlier under the direction of the Coordinator of Inter-American Affairs, which aired shortwave programs to Latin America. The Voice, when it began operations, came under the supervision of the Coordinator of Information and was responsible for programming to the rest of the world.

It wasn't long before responsibility for the VOA shifted again. This time the broadcaster found itself serving under the Office of War Information (OWI).

Then, after the war ended, OWI (with its VOA division and the Coordinator for Inter-American affairs) was placed under the supervision of the Department of State. VOA had a few years to catch its breath. That arrangement continued until 1953, when the government's radio voice became part of the newly formed United States Information Agency.

USIA (called USIS-United States Information Service abroad) is currently headed by Charles Z. Wick, who reports directly to the President and receives guidance from the Secretary of State. USIA is divided into four divisions—Broadcasting; Educational and Cultural Affairs; Programs; and Management. It has 214 posts in 129 countries around the world and its responsibilities and involvement make up an extensive collection of activities. They include: maintaining contact with local opinion leaders overseas, providing speakers, and producing films and TV programs. USIA has its own press service, carried 'round the world by radio-teletype to USIA posts. It's available in English, Arabic, Spanish, and French. A monthly "Soviet Propaganda Alert," designed to expose Soviet disinformation schemes, is also fed on the teletype.

USIA operates various educational and cultural exchanges through the Department of State, provides scholarships, operates the International Youth Exchange Program, encourages and helps support various programs in the private sector designed to foster a better understanding of America. It supports American studies programs in various universities abroad, and maintains press centers in New York, Washington, and Los Angeles to assist foreign newspeople in covering U.S. stories. In addition, USIA maintains the USIS libraries around the world, is responsible for writing, publishing, and distribution of many books and pamphlets, and assesses foreign attitudes towards the United States.

So, the Voice of America is just one of many USIA functions, albeit a very large apple on the Sell America tree.

VOA's operations are guided by Public Law 94-350, which states, in part, that: (1) The Voice of America will serve as a consistently reliable and authoritative source of news. VOA news will be accurate, objective, and comprehensive. (2) VOA will represent America, not any single element of American society, and will therefore present a balanced and comprehensive projection of significant American thought and institutions. (3) The VOA will present the policies of the United States clearly and effectively and will also present responsible discussion and opinion on these policies. By law, the VOA is prohibited from broadcasting to U.S. citizens or providing them with materials (such as program guides) which could be taken to be internal promotion of the Voice of America. There has been talk of late that this part of the law should be changed, that the VOA should have its own stations or program service aimed at an internal audience. It's not our place here to argue that question one way or the other, although it's probably true that most SWL's wish VOA program schedules were available to them in this country.

President Reagan speaks to the world from the VOA studios.

America's radio voice currently speaks to the world in 42 languages, a number that's destined to increase. The number of languages employed by the VOA has fluctuated over the years, but each cutback has been to a level higher than the number before. Toward the end of World War II the Voice was speaking in 40 languages, but that number was cut to 24 at war's end. It reached a new peak of 46 during the Korean War, dropping back to 38 after that conflict ended. Two steps forward, one step back. Languages and language hours can be increased when the situation warrants.

Like the BBC and Radio Moscow, the Voice of America broadcasts in English around the clock, to the tune of 1,138 hours per week. That's a lot of hours, but it doesn't make the Voice number one. More on that later.

An estimated 120 million people tune in to the various VOA programs and services

The news assignment desk. (VOA Photo)

each week, and that figure is said to be much higher during times of crises or when major international events take place.

Programs

Programs on the VOA comprise an unending parade of subjects. Among the most popular shows are Music USA (Standards) and Music USA-The Jazz Hour, both hosted by well-known Willis Conover who, incidentally, is not a regular VOA employee but a private contractor.

Other major VOA programs include a number of magazine-style shows such as VOA Morning, Weekend, and The Magazine Show, which deal with every subject under the sun and take listeners to the site of various happenings around the country. Now Music USA features pop, rock, and soul. Concert Hall covers the classics. Studio One offers up drama, documentaries, and narratives. The African Service features the likes of Music Time in Africa, African Panorama, Daybreak Africa, and Nightline Africa. These programs, along with Report to the Americas and Caribbean Reports, help U.S. shortwavers keep up to date on events in those parts of the world, whether the U.S. Congress likes it or not.

In September, 1984 the VOA inaugurated its monthly call-in show, which enables listeners to talk to world personalities and experts in various areas.

The Voice also produces special tape and script program packages and makes them available free to foreign radio stations. Some of them even pick up and rebroadcast VOA news.

Take It Slowly

On October 1, 1959, listeners to the VOA Europe and Middle East services got their first taste of something called "Special English." Special English draws on a vocabulary of some 1,500 common words, a style which employs simple, short sentences and a speaking rate two-thirds of normal. Special English has become so popular that it's now carried in services to all parts of the world. Each area can count on at least one 10-minute newscast per day broadcast in Special English. In addition, such programs as People In America, This Is America, Science in the U.S., Space and Man, The Making of A Nation, The Living Earth, and American Short Stories are aired in Special English.

The Special English word list has been revised three times in order to keep it in tune with changing usage. Actually, Special English isn't much different than what most of us speak much of the time. Ordinary words, no tongue twisters, no technical words, no "in" jargon. The VOA says that millions of people around the world rely on Special English to help them maintain or improve their language skills. Listening to Special English broadcasts on the VOA is often a required part of English language courses in many parts of the world. The VOA publishes a Special English Word Book for overseas listeners.

Here Is The News

One thing you'll never hear on the VOA is an Associated Press or other wire service story broadcast "rip 'n read" fashion. All the news that's fit to broadcast on the Voice of America is written in-house, with content and facts based upon wire service reports from AP, UPI, Reuters, and Agence France Presse. But that's only the half of it, if that much.

The VOA has its own full time correspondents stationed at bureaus scattered around the world, as well as a few within the United States. In addition, it draws on dozens of stringers and freelancers for additional coverage.

The assignment desk in the Washington, DC headquarters assigns individual correspondents and reporters to stories and serves as a clearing house for all the divisions. A staff of 14 work the assignment desk in 'round the clock shifts and are responsible for making certain that all bets are covered—both stories in progress and those that can be planned in advance. It's when the unexpected news story occurs that the assignment desk really starts to hop.

"Voicer" reports from correspondents are fed to "The Bubble," an electronic reception and recording center where 80-90 such reports are transcribed every day.

This raw news, from press services and the Voice of America's own reporters and stringers, is fed to the newsroom where the stories are written and placed on the VOA Central News File, an internal radioteletype, which then goes to all the divisions. Each language service can then translate VOA news for broadcast in that particular language.

All VOA news stories have to pass through the two source funnel, that is, each has to be independently confirmed by at least two different sources. Two wire service stories have to say essentially the same thing or a wire story has to be confirmed by a VOA reporter. All the TV networks are monitored, too. In all, the VOA produces some 320 newscasts every day.

The Main Place

You might expect a broadcast organization as big as the Voice of America to have its own fancy building like many of the world's international broadcasters. In fact, the VOA nerve center is a "walk up." VOA occupies the second floor of the Health and Human Services building at 330 Independence Avenue in downtown Washington, and you're welcome to go see it for yourself. The facility is open for public tours Monday through Friday, except holidays. Public tours are given at 8:45, 9:45, and 10:45 a.m. and at 1:45 and 2:45 p.m. Reservations are requested for groups of ten or more, but if it's just you and a couple of friends, all you need to do is arrive a few minutes before tour time and wait in the lobby. You can pass the time staring at the famous glassed-in VOA Master Control. There are 32 studios in this building, two in New York City and one each in Chicago, Miami, and Los Angeles.

You won't find any Voice of America transmitters in Washington, but there are plenty of them dotting the world map. Here's a rundown:

Bangkok, Thailand: There's a 1,000 kilowatt medium wave transmitter here (on 1,575 kHz) that serves Southeast Asia. It went on the air in March, 1968 and takes VOA programs via shortwave from the Philippines. The actual transmitting plant is about 67 miles north of Bangkok.

Bethany, Ohio: This site began operations in July, 1944 under contract to the Crowsley Broadcasting Corporation. VOA assumed control in 1963. It's located 26 miles north of Cincinnati, near Mason, Ohio, and features three 175-kW and three 250-kW units, with communications transmitters of 50 kW (two), 15 kilowatts (one), and 5 kW (one). Programs are received via leased commercial land line and are targeted to Latin America and West Africa.

Botswana: One of the newer sites, this one is at the city limits of Selebi-Phikwe and features a 50 kW medium wave transmitter on 621 kHz, along with a 3 kW communications transmitter. Botswana operations began in September, 1981 and programs are beamed to Botswana, Northern Africa, and Southern Zimbabwe.

Brasilia: The VOA doesn't own these transmitters, but a couple of years ago concluded an agreement to rent time on the Radiobras 250 kilowatt units for service to Latin America.

Colombo: The VOA and the Sri Lanka Broadcasting Corporation share this facility at Ekala, 14 miles north of Colombo. Currently there are three 35-kW and one 10-kW shortwave transmitters here, with the Sri Lankan government having priority claim on the more powerful units. Programs are received via shortwave from Kavala and the Philippines and rebroadcast primarily to Asian targets. Operations began in 1953.

Delano: This site features three 250-kW and two 100-kW shortwave broadcast transmitters, as well as two 50-kW communications units. An additional four 250-kW units are now being installed. Delano began in 1944 under contract to CBS, with the government assuming control in 1963. Programs beamed to Central America and East Asia are taken via satellite. Delano is about 35 miles north of Bakersfield, California.

The VOA Voyager mobile studio, on the road in Iowa. (Waterloo Courier photo)

Dixon: Thirty miles southwest of Sacramento and eight miles southeast of Dixon, California are three 250-kW, one 200-kW, two 100-kW, and two 50-kilowatt broadcast transmitters, but only the 250 kW units are in use now. The National Broadcasting Company operated this site, under government contract, from its start up in 1944 until 1963. Dixon was off the air from 1979 until 1983 when it came back on to help put a stronger signal into Central America. Programs are received via satellite.

Greenville: Officially this is the "Edward R. Murrow Transmitting Station," named after the late CBS newsman who once served as Director of the USIA. Actually, there are two sites in North Carolina—Greenville A, about 20 miles northeast of the city, and Greenville B, about 15 miles to the southeast. Both sites are nearly identical and feature six 500-kW, six 250-kW, and four 50-kW shortwave broadcast transmitters, as well as four 40-kW and two 50-kW units for communications purposes. A VOA microwave system feeds the site which broadcasts to Latin America, North and West Africa, and Europe. Greenville has been on the air since 1963.

Kavala: This site in Northern Greece has ten 250-kW and one 500-kilowatt transmitter, the latter a medium wave outlet on 792 kHz, along with two 50-kW communications units. Primary targets are Eastern Europe, the USSR, the Middle East, and Southeast Asia, with programs received via satellite from Washington. A former Greek site at Salonika was given to the Greek government after the site at Kavala became operational in 1973.

Monrovia: This site is actually at Careysburg, 20 miles north of Monrovia, Liberia. There are six 250-kW and two 50-kW shortwave broadcast transmitters, one 40-kW and three 15-kW communications transmitters. The Liberia relay has been operational since 1964 and takes its program feeds via satellite.

Marathon: This one is actually on Three Sister Creek Island, some 48 miles north of Key West, Florida. The station consists of a single 50 kW medium wave transmitter on 1,180 kHz currently carrying the Radio Marti service to Cuba. The station has been on since 1962 and formerly carried VOA Spanish programming. Programs are fed via commercial land line.

Munich: There are two sites under this general designation. One is Ismaning, which is owned by Bavarian Radio and is located 11 miles northeast of Munich. It has a 300 kW medium wave transmitter (on 1,197 kHz), plus four 60-kW and one 8-kW shortwave broadcast transmitters, and two 40-kW communications transmitters. The second site, at Erching, is 13 miles northwest of Munich near the town of Ueberacker, and is leased to Deutsche Budepost. This site has a one million watt longwave transmitter. Ismaning began operations in 1946 using captured Nazi transmitters, some of which are still in use today. The Erching plant went on the air in 1953, but was placed in "caretaker" status in 1973. Targets for the Munich relay are Eastern Europe and the USSR.

Philippines: There are two sites here, also. At Tinang, ten miles northeast of Clark Air Force Base, there are twelve 250-kW and three 50-kW shortwave transmitters.

The Poro plant sits next to the U.S. Air Force's Wallace Air Station north of Manila. There's a one million watt medium wave transmitter here (1,143 kHz) and shortwave transmitters of 100 kilowatts (two), 50 kW (three), 35 kW and 15 kilowatts (two each), the latter two for communications purposes. Primary targets for the two sites are China, Eastern USSR, South and Southeast Asia. Operations at Poro began in 1953, Tinang in 1969. Programs come via satellite and microwave.

Rhodes: Located near the village of Afandou on the island of Rhodes, this site features one 500 kW medium wave transmitter (1,260 kHz), two 50-kW shortwave broadcast transmitters, and a 15 kilowatt communications transmitter. The Rhodes site has been on the air since 1952. It replaced a shipboard relay on the USCG cutter *Courier*.

VOICE OF AMERICA: A GLOBAL VIEW

Tangier: Located 13 miles south of Tangier, Morocco, this site has four 100-kW, two 50-kW, and four 35-kW broadcast transmitters, along with two 15-kW communications units. It's fed via satellite and shortwave for service to Eastern Europe and North Africa. The Tangier relay has been operational since 1949.

Wooferton: This is a joint operation with the BBC and is located 38 miles southeast of Birmingham, England. It has six 250-kW and four 300-kW shortwave broadcast transmitters beaming to Eastern Europe and the USSR. It has operated since 1948 and gone through two modernizations, one in 1963 and one in 1983. Future plant expansion will be coordinated with the BBC.

A Powerful Future

But even with all of these transmitter sites and all that power, the Voice of America doesn't consider itself fully equipped to do its job and reach its full listener potential. Until recently, the VOA's six "500" kW transmitters at Greenville were actually three 250-kW units that had gotten married. That compares to thirty-seven 500-kilowatt units at the disposal of Radio Moscow, eleven such in France, nine in West Germany, and eight for the BBC.

Additionally, the VOA's Washington studios hadn't seen any technical improvements in some 20 years. The VOA was lagging behind in programming hours, too, totalling about half the USSR's 2,175 hours per week and half its 81 languages. VOA ranks fifth in hours broadcast to Africa, Latin America, and the Caribbean, and sixth in programming hours to East Asia and Eastern Europe.

So, a one billion dollar, six year modernization and expansion program is underway. The plan looks toward—get this—*one hundred* 500-kilowatt transmitters eventually in service!

The huge rebuilding and revamping of the VOA includes the addition of up to ten 500-kW units in Tangiers; up to four such transmitters (and two 250-kW) are being installed now in Sri Lanka. Thailand, now medium wave only, is getting up to six 500-kW transmitters and one of 100 kW for shortwave use. South America will eventually be serviced by nine 500-kW transmitters at a new site in Puerto Rico. Central America is already getting programs (or will be shortly) from new VOA medium wave relays of 50 kilowatts in Costa Rica and 50 (later 100 kW) in Belize. Further, there are hopes for yet another giant relay in Israel.

But transmitters aren't all that's ahead for the VOA. Other moves include an expan-

Jamming And The Voice

While VOA English language programs are not jammed, those in languages spoken in the Soviet Union are. In addition, jamming occasionally is increased, as in the case of the VOA's broadcast in Polish to Poland of Mrs. Lech Walesa's acceptance of the Nobel Peace Prize on behalf of her husband. Or, when the VOA added additional hours and frequencies during the KAL-007 crisis. Jammers covered the new frequencies within minutes of their coming into service.

Experts believe the Soviets spend between $100 and $300 million annually on jamming, in the process using 5,000 to 15,000 technicians at some 2,000 jamming stations.

VOA broadcasts often get through just the same and much of the VOA's modernization and power expansion efforts are aimed at overcoming the jamming problem.

sion in weekly programming hours, which is already underway. More programming time has been added for broadcasts to the central USSR and Latin America and Czechoslovakia (where the VOA is so popular it's nicknamed "Prague III"). Increased hours are being beamed to Thailand and Albania as well.

Existing relay stations are also being upgraded with 500 kilowatt transmitters, and the VOA is employing many more engineers to handle the task of expansion and upgrading. Some 128 more engineers have been added to the payroll since 1983.

The news division is also expanding, with new bureaus being added in Geneva, Hong Kong, Islamabad, Rome, San Jose, Boston, and Houston. A computerized translation system called SNAP was to have been installed in Washington by the end of 1985. It will enable VOA news writers to write, adapt, or translate in 42 different languages.

Already in operation are four new studios and an automated control center in Washington. Also on tap is a state-of-the-art computer control system for more accurate prediction of propagation and site-frequency-antenna alignments so as to provide the strongest possible signal to a given target area. Automated frequency monitoring stations will feed data back on the VOA's signal strength.

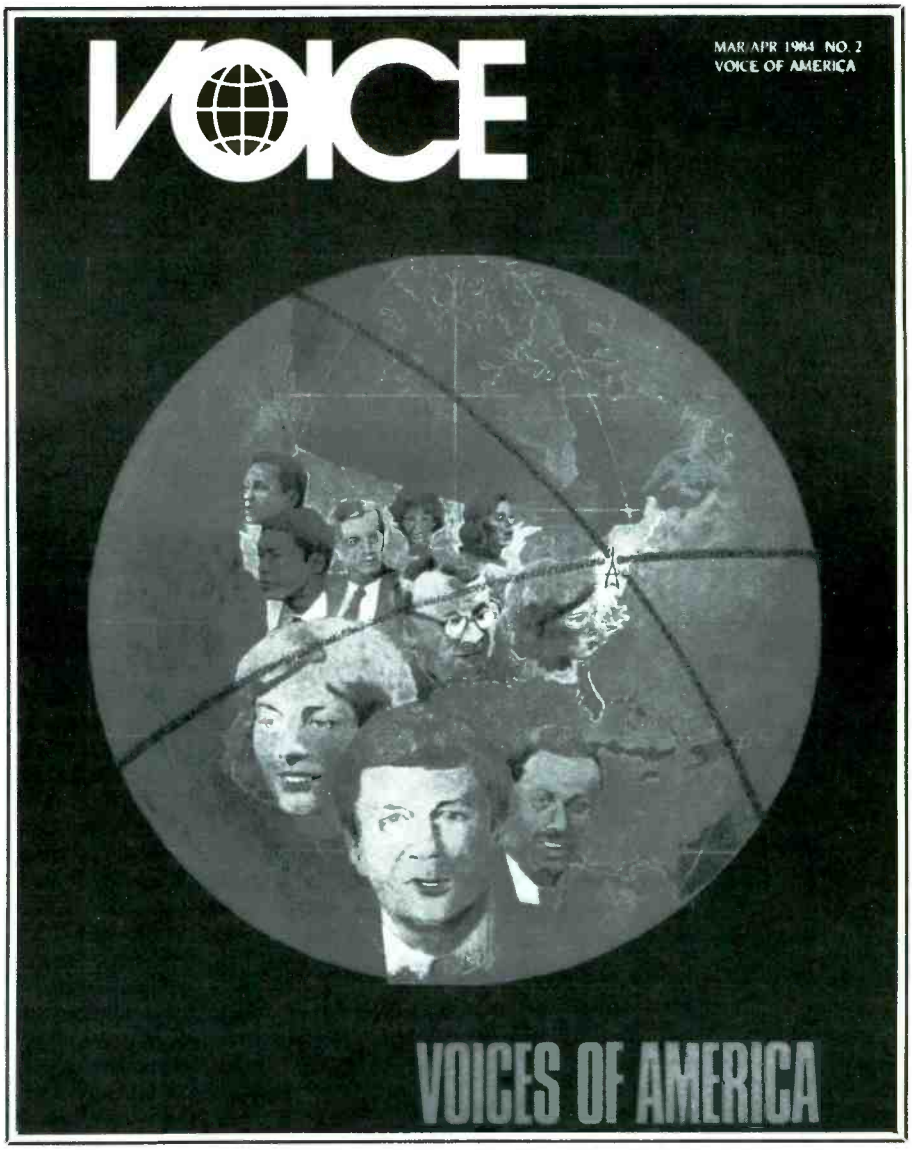
A new Office of Audience Relations is designed to keep the VOA in better contact with its listeners, as well as promote new listenership through paid advertisements overseas, news releases, and exhibits.

Other recent additions include the "Voyager," a mobile radio station on wheels that goes out to cover events within the U.S. The first assignment for it: the January, 1985 Charlie Daniels' Volunteer Jam XI in Nashville—the first music event ever carried live by the VOA. Voyager can broadcast up to eight programs at once.

More recently came the reinstatement of a service to Western Europe after a 25 year silence. VOA Europe started on October 15, 1985 and operates 24 hours a day, seven days a week over various European FM stations and cable systems. It's aimed at countering what USIA Director Wick called the "information deficit" about the U.S., which many younger Europeans are said to have. The station is designed as a "full service" American radio station, carrying American and European pop music, news, and features in stereo. VOA Europe eventually hopes to broadcast in German, Italian, French, and Spanish.

Like the BBC, the VOA does not escape criticism. Dull programming is bemoaned. The policy of airing editorials (adopted under the Reagan Administration) is considered scandalous by some. Biased or otherwise slanted news coverage is decried by others. Reports surface of low morale within the organization. The complaints and rumors may be valid or they may not. The point is that, despite them, the Voice of America is on the move.

As shortwave listeners we have to view the growth of the Voice with mixed reactions; we're glad to see our nation's official representative on shortwave tooling up to reach more people with America's story but, at the same time, shudder at the thought of all that power burning through the airwaves and making the good stuff still harder to hear. But, barring deficit-reducing budget cuts or the shut down of Radio Moscow, Big Daddy is going to get a lot bigger. PC



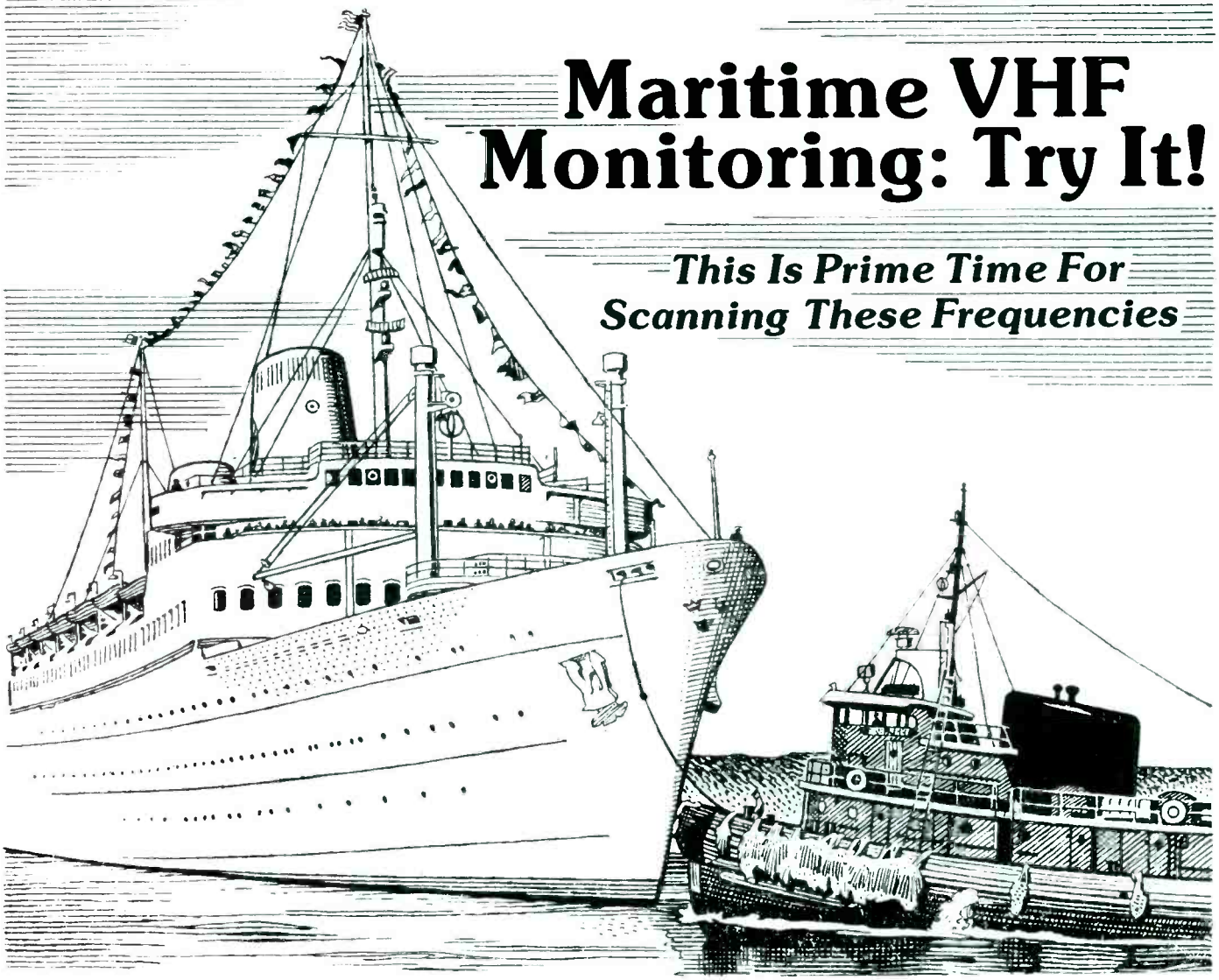
Voice magazine, the VOA's program guide. Congress says you can't have it.

VOA Facts

Languages Used: 42
Hours of broadcasting per week: 1,138
Listeners per week (estimated): 120,000,000
Listener mail per year: Approximately 275,000
Studios: 37
Domestic transmitters: 31
Overseas transmitters: 77
Total Power: 21.5 million watts
Staff: 2,908
Budget: about $161.3 million
Director: Gene Pell

Maritime VHF Monitoring: Try It!

This Is Prime Time For Scanning These Frequencies



BY HENRY SPENCER

In our rush to monitor the renowned "action frequencies" used by police, fire, paramedic, and federal agencies, some of us tend to overlook the other good pickings to be found on a scanner. What better month than June to search out the VHF maritime frequencies to see what they hold in store. You might find a Coast Guard rescue, a small boat in trouble, a tanker communicating with tugs attempting to guide it into a docking area, a race—you name it!

These frequencies are busiest between now and October. They're active near all inland waterways and navigable rivers, large lakes, and (of course) the ocean. In other words, there are few areas of North America where you'll be unable to hear anything.

Here are the keys to opening up the doors to this interesting band, a scanner user's frequency selection guide to keep handy as you check out the various frequencies to sample their wares.

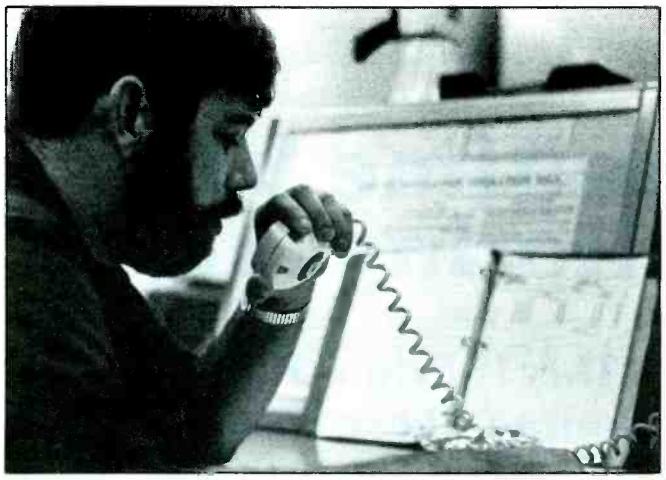
Channel 16, for instance, is one of the basic frequencies to install in your scanner. This channel is (supposed to be) monitored at all times by vessels not actively engaged in communications on a working channel. That's because Channel 16 is intended for distress calls; it's also where vessels and shore stations call one another. So, at least theoretically, every contact anywhere in this band is initiated on Channel 16. The idea is to establish the contact on Channel 16, then move to a working channel as soon as possible.

If a vessel has a problem (after making contact on Channel 16), it is usually handled by the U.S. Coast Guard or the U.S. Coast Guard Auxiliary on Channel 22. This channel is also used for USCG broadcasts relating to hazards or conditions affecting boat navigation.

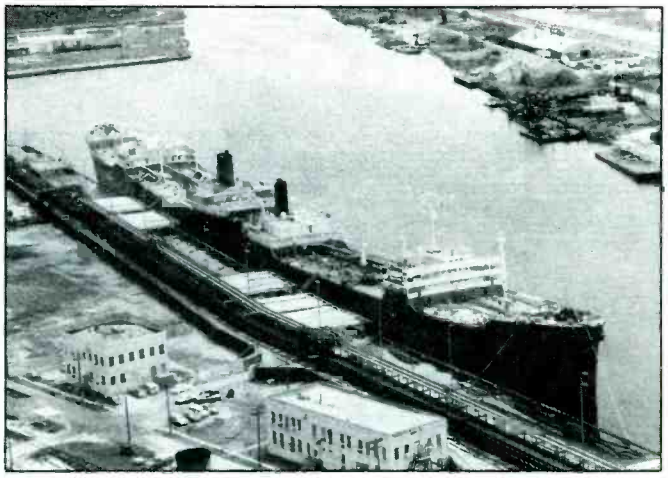
USCG communications between its own units ashore and afloat can be monitored on Channels 21, 23, 81, 82, and 83. Other federal agencies can also be monitored on channels in this group.

Another interesting frequency is Channel 6. Established as a safety channel, it is intended for vessels to tell one another about potential navigational and weather problems. It's also used during search and rescue operations for the vessels to communicate with one another.

Yet another channel set aside exclusively for safety purposes is Channel 13. Primarily, it is a ship-to-ship channel; secondarily it's used between vessels and shore stations (especially drawbridges). Only 1-watt short range communications relating to navigation are supposed to take place on this frequency. Its most common use is between the skipper of a large ship talking to the captains of tugboats. It's called the Bridge-to-Bridge channel. Many of the larger vessels use hand-held transceivers here.



The U.S. Coast Guard shore stations normally monitor VHF Channel 16, but can switch to several other channels in this band.



The docking of large vessels generally requires coordination between the vessel and tugboats. Sometimes a conversation can get very animated.

Messages relating to the operation, handling, movement, and safety of vessels in or near ports, canal locks, and waterways are exchanged on Channels 5, 12, 14, 20, 65, 66, 73, and 74. You'll hear ships and shore stations on these frequencies. Channel 77 is similarly allocated, but is limited to communications to and from ship captains discussing the movement and docking of vessels. Channels 11, 12, 13, and 14 are used for vessel traffic service on the Great Lakes, St. Lawrence Seaway, and certain major ports. Around New Orleans, try 1, 3, and 63.

Ship operations channels are divided between those allocated for use by commercial vessels (those used primarily for commercial transport of persons or goods, commercial fishing, or servicing other vessels), and those for use by non-commercial (recreational) vessels, although Channel 9 is shared by both classes of stations.

Most of the operations (or working) channels are authorized for shore station use as well as vessels. Recreational vessels and their related shore stations (marinas, boat yards, clubs, etc.) are to be found on Channels 9, 68, 69, 71, and 78. Similar operations (vessels exclusively without the shore stations) are on Channels 70 and 72. The intended use of all of these frequencies is for communications pertaining to sport fishing, rendezvous, racing, maneuvers, berthing, scheduling repairs, securing provisions, etc. The busiest of these channels are 68 and 70. For the most part, these frequencies usually sound like the CB radio channels.

Similarly oriented commercial frequencies are found on Channels 7, 8, 9, 10, 11, 18, 19, 67, 79, 80, and (except in the Great Lakes and St. Lawrence Seaway) 88. Note that Channels 8, 67, and 88 are for vessel-to-vessel communications only.

The other frequencies of interest are those used by the marine operators for ship-to-shore telephone calls. These operations are semi-duplex in format and therefore require two frequencies. The normal manner of monitoring them on a scanner is to listen to the shore station frequency inasmuch as both sides of the conversation can be heard

THE VHF MARITIME COMMUNICATIONS BAND

Ch. #	Vessels	Shore	Usage
1	156.05	156.05	Port/Commercial (New Orleans area)
3	156.15	156.15	Port/Commercial (New Orleans area)
5	156.25	156.25	Port Operations
6	156.30	--	Intership Safety
7	156.35	156.35	Commercial
8	156.40	--	Commercial (Intership only)
9	156.45	156.45	Commercial/Non-Commercial
10	156.50	156.50	Commercial
11	156.55	156.55	Commercial
12	156.60	156.60	Port Operations
13	156.65	156.65	Navigational (1-watt)
14	156.70	156.70	Port Operations
15	--	156.75	Environmental
16	**156.80**	**156.80**	**EMERGENCY & CALLING**
17	156.85	156.85	State Control (1-watt)
18	156.90	156.90	Commercial
19	156.95	156.95	Commercial
20	157.00	161.60	Port Operations (Advisories)
21	157.05	157.05	U.S. Government
22	157.10	157.10	USCG Liason & Broadcasts
23	157.15	157.15	U.S. Government
24	157.20	161.80	Marine Operators
25	157.25	161.85	Marine Operators
26	157.30	161.90	Marine Operators
27	157.35	161.95	Marine Operators
28	157.40	162.00	Marine Operators
63	156.175	156.175	Port/Commercial (New Orleans area)
65	156.275	156.275	Port Operations
66	156.325	156.325	Port Operations
67	156.375	--	Commercial (Intership only)
68	156.425	156.425	Non-Commercial
69	156.475	156.475	Non-Commercial
70	156.525	--	Non-Commercial (Intership only)
71	156.575	156.575	Non-Commercial
72	156.625	--	Non-Commercial (Intership only)
73	156.675	156.675	Port Operations
74	156.725	156.725	Port Operations
77	156.875	--	Port Operations (Intership only)
78	156.925	156.925	Non-Commercial
79	156.975	156.975	Commercial
80	157.025	157.025	Commercial
81	157.075	157.075	U.S. Government
82	157.125	157.125	U.S. Government
83	157.175	157.175	U.S. Government
84	157.225	161.825	Marine Operators
85	157.275	161.875	Marine Operators
86	157.325	161.925	Marine Operators
87	157.375	161.975	Marine Operators
88	157.425	--	Commercial (Intership only)
	157.425	162.025	Marine Operators (Gt. Lks & St. Lawrence)

Various types of offshore work boats generate their own unique communications.

Commercial vessels, such as tankers, freighters, tugs, passenger liners, and others are some of the stations to be monitored on the VHF maritime band.

there. The marine operators are heard on Channels 24, 25, 26, 27, 28, 84, 85, 86, 87, and (in the Great Lakes and St. Lawrence Seaway) 88.

While some major metropolitan areas have marine operators working on several channels, and most shore areas have coverage on at least one channel, you'll still want to check all of the frequencies to see which stations are active within your receiving range.

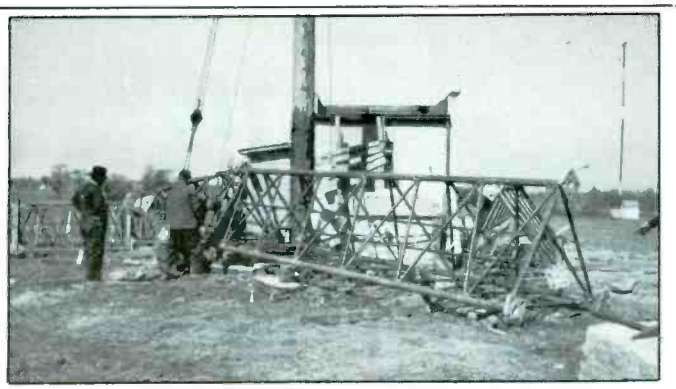
Channel 15 was set aside for the eventual establishment of a network of one-way broadcasting stations transmitting information on weather and sea conditions, time signals, navigational hazards. Thusfar, this proposed network has not gone on the air.

Similarly, Channel 17 was once allocated for 1-watt communications between vessels and a network of shore stations operated by state and local governments. The idea was to coordinate, regulate, and control boating activities. It was also to be used to extend help to vessels in trouble. Nothing much appears to have been done to get this frequency active, and it is probably not worth monitoring at this point.

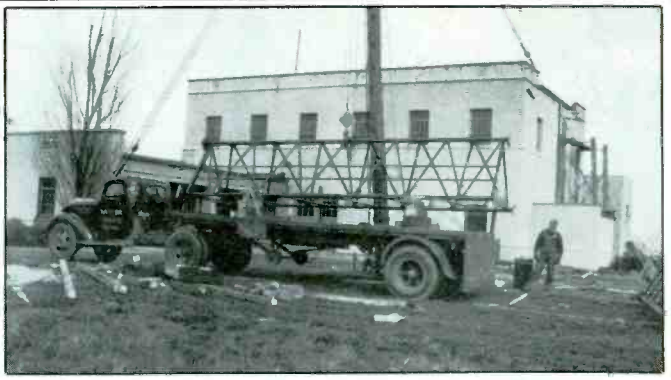
These are the channels to monitor—the good, the bad, and the indifferent. Personally, I like to keep (at the very least) Channels 6, 9, 16, 22, 68, and 70, plus a marine operator frequency, going all year. During the peak boating months, I like to add 21, 23, 81, 82, and 83, plus some additional recreational channels.

A chart I've prepared gives you the correlation between the channel number designations and their corresponding frequencies. Note that the channel numbering system starts at Channel 1 and ends at Channel 88, however, our chart intentionally skips over many numbers since some channels aren't used in North America and also because there are large gaps in the numbering system.

Listening on this band, you'll hear everything from work boats to luxury liners, tug dispatchers to lighthouses—and lots in between! Happy sailing on the VHF maritime band! PC



The lower section of the tower getting ready for lifting.



The truck arriving with a section of the WTAM tower.

Old Time Radio

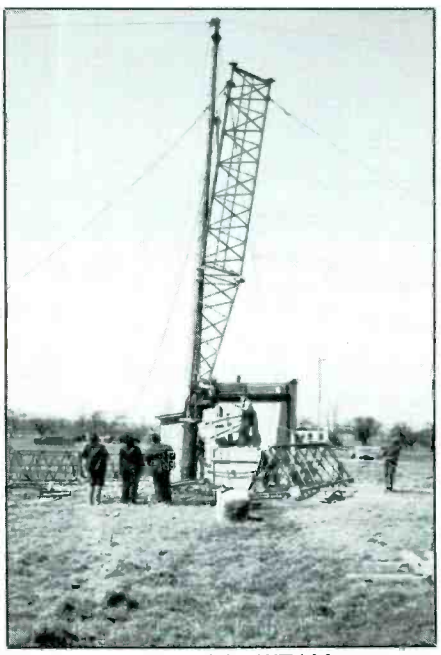
Recalling Those Thrilling Days Of Yesteryear

BY ALICE BRANNIGAN

In the May issue we were fortunate to have been able to share with you several 1930's photos of the WWVA (Wheeling, West Virginia) towers being constructed. Those photos were supplied by Gary Cumiskey (N8GJS) of Youngstown, Ohio, whose dad helped assemble the gigantic towers. This month, Gary supplied us with a dazzling sequence of photos showing the tower of WTAM (in Cleveland) being raised skyward in 1938.

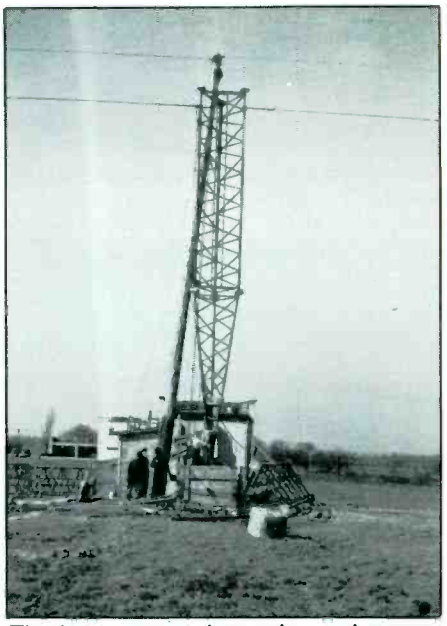
WTAM was one of the many broadcasters that commenced operation in 1923. Operating on 770 kHz with a (for the time) withering 1 kW transmitter, it was one of only 11 American stations to have such a powerful transmitter in 1924 (the others were: KFKA, KFKX, KGO, KYW, WBAH, WBZ, WDAP, WEAF, WEBP, and WGY). Of course, WTAM had something the other stations didn't have—an owner with a penchant for the unusual. WTAM's owners, the Willard Storage Battery Company, powered the transmitter completely by storage batteries! Even by 1925, when WTAM upped its power to 3.5 kW, it was still powered by Willard batteries—a clever promotion for its owner's well-known products. The station was quite famous, thanks to its novel power source.

In 1930 we find WTAM having moved to 1070 kHz and running 25 kW (50 kW on an experimental basis) from its transmitter site in Brecksville, Ohio. By that time, its owners were WTAM, Inc., of 1367 East 6th Street in Cleveland. A year later, WTAM was owned and operated by NBC.

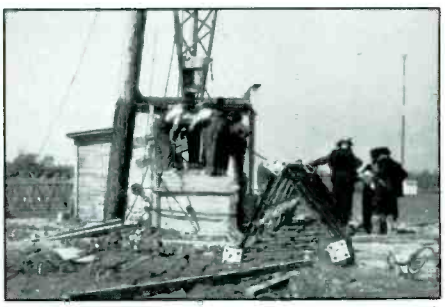


The lower section of the WTAM tower getting positioned.

A major frequency shift affecting most American stations just before WWII moved WTAM to 1100 kHz, and by the end of the war that's where it remained, operating with 50 kW from studios at 815 Superior Ave., N.E. in Cleveland. After that, things on WTAM's 1100 kHz frequency showed a number of changes in Cleveland. For a while, in the early 1960's, the callsign KYW

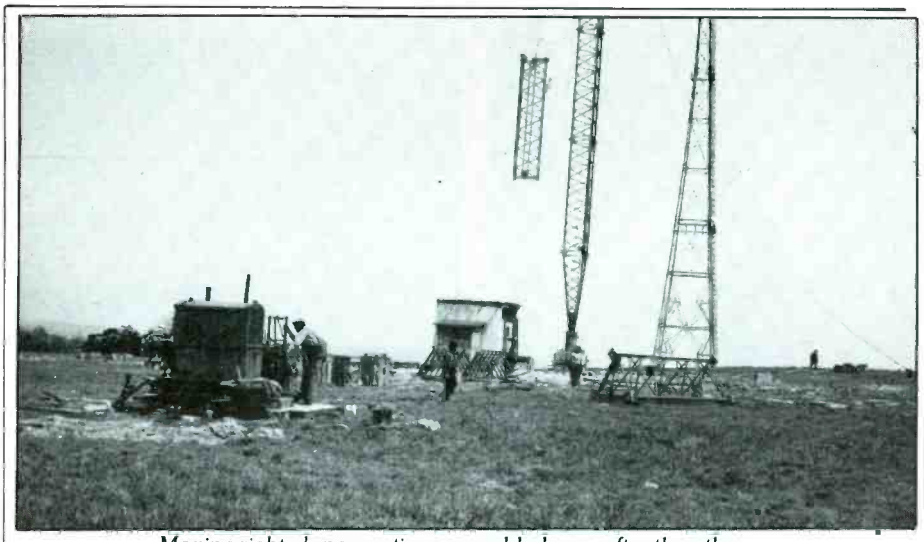


The lower section being dropped into its concrete base.

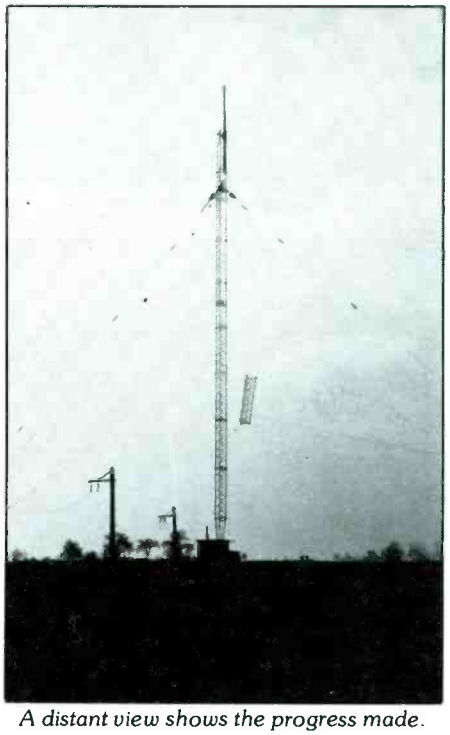


Workmen pour additional concrete around the base.

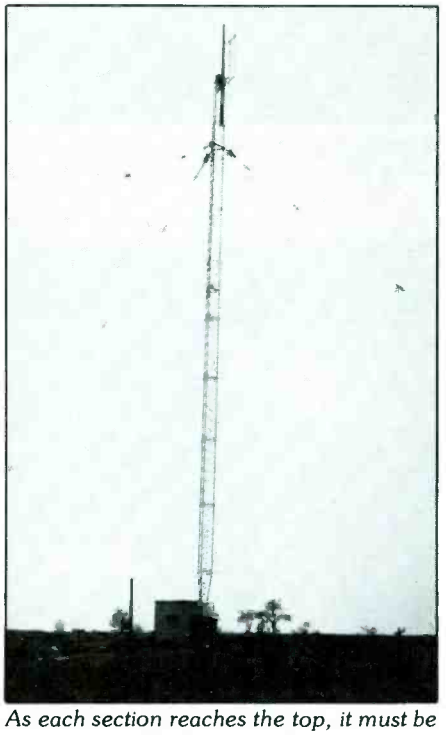
Once the concrete dried, the next section was raised.



Moving right along, sections are added one after the other.



A distant view shows the progress made.



As each section reaches the top, it must be firmly secured.

was in use; that was followed a little later by the callsign WKYC. It wasn't long before the call was again changed to WWWE, the present identification of Cleveland's descendant of its noble battery-powered WTAM! That's okay; before it was WTAM, the station was known as WEAR-WJAX!

Our 1938 photo sequence shows everything from the delivery of the tower sections on trucks of the Youngstown Cartage Co. to the completed tower. Setting this monster into place was definitely a tricky operation, and was subject to the whims of the winds sweeping in off Lake Erie.

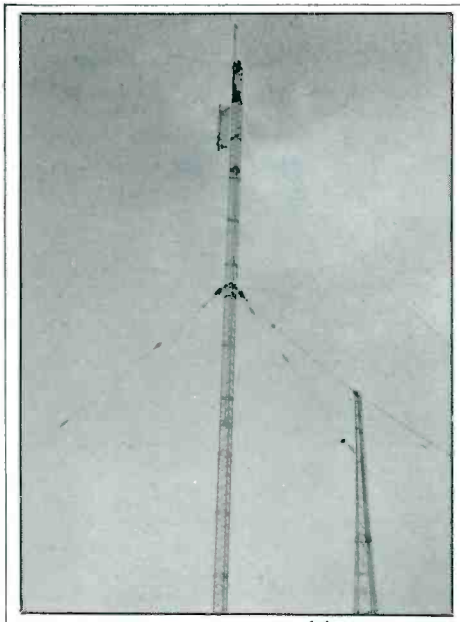
While we're in Ohio, let's look at a photo submitted by Dave Marshall of the All Ohio Scanner Club in Springfield. Dave made the photo here from a damaged negative he found in his late father's files, so that explains the slight fuzzyness of the shot.

The photo, which looks to date from the early 1940's, shows the transmitting tower of station WIZE (1340 kHz, 250 watts). This station commenced operation in 1940 as WIZE ("The Voice of Springfield") from this location at the Carey Building, 115 West High Street in Springfield.

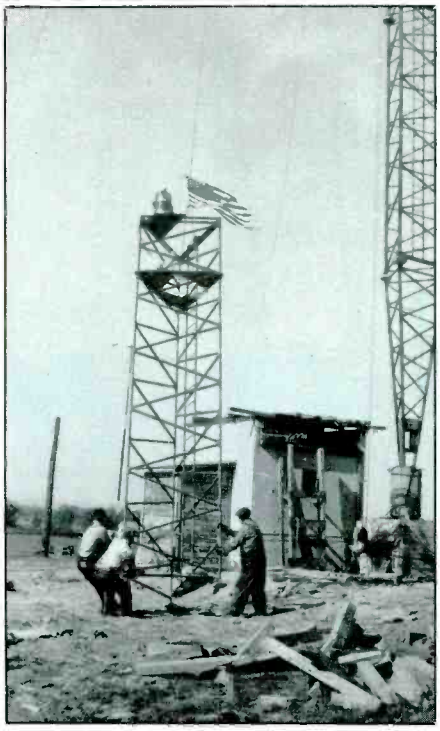
Still on its 1340 kHz channel, WIZE runs 1 kW days and 250 watts at night. And thanks to Dave for sending us this photo!

Hey, Sparky!

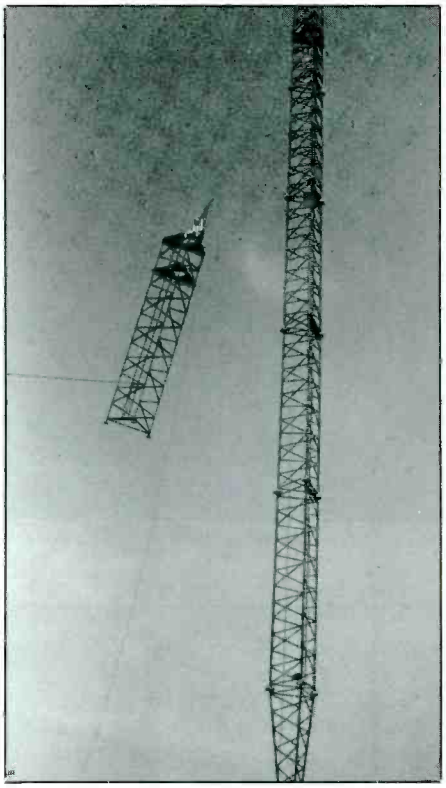
Speaking of photos sent in by *POP'COMM* readers, one was submitted by Vin-



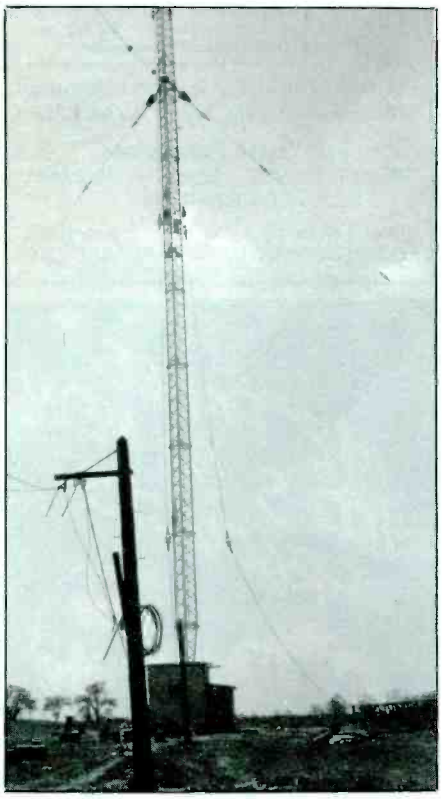
This shot gives a good view of the guy wires.



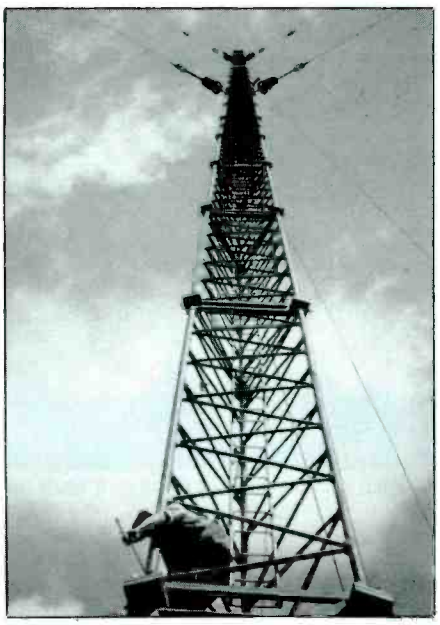
At last, the top section! It was complete with a red warning beacon light and an American flag.



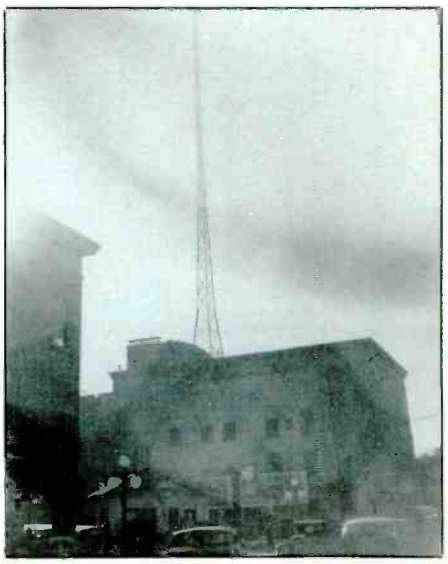
The top section on the way up!



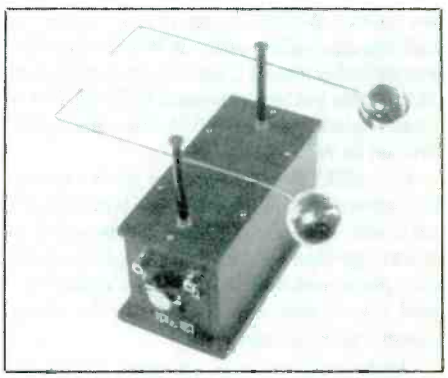
A medium shot of the lower portions of the WTAM tower.



How high is up? The finishing touches on the 1938 WTAM tower!



The WIZE tower in Springfield, Ohio circa the early 1940's.



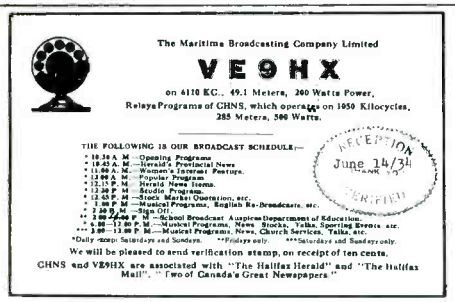
Can anybody help Vince Canulli with information about this gizmo?

cent Canulli, 55 Hobart Avenue, Trenton, NJ 08629. Vince works for RCA's Astro Division and he's taking code lessons in preparation for his Novice Class license. Recently, he located an ancient transmitter spark gap and he wonders if any of our readers can identify it and offer any thoughts as to its rarity or value. If anybody has some info for Vince, contact him directly.

My Old Kentucky Home

Stanley Harper of Lisle, New York, wants to know if we can find anything on a station that was once on the air as WFIW ("Whitest Flour In The World") from Hopkinsville, Kentucky. Well, Stanley, we guess that it's the station that ran 1 kW on 940 kHz from the corner of Campbell and 17th Streets in Hopkinsville. This station began broadcasting in the late 1920's under the ownership of Acme Mills. The station operated until about 1933, when the frequency was taken over by WAVE in Louisville, 135 miles to the northeast.

It's doubtful that there's any connection between WFIW and Hopkinsville's WHOP,



The Maritime Broadcasting Company Limited

VE9HX

on 4110 KC., 49.1 Meters, 200 Watts Power,
Relays Programs of CHNS, which operates on 1050 Kilocycles,
285 Meters, 500 Watts.

THE FOLLOWING IS OUR BROADCAST SCHEDULE:—

RECEPTION June 14/34 VERIFIED

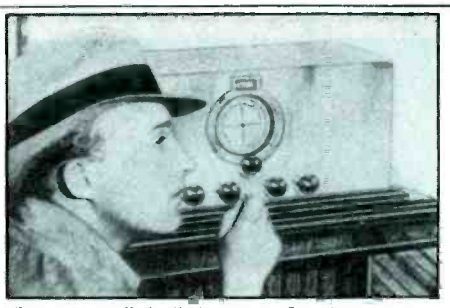
- 10.30 A. M.—Opening Programs
- 10.45 A. M.—Herald's Prefactal News
- 11.00 A. M.—Women's Interest Features.
- 12.00 N. M.—Popular Programs.
- 12.15 P. M.—Herald News Items.
- 12.30 P. M.—Studio Programs.
- 12.45 P. M.—Stock Market Quotation, etc.
- 1.00 P. M.—Musical Programs, English Re-Broadcasts, etc.
- 2.30 P. M.—Sign Off.
- 2.00-4.00 P. M.—School Broadcast Auspices Department of Education.
- 6.00—12.00 P. M.—Musical Programs, News, Stocks, Talks, Sporting Events, etc.
- 3.00—11.00 P. M.—Musical Programs, News, Church Services, Talks, etc.

*Daily except Saturdays and Sundays. **Fridays only. ***Saturdays and Sundays only.

We will be pleased to send verification stamp, on receipt of ten cents.

CHNS and VE9HX are associated with "The Halifax Herald" and "The Halifax Mail", "Two of Canada's Great Newspapers."

Here's a 1934 QSL from Canada's VE9HX. Recognize it as today's CHNX?



"Der Bingle" (a/k/a Bing Crosby) tuning the shortwave bands.

Hollywood's rugged Richard Arlen gets ready to string up his DX antenna.

as WHOP didn't begin operation until 1939. Of course, Hopkinsville's other station, WKOA, went on the air a number of years after WHOP.

Early Shortwaver

Canada's privately owned AM stations operate five shortwave relay stations to send their programs into the nation's more remote areas and around the world. All five of these stations operate in the 49 meter band.

As a reminder that these stations reach back quite far, reader Howard Kemp of Laconia, New Hampshire, furnished us with a QSL card he received from one of these stations more than 50 years ago! That would be from VE9HX, shortwave relay of station CHNS in Halifax, Nova Scotia.

VE9HX, in 1934 when Howard heard the station, was running 200 watts on 6110 kHz for about four hours each day. EKKO stamps (see the April issue of *POP' COMM* for the EKKO saga) were also available to listeners.

Today, under the callsign CHNX, this station is still operational. The main differences here are that, as CHNX, it operates around the clock on 6130 kHz, running 500 watts. About a year ago we ran a photo and additional information on CHNS, the station that CHNX relays.

From the Old West

There can't be any denying that KDYL in Salt Lake City, Utah, was there when everything was happening during broadcasting's first formative years. On 28 August, 1922, this pioneer station was opened from atop the Newhouse Hotel. In its original operational phase, KDYL used 833 kHz for music and news, although 620 kHz was used for weather reports. It was owned by *The Telegram*.

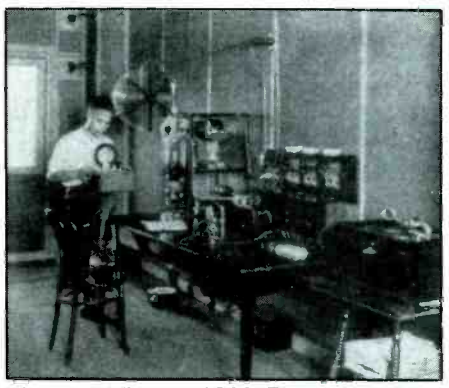
The 1922 KDYL antenna consisted of a cage made from 10 wires of 7-22 copper. The hoops forming the cage were 18" in diameter and made of copper. A lead-in cage fed this antenna at its mid-point and was also made from 10 copper wires. Two 45-foot steel masts (150-ft. apart) supported the antenna above the roof of the 200-ft. high hotel.

An antenna counterpoise system designed like the antenna was supported on the same masts, but 33-ft. below the antenna, and the counterpoise was grounded to the steel frame of the building.

The original KDYL transmitter could deliver anywhere from 50 to 100 watts of power to the antenna. The circuit was a reversed feedback design using Heising continuous current modulation, although the station could also operate with undamped CW or interrupted CW transmissions.

By 1930, KDYL had been sold by its owners to the Intermountain Broadcasting Corp., 143 South Main Street, and was running 1 kW on 1290 kHz. In the pre-WWII frequency shift, KDYL ended up on 1320 kHz and ran 5 kW from the Tribune-Telegram Building, with its transmitter at 11th West and 33rd South.

By the 1960's, KDYL had moved to Tooele, Utah and was on 990 kHz, with 1 kW, a station presently known as KTLE.



The rig at KDYL in 1922. Engineer Ira Karr is shown making adjustments.

Star Value

Those of you who lived through the CB "boom" of the 1970's will probably recall how Tinseltown cashed in on those fad years by telling about various entertainment personalities who were alleged to be active on the band. Some actually were (including Elvis, Gary U.S. Bonds, and Chuck Napier), but we suspect that most of the others probably had little real interest or knowledge of CB other than for publicity photos.

That's what made us wonder about photos we came across showing a highly publicized "DX feud" of 1934 conducted between crooner Bing Crosby and actor Richard Arlen. Although Arlen's career faded into potboiler westerns after the mid-1940's (he retired in the late 1960's and died in 1976 at age 78), in the late 1920's and throughout the 1930's he was a big name.

In 1934 and 1935, Crosby and Arlen were much reported in the press to be SWL's who had become "most rabid" DX fans. The press was quick to point out that although it had been a common practice to pose movie stars in front of radio receivers for advertising purposes, it didn't necessar-

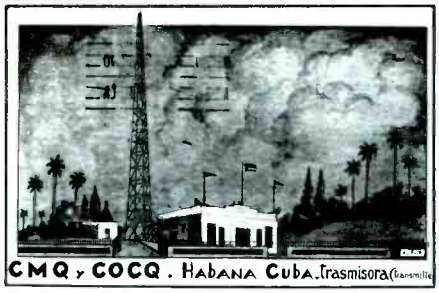
ily mean that they were actually DX listeners. Crosby and Arlen, however, were supposedly genuine static chasers.

According to the news media of the era, the contest between the two was to show who could display the greatest ability to hear DX. A $1000 side bet was to go along with the unofficial title of "Hollywood's DX King." No details of the contest or its winner seem to have ever been announced, although most of the press coverage did mention that both contestants would be using their *McMurdo Silver Masterpiece III* receivers. It may well have been that it was all a publicity stunt for the receiver manufacturer, but it did help to increase public awareness about SWL'ing; just the way Burt Reynolds, Grandpa Jones, Mel Tillis, etc. helped to draw public attention to CB radio. While *Smokey and the Bandit* was being filmed, Burt Reynolds did have some fun yakking over the equipment installed in his black Trans-Am.

Cuban Station

For many years (in pre-Castro times) one of the most widely reported Cubans was CMQ (600 kHz) and its shortwave relay COCQ (8820, 9740, and 9800 kHz). Owned by Cambo and Gabriel, the station was perhaps best known for its endless commercial "spots" for Colgate toothpaste and Palmolive ("Palm-oh-lee-vay") soap.

Many thanks to reader H. Hintikka of Wisconsin for telling us about CMQ/COCQ and for giving all of us a peek at his 1937 QSL from these stations.



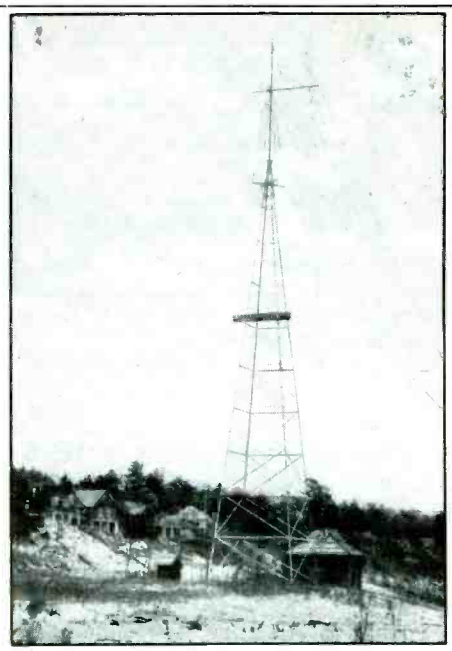
A view of the Cuban CMQ/COCQ transmitter site as seen on the station's QSL.

Ute Memories

A quaint old picture postcard we have in our collection shows a sandy shore area and one of the towers of a telegraph station at Grand Haven, Michigan. The card isn't dated and the tower carries a plaque reading "United Wireless Telegraph Co. Commercial Station."

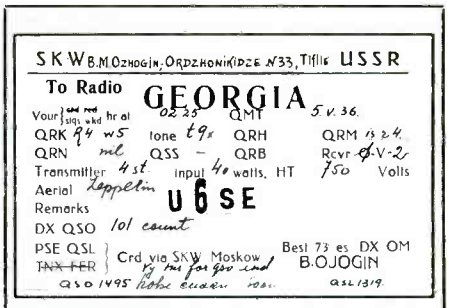
Tom Kneitel's new book, *Radio Station Treasury (1900 to 1946)* lists the callsign of this station as being WGH in 1915, later changed (for the duration of WWI) to U.S. Naval callsign NSY.

It looks as though there were a pair of these towers in use, each being about 135 feet tall (including the mast atop the tower shown). The antenna itself contained eight wires. A stone transmitter building is at the base of the tower.



The United Wireless Co. telegraph station at Grand Haven, Michigan, about 1915.

That's about "it" for this time! Hope you join us again next month for our special radio in the Statue of Liberty round-up featuring the grand lady when she shared her little island with some interesting shortwave gear in days long past. PC



Historic Ham DX QSL's

This month's Historic Ham card comes from Georgia. No, not the Georgia of beautiful moss-covered trees, stately old mansions, and metropolitan Atlanta. This Georgia is more formally known as the Georgian Soviet Socialist Republic, formerly an ancient and medieval independent kingdom. Georgia became a constituent republic within the USSR in 1936, although it had been under the de-facto control of the USSR since 1921. Our QSL is dated 5 May 1936, and is from U6SE located in the Georgian capital of Tiflis. U6SE was running 40 watts into a Zepp antenna when this QSL was sent. A nice DX catch, wouldn't you agree?

New York Firefighter Cited For Heroism

Jack Pletman nominated this month's SCAN Public Service Award winner. He is firefighter Terrance Gubbins of New York. According to Fire Commissioner Joseph Spinnato, Gubbins took action to save a man at exceptional personal risk to himself. The 43-year-old father of four was attempting to fight back raging flames in a Flushing, New

SCAN PUBLIC SERVICE AWARD

York apartment building when he stumbled over a unconscious man. While still trying to hold back the flames, he dragged the 25-year-old man to safety. For his heroism, firefighter Gubbins receives our Public Service Award, including a $100 cash award and a special commendation plaque. Jack Pletman, who made the nomination, will also receive a commendation plaque.

What does it take to make a nomination? Usually a good newspaper account with a photo will give us everything we need to consider your nomination. And you will have the satisfaction of bringing much deserved recognition to someone from your own community. Send your nomination to SCAN Public Service Award, P.O. Box 414, Western Springs, IL 60558.

Children of Firefighter Terrance Gubbins, center share honors at award ceremony. From left are Christine, Terry, Joseph and Nancy. (New York Daily News photo)

SCAN

Best Appearing

This month's Best Appearing "shack" is owned by Vernon Bats of East Amherst, New York. Equipment includes a JVC-3050 for broadcast band DXing, a Sony 2002 for shortwave, and a Bearcat 300 for the public service band. He also uses a Regency D810 for weather, and a Realistic PRO 30 for portable use. This is truly a professional looking monitoring station.

Vernon says he got hooked on monitoring and DXing back in the '30s when he was a teenager. Now retired, he has more time to devote to what he calls "a great entertaining and educational hobby."

Congratulations!

SCAN PHOTO CONTEST WINNERS

Best Equipped

This month's Best Equipped station belongs to Larry Van Devender of Adel, Iowa. Larry has three Regency radios, including an MX-5000, MX-7000, and handheld Regency HX-1000. He also uses a Bearcat 300, Bearcat 100XL, plus a Sony 2001 for shortwave. A President AM/SSB radio gives him CB capabilities. Quite an impressive lineup of gear, Larry!

Larry says he uses his hand-held scanners on both his farm tractors and in his car in rural Iowa. He also comments that he likes the new combined SCAN/Popular Communications *magazine very much. Congratulations, Larry. Your prize will be on the way to you shortly.*

Winners in the Photo Contest this month receive the BMI "Nite Logger" tape recorder activator. Plugged into a cassette recorder and a scanner, it gives a complete record of all communications with no "dead time" on the tape. If you would like to enter the contest, just send a sharp black/white print to SCAN Photo Contest, P.O. Box 414, Western Springs, IL 60558.

SCAN

Product Spotlight:

The Kachina MP-25 Manpack HF Transceiver

A Bundle of Features In A Compact Package Aimed At Military And Survival Users!

Military and paramilitary groups in many areas of the world are relying heavily upon a communications arsenal consisting of equipment drawn from a surprisingly narrow selection of makes and models. The reason for this is that their requirements are so exacting that it's not easy to randomly select a piece of equipment off a dealer's shelf and cross your fingers while hoping it will be able to do the needed job, no matter how well it may perform in non-critical applications.

Some of the considerations taken into account include versatility, reliability, maintenance and repair, ease of operation, universal availability, and (of course) the ruggedness of the equipment. If it can't take a beating or work after being dropped or exposed to moisture and extremes of heat and cold then it is *less* than useless. The reason it is less than useless is because until the military unit finds out the equipment isn't going to work (either properly or at all), it may be acting under the delusion that it has the ability to communicate. In a critical situation, it's a rather unpleasant surprise to find that you're out of contact with those who may need your help, or those who can be summoned to bring you help, or that you no longer have the ability to send or receive recon information, or warnings, or request supplies, or whatever.

The world's major powers have spent vast sums developing equipment that seeks to (and usually does) meet the stiff needs of personnel communicating during combat. While some of this equipment eventually reaches the surplus market either in used or new condition, the more desirable gear isn't available in sufficient quantities to meet the needs of many who need the sets.

When it comes to high frequency (HF) communications, a great many military and paramilitary groups have zeroed in on an American-made commercially available manpack transceiver called the Kachina MP-25. Having achieved a worldwide reputation, MP-25's are in use everywhere you look, from Central America to the caves of Afghanistan. Since the MP-25 looks to have become the manpack of choice, we decided to track it to its source and find out why it shows up so often in *Time* and *Newsweek* photos, as well as on the TV news.

The 110-volt power pack for the MP-25.

After some amount of inquiries, we finally located Kachina's international representative (who also handles the Gulf Coast area), Charles Frost of Mission Consulting (3618 Macon Place Court, Houston, TX 77082). We asked Frost to explain what all the fuss was about—why the MP-25 was in such high demand around the globe and why many folks are saying that it's a better rig than some of the manpacks used by major military forces.

Frost took a "see for yourself" attitude, furnishing us with descriptive literature; he even offered us the opportunity to use an MP-25 on the air and check out its receiver and transmitter!

What It Is

The MP-25 is a 25-watt SSB synthesized portable transceiver covering the 2 to 15 MHz frequency range in 100 Hz steps. Lightweight (about 13 lbs. with internal nickel cadmium battery pack), it is immersible and features a built-in speaker and antenna tuner. Also, it meets American military standards (MIL-STD-108). In addition to USB/LSB operation, the MP-25 even operates in AM (6 watt carrier) and CW (10 watts, internally adjustable) modes. There is also a 6 watt low power SSB selector.

While the Kachina MP-25 is intended primarily for tactical military and defense communications, its rugged construction and ability to be used under extreme conditions have also made it popular for industrial applications (such as at remote mining locations, oil-drilling sites, etc.). Survivalists like it, too!

When operated with its optional battery pack, collapsible whip antenna, and carrying bag, the set is a completely portable HF radio station that can be carried into the Arctic or a jungle, or set up anywhere for instant communications. A power supply/charger and longwire/dipole antenna can also be used for permanent or semi-permanent base station operation; a mobile mounting bracket and provision for operation from a 12 VDC vehicle battery allows for mobile operation.

The MP-25's chassis is made of iridited aluminum, reinforced with aluminum crossmembers (these serve as structural support and also as RF shielding). The drawn-alumi-

The MP-25 with its handset.

num case is of one-piece design intended to reduce the chance of water seepage. Both the case and the unbreakable front-panel are water-tight and the MP-25 will remain fully operational after being submerged to depths of up to 3 feet. The PC boards are treated with an anti-fungus and fire-retardant coating. Modular construction permits the PC boards to be easily replaced.

The Innards

The frequency stability of the transmitter is ± 100 Hz from −10°C to +55°C. Sideband suppression is better than −50 dB. Spurious output is −50 dB with reference to a 25 watt level.

Receiver sensitivity is .5μV while selectivity is better than 2.4 kHz at −6 dB, less than 5 kHz at −60 dB. Image rejection is better than −90 dB. Signal-to-noise is better than 10 dB for .5μV input signal.

There is a front-panel meter that indicates relative incoming signal strength and outgoing transmitter power, battery voltage, and (when the MP-25 is being tuned up on a new frequency) the meter indicates reflected power. An LED frequency readout is illuminated while frequencies are being changed.

You select any frequency by adjusting five knobs until the desired frequency appears (to the tenth of a kHz) in the display. A clarifier permits +50 Hz receive frequency adjustment. An audio tone lets the operator know if the frequency change was so large that the PLL has gone out-of-lock.

The antenna is tuned and peaked by means of two front panel controls. Using the meter, the entire frequency change and retune process can take less than a minute. If it isn't desirable to use the set's built-in loudspeaker, a switch feeds the audio into the MP-25's handset.

On The Air

Of course, depending upon where and how the MP-25 is used, it may be necessary (or at least advisable) to obtain a license for the transmitter. Naturally, no license is required for using only the receiver. Within the United States, you can use it without any problems on any of the Amateur Radio Service bands between 20 and 80 meters *providing you have a Ham ticket.* It might well be licensable in other services in the United States, covering (as it does) frequencies used for maritime, aeronautical, point-to-point, CAP, MARS, and other services. Indeed, the MP-25's receiver (using only the collapsible whip antenna mounted atop the set) pulled in two-way communications and broadcast stations operating between 2 and 15 MHz. Plenty of incoming signals were on the maritime simplex channels, and the 20 meter ham band was wall-to-wall signals during the afternoons.

Since I have an Amateur license, I did try the rig for some two-way work on the 40 meter (7 MHz) band in the evening. No problems there, either. I hooked it to my beam and worked a dozen stations at various distances. Everybody said the MP-25 sounded great!

I didn't try any brutal torture tests on the MP-25, but the rig wasn't at all flustered when I accidentally knocked over a large glass of water on my operating desk. Wish I could report the same rosy results for everything else on the desk that went for a swim that time!

Let me note that I was impressed with the "feel" of this rig, and there's a gutsy "macho" look to it that I liked. Having had several years worth of combat and other critical communications experience in my knapsack, I'd say that the Kachina MP-25 can hold its own with the best of 'em and compares favorably with top American, Canadian, and Israeli combat commo gear I've used.

No wonder it has earned a special niche for itself with military and paramilitary organizations, and even with survivalist groups. PC

Reviewed by F.X.F., North Dakota

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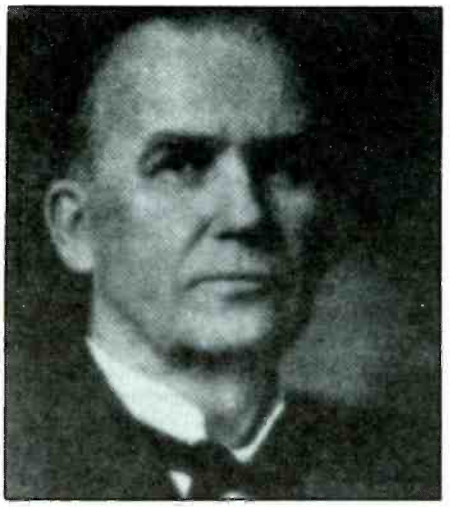
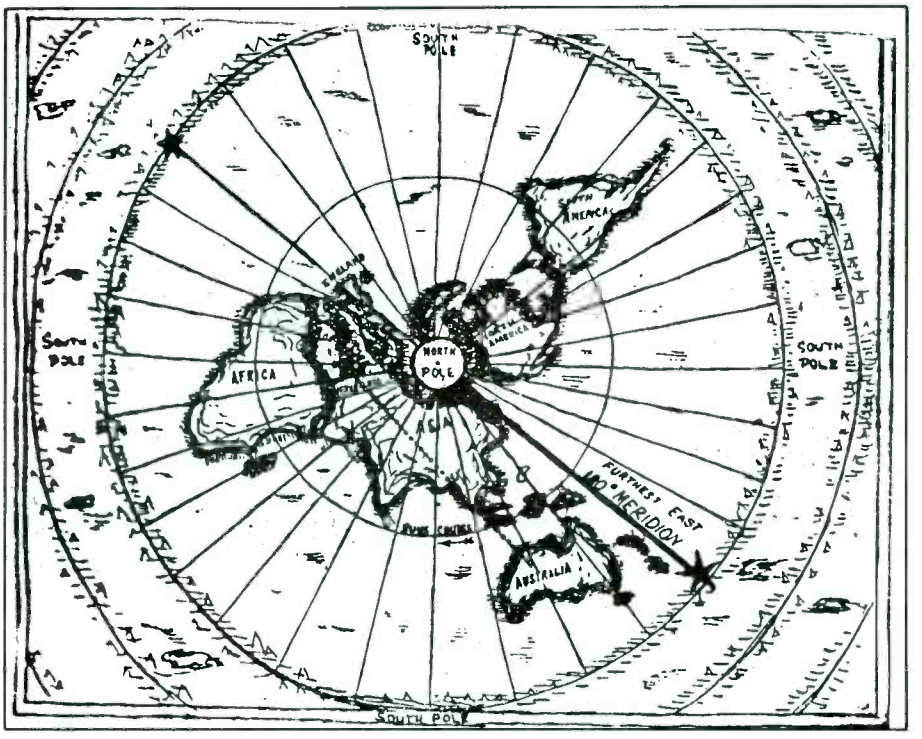


Wilbur Glenn Voliva, one of the few broadcasters to believe that the Earth was created in the shape of a disk! He died October 11, 1942 at age 72.



This view of a flat-Earth appeared in a 1907 book issued by a fundamentalist sect led by "Cehon" in Philadelphia.

WCBD, The "Flat Earth" Radio Station

Even Within The Ranks Of Strange 1920's Broadcasters, WCBD Had An Unusual Message To Send The World—That The Planet Was Shaped Like A Phonograph Record!

BY TOM KNEITEL, K2AES, EDITOR

Wilbur Glenn Voliva was not your usual run-of-the-mill cigar chomping broadcasting station entrepreneur. Martin Gardner, in his book *Fads and Fallacies in the Name of Science*, describes Voliva as a "paunchy, baldish, grim-faced fellow who wore a rumpled frock coat and enormous white cuffs."

More than a broadcaster, in fact, Voliva held the official title of "General Overseer" of the Christian Catholic Apostolic Church in Zion. This role put him in the position of being the top man in the theocratic city of Zion (Illinois), and also the chief executive of Zion Industries.

Let it be duly noted that the city of Zion was established in 1896 by a faith healer named John Alexander Dowie. Originally established as a "spiritual Utopia" type of commune, the concept was soon modified and the city quickly became known as the suburb of Chicago with the nation's strictest Blue Laws. Even whistling on Sunday was against the law in Zion!

Zion Industries, commercial focus in the town of 6,000 souls, was a million-dollar enterprise that generated income from the production of a wide assortment of products, ranging from fruit bars to delicate lace.

Wilbur Glenn Voliva assumed his office of leadership in 1906, and for the next 36 years his influence guided the church, the city, the industrial complex and (at least for a time) radio station WCBD. The fact was, Overseer Voliva was prone to making world headlines from his small community located midway between Chicago and Milwaukee. For instance, he liked to announce various dates for the world to end. His first date for Armageddon was 1923. When nothing happened, he moved the Dies Irae back to 1927, then to 1930, and ultimately, to 1935. He didn't feel that the end of the world would affect his own personal existence, predicting that he would live until he was 120 (because of his diet of buttermilk and Brazil nuts).

Broadcasting, The Way To Go!

Announcing that he would be the "world's first radio preacher to own his own station," Voliva applied to the government

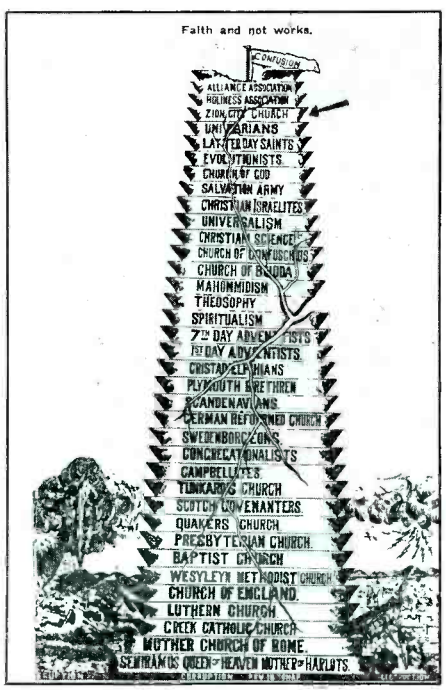
to grant him a license for a religious broadcast station. On May 23, 1923, Voliva was granted authorization to operate a 500 watt station on 870 kHz, callsign WCBD.

WCBD was going to be a very special station, indeed. A new "radio building" structure costing $50,000 was built at the center of a ten acre church-owned park. The park was one and a half miles west of Sheridan Road and in the middle of the city of Zion. Two steel masts were erected to support WCBD's 95-ft. long four-wire "T" antenna. On June 23, 1923, the station began broadcasting religious programs, primarily consisting of Voliva's views of the world. These views were uncommon, to say the least.

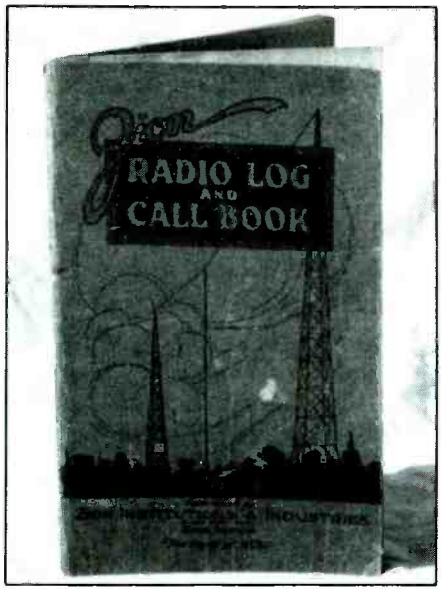
Let it be noted that the Christian Catholic Apostolic Church in Zion was a fundamentalist group that took an especially literal interpretation of Bible statements, perhaps more so than other fundamentalist sects.

One of the more curious of Voliva's interpretations was given considerable air time over WCBD. Voliva's audience was large, and WCBD claimed that in 1924 alone it had received listener mail from across North and Central America and even ships at sea.

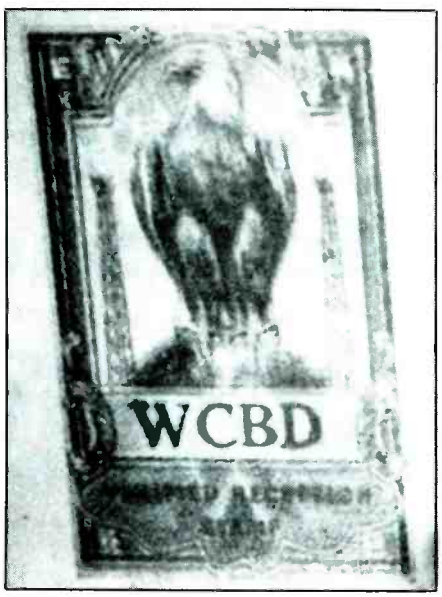
Voliva received wide attention when he cited Chapter and Verse in order to refute both Columbus and Copernicus. They had to have been wrong, he said, because the planet called Earth was actually a flat disk and not a globe! Columbus and Magellan didn't fall off the Earth because they simply sailed around the outer edge of the disk. That edge, Voliva said, was the South Pole—a ring-shaped area that clung to the disk's circumference. The North Pole was at the center of it all.



All flat-Earth sects weren't bound by their common credo. This depiction of the "New Tower of Modern Babel" (from "Cehon's" 1907 tract) puts Voliva's "Zion City Church" near the top of the structure.



The Zion Radio Log And Call Book *was published by Voliva in 1925 in order to call attention to his station from within the DX community.*



WCBD issued EKKO stamps to DX'ers who reported hearing the station.

Past the South Pole, where ships would fall if it weren't for the walls of ice that kept them from doing so, was Hades. Below Hades was an even more obscure place inhabited by the ghosts of a race that populated the planet prior to Adam and Eve.

Continuing with his theories, he taught that the Sun was a mere 32-miles in diameter and perhaps less than 3,000 miles from the flat surface of Earth. The sky was actually a dome-shaped affair placed over the Earth, and it supported numerous small trinkets called "stars." The Sun and (the self-illuminated object known as) the Moon rotated slowly around the Earth disk.

Although the ancient Greeks realized that the planet was round (and they even calculated its diameter), during the Dark Ages it became an article of faith to believe that the Earth was flat based upon Biblical references to "the four corners of the world." Although Columbus and Magellan generally dispelled this concept, isolated pockets of fundamentalists retained the belief anyway. Indeed, Voliva wasn't the only 20th Century teacher telling of a flat planet, although he did modestly claim that he represented "the only *true* fundamentalists." Other flat earth proponents didn't necessarily think Voliva was the last word on the subject. A tract issued by a rival group placed the Zion sect high on the modern Tower of Babel—a spot that anticipated the eventual opening of WCBD and Voliva's several lecture tours around or, as he undoubtedly felt, across the world.

Voliva's beliefs also caused a number of divisions within his own camp, some splinter groups forming their own sects.

Not Highly Thought Of

Insofar as the scientific community went, Voliva had only scorn for astronomers, pronouncing them "poor, ignorant, conceited fools." Of course, he held his beliefs long before the founding of WCBD; it's just that WCBD provided him with a larger forum for his teachings, a forum that served its purpose in making him a national and eventually international "personality." Actually, the more he held forth over the WCBD microphone, the more he became carried away with his own grandeur and importance.

He liked to boast that he could "whip to smithereens any man in the world in a mental battle; I have never met any professor who knew as millionth as much on any subject as I do." For many years, he ran ads in the Milwaukee and Chicago newspapers offering to award $5,000 to any person who could prove that the world and the cosmos weren't exactly as he described them. Nobody ever collected the money!

Tuned In

Voliva did, it seems, know the value of promoting his radio station by cultivating the goodwill of the radio hobby crowd. The station gave out EKKO verification (QSL) stamps. Moreover, in 1925, Voliva published the *Zion Radio Log and Call Book*, actually quite a well-prepared publication when compared to other similar directories of the day. Little touches like that helped to amplify WCBD's reputation and make Voliva a national personality, curious as his message seemed to many listeners. He saw his work in the city of Zion and over WCBD as only a beginning. He asserted, "I am just starting my real work, I shall eventually evangelize the rest of the United States and Europe."

WCBD's slogan was "Where God Rules, Man Prospers" and the station was operated every weekday from 8 p.m. with afternoon broadcasts Wednesday and Friday. On Sundays, there was a morning Bible school program followed by afternoon and eve-

He sendeth His word and healeth them.

PATIENCE

LEAVES OF HEALING

I am the Lord that healeth thee.

And the leaves of the tree were for the healing of the nations.

A WEEKLY PAPER FOR THE EXTENSION OF THE KINGDOM OF GOD
EDITED BY WILBUR GLENN VOLIVA

VOLUME LIV. No. 7. ZION, ILLINOIS, U. S. A., MAY 3, 1924. Price Twenty-five Cents

Zion Radio Broadcasting Station

By J. H. DePew, Manager and Chief Announcer W C B D

THE history of Zion is quite as interesting as much of the history of Israel. Preparation for Zion's ministry, in the case of her leaders, began in their very boyhood. The long careful period of training, on God's part, of John Alexander Dowie, the founder of Zion, was necessary to equip him for establishing the Christian Catholic Apostolic Church and the City of Zion. Wilbur Glenn Voliva, the present head of Zion, has been equally well trained and equipped in the schools of learning and experience, that he might lead in rehabilitating Zion—that she might become under God the praise of the earth.

Many unique opportunities have been given to Zion by the Omnipotent God during the vicissitudes of her existence. None have been fraught with greater potentialities for good than the Zion Radio Broadcasting Station. A great metropolitan daily recently said that this broadcasting service was heard by millions of people. More people may now hear the Gospel message from this city in one year than the founder of Zion spoke to and reached with Zion's publications during his lifetime. A recent survey placed the number of receiving sets in this country at fifteen million. With an average of five persons listening on a set, a single potential audience would number seventy-five million people.

To follow an afternoon service will best explain the operation of broadcasting from Zion. A sound-proof control booth for the announcer was placed in the rear of Shiloh Tabernacle where the speaker's platform, choir, band and orchestra leaders, and organist could easily be seen and microphones switched on as needed. A system of signal lights was installed to enable intelligent control of the eight microphones operated from this booth.

Every Lord's Day there is a band or organ recital for thirty minutes preceding the afternoon service, alternating from Sunday to Sunday. Promptly at 2:30 o'clock the organist waits himself at the console of the organ, which is one of the largest church organs in the world. The announcer makes his opening statement and signals the organist by flashing a small red light placed on the organ. In the case of the band, the leader receives the signal light in the bandstand, which is situated in the west gallery of the Tabernacle.

Seated in the booth, the announcer hears the concert, or service, and all other broadcasting from the Tabernacle coming over the air as distant listeners would, by using earphones or loud speaker, picking up the station wave.

Succeeding numbers are announced and played to the close of the recital. Having finished, the organist, or band leader, flashes a light in the booth informing the announcer that his work is done. Immediate announcement is then made of the processional to follow.

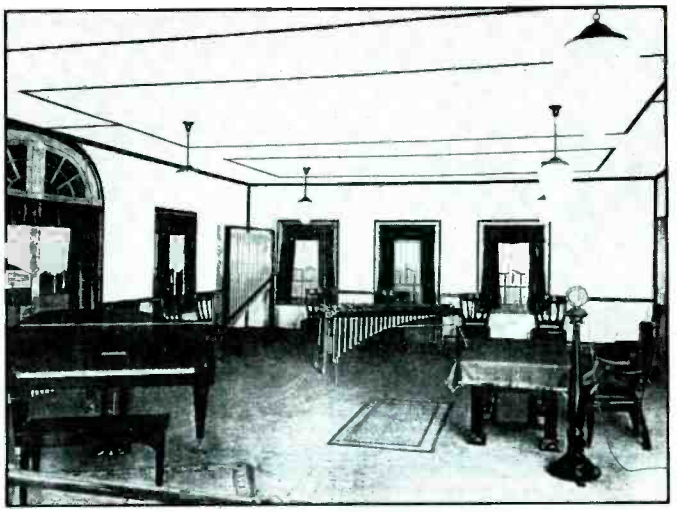
John D. Thomas, Choir Leader, mounting the dais, is the only member of the choir in view at the beginning. With the fall of his baton the first strains of the organ are heard in the rear room where the choir has formed in two double ranks awaiting the opening of the door on each side of the platform, ready to march in procession. No sounds come from the main auditorium at the beginning of the processional. The music radio listeners hear, is that of organ and song from the rear room, a microphone being placed there to carry off the first part of the processional. The choir enters the auditorium headed by the Juniors, age—eight to twelve years,—one hundred and fifty in number—followed by the adult choir all robed in cassock, cotta, and trencher, about ten minutes being required for the counter march down the aisles of the auditorium and into the choir gallery.

As soon as the Conductor begins to direct the processional, the announcer turns on a microphone in the rear room and immediately the double doors to the auditorium are quietly swung open by two uniformed Zion guards, and as the choir begins to enter and the volume of sound increases, a second microphone in the Tabernacle is switched on and blended singing from both rooms is then heard. The organist later turns on the great organ in the auditorium and simultaneously the announcer cuts off the rear microphone, leaving but one microphone to carry off the full volume of song. Other microphones are used for the speaker, for solo work, echo organ, band, and other purposes—all being controlled from the booth by the announcer.

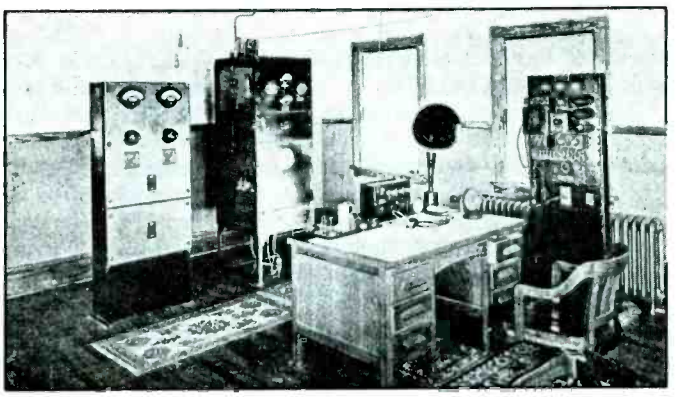
Special Radio Issue, 76 pages and Colored Supplement, Price 25c per copy

See Index on last page for photographs

Voliva's station was given copious coverage in church publications.



The main studio of WCBD in 1924.



WCBD's transmitter and control room as it appeared in 1924.

ning services broadcast from Zion Tabernacle.

Not only did Overseer Voliva "have one of the best radio voices in the country" (according to a station leaflet), it was "well preserved, has timbre, and, being well sustained, is, therefore, admirably adapted to radio speaking." The station also announced that it had "achieved a reputation for perfect modulation, and excellent enunciation . . ."

In March of 1924, WCBD was notified that it would soon be sharing time on 870 kHz with newly authorized Chicago station WBBX. A few weeks later the new station came on the air with the callsign WLS. Later in 1924, WCBD increased its power to 1,500 watts, and the antenna was changed to a cage type. In early 1925, WCBD again increased its power, this time to a healthy 5,000 watts.

In a major national frequency reshuffle that took place in November, WCBD was moved to 1080 kHz, where it could share time with another Chicago religious broadcaster, WMBI. Since there was a clear channel nighttime station in Charlotte, North Carolina on the frequency, both WCBD and WMBI were permitted daytime operation only.

In 1934, ownership of WCBD was transferred from Voliva (as an individual) to a corporation. Shortly afterwards, the WCBD studios were moved from Zion to the Karcher Hotel in Waukegan. At that time, Voliva appointed Gene T. Dyer as WCBD's Station Director; Dyer was also manager of Chicago stations WGES and WSBC. In early 1936, the WCBD studios were moved back to Zion; that's when Voliva sold the station to Dyer. The transmitter site remained at Zion, but WCBD (having been converted to a commercial broadcaster) operated from studios in Chicago.

Dyer took over complete ownership of WCBD in January of 1937, but a short ten weeks later the Zion transmitting site was totally destroyed by fire. The transmitting site was relocated to Addison Township, then (by mid-1938) to Elmhurst, Illinois. By then, WCBD was calling itself "The Mighty Voice Of The Mid-West." In the government's 1941 frequency reallocation, WCBD (along with time-shares WMBI and the Charlotte station, WBT) moved to 1110 kHz. Within a month, WCBD sought permission to switch to 820 kHz where it might operate longer hours and also increase its power to 10,000 watts.

Although the power increase wasn't carried out, WCBD did move to 820 kHz; soon afterwards, the callsign was changed to WAIT. After several ownership changes, in 1946, WAIT was running "highly commercial" programming featuring horse racing results throughout the day. After adverse criticism about its programming, in early 1947 the station inaugurated a music and news format. In August of 1947, a new station WCBD in Zion was again placed on the air, operating Sundays only. It shared the WAIT frequency.

The new WCBD took over (from WAIT) the broadcasts from the Christian Catholic Church in Zion, the name by which Voliva's sect had then become known. Although the church in Zion owned the new WCBD, Voliva had nothing to do with its ownership (having died five years earlier).

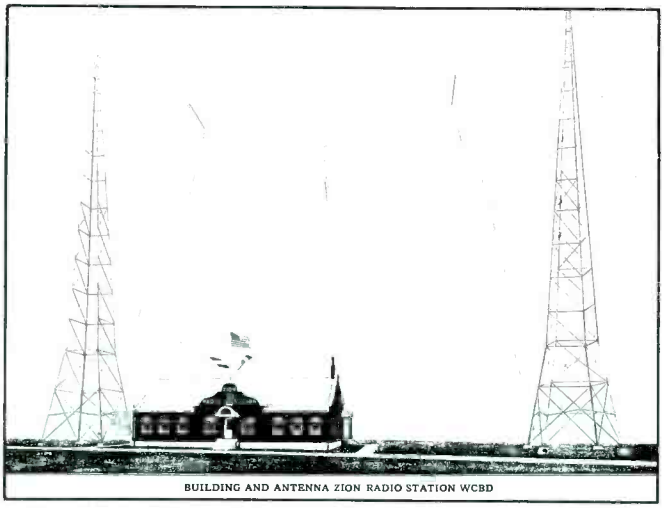
Epilogue

WAIT's 420-foot tower was hit by an aircraft in late 1947, resulting in two fatalities aboard the aircraft. The tower suffered only minor damage and continued to be used by both WAIT and WCBD. The tower, however, toppled over in a storm in early 1948.

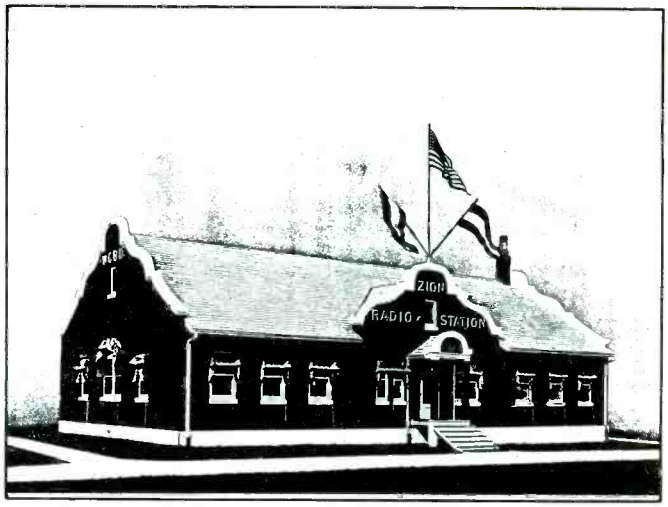
A couple of hastily erected poles replaced the WAIT/WCBD tower until a new one was erected.

After several ownership and location changes, in May of 1959, WAIT's owners purchased WCBD and cancelled its license.

Today, WAIT is Illinois' seventh oldest continuously licensed AM broadcaster. It operates on 820 kHz with 5,000 watts by day and 1,000 watts at night. It runs a "big band" nostalgia stereo format around the



The transmitting station and antenna system in 1924.



A closer look at the $50,000 WCBD building.

clock and has an interlocking ownership with Chicago's WLOO (FM).

Zion, these days, isn't much like the time when Wilbur Glenn Voliva, his disk-shaped Earth, and WCBD were the talk of the town. The old Sunday Blue Laws have been repealed and other religions have opened houses of worship to accommodate those of Zion's residents who have moved into the community. And, yes, the Christian Catholic Church still exists; its headquarters are located on Dowie Memorial Drive. The church continues to publish *Leaves of Healing*, its quarterly newsletter. Although the CCC describes itself as "An Evangelical Protestant Church," the book *A Directory of Religious Bodies In The United States* lists it separately from other fundamentalist groups. It appears as a "miscellaneous body," and is categorized in that book as "unclassifiable" and a "genuine oddity" that does "not fit into any family group."

In a current self-descriptive booklet published by the Christian Catholic Church, it is the church's founder, John Alexander Dowie, who receives most of the historic attention. Voliva's contributions are glossed over in a brief paragraph less than 17 lines in length, mentioning that he put a radio station on the air (incorrectly stated as 1926 instead of 1923). Although it describes Voliva as "a bold and fearless man, a great Bible teacher, good organizer, and a man shrewd in business," it does concede that under his guidance, "the church passed through some initial splits, which were inevitable . . . however, Overseer Voliva was able to hold the loyalty of most of the people . . ."

The short biographical paragraph does not mention his several predictions for the world's end, nor does it offer any opinions on his cosmographic theories. In fact, nowhere in the booklet's descriptions of the basic beliefs of the sect are there references to a flat Earth with a Sun that travels in a circle around the outer edges of the disk. For the most part, the sect's basic beliefs today fit in with many other fundamentalist sects. Also, the sect "was reorganized under a Constitution and By-Laws, designed to share the authority and power which formerly rested solely in the person of the General Overseer, with other ministers, deacons, and members of the congregation."

Voliva's flamboyant oratory and controversial pronouncements are gone, as is the original WCBD and its reborn clone. Nevertheless, the sect can still be monitored at various times on Sunday mornings over station WKRS (1220 kHz) in Waukegan/Zion; WKZN-FM (96.9 MHz) in Zion/Kenosha; and WIMS (1420 kHz) in Michigan City (Indiana). Other programming goes out regularly over local stations in Australia, the Philippines, and Guyana.

General Overseer Voliva, "the world's first radio preacher to own his own station," is probably smiling at these broadcasts while listening from his vantage point inside the hollow dome that covers the Earth-disk.

Did the concept of a flat Earth die with Voliva? Hardly! There are still groups insisting that the planet is shaped like an LP recording, although some of these are more tongue-in-cheek than serious. The Flat Earth Society (in Canada) is probably the largest organization of this type.

The author wishes to thank Broadcast Pro-File of Hollywood, California, for their research contributions to this story, and also the Christian Catholic Church of Zion for permitting access to reference archives.

PC

Additional Reading

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A New Family Of HF Radio Beacons

Including Information On A Beacon That Blew Its Cover

BY WILLIAM I. ORR, W6SAI

In the December, 1984; January, 1985; and February, 1985 issues of *Popular Communications*, I discussed three interesting families of HF radio beacons that are scattered throughout the radio spectrum and clearly heard in many areas of the world. The beacon signals have been on the air for over 15 years and have mystified listeners who couldn't figure out the source of the signals or the purpose of the transmissions.

The first family of beacon stations sends the Morse code letter "K" in frequency-shift telegraphy. The beacons seem to be located in or near the Petropavlovsk area on the Kamchatka Peninsula in Soviet Siberia. Judging from the probable location and the fact that a Soviet submarine base is located in the vicinity, it is a good guess that the K-beacons are connected with the submarine service in some way.

The second family of beacon signals sends the Morse code letter "U" in frequency-shift telegraphy. The beacons seem to be located in the Murmansk area of the Soviet Union, facing the Arctic Ocean. Again, since Murmansk is a submarine base, it is surmised that these beacons are connected with that service.

The third family of beacons are named "Cluster Beacons." There are many beacons in this family, grouped close together in 4 kHz chunks of the spectrum. There may be as many as 20 cluster beacons in a chunk, sending various Morse code identifying letters in CW telegraphy.

Cluster beacons that are loud in Europe are weak in the Pacific area, and vice-versa. This suggests that the beacons are scattered all over the Soviet Union, with perhaps some beacons in adjoining Soviet-controlled countries. It is estimated that in all the clusters, there are a total of over 150 beacons regularly heard, and the assumption is that many more exist that have not been logged.

Obviously a lot of money, manpower, electricity and equipment is being expended to keep these groups of cluster beacons on the air! What purpose do they serve? One guess is that they are used for ionospheric research and propagation predictions. This guess is as good as any. What is your guess after you have monitored these signals for a period of time?

A New Beacon Family

Carefully combing the spectrum can often produce surprising results. The identification and location of the three beacon families mentioned so far took a lot of listening time by various enthusiasts in different parts of the world and many (inaccurate!) direction finding attempts.

While this work was in progress, little attempt was made to examine other possible beacon signals that seemed to appear from time to time. When time permitted, a careful search turned up yet a fourth group of beacon signals that are quite different from the previously logged beacons. The information on these signals is presented in this article.

The "Commercial" Beacons

The first time one of these beacons was identified was several years ago when the 30 meter band (10.1 to 10.15 MHz) was opened on a shared basis to Radio Amateurs. I immediately started operating on that band and quickly logged a loud, commercial CW signal near 10.1 MHz that was surely a fixed, point-to-point station. I guessed I was listening to a shore-based marine service station. However, observation over a period of time revealed that the station did a lot of transmitting but devoted no time to listening, nor did it conduct two-way communication. It was purely one-way transmissions slightly disguised as a point-to-point operation.

The station faded in before sunrise and faded out a few hours after sunrise, or about 9 a.m. PST (1700 GMT). It was a loud, clear CW signal and the identifier transmitted in Morse code was: XUQC DE YQBF.

Where is YQBF?

Armed with a callbook, the casual listener might conclude that YQBF was located in Romania, since calls starting with the prefix YQ were assigned to that country. Likewise, the station being called XUQC should be located in Cambodia. Why would Romania be calling Cambodia for hours on end with no reply? Moreover, the time of day precluded reception of Romania signals in California for such a long period of time (a "long path" opening commonly lasts for less than an hour at this time of day). Clearly, YQBF wasn't where you'd suspect it was.

Table 1

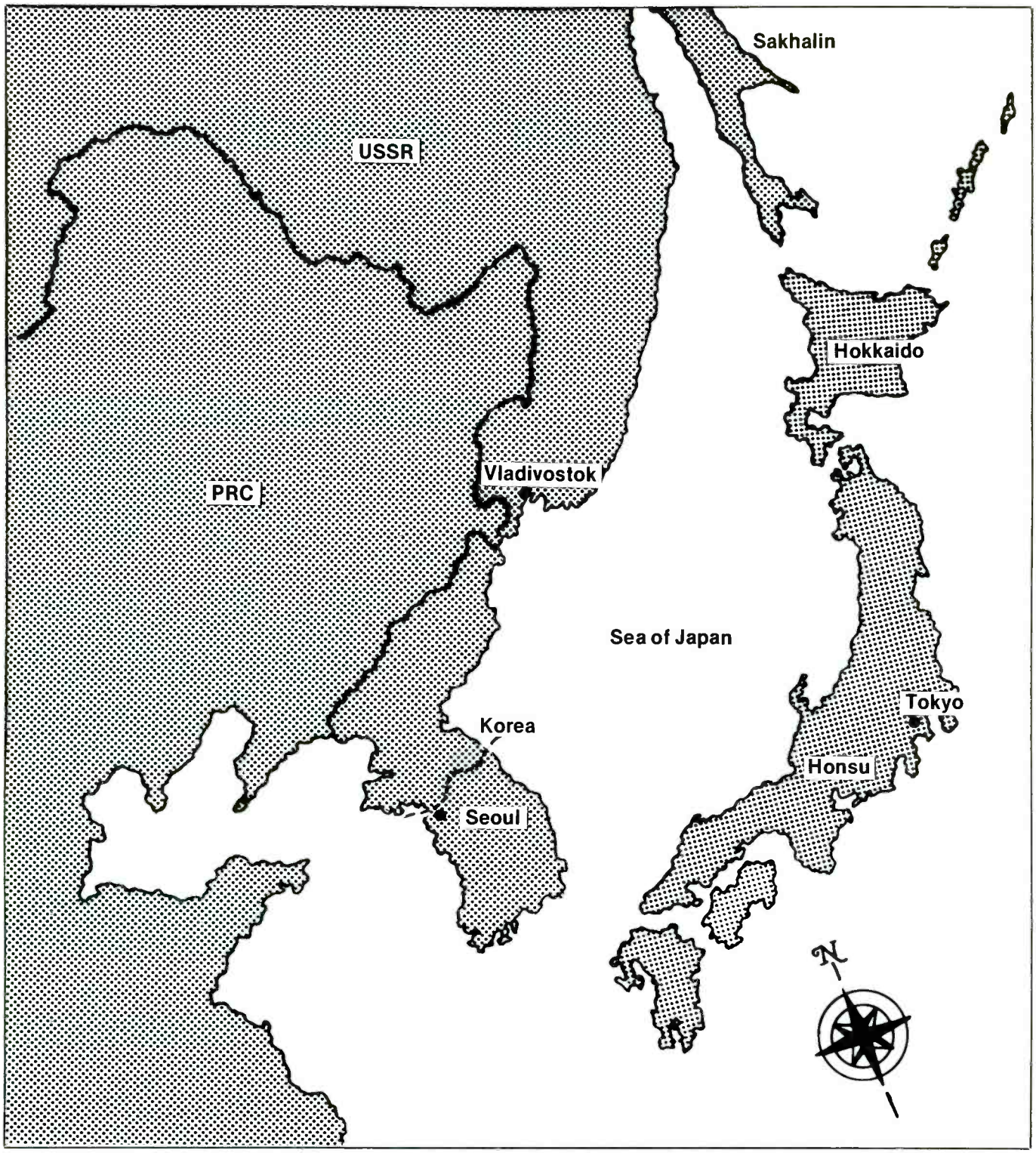
Frequency (kHz)	Identifier
3251.5	XUQC DE YQBF
3280.5	FU8D DE PD4M
3438.8	VQ9A DE 8WP5
3445.5*	8L6S DE 2RC8
3662.5	FM30 DE 9YVB
3732.5	6LT0 DE SVG9
4962.4	ODJ1 DE COQM
5140.4	FKD1 DE YQBF
6476.2	XUQC DE YQBF
6546.5	93VL DE CMO9
6564.2	93VL DE CMO9
10125.5	XUQC DE YQBF
10141.5	XUQC DE YQBF

(Frequencies may vary as much as 20 kHz on occasion)
* Now 3434.0 kHz

A little more research showed that neither call was registered with the International Communications Union. What, then, was going on?

The next discovery was that the 10 MHz signal of YQBF was not unique. Several similar transmissions, using the same calling pattern and identifiers, existed at other points in the spectrum. Finally, after a long search period, a whole family of "commercial-sounding beacon signals using equally spurious callsigns were logged (Table 1). That's quite a group of signals masquerading as something they are not!

Time was spent monitoring the loudest "commercial" beacon, which was the one on 10,125.5 kHz. It ambled along at about ten words per minute with the following text: V (pause) XUQC DE YQBF. This text was repeated over and over, hour after hour. Then, suddenly, the transmission would stop for a minute or so and then 5-letter coded groups of numerals and letters would pour forth at about 40 words per minute! The coded transmission would be repeated ten or more times, then, after a pause, the sender would go back to the slow



sequence of XUQC DE YQBF.

The other transmissions listed in Table 1 follow the same operating format, although different identifiers are used. All of the stations occasionally move as much as 20 kHz in frequency from time to time.

Where Are The "Commercial" Beacons Located?

The beacons that resemble point-to-point or marine CW stations are scattered over the HF spectrum, although none have been logged above 10,141 kHz. The fade-in, fade-out times of the signals indicate that the transmissions originate from a point west of the United States, probably on the Asian continent. Repeated DF (direction finding) measurements made on the 10,126.5 kHz signal (in the 30 meter Amateur band) conducted in California and Australia indicate that this beacon (XUQC DE YQBF) is located in, or near, the Soviet city of Vladivostok, on the Sea of Japan. This is the location of a large Soviet Naval base, and the whole area is normally closed to foreign visitors (see map).

The location of the other beacon signals has not yet been determined. Possibly, they all originate from the same location. The fact that different identifiers are used does not prove that they are in different locations. And the difference in signal strength between the various signals may indicate only that they are using directional transmitting antennas.

Additional reception reports on these beacons from various parts of the world are

Table 2

Frequency (kHz)	Identifier
3561.0	V
4031.0	P
5758.0	A
6771.0	X
6993.0	P
7394.5	V (FSK)
9312.0*	W

* More on the interesting W-beacon on 9312.0 kHz in a future *POP'COMM* article!

required to determine if all signals eminate from the Vladivostok area, or if some of the transmitters are scattered in other parts of the Soviet Union. Meanwhile, it is interesting to listen to these beacons and wonder what the reason for their existence is. Any ideas?

Other Beacons And One "That Blew Its Cover"

The writer and other listeners keep a running list of beacon signals that seem to fit into no definite patterns. These are scattered about the spectrum and send individual Morse code identifiers. They fit into no scheme such as discussed for the K, U, and cluster families of beacons. A list of these "orphan" beacons is given in Table 2. No doubt, more such signals exist in the spectrum.

The beacon on 4031.0 kHz is most interesting. Its identifier is the Morse code letter "P". It can be heard in Europe and the eastern part of the United States during the hours of 1800-2400 GMT. A definite connection between this beacon and the USSR was established by Geoff Halligey, a listener in England. On June 12, 1985 at 2251 GMT, after a seemingly endless repetition of P P P P, transmission was suddenly interrupted by the following identification: UMS UMS 44822 53330 (repeated several times).

UMS is the callsign of a well-known USSR VLF station, which has been widely heard on 17 and 18 kHz (and also on 19,472 kHz in the HF band).

As Geoff says, "Whether this UMS transmission was in error or not is yet to be determined. If it was, then the operators at station 'P' have made one of the classic mistakes of the game, and have 'blown their cover,' as the spy thrillers have it."

Keep Listening!

There are more beacon signals to be found. Continued monitoring of these signals may possibly uncover the reasons for their existence. They are available for all to hear and pose an interesting radio riddle that may one day be solved. Any reports that can help to unravel the mystery of these signals should be sent to me in care of *POP'COMM*. Good listening! PC

EMERGENCY
COMMUNICATIONS FOR SURVIVAL

BY GORDON WEST, WB6NOA

Mail Order Ham Licenses

The old time Hams don't like it one bit. Their ranks are being infiltrated by new, young Ham radio operators who have little skills in putting equipment together, building a receiver out of wire wrapped around an oatmeal container, or going on the air using high-speed CW as the only means of communication. And the oldtimers are right; today's new Ham radio operator *is* less technical than before, and couldn't begin to build a radio from a drawer full of parts, nor may they be interested in ever going on the air using Morse code.

But does this really spell a demise to the Amateur Radio Service? I don't think so. Today's new Ham radio operator is more skilled at two-way radio *operating*—communicating by computers and taking part in long-distance communications on traditionally short-distance very high frequencies from repeaters and orbiting satellites. In fact, today's new Ham radio operator may never touch a CW key except for one time to pass the Amateur Radio entry-level Novice class examination. As a survivalist communicator, it would be handy to have an Amateur Radio license and call letters that would allow you to use the thousands of automatic and free repeater stations that have been set up throughout the country by fellow Amateur Radio operators who take great pride in establishing communication systems that stay on the air when everything else goes down in a crisis. Also important for you is the fact that recent FCC orders to completely revamp the Amateur Radio examination system now make it easier than ever before for you to obtain a voice-class Ham radio license without ever leaving your house. It's almost a complete mail order proposition!

The "easy" Amateur Radio test procedure started about four years ago, when the Federal Communications Commission issued Proposed Rulemaking Docket 83-27 that outlined a volunteer examination program where fellow Hams would take over the responsibility of giving Ham radio tests. Public Law 97-259 was amended to the Communications Act of 1934 that would allow the FCC to accept the voluntary services of licensed Ham radio operators in preparing and administering the Amateur Radio service exams.

What all of this means is that you no longer need to go down to your local FCC office to take a Ham radio test; your entry-level exam (Novice) can be administered in your home by any single licensed Ham radio operator, 18 years of age or older, who possesses a General class license or higher. After you receive your call letters, the next exam you take is for the VHF voice-class license (Technician). This test is administered by three licensed Amateur Radio operators at an agreed upon location (publicly announced). This place might accommodate you and some friends who wish to pass the Technician class license, that lets you get on the air using high power, repeaters, and a very high frequency band (6 meters) where summertime signals routinely bounce off of the ionosphere and come back down thousands of miles away for some real skip-type communications.

2-meter repeater operations from an H.T.

More good news for an easy way to get into ham radio—all of the examination questions are published. There are no more secret exams or secret questions. The exact question, as well as the precise four multiple-choice answers, are now in public domain. This is similar to what the Federal Aviation Administration does for its pilots exams, they issue books that contain hundreds of questions of which a certain number out of specific categories will be used on the actual exam. It is the same thing with the new FCC tests; every question with its right and wrong answers is published ahead of time, so you know exactly what you're going to get on the test. Here's a breakdown on the Amateur Radio license structure and what you need to know to successfully pass each license grade, and the privileges that go along with the classification of license you earn:

Novice License This is the first license you'll achieve, and it's the easiest. There are 200 published questions on elemental electronics and basic rules and regulations. Twenty multiple-choice questions will be taken out of this 200-question pool, exactly word for word. The material is so simple that it shouldn't take you more than three weeks to get the material down pat and not only know the questions and answers, but the philosophies behind these questions and answers as they apply to operating in the amateur radio service. Seventy-five percent passing on the written is necessary.

For the Novice license, you're also required to know Morse code at a speed that is slower than what most Boy Scouts learn in a month! You need to be able to send and receive at a rate of 5 wpm. Code training tapes are available from several Ham radio training organizations, and you might find learning the Morse code through the use of tape cassettes a bit more fun than anticipated! Even if you hate the code, once you get into it, you'll find it a challenge—and at 5 wpm, a push-over proposition within 30 days.

Once you have the code and the theory down, find any local Ham and pass along the examination packet that comes with most code and theory courses. This Ham opens up the packet, plays you a simple 5 wpm code test, and then gives you the 20-question written exam. The Ham corrects your paperwork on the spot, congratulates you on passing the test, and you both fill out FCC Form 610 and send it to Gettysburg, Pennsylvania where the FCC will issue you Novice call letters within 30 days. The call letters are sent to your home.

The entry-level Novice license allows you to go on the air, but right now only using CW (CW means continuous wave, which we interrupt with dots and dashes to create Morse code). The four CW bands are within the worldwide communications spectrum, so if you do get on the air using CW, you can be assured of communicating over thousands of miles.

By the end of this year, Novices may also have voice privileges on the 10-meter worldwide band, the 220 MHz repeater band, and the 1250 MHz repeater and computer band. This proposal was developed by the American Radio Relay League to make the Novice class license more attractive than it has ever been before—especially

The author's Ham station set-up.

appealing to those of you into computers and digital communications that may not be interested in the Morse code.

Technician Class License This is your goal. The next license grade up from Novice is called "Technician," and it requires no further code test. That's right; once you have the Novice license, you can go on to get your Technician voice-class license without any further code testing.

The Technician class license is usually passed by studying a simple question-and-answer textbook or theory tapes that list the 500 public domain questions that will be on your exam, plus the right and wrong answers that will accompany each question. It takes about 30 days to easily memorize the questions and answers. If you start studying for the exam right after you pass your Novice, you should be ready to take the Technician class test when your new Novice call letters arrive in the mail.

By law, the examiners (remember, it takes three) cannot change the wording of the questions, and almost all examination teams throughout the country use the exact published right and wrong multiple-choice answers that will be on your examination. Fifty questions in specific areas will be taken out of the 500 test question pool for Technician. I've seen students memorize the 500 questions and answers in less than a week if you really are set on getting your license without really knowing anything about what you have just memorized.

It takes 75 percent to pass the Technician class examination, which means that you can miss 13 out of 50 questions. Since all of the questions and answers have been previously published in training books and tapes, there's no reason you should miss anymore than 2 or 3 on your test. When you pass the test, you can go on the air using your Novice class callsign with a special identifier indicating you have just upgraded to Technician.

The Technician class license allows you to keep your Novice privileges (and callsign if you like it), plus allows you to operate voice on the 6-meter summertime worldwide band; voice on the popular 2-meter band with repeaters, teleprinters, packet, television, and space station coverage; the 220 MHz popular repeater band; the 450 MHz popular repeater band; the 900 MHz repeater and communicator band; the 1250 MHz repeater band; and a host of ultra-high and super-high frequencies beyond this range for experimental purposes. With the Technician class license, you also get the maximum allowable power output—1500 watts peak envelope power. You can also trade up your callsign if you don't like your old one for a slightly shorter version, too.

It is true that the Technician class license only allows for voice privileges on VHF and UHF bands; there are no voice privileges on those worldwide bands. Don't be disappointed. There are so many exotic repeater systems around the United States, the Technician class operator can easily communicate around the world using local and extraterrestrial satellite repeater set-ups that are wide open and are just waiting for someone to use their relay station set-up. In other words, as a Technician class operator, you are not relegated to just communicating around the block.

General Class The next step up from Technician is the General class—and this requires only a 13 wpm code test with no further written examination. It takes about two months with code-training tapes to achieve the General class license. Once you pass the General test in front of the three volunteer examiners, you are all set to work on all the worldwide bands with voice communications, plus all those other exotic modes.

More good news! There is no longer a 30-day wait in case you should not pass any one of the multiple-choice written exams or code tests. You can retake any missed element the very next day.

There is even more good news! The volunteer examiner or examiners that give the code test may elect to give you an easy test requiring only a multiple-choice answer examination on the copy you have written down, or maybe just one minute of perfect copy out of the five minutes of code sent. Of course, you can go back and fill in missing letters on your code test after the code has been sent.

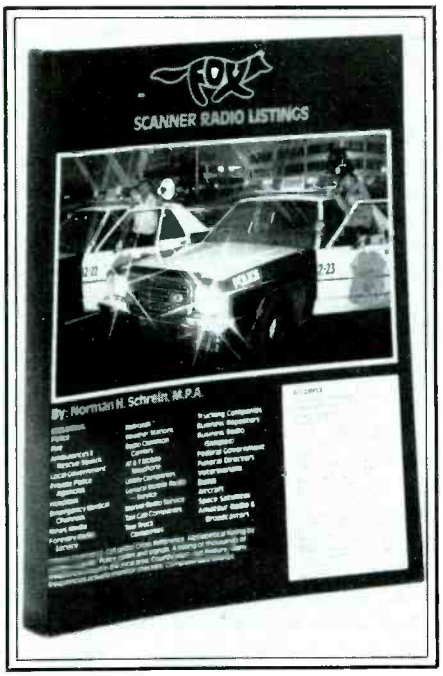
What's the hardest part of getting a Ham radio license? Is it the code? Is it the theory? None of these. The hardest part is just making up your mind that you want to add an Amateur Radio license to your existing survivalist communications package. Going out and either enrolling in a course or sending for the mail order supplies is all you need to overcome the hardest part of getting your Ham radio ticket. Once you have the materials or course at hand, it's an easy matter to simply go over the material, memorize and understand it, and then take the test.

Just because you memorize the examination, does that make you an inferior Ham over those who have passed their examination and are technically minded? Not necessarily. The real learning and growing as a good Ham radio operator occurs once you get on the air. This is where you develop techniques, learn about operating, and sharpen your skills in communicating during emergencies. No amount of book learning replaces actual on-the-air operation, so this is why getting your Ham radio ticket is really just a formality. I realize that this statement will probably draw criticism from already licensed Hams (which I have been for 25 years), but it's the truth. As Amateur Radio operators, the testing is little more than a simple elimination of those who wish they were a Ham radio operator and those who go ahead and become a Ham radio operator. A Novice ticket seems nothing more than a basic screening process. Your ability to become a good Ham radio operator begins when you first press that mike button, or hit the key.

If you're looking for the ultimate in staying in touch duiring any major catastrophe, a Ham radio license will let you literally talk to the world with an extremely modest station and home-built antennas that are designed for rugged use by communicators like yourself. Get a Ham ticket. There's no longer any excuse why you shouldn't. PC

BOOKS YOU'LL LIKE!

BY R.L. SLATTERY



At Last!

A few issues ago I was complaining about the disappointing quality of police/fire frequency data that had appeared in mass marketed directories thusfar (at least, the ones I'd seen). Those comments caused me to be on the receiving end of several samples of additional publications that were adequate but nothing to write home about. A carton of directories arrived, however, that I've found to be a top-notch job all-around. The carton contained the *Fox Scanner Radio Listings* directory series.

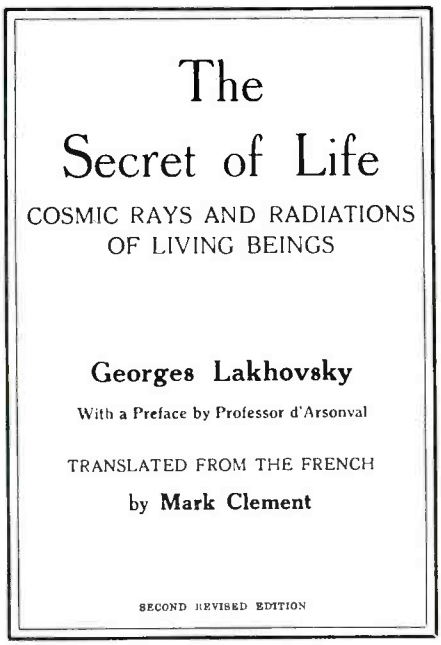
Finally, it looks as though there is a series of in-depth professional quality frequency guides worthy of being placed on the desks of serious communications monitors! Each of these hefty-sized books covers a specific geographic area and includes monitoring data on police, fire, local government, medical emergency, news media, mobile telephones, buses, trucks, taxis, business/industrial, and all sorts of other 30 to 512 MHz services.

Listings are arranged by licensee name and are cross-indexed by callsign. A special section lists stations according to radio service. Police codes and signals are included. Each book in this series was painstakingly compiled by researching FCC records, then correcting and expanding that information by consulting monitoring experts in each local area, followed-up by lengthy local monitoring by the compilers. From looking at the directory for my own area, it's abundantly apparent that no single "national" publication or even series of publications I've yet seen has been so thoroughly researched, so accurate, so complete, or covered so many different categories of stations.

New areas are being compiled, and the following 28 areas are presently available: Ft. Wayne IN/Lima OH; Toledo OH/So. Michigan; Columbus OH; Tampa/St. Petersburg FL; Oklahoma City/Lawton OK; Cincinnati/Dayton OH; Louisville/Lexington KY; Detroit MI/Windsor ON; Buffalo/Niagara Falls NY/ON; Minneapolis/St. Paul MN; Orlando/Daytona Beach FL; Dallas/Ft. Worth TX; Chicago IL; Hawaii/Guam/Pacific areas; Los Angeles CA; Cleveland OH; San Diego CA; Alaska statewide; Syracuse/Rochester NY; Milwaukee WI/Waukegan IL; Indianapolis IN; Houston TX; Baltimore MD/Washington DC; Arizona statewide; Long Island (Nassau/Suffolk) NY; Denver/Colorado Springs CO; and Nevada statewide/E. Central CA.

Each directory is reasonably priced at only $12.95 (plus $2 Book Rate postage to USA/Canada/APO/FPO). Specify which area(s) you want when ordering.

You can order these by mail from CRB Research, P.O. Box 56, Commack, NY 11725. You'll like the *Fox Scanner Radio Listings*, we did!


The
Secret of Life
COSMIC RAYS AND RADIATIONS
OF LIVING BEINGS
Georges Lakhovsky
With a Preface by Professor d'Arsonval
TRANSLATED FROM THE FRENCH
by Mark Clement
SECOND REVISED EDITION

Far Out But Futuristic

In 1926, Georges Lakhovsky and Nikola Tesla built the first multiple wave oscillator for the practice of what Lakhovsky called *radiobiology*. The multiple wave oscillator (MWO) operates on the theory that every cell in the human body has a spiral helix or coil (RNA-DNA complex) that responds to radio waves. In fact, the principle of Lakhovsky's scientific system is that every being emits radiations; using that theory, he explained instinct in animals, migration of birds, health, disease, and much more.

In 1935, Lakhovsky wrote a book about his work that explained his concepts of cellular oscillations and how to control and manipulate them. The book, written in French, was entitled, *The Secret of Life (Cosmic Rays and Radiations of Living Beings)*. With a preface by Professor d'Arsonval, the book was translated into English and became an instant classic in the field of far-out electronics, far-out biology, and far-out science in general. In 1942, when France was invaded by the Nazis, Lakhovsky (a prominent anti-Nazi) escaped to New York. He died at age 73 in New York (1942) and, along with his works, was generally forgotten.

A revised edition of his book was issued in 1951 and, although a small hardcore of Lakhovsky's followers were delighted, the experiments were not taken very seriously by most of the scientific establishment. It wasn't until 19 years later, in 1970, when the revised English edition was reprinted in the midst of renewed interest in previously discarded or ridiculed theories (such as Tesla's) that the MWO was given a more serious reception. What with Soviet and American (secret) government experiments in telepathy and long distance behavior modification, Lakhovsky and his works could hardly continue to be ignored or dismissed.

Admittedly, there are those who are still unwilling to even take an objective look at Lakhovsky's theories. Whether you end up thinking the man was a genius or a lunatic probably depends upon many variables within your own approach to the unorthodox. Personally, I found this book very engrossing and provocative. While I could agree with much of what the man had to say, he had some ideas that zoomed in at me from way out in left field!

This book is well over 200 pages and contains theories, results of experiments (including medical cures), charts, photos, diagrams, etc. It's fully indexed right from *Animals, effects of oscillating circuits on* to *Waves, astral influence of*.

The 1970 reprint of the English edition of Lakhovsky's *The Secret of Life* is being offered at $9.95 per copy postpaid from Mike Brown, Box 88, Draper, UT 84020-0588. Brown, by the way, also sells a fully operational model of the Lakhovsky MWO that he cautions is "for experimental purposes only on animals and plants" (probably because the MWO has not been FDA approved). Brown advises that he is also work-

ing on building a Lida, the controversial Soviet "mind control" device that uses radio waves; some communications type people have wondered if the famed "Russian Woodpecker" shortwave signals are functioning along the same lines as the Lida.

If you like the interesting and unusual, and are a fan of Tesla, then Lakhovsky may be a new world of the unusual just waiting to happen to you.

COMPUTER COMMUNICATIONS STUDY

Computer Communications, Anybody?

There's been much discussion of using computers to talk to one another over the airwaves. Because of a general lack of information on some of the more exotic forms of hobby radio communications with the aid of a PC, Dave Riley (AA1A, W1AAI, KG4BL, KC4USX, etc. around the world) has put together a useful and idea-filled booklet called the *Computer Communications Study*.

Dave, a confirmed LOWFER, ex-USN CPO, shipboard "Sparks," who is now a broadcast consultant, has drawn from his vast field of experience to assemble information on getting started with a PC on the no-license 160 to 190 kHz LOWFER band, on the AM broadcast band, or using carrier current, and in the 49 MHz license-free band. Information and equipment sources are given, regulations are discussed, and some equipment modification data is provided (along with schematics).

While this isn't a large book, it does contain lots of clever ideas for anybody turned on with the concept of computer technology. Dave also is putting out a newsletter for computer communications phreaks and this booklet gives all of the details.

Dave Riley's *Computer Communications Study* is available for $10 (postpaid) from Broadcast Technical Services, 11 Walnut Street, Marshfield, MA 02050. PC

PRODUCTS

REVIEW OF NEW AND INTERESTING PRODUCTS

Advanced Answering Machine With Two-Line Greeting Message And Answering Capability

Phone-Mate, Inc. is introducing an answering machine with two line message capability. The only machine of its kind on the market, the new product comes in two versions—the 9700 without handset and the 9750 with a two-line handset.

Designed for the small business user, the 9700 series allows any small business to customize its telecommunications system by offering the capacity to record two separate greeting messages that can be used as a separate message for each line or with the same message for both lines.

The new products are also designed to expand the normal range of answering machine capability by providing multiple choices in answering capacity. Depending upon the business user's needs, both Phone-Mate models will answer either phone line or both lines.

Two Phone Line Convenience

The 9700 can be used with any standard phone to convert it to a two-line system. The 9750's built-in two-line phone offers the added convenience of teleconferencing. Both models work with standard phone hook-ups with RJ-14 and 2X RJ-11 switch selection available, and both versions offer the small business user the opportunity to maintain two distinct business lines or to combine business/home phone lines.

Automatic Voice Instructor

The 9700 series is the latest of Phone-Mate's line of business products designed with the most advanced technological features. Of particular importance is the state-of-the-art automatic voice instructor which literally "talks" the user through 20 machine functions, both remotely and in the office, making machine operation easy and foolproof, and saving time by eliminating the need to constantly consult a user's manual.

Not only does the automatic voice instructor take the worry out of standard machine operations, but it also verbally confirms the user's choice of function. For example, if the user decides to erase recorded messages by pushing the button "erase," the machine says, "I will erase your messages."

Furthermore, the automatic voice instructor provides specific message information—how many messages have been recorded, their day, time, phone line—and announces when the last message has been played, so the likelihood of missing one is eliminated.

One Touch Operation

Along with other technical advancements, the 9700 series offers the ease of one touch operation. For most functions, one touch is sufficient for activation and the user does not have to reset the machine.

Added Features

The 9700 series also offers *beeperless remote*, so the user can activate the machine from any touch tone phone remotely; *voice activation* which means the machine will record only as long as the speaker speaks, eliminating lengthy pauses between messages; and *toll-saver* which allows the user to pay only for messages heard when calling in from outside the office. Finally, the *digital/display clock* displays the number of messages received and doubles as a 24 hour clock.

Size

Dual microcassette technology has enabled Phone-Mate to design the 9700 series in its compact form. This permits extended recording of conversations or dictated messages. In fact the machines' tapes are interchangeable with standard dictation machines and can be conveniently purchased with other office supplies.

Both models take up approximately the same desk space as a standard phone.

Price/Availability

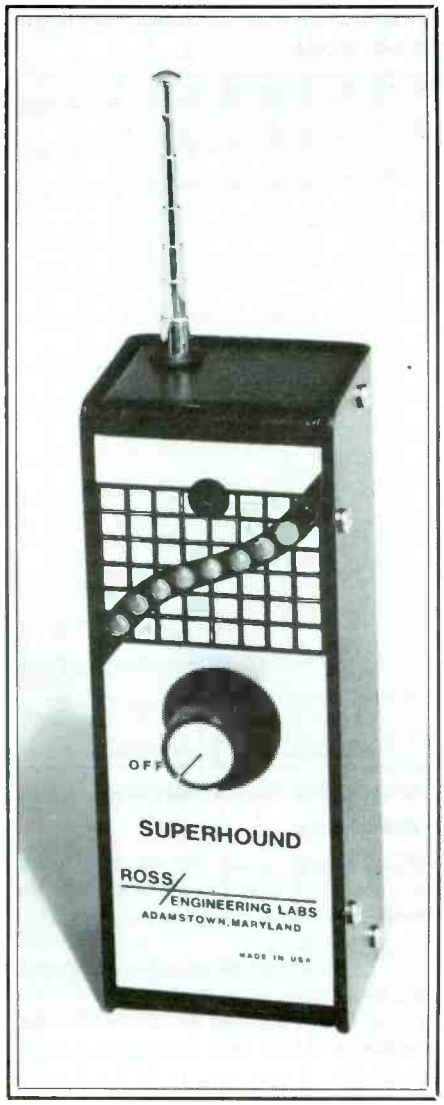
The 9700 is expected to retail for $239.95 and the 9750 for $279.95. They will be available soon in department and phone specialty stores throughout the country.

Superhound

Need to find a bug? Not the insect kind of bug; the radio transmitter kind of bug! Superhound is for you. Superhound is a bug locator; it locates radio transmitters used as bugs.

Superhound, in fact, is the first new design of a hand-held bug locator in several years.

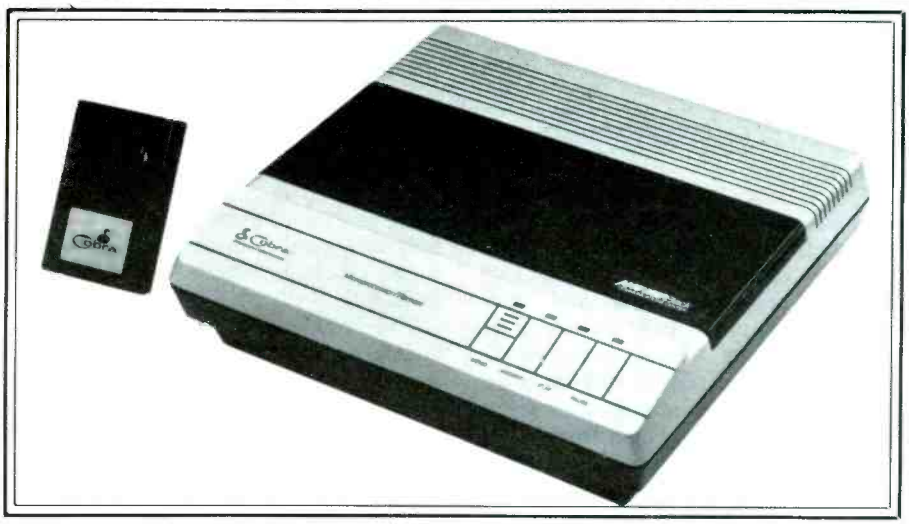
Because it is a new design and uses up-to-date technology, it is more sensitive and covers a wider frequency range than the older units.



Because it was designed by people who work in the field of bug detection, it contains the features that a countermeasures technician wants: small, lightweight, rugged, simple sensitivity control, and self-contained standard 9V battery.

Best of all, it provides two different indications of distance to the illegitimate transmitter. First, there are a series of lights on the front—the more lights, the closer to the transmitter. Sometimes though, in real operations, the operator is not able to see the front of the locator, so the Superhound also has an audible indication of closeness to the transmitter. As the unit is brought closer to the bug, the ticking sound that it emits gets faster and faster.

Operator training is hardly necessary. The unit is so simple that a person with no training at all can learn to use it in minutes. It's from: Ross Engineering Associates, Inc., 68 Vestry St., New York, NY 10013.



"Answerback" Telephone Answering Systems

The Cobra Consumer Electronics Group of Dynascan Corporation has released their 8000 series of "Answerback" telephone answering systems. The new systems feature an auxiliary corded feature phone as an option that attaches to any of the answering machines in their series. Styling is all-new, low-profile, and ultra-compact.

The new series consists of three models, all of which are microprocessor-controlled, have dual cassettes, "VOX," LED call counter, and "Memo Record" to record memo messages on the incoming tape at the answering machine. The basic model, the AN-8300, has all the above features and carries a list price of $99.95.

The middle model, the AN-8400, has, in addition to the above features, selectable "Toll Saver" and beeper-type remote. The list price is $129.95. The top-of-the-line model, the AN-8500, is the same as the 8400, but the remote is the beeperless type. List price is $139.95.

The ST-408 corded feature phone that attaches to any of the above three answering machines has switchable Tone/Pulse dialing, lighted keypad, dual-tone ringer, last number redial and is fully modular for fast, easy attachment. List price is $29.95.

The AN-8408 packages the AN-8400 answering machine plus the ST-408 corded phone for a list price of only $149.95.

For more information, contact Cobra Consumer Electronics Group, 6460 W. Cortland Street, Chicago, IL 60635, or circle number 106 on the reader service card.

Radar Detector Features High Performance For A Low Price

Long range detection of police radar is assured with the new Ranger radar detector from Fox Marketing, Inc.

The Ranger combines state-of-the-art superheterodyne circuitry with dual audible and visual warning signals, allowing a driver to check his vehicle's speed well before it comes within range of traffic radar.

The diminutive unit (1⅜" high × 3⅝" wide × 5" deep) packs many features and consistent, long-range detection of both X- and K-band radar.

"Although a low price was a goal with the Ranger, we did not want to sacrifice performance or features," noted Joseph Everson, vice president for sales and marketing. "We have created a performance and quality image which could not be compromised."

The Ranger's $149.95 suggested retail price is the lowest among Fox Marketing's superheterodyne family.

This group also includes the compact RoadStar and top-end Vixen II, as well as the industry-standard SuperFox Remote and new Matchbox Remote with the smallest control unit on the market.

"The Ranger borrows much from its more sophisticated brethren," said Everson. "It is a full-fledged member of the family."

The Ranger's superheterodyne design allows it to detect radar signals emanating from around corners or over hills, even if the signals are faint and reflected.

If signals come from behind the vehicle, the Ranger readily detects them as well.

A two-position city/highway sensitivity control allows the driver to conveniently fine tune the unit for either type of driving. This configuration is designed to provide optimum performance with minimized interference or alarm "falsing."

The attractive front panel contains a red LED (light emitting diode) which flashes in unison with the alarm when radar is detected. A green LED indicates the unit is on.

Also found on the front panel is a combination volume/power on/off control. The user can easily adjust the alarm volume to personal taste and to assure audibility within the vehicle.

Exceptionally compact, the self-contained Ranger is ideal for persons who may use several different cars in their lives. The unit comes with a versatile quick-mount kit, which permits either dash or sun-visor mounting.

Power is provided through a cigarette-lighter cord.

The Ranger is available through Fox Marketing's national dealer network.

VLF Converter, Antenna Noise Bridge, Active SWL Antenna And Tone Decoder

Four new Amateur Radio kit products have been introduced by Heath Company. The new products are the HD-1420 VLF Converter, HD-1422 Antenna Noise Bridge, HD-1424 Active SWL Antenna, and the HD-1530 Touch Tone Decoder.

The HD-1420 Very Low Frequency (VLF) Converter allows a standard shortwave receiver to tune the 10 to 500 kHz band using the receiver's 3.5 to 4.0 MHz band. The VLF Converter installs in the receiver antenna line. The unit operates on 9-volt battery or 6-14 VDC external power supply.

The HD-1422 Antenna Noise Bridge is a useful antenna tuning aid which reveals the cause of any mismatch between a station's transmitter and its antenna. A tone-modulated, broadband noise signal is generated in the Antenna Noise Bridge and coupled to an impedance bridge. Using the receiver as an indicator, the impedance bridge is used to measure the reactive components of the antenna. This allows each antenna to be trimmed to a favorite operating frequency for the most effective and efficient transmission of signals. In addition, the HD-1422 can be used to preset an antenna tuner for faster tune-up; to tune a quarter-wave transmission line; and to measure the value of unknown capacitors and inductors.

The HD-1424 Active SWL Antenna allows a shortwave radio to receive signals between 300 kHz to 30 MHz. These bands cover all of the international broadcast bands, high-frequency amateur bands, and many other services. The versatile unit also acts as a high frequency preamplifier when used with an external 50 ohm antenna. In addition, the HD-1424 may be used as a preselector for both indoor and outdoor antennas. The HD-1424 is ideal for the apartment dwelling shortwave listener or for portable operations where an outdoor antenna is not available. The unit has a built-in collapsible antenna and provisions for a 50 ohm external antenna. The Active SWL Antenna operates on a 9-volt alkaline battery or external 6 to 14 volt DC source.

The HD-1530 Touch Tone Decoder is

(Continued on page 74)

SATELLITE VIEW

INSIDE THE WORLD OF TVRO EARTH STATIONS

Luxor 9900 Block Satellite Receiver Remembers 35 Satellite Locations, 840 Channel Selections

Luxor North America Corp. has announced an advanced new C-band and Ku-band satellite TV system. Dubbed "the intelligent satellite TV system," it is based on Luxor's new Model 9900 Block Satellite Receiver, factory programmed for instant recall of 35 satellite locations and 840 channels.

The main components in the new design-coordinated 9900 Block Satellite Reception System are the 9900 Receiver, its color-coded 9901 Hand-Held Remote Control, and the optional 9995 Block Receiver, which operates an add-on "slave" to the 9900 in multiple-TV's installations or as a stand-alone block receiver. Other components include the 9936 Remote Sensor for independent viewing from any room in a home, the 9906/9907 Stereo Loudspeakers in passive or active models, the 9904 Actuator (power supply) Interface, and Luxor High-Performance Microwave Block Downconverters.

Hans Giner, Luxor's president, said that while the 9900 system offers features designed to satisfy videophiles and audiophiles, it is simple to operate. All functions are controlled by push button from the hand-held wireless remote control unit. In addition to being user friendly, the 9900 has a built-in self diagnostic system, for ease of technical maintenance by dealers.

Fully integrated, the 9900 Block Receiver has a built-in antenna controller. Through its hand-held remote control, the 9900 commands a 3-speed actuator which precisely locates satellites and fine tunes antenna position for optimum channel reception of both video and audio signals.

Design-Coordinated Components: Giner said Luxor devoted considerable attention to the design and color scheme of the entire 9900 system. All units are executed in warm metallic grays accentuated with warm pastel colors. The neutral grays were selected with an eye to ready coordination with existing room and/or component color schemes. While the effect is elegant and pleasing, color placement is functional, promoting ease and simplicity of use. The 9900's front panel LED clearly identifies satellite, channel, and sound system being received. A signal bar graph indicates signal strength.

Luxor 9901 Color-Coded Remote Control: The hand-held Luxor 9901 Remote Control separates buttons for channel selection, tuning, and switching functions into logical color-coded groupings. Video and audio delivery are automatic for most viewing.

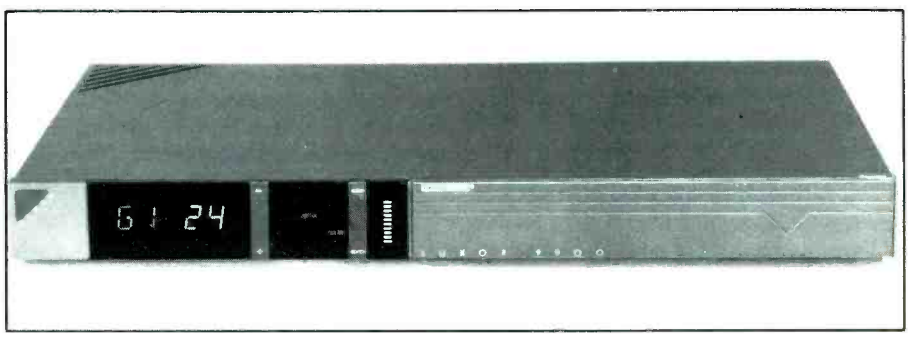
9900 Features: The full-featured 9900 Receiver has five audio modes, factory programmed to each transponder for automatic delivery of the proper sound system when a channel is selected. These include two monaural modes, two matrix, discrete stereo, and automatic multiplex selection. Any other audio subcarriers can be tuned in for audio-only hi-fi listening, in addition to TV viewing. Other audio functions include remote Dolby™ on/off, audio subcarrier frequency read-out, wide/narrow bandwidth selection, remote audio volume control, remote stereo balance control, built-in stereo processor, and direct loudspeaker drive.

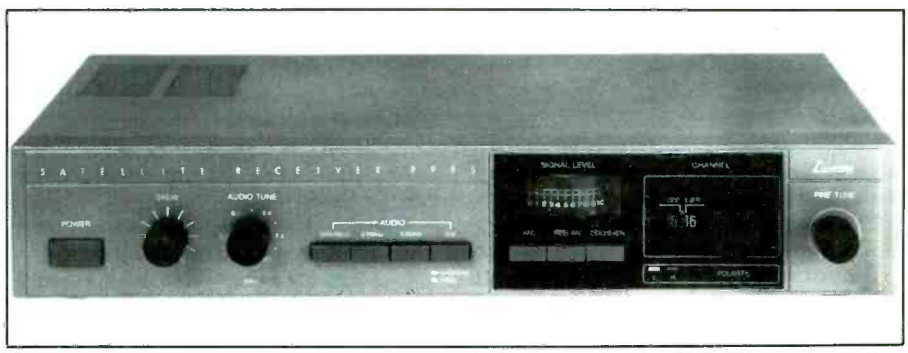
The 9900 has a built-in A/B switch, polarotor drive, RF modulator, non-volatile memory unaffected by power outages, and a remote sensor interface. A "normal" button on the remote returns the system to factory pre-set values. While present satellite/channel locations are factory programmed into the 9900, additional transponders are easily added to the system memory.

New Luxor Exclusive: Micro Step™ Tuning: The 9900 system incorporates a new Luxor exclusive called the Luxor Micro Step™ Tuning System (LMS). It automatically seeks the right signal within a given channel frequency. The 9900 Receiver automatically compensates for frequency drift due to climate or transponder variances.

Using the remote, an internal TI filter can be assigned to individual channels to minimize terrestrial interference. The TI filter also can be programmed to any channel on any satellite. A discrete parental lock-out can keep unauthorized users from tuning in one or more channels on a single satellite.

In addition to the new Luxor Micro-Step™ Tuning System (LMS), video functions include baseband audio and video output for VCR or monitor, baseband input for other video sources, built-in polarity control, and raw video (unfiltered, unclamped) for descrambler connection.





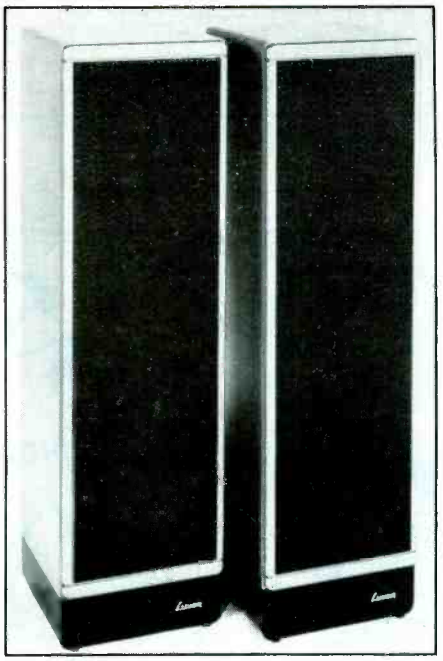
Model 9995 Companion Block Receiver: The Luxor Model 9995 Block Satellite Receiver is designed to function as an add-on receiver to Luxor 9900 multiple TV's installations, thus providing independent channel selection for TV's in other areas of the house. It also can be used as a lower-cost, stand-alone block receiver for both C-band 4-GHz and Ku-band (12 GHz) reception. Manually-operated, it has channel selection, video fine tune, AFC defeat, built-in V/H switch, and built-in antenna switch for satellite or local reception.

The 9995 has preprogrammed audio frequencies 6.2 and 6.8 MHz, tunable audio frequency selection 5.0 to 8.0 MHz, wide/narrow audio bandwidth selection, raw video output (unclamped, unfiltered) for descrambler connection, external TI filter input, skew control, and Polarotor One control output.

New Loudspeakers: The optional 9906/9907 Stereo Loudspeakers are designed to enable 9900 users to enjoy the wide range of music broadcast for audio but only over satellite audio sub-carriers (additional satellite signals "piggybacked" onto the main TV signal). Each pair of smoke gray speakers has 6 speaker sets (3 per side). They are available in passive or active models with sound power up to 40 watts per channel. Each speaker is magnetically shielded to permit close location to TV sets.

9936 Remote Sensor: Similar to the Luxor 9536 used with the Luxor 9500 family receivers, the Model 9936 is an auxiliary infra-red remote control receiver. It is packaged with an additional Model 9901 handheld remote control. This inexpensive accessory permits independent control of a Model 9900 Satellite Receiver located in another room of a house or building for independent viewing.

9904 Actuator (Power Supply Interface:)



The 9904 Actuator Interface, on command from the 9900's built-in antenna controller, provides a 35-volt power supply to the drive and actuator arm that move the antenna as it tracks satellites. It is surge and voltage-spike protected. Design coordinated with the 9900, the 9904 can be wall-mounted out of sight.

Microwave Front End Products: Luxor also is marketing high-quality microwave front end products as part of the 9900 system. Luxor's 9755 Block Downconverter and 9726 Low Noise Block Downconverter (LNB) are designed and built for continuous reliable performance.

The Block Downconverter (30 dB gain min.) is used in conjunction with an LNA (low noise amplifier). The LNB (60 dB gain min.) combines a low noise amplifier and a block downconverter in a single compact unit. Each unit is weather-tight, rust-proof, factory inspected and tested against all design specs, and fully warranted.

For additional information, contact Luxor North America Corp., 600 108th Avenue NE, Suite 539, Bellevue, WA 98004.

Panasonic's C-Band Low Noise Block Down Converters

The Panasonic Industrial Company is introducing two C-band low noise block down converters which provide outstanding quality satellite video reception on smaller antenna sizes.

The converters operate in the C-band, 3.7 to 4.2 GHz. Model CI-LNB-100 has a low noise specification of 100°K maximum while model CI-LNB-85 has a low noise specification of 85°K max. Both converters utilize premium quality GaAs FET's in a three stage RF amplifier configuration. The IF output frequency is 950 to 1450 MHz.

Panasonic converters utilize an ultra stable ceramic resonator local oscillator to assure years of service with minimum drift for temperature variations.

These Panasonic converters feature low input and output VSWR and tightly controlled gain variation, which is ideal for wideband communication performance. The units are powered by a low DC voltage which is applied to the converter through the IF output connector, and incorporate an internal IC voltage regulator.

The converters are packaged in a cast aluminum case with an integral waveguide flange and offer waterproof construction.

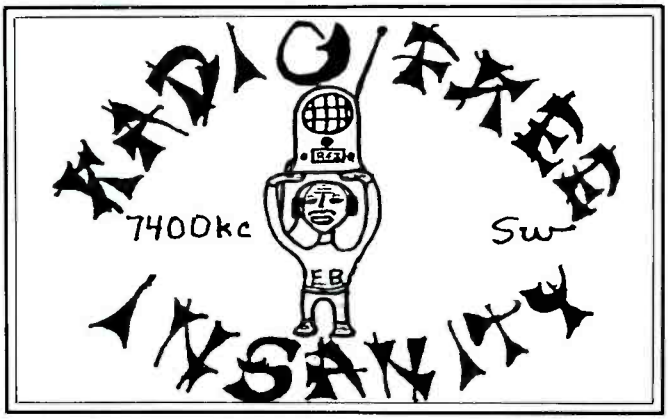
For additional information, contact Panasonic, One Panasonic Way, Secaucus, NJ 07094. PC

PIRATES DEN

FOCUS ON FREE RADIO BROADCASTING

BY EDWARD TEACH

Radio Dead Man was active several times last year and issued this rather foreboding QSL card.



Radio Free Insanity operated out of Indianapolis but was raided, closed down, and fined by the FCC in April of last year.

Ahoy there! There's a new captain at the helm and I'll be steering you blokes into the pirate waters every month from now on.

As regular followers of pirate broadcasting already know, the world of pirate radio is one in which challenge, change, variety and, yes, a certain amount of mystery are part and parcel of this kind of radio listening. They're what make it so much fun—along with the sometimes wild and crazy programming pirates often offer their listeners. The coming weekend's pirate search may find you taking logs on two, three, or four pirate stations. The next weekend may turn up an entirely different group of stations—or none at all! A pirate broadcaster may flip on his transmitter every weekend for a period of several months or, at the other extreme, the one broadcast you catch may be the only one ever made! So, it pays to prowl the bands often on the weekends and on holidays, periods during which the pirates are most likely to be active.

First Mates Needed

I'll do my very best to keep you up to date on the latest pirate loggings and general news. But to do that, I'll need your help. Let me know what you are hearing, and when, and where you hear it! Pirates Den is interested in all pirate activity—on the shortwave and medium wave bands, on FM, and even the rare occasion when someone tries their hand at running a pirate television station! Although readers of this column will most often hear pirate stations operating in the United States and Canada, let's not forget Europe. There's a tremendous amount of pirate activity on the other side of the pond and news about happenings on the European scene will also be gratefully received. So send in your pirate news, press clippings, reproductions of QSLs you receive from pirate stations, and your loggings. The address is Pirates Den, c/o POP' COMM, 76 North Broadway, Hicksville, NY 11801.

Special Message For Pirate Station Operators

You are invited to tell your story here in Pirates Den. Pirate radio fans like to know about the stations they listen to or are tuning for, so why not use this column to reach your listeners? Let me know about your equipment, your station's history, programming, on-the-air personalities, future plans, and so on. A copy of your QSL card would be welcome, too. Even if you are no longer actively broadcasting, your story would be of interest. Your identity and station location will be protected.

Crackdown Or Scare Tactics?

The FCC "crackdown" on pirate broadcasting during the latter part of 1985, in which a couple of pirate stations were located and closed down by the FCC, seemed to dry up most of the pirate activity for a time at least. But, aside from a couple of early busts and the news release from the FCC's Grand Island, Nebraska office naming several other cities in which the Commission said it was actively searching for other pirates, there have been no further closedowns that I know of. The pirates who sought refuge in secret coves to wait out the storm now seem to be coming out again as activity on the bands shows definite signs of being on the upswing. No one can say for certain if things really are safer now and there's really no way to find out other than to hook up the equipment again, get on the air, and see what happens. Don't take that necessarily as a recommendation; it's just common sense. You can't tell how cold the water is if you don't stick a toe into it first.

Here's a sampling of some pirate activity that has been spotted in recent weeks.

The Black Star has been reported on 3.450 broadcasting soul music and "black power" political speeches. Seems to be one of those rare political pirates and its operations may be highly irregular.

KBFAThe call letters on this one stand for "Broadcasters of Free America" and it's heard occasionally in the usual 7.300 to 7.500 main pirate frequency range, but also on around 8.000 kHz. One broadcast said that reception reports should be sent to *POP'COMM*, although I doubt that anyone here would know where to forward them, and even if we did, we won't—so don't try!

Radio America says it is the only classical music pirate in operation. Heard occasionally in the afternoons (weekends) in the 19 meter band (unusual!) and on at least one occasion on 15.400 specifically. Reports should go to P.O. Box 982, Battle Creek, MI 49016.

Radio Lymph Node International also identifies itself as "the voice of free reptiles everywhere." Programs are hosted by The Lizard, who puts out a plea for listeners to help locate lost reptile eggs. Those who have information as to the exact whereabouts of such lost eggs were asked to send the information to the station in care of Box 40554, Palisade Station, Washington, DC 20016. The station claims to be operating from the Okefenokee Swamp. Try 7.419 around 0500 GMT.

Secret Mountain Laboratory carries lots of bluegrass music and is noted occasionally on weekend evenings on 7.425. Reports should be sent to P.O. Box 5074, Hilo, HI 96720.

Voice of Laryngitis features a wide variety of unusual music and offbeat humor pieces. This one has been active for some time. Check weekend evenings, also on 7.425. QSLs from the Battle Creek address, mentioned earlier.

WMTV is also heard from time to time on 7.425 (currently a popular frequency for pirate operators). Usually hard rock music is the program mainstay. Reception reports on this station go to Box 1945, Delray Beach, Florida.

Zeppelin Radio Worldwide is another one that's been active for a number of months. Try late weekend afternoons or evenings on 7.425. Reports go to Box 245, Moorhead, MN 56560.

The Voice of To-morrow has made a few more appearances in the 6.240 area. It's a political pirate that takes a racist line. It occasionally plays taped speeches or talks from listeners supporting the station's viewpoint. There is also a distinctive drum and wolfcall interval signal. Its address is Box 20039, Ferndale, MI 48220.

Remember, when you send a reception report to a pirate and it's going via one of the maildrop addresses, include three units of First Class postage since your report and the QSL it hopefully generates have to go through several hands along the way.

Pirates vs Clandestines

Despite some belief, pirates and clandestines are not the same thing. Pirates are generally considered to be on the air for purposes of providing alternative entertainment, while clandestines are backed by specific (though sometimes unknown) liberation fronts, revolutionary groups, terrorist organizations, and sometimes even opposing governments. Pirates Den will concentrate on pirate broadcasting, although it will include information on such stations as the Voice of To-morrow and others that might be said to have one foot on either side of the pirate/clandestine boundary line.

Recommended

The Guide to North American Pirate Activity by Keith J. Thibodeaux comes highly recommended, and is available for $6.95 from P.O. Box 46139, Baton Rouge, LA 70895-6139 and through some shortwave mail order dealers as well. The book covers pirate activity during 1984 (hope there's a coming edition that will summarize 1985!) and also features several articles on pirate stations and pirate DX'ing, along with an extensive list of pirate station addresses.

Closedown

Let me get in one more reminder to let me have your pirate news, from loggings to comments, clippings to questions—any manner, shape or form you choose. Write to me at Pirates Den, Popular Communications, 76 North Broadway, Hicksville, NY 11801.

Until next month, happy hunting! PC

Radio Dublin International in Ireland is probably the most regularly heard of the European pirates. Try them in the evenings, U.S. time, on 6.910.

May We Recommend . . .

A reception report to a privately owned (non-government operated) shortwave broadcaster has a better chance of earning you a QSL card if you enclose an International Reply Coupon (IRC) with your report. These are sold at most Post Offices.

RTTY

BY ROBERT MARGOLIS

THE EXCITING WORLD OF RADIOTELETYPE MONITORING

From month to month I find letters in my mailbox from new monitors of RTTY stations or new readers of this magazine. Being new to these pages, they have not seen RTTY column articles written prior to their becoming subscribers. Their letters regularly request recommendations for books on RTTY monitoring.

To quench their thirst for knowledge, here is a reprint of the recommendations given in the November '85 *POP'COMM*, albeit in a shortened version. Look for this material at Ham shops, book stores, and public libraries. Note: Not all of these books remain in print.

RTTY Today: Modern Guide to Amateur Radioteletype, a fine book by Dave Igram; *Teleprinter Handbook* by A.G. Hobbs, E.W. Yeomanson, and A.C. Gee; *Beginners RTTY Handbook* by RTTY Journal; *Specialized Communications Techniques for the Radio Amateur*, a useful text by the American Radio Relay League, Inc.; and *Principles of Telegraphy (Teletypewriter)* by the U.S. Department of the Navy. The last book *definitely* is out of print.

Of great importance are any books that contain listings of utility station frequencies. There are a few of these on the market; buy *all* of them! Check the ads in this magazine for our advertisers who sell the books and patronize them.

Four readers, noticing the details I include with my own ship loggings, have asked me where I get my information. I have an extensive library of books that deal with all aspects of utility station monitoring, from cryptanalysis and intelligence organizations to ships and aircraft; from details on the various armed forces around the world to aero and maritime beacons; from military communications equipment to military armaments; and as many foreign language dictionaries as I can find. All books are used in some way to add details to RTTY loggings.

Here's the more important reference books I use with the maritime loggings: *Merchant Vessels of the United States*, 1981, by the U.S. Coast Guard (2 volumes, 3,304 pages, $47); *Jane's Merchant Ships*, 1985-1986 ($125); *Jane's Freight Containers*, ports, operators, manufacturers, 1977 ($72.50); *Jane's Fighting Ships*, 1976-77 ($72.50; *Combat Fleets Of the World* 1982/83; and *The Ships and Aircraft of the U.S. Fleet*, by Norman Polmar.

Also, *Merchant Ships: Newbuildings* by D. T. Hornsby; *Soviet Merchant Ships* by Ambrose Greenway; *Comecon Merchant Ships* by Ambrose Greenway; *Namesakes of the Lakes* by John O. Greenwood; *Namesakes of the '80's* by John O. Greenwood; *Transatlantic Liners*, 1945-1980, by William H. Miller; and *Merchant Ship Types* by R. Munro-Smith. Many other books make up my maritime reference collection, but the works cited here get to be the most dogeared.

The monitoring station of Ed Viadock, Avoca, Pennsylvania.

Newspapers also aid my research. *The Sun* newspaper of Baltimore, Maryland has a daily Maritime Report column that tells what ship is arriving or is docked at the World Port of Baltimore, what flag it's registered under, the ship's last port, the cargo it's carrying, and the ship line's agent. *The New York Times* twice yearly prints a supplement to worldwide cruises. Your own hometown newspaper travel section should give you some useful information. Clip out important articles and facts, and paste them in some type of notebook.

None of these books, however, lists callsigns of ships, except for the *Merchant Vessels of the United States* set. I get most other callsigns by monitoring the ships as they send traffic via RTTY or CW, or by seeing what fellow ute monitors log either in this magazine or in newsletters issued by several DX clubs for their ute-monitoring members; ASWLC, ADXR, SPEEDX clubs have RTTY listings.

I hope this gives you enough material to take with you to the beach this summer.

We received an interesting report from RTTY column reader K. Krallis, SV1XV of Athens, Greece, pertaining to the FAX service of SVG4, Athens R., Greece.

"The coastal station 'Athens Radio,' callsign SVG4, sends daily radiofacsimile weather maps for the Mediterranean Area," Krallis writes. "The broadcasts are on 8454.5 kHz at 0845 GMT with a power of 20 kW. The antenna is an inverted cone (omnidirectional)."

Krallis continues, "The maps are prepared by the Athens Marine Meteorological Center, Hellenic National Meteo Service (EMY), Athens Eastern Airport, GR-16603 Athens, Greece, which belongs to the Department of National Defense. The transmitter belongs to Hellenic Telecom. Co. (OTE)."

"I hope we'll see reports for these transmissions in your column," he says.

Okay, you guys with the FAX apparatus, let's oblige him. Please send your FAX maps to this column for reproduction.

Robert G. D'Imperio of Florida, a future RTTY monitor, writes to explain those callsigns beginning with the letter "R" that have appeared occasionally in this column, callsigns such as RUES, RPFN, RFLIA, etc.

The letter "R," he says, possibly stands for "routing indicator." Such indicators have been used by the federal government and certain allies of ours for many years, he continues, and are used to speed the flow of traffic from the originator to the ultimate recipient through major and minor relay stations worldwide.

He goes on to explain the makeup of a "standard" indicator: "The letter breakdown generally is as follows: The first letter, "R," is a common letter to distinguish the worldwide routing indicator from a callsign. The second letter ('U' for United States and I speculate 'F' for France) identifies the nation, service, or international alliance. The third letter (except in the United States) indicates the geographical area in which the station is located. The fourth letter identifies major relay stations. And the fifth through seventh letters generally identify minor relay or tributary stations."

He says that such indicators are not meant to deceive anyone, rather, it's for automatic handling that involves very little human handling from origin to destination.

More On Korea

Continuing the saga of that North Korean diplomatic station that was featured in this column in January's issue; Seung K. Kim, a reader from Washington State, says the article's analysis was correct. He translated the third paragraph of the introduction to read, "First, the ambassador delivered to the premier the message of friendship from the Great Leader. After the message . . . for the promotion of friendship between the two countries . . ."

He goes on to say in his letter, "As in any other non-English languages, the difficulty of understanding phoneticized Korean lies in the correct separation and identification of syllables which form an independent word since, depending on the occasion, several words can be strung together to express a composite meaning. To make the

Towboat and petroleum barge moving some 185,000 barrels of petroleum products on the Mississippi River south of Memphis, Tennessee. RTTY monitors will be seeing more and more U.S. merchant marine vessels using RTTY communications in the future. (Photo courtesy of The American Waterways Operators, Inc.).

matters worse, each writer tends to use somewhat arbitrary English phoneticization of the Korean alphabet, not to mention the writer in this case was a North Korean, who, by all probability, would not use English in his daily routine."

Thanks for the insight, Seung!

More Mail

U.S. Army M/Sgt David Freed, who has contributed loggings to this column while being stationed in W. Germany, writes to say he's moved into permanent quarters there. He has one entire room for his use as a radio shack. "Problem is," he says, "the groundskeepers keep on cutting down my antenna!" Tell me, Sarge, have you ever though about using barbed wire as an antenna?

Answering a "Whatzit?" from my boss, Tom Kneitel, at 10590 kHz in last March's issue, the manually-sent transmission was from PTT, Havana, Cuba. The traffic T.K. observed, "DIME MIRA . . . OKOK," is frequently used in the Cuban Teletype operators' lexicon.

Contributors of loggings to this column should allow a bit of time for publication after they have been mailed to *POP'COMM's* offices. All national magazines require a certain amount of time to process reader submissions to authors, prepare columns, then typeset and ready columns for printing. Some new readers of this column have wondered why they haven't seen their loggings a month or two after they had mailed them to me! Be patient, they'll show up!

And please, no technical questions. I'm here to act as a coordination center for RTTY loggings. Technical questions are best directed to manufacturers, shops, or dealers who advertise in *POP'COMM*. Questions of a non-technical nature will be answered gladly *if an SASE accompanies the request* or if you wish them to be answered within these pages.

Loggings

Now let us plug in the Teletype machine, flick the switch, and see what this month's batch of loggings has to offer.

2157.4: AP/UPI news via AFRTS to U.S. mil at 1215, 85/100R (Fred Hetherington, FL).

2280.9: NA news in Spanish from Buenos Aires, Argentina at 0005, 850/66N (Hetherington, FL).

2311.9: Message in Spanish at 0400, 170/66N. Who from? Hetherington, FL). Don't look at me!-- Ed.

2385.3: Guessing that 77URY, Madrid Naval Radio, Spain, was sending the test tape that read "2/4/6" + RYRY at 0230, 850/100R (Hetherington, FL).

2419.4: Same test as on 2385.3, but know it to be from 72JKL of Spanish Navy to 78EAL. Was at 0100, 850/100R (Hetherington, FL).

2439.5: PBC32, Dutch Navy, Goeree Island, Holland, at 0230 w/RYRY, 500/100R (Hetherington).

2603.4: AFRTS BC of AP/UPI news at 1111 & 1350, 85/100R (Hetherington, FL).

2621.3: PBC22, Dutch Navy, Goeree Island, Holland, RYRY at 0200, 850/100R (Hetherington)

2696.7: GLD, Land's End R., England, ID via ARQ at 0215 (Hetherington, FL).

2749.9: DyN news in Sponish from Buenos Aires, Argentina, monitored at 0055, 850/100R (Hetherington, FL).

2790.6: AP/UPI news via AFRTS at 1000, 85/100R (Hetherington, FL).

2805.1: CCS, Santiago Naval R., Chile, coded traffic to "AJ" at 0115, 850/66R (Hetherington, FL).

2812.3: EBA, Spanish Naval R., Madrid, w/RYRY to FUG, French Navy at LaRegine, France at 0050, 850/100R (Hetherington, FL).

2840.3: AOK, USN facility at Rota, Spain, foxes tape at 0122, 850/100R (Hetherington, FL).

2841.4: AP/UPI news via AFRTS at 2340, 85/100R (Hetherington, FL).

4061.5: WBR70, Miami Meteo, FL, coded WX BC at 0330, 850/100N; SINPO reading of 45222 during severe noise & fading conditions throughout band (Jerry Brumm, IL).

4354: VAI, Canadian CG R., Vancouver, BC, w/FEC WX BC at 0600 (Guy Atkins, WA).

4813: LZA8, Sofia Meteo, Bulgaria, RYRY/CQ at 0010, 425/66N (Tom Brailey, MI).

4862: KRH51, U.S. Embassy, London, England, at 0201 wfoxes, 850/100N (Brailey, MI).

5287: Un-ID station w/FBSK call letters w/RYRY several nites around 0440, 425/66R. Anybody have an ID? (Dallas Williams, CO).

5731: YRR1, Bucharest Meteo, Roumania, w/WX at 2111, 425/66N (U.S. Army M/Sgt David C. Freed, KCA6LE, stationed in W. Germany).

6251: 72JKL, Madrid Naval Radio, Spain, w/RYRY & SG's to 78EAL at 0000, 850/100R (Editor's logging).

6257: VSBD9, M/V CAPE RACE, a British bulk carrier located on Orinoco River in Venezuela; was ARQ at 2322 (Editor's logging).

6257.5: VSB13, M/V BIBI, flying flag of Bermuda, to KFS while enroute Mexico-California; was ARQ at 0414 (Editor's logging).

6264.5: Soviet vessel Karl Linne at 0306 w/tfc to an un-ID coastal station, 170/66N (Jim Navary, AA4JN, VA) Jim's one of two avid maritime RTTY monitors joining our ranks for the first time this month. Permission granted to come aboard! By the way, the vessel Jim monitored is a fish carrier that was built in Sweden-- Ed.

6269: Y4IP, an un-ID E. German sailing vessel acting as a relay between the E. German fishing fleet in the N. Atlantic and the Ruegen coastal station. Tfc consisted of news & messages in German, also 5F coded tfc. Also sent was "notices to fisherman" English BC prepared by USCG in Boston. Was 170/66R 1600-1700 & 1800-1900. On 6269.5 at 1600, another vessel w/callsign Y4CF was alternating with Y4IP as the relay vessel (Editor's loggings).

6297.3: BC in Spanish of political news from 3rd World countries sent by Prensaminrex, CLP1, MFA in Havana, Cuba. Was 425/66N at 0501 (Editor's logging).

6475.5: CCM, Magallenes Naval R., Chile w/RYRY & foxes, 5L tfc to "MN," clear text messages in Spanish to CCEL (Chilean naval ship ELICURA), 5F coded WX to CCPP (naval vessel PILOTO PARDO) at 0055, 850/66R (Editor).

6653: MIKE SIETE MIKE w/5L groups & "rutina" tfc at 0426, 860/66N (Williams, CO).

6824: GHH, Jamestown Meteo, St. Helena, w/RYRY at 0210 & announcement that its BC would soon resume on 9044 kHz. Was 425/66N (Williams, CO).

6865: GYU, Royal Navy, London, working "CIP" & "MUH" in the blind at 2101, 850/66R. Copy said this was the "kilo" freq. (Editor).

7000.1: RWD51, TASS, Moscow, USSR, at 2222 w/RYRY to RVO77, Radio Moscow, 425/66N (Freed, W. Germany).

7650: BZR67, XINHUA, Beijing, China, w/RYRY to BZP57 at 1810, followed by some news in English, 425/66R (Freed, W. Germany) BZP57

is also XINHUA from Beijing on 7520 kHz. The news BC was beamed to Europe-- Ed.

7795.5: RGH77, Arkhangelsk Meteo, USSR, w/RYRY at 1811, 67 wpm w/variable shift (Freed, W. Germany).

7960.2: EPO5, IRNA, Teheran, Iran, w/news & propaganda in English, 425/66R at 1510 (Atkins, WA).

8000: RWW74, Moscow Meteo, USSR, calling ROK24/RDD77 at 2302, 425/66N (Freed, W. Germany).

8051.7: FDY, French Air Force, Orleans, France w/Le Brick & RYRY tape at 2007, 425/66R (Editor's logging).

8297: Soviet freighter SANTIAGO DE KUBA at 2048 w/Telexes to Moscow, 170/66N (Editor).

8326.3: 72WTT, another one of those Spanish Navy stations w/tfc to 77URY at 2054, 850/100R (Editor's logging).

8345.5: UMKF, Soviet hydromet research vessel PROFESSOR ZUBOF (built in E. Germany, its home port is Leningrad) at 0430 w/Telexes, 170/66N (Jim Hartung, MD).

8345.8: NTYT, USNS SEALIFT ANTARCTIC, working a coastal station in ARQ at 0058 (Navary, VA). This vessel & its 8 sister ships are all oil tankers ("oilers") & were built for the Military Sealift Command to replace some WWII tankers. They all have civilian crews & are operated by a commercial contractor. One is attached to the Rapid Deployment Force-- Ed.

8346: DGCE, the W. German container ship CARIBA EXPRESS working WLO at 0028 in ARQ. Cargo was coffee & bananas! (Hartung, MD).

8348: UIKK, Soviet cargo/timber carrier KAPITAN ABAKUMOV w/telegrams at 0039 to Odessa Radio, 170/66N (Hartung, MD).

8349.5: WHMK, tanker EXXON BALTIMORE, copied at 2337 w/AMVER via ARQ to ??? (Hartung, MD) The "?" station was NMF, Boston--Ed.

8351: H3QY, PEMEX tanker TOLTECA w/daily crew report to WLO, ARQ at 1612 (Editor).

8354: YUHE, Yugoslav cargo/container ship JUGO NAVIGATOR working WCC on ARQ at 0038 (Hartung, MD).

8357: GJXH, British cable-layer MERCURY at 2030 in ARQ working GKQ4 (Hartung, MD).

8457: NMA, USCG Miami, FL, w/RYRY & foxes then plaintext WX synop for Caribbean, FL & GA, 170/66R at 2137 (M.A. Walker, TX) Let's greet another of this month's 1st time contributors!

9216.4: 11 pages of text on how to inspect a particular brand of jet engine for cracks. Sent at 2024 by 5UA, ASECNA, Naimey, Niger, 850/66N. Text prepared by FAA; was repeated at 0030 (Editor's logging).

9264.5: Poor band conditions prevented good copy of RAF test tape at 0710, 170/66N. Foxes & RYI's observed but only garbled garbage appeared each time the callsign was given! Best guess is that it was MKG in London, although no RAF stations listed here. Tape off at 0726 and didn't return for the 2 hours I kept watch here. Any readers to the rescue? (Editor's logging).

9327: BRAVO QUATRO GOLF of Manzanillo Naval Radio, Mexico w/"rutina" tfc & 5L msgs to KILO SEIS MIKE, 2355 in 850/66N (Editor).

10232.5: VOA, Bethany, OH, w/news in Arabic, 0315, 120/100R (Editor's logging).

12505.5: 9GYV, Ghanian cargo/container ship SISSILI RIVER at 1845 to un-ID coastal station in ARQ mode (Navary, VA).

12509: UERZ, YARGARA, a Soviet ship enroute the Canary Islands; in ARQ at 1438 w/Telexes to Moscow (Navary, VA). Seems to be listed as YARGORA-- a wine & vegetable oil tanker-- guess they like salads in the Canary Is-- Ed.

12510: KRCE, tanker FALCON LADY in rough WX. This vessel also known as USNS COLUMBIA; is operated by a civilian firm under contract to Military Sealift Command. Noted contacting WCC via ARQ at 1823 (Editor's logging).

12513.5: DASZ, W. German freighter MAERSK BRAVO to OXZ in ARQ at 1833. Message to owner's office in Abidjan, Ivory Coast, to the effect that soon after arrival in Abidjan it had been attacked by bandits who removed "by force" 5 double boxes of tea! A real "Abidjan Tea Party" for the history books! (Editor's logging).

13437.2: RPFN, Lisbon Naval R., Portugal, at 1510 w/foxes, encrypted tfc & messages in Portuguese, 850/66R. One message said, "Vamos passar a via satelite." (Editor's logging).

13624: WBR70, Miami Meteo, FL, coded WX BC; difficult reception due to noise & fading (Brumm, IL). Time, shift, wpm?-- Ed.

13777: ZRO3, Pretoria Meteo, RSA, was // to ZRO4 on 18241.9 kHz at 1857 w/coded WX data, 425/100N (Editor's logging).

13838.5: Station ID'ing as DU58 w/either CQ or foxes/RYRY tapes or encrypted tfc, between 1545-1600 (170/66N) on 3 consecutive days (Editor's logging).

13865: 5F coded groups, no ID, at 1357, 1000/66N (Williams, CO).

13910: A Polish embassy w/tfc at 1526, 500/100N. Included were a message in Polish, a message in 5F groups to Ottawa (OTV); a 5F message for New York (NYK), and a scrambled message for VAG (possibly Washington) (Editor's logging).

14901.2: TASS news in English at 1750, 425/66N (Frank Jenkins, NV). Another 1st time contributor this month! Frank, the transmitter for this BC is in Havana.

15750: RWM73, PTT, Moscow, USSR, w/RYRY in o point/point transmission to YKW113, PTE in Damascus, Syria. At 1701, was 425/66N (Williams, CO).

15962: "JMS" at 2230 w/5F groups, 425/66R (Rich Knowles, IL).

16107.5: 5L groups, no ID, 1330 in ARQ (Tom Kneitel, NY).

16397.5: "Le Journal Liberation" w/French text, 1338 at 425/50N (Kneitel, NY).

16458: 5F coded groups at 2210 from MFA, Havana, 500/66R (Editor's logging).

16667.5: DFCG, W. German research vessel SONNE w/Telex to WLO at 1640, ARQ (Editor).

16680.5: Dutch reefers PESV (M/V HONOLULU) and PDJN (M/V CELTIC) working PCH65 after 1700, ARQ (Editor's logging).

17108.4: FUF, French Navy, Ft. de France, Martinique w/test tape at 1348: RFLICF FFJ RYRY FUF/4/8/12/17/22." Was 850/100N. At 1358, HOTEL ALFA 14H00Z was called, followed at 1400 by encrypted traffic (Editor).

17199: NMC, USCG, San Francisco w/plaintext messages to several USCG stations & cutters. Noted at 1751, 170/100R (Editor's logging).

17206: ZSC, Capetown R., RSA, in FEC with a CQ tape at 1700 (Editor's logging).

18090: "KAC" w/5F coded groups at 2200, 425/66R (Knowles, IL). PC

Please send all reader inquiries directly.

MISSING

NAME: Antonella Mattina DOB: 6/18/72. AGE: 13. EYES: Brown HAIR: Brown HEIGHT 5'. WEIGHT: 90 lbs. DATE MISSING: 7/16/84. LAST SEEN: Flushing, Queens, NY

If you can assist in identifying a child or if you are one of these missing children, call Kid Watch, TOLL FREE HOTLINE (800)-KID-WATCH

BROADCAST TOPIX

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

BY MARK MANUCY, W3GMG

What is most important to the Broadcast Band DXer? Ask twelve people and you'll get a dozen answers. If you are a new BCB addict or an old-timer, here are some of the more important things to consider in the pursuit of the hobby, not necessarily listed in order of importance. Each DXer will have a different set of priorities based on the equipment already owned and the location of their shack.

Although DXing can be done with *any* antenna and *any* receiver or radio, how does a person attach priority to one over the other? Quite obviously, no DXing can be done without a radio of some description. Therefore, I will attach top priority to the antenna. Many radios have built-in loop antennas; in fact, if the radio was purchased in the last twenty or thirty years, it has a built-in antenna. A receiver may or may not have the antenna built in, but most likely will not have a built-in antenna. The columns over the past few months talk about different ways to use a built-in antenna to your advantage. With a receiver a minimum antenna is a piece of wire connected to the antenna terminal on the back and strung about the room, the length being anything that happens to be available.

If the space is available, the long wire, beverage antenna, or some sort of rhombic comes to mind. If the shack is nearby any large city or broadcast station, then maybe this is not the best type of antenna to consider. These are excellent signal gathering antennas, but they can bring in the locals with so much signal that the receiver cannot handle the level of signal. This creates a multitude of other reception problems, such as spuries and intermodulation products, that require elaborate filters and tuning networks in order to remove them.

The loop antenna is a good antenna for all around DXing, both local and distant. It is usable where signals are weak or strong. If the loop has a preamp it may be subject to overload from strong local signals, which would have the same effect as the receiver overloading.

The next important accessory to the BCB DX'er is a pair of headphones. So much is missed between the speaker and one's ears. Some sort of listing is also important to assist in finding the location of the station. This becomes especially important when using a loop antenna. Also, once you have logged one or two stations on the same channel, it is helpful to know the call letters of the stations that have not been heard. This is why we publish the call letter changes. If the station call letters are known prior to listening, it is easier to pick them out of the muddle. There are many guidebooks available for AM and FM listings.

Station XEX in 1947. (Courtesy of Bob Grubbs)

A tape recorder is also helpful and is another accessory for the "want" list. By taping what you listen to and noting the position of the tape when something is heard, it can be played back several times until an identification is made.

The antenna tuner may be a helpful item if the long wire (outside) type of antenna is used. This will help filter out excessive signals and other interference. What accessories do you use to advantage? Drop me a line to the address at the end of the column.

For those of us who are TV DX'ers, guide books listing stations are not as easy to find. I would like to suggest writing to the Worldwide TV-FM Association at P. O. Box 514 in Buffalo, NY 14205. Bill Fahber has several listings available, including a listing of low power TV and translators. This type of DX'ing can be especially rewarding because of the extremely low power involved. The 1984 list had 80 pages of TV stations. The big boys are not shown in this directory, a real TV DX'ers book! Write to the above address for more information.

How many readers have ever tried to log networks? That might be an interesting challenge. The thought occurred to me after a mailing from Steve Biro, who works for the Florida Network at WKIS in Orlando, Florida. They have over 50 stations on their line. Today, much of the regional networking is done via satellite, some via the FM-SCA channel and others by telephone. There are hundreds of networks throughout the country carrying all types of information. One sports network in Maryland is operated by dial-up telephone on an answering tape recorder. Each station on the network calls the telephone and records the program directly on their cartridge recorder for broadcast.

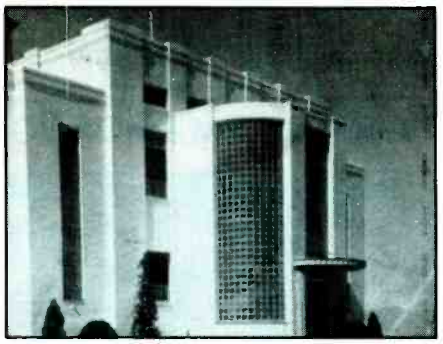
Statistical Research Inc.'s *RADAR* 32, vol. 1, reports FM radio's total listening share is now over 70%, compared to AM's less than 30%. During an average week radio will reach 95.2% of the U.S. population. The average person listens to radio over three hours every day!

People in Alaska depend on radio more than you or I probably realize. Gerald Brookman sent me a clipping from the *Anchorage Daily News* of January 24, 1986, spelling out how the radio is used differently north of the lower 48. Stations such as KABN, KHAR, KCAM, and KYAK, as well as others I'm sure, broadcast personal messages to people who have no other means of getting a message quickly—all kinds of messages . . . love notes, birth announcements. This is done because there is no telephone or electrical service to some areas. Here's an example from the clipping: "To Harvey at Alexander Creek, I plan to be home tomorrow at noon. Meet me if you can carry fresh stuff home. Cathy". The names of these programs tell it all: "Caribou Clatters," "Northwinds." But third party messages are illegal on broadcast radio! That's true, but I think you can see the value these programs provide to the listeners and, after all, the radio is for the people.

Every few months I get a letter requesting help in finding addresses of stations. As happened to Harold Woering and Hugh Hawkins, the post office returns reception reports due to an incomplete address. Several months ago a reader suggested the local lending library as the best source for addresses. Ask for books such as the *Broadcasting Yearbook*, *WRTV Handbook*, or other publications listing media addresses. You can buy these books for $75 and $20, or the National Radio Club has a listing also. Write them at P.O. Box 118, Poquonock, CT 06064.

Those who have not heard AM stereo yet might visit their local Radio Shack. Dairel Green sent me a clipping showing the mode TM-152, which is a mini-size AM stereo

Radio station CFRB, which did its broadcasting from Toronto, Ontario for Canadian listeners. Circa early 1950's. (Courtesy of Bob Grubbs)



KSL, Salt Lake City, Utah. Note the towers on the right side of the postcard. This card cost one cent to mail in 1948. (Courtesy of Bob Grubbs)

tuner for use with a home type stereo amplifier and speakers. It sells for less than $60. He says the fidelity is poor due to the narrow IF filter. He has ordered a wider filter from the manufacturer and we'll let you know how that works out. This model may not be on display in the Shack, so you may have to ask for it. I went into my neighborhood store and the manager was aware of it, however had not put it out. Although he hadn't listened to it, he said it couldn't sound good. According to Dairel he is right, which points out a multitude of problems with the entire AM radio situation. It appears the receiver manufacturers know AM doesn't sound good, so why bother. Many broadcasters don't care if they sound good and pass the buck to the receiver makers who are passing it right back. A case of the vicious circle! Dairel also says the Advanced Design Group also has a "walkman type" AM stereo radio available for about $50. This is a multimode receiver, so look for it if you've been wanting a portable AM stereo. The Sony SRF-A100 has been discontinued and this is all I've found to replace it.

The other day I was talking with a coworker about AM stereo. He recently moved up from D.C. and has not been impressed with the AM stereo he has heard. He has a Sony SRF-A100, so I know he has a good receiver. As the discussion went on we determined that the majority of the AM stereo stations that we were aware of may have sounded very good to excellent when they came on the air with AM stereo, but have not maintained the quality of sound they started with. Of the six stations in our area, only one still sounds really decent and they do only a limited amount of stereo broadcasting. One of the two Baltimore stations has never maintained stereo quality. The mikes don't even sound good in mono, and the newer entry doesn't sound as good as it did when they first started using stereo. The same is true for FM if the engineering people are not constantly critical of their sound. But since AM stereo is sort of "under the gun" to perform and sound good, it is a must for them to always sound good. I'm saying this for the readers to keep "heart" about AM stereo. Many of the receivers are not too "hot" either, as mentioned above. Please do all you can to help keep these broadcasters "on their toes." Call them and complain or ask questions if they don't have quality sound.

So what else is new and exciting? Well, David Schmardger sent me a disk showing a program he has written with the FM stations in his area. The program shows the format of each station, frequency, and which direction to point the antenna from his house. A program similar to David's is included on the disk, along with about a dozen others for the Commodore 64 for $20 plus $1.50 for postage. The programs include log keeping for BCL/SWL; station searches; QSL records; complete band files; log printouts on paper, and others. Send an SASE for more details.

AM has another experiment starting next month. I told you earlier about the "antenna experiment" that will be coming up in the northern part of Virginia. Well, for the west coast, here is something to listen for next month—a synchronous transmitter in East Las Vegas, Nevada. Many of you may remember WBZA in Springfield, Massachusetts, which was operated with WBZ in Boston. KROL in Laughlin, Nevada, some 90 miles south of Las Vegas, will operate this "AM translator," if you will. KROL is on 870 kHz with 10 kilowatts directional daytime and 1 kilowatt directional at night. The synchronous transmitter will operate with 300 watts non-directional day and 500 watts directional at night. If those of you in that neck of the woods will give me a report on what you hear, I'll pass it along to our readers. If this works out well, the FCC may start authorizing many more synchronous transmitters across the U.S.

A few months back I mentioned the increased number of call letter changes coming across my desk. In 1985 more than 1,500 radio stations changed hands, compared with less than 800 in 1984. This compares with under 200 stations sold in 1954 for about $10.2 million. The price tag last year was over $1.4 billion. The average price was just under $1 million, however, the highest price paid was for WPAT AM/FM in Patterson, New Jersey, which sold for a cool $49 million! But sit down before you read this . . . KTLA(TV) Los Angeles, sold for $510 million last year! The

Station Updates

Call	Location	Freq	Pwr	Ant
AM				
WLEM	Emporium, PA	650	5/0	0
WPRP	Ponce, PR	910	5/5	0
FM				
KRGT	Hutto, TX	92.1	3	300′
WZWZ	Kokomo, IN	92.7	3	340′
KHBN	Socorro, NM	92.7	3	234′
WXUS	Lafayette, IN	93.5	3	215′
WAMX	Ashland, KY	93.7	100	741′
WGSX	Bayamon, PR	94.7	31.9	1777′
WJFX-FM	Aiken, SC	95.9	3	314′
KINI	Crookston, NE	96.1	100	1006′
KAWW-FM	Heber Springs, AR	96.7	3	328′
KRLB-FM	Lubbock, TX	99.5	100	817′
KJMB-FM	Blythe, CA	100.3	36.4	57′
WBAW	Barnwell, SC	101.7	3	328′
KWDQ	Woodward, OK	102.3	N/C	355′
WROG	Cumberland, MD	102.9	3.5	1438′
KQLA	Ogden, KS	103.9	3	315′
WOKZ	Muncie, IN	104.9	3	328′
WQSB	Albertville, AL	105.1	100	1000′
WNEF	Woonsocket, RI	106.3	2.47	361′
WMJX	Boston, MA	106.7	24.5	710′
KKOL	Hampton, AR	107.1	N/C	314′
WKLJ	Oxford, MA	107.1	3	319′
WVCY	Milwaukee, WI	107.7	24	539′

KEY: D = Daytime N = Nighttime DA = Directional Antenna DA1 = Same Pattern Day & Night DA2 = Different Pattern/Power Day/Night O = Omni Antenna Day And/Or Night * = Special Operation or Critical Hours N/C = No Change

WGSM 74

seller of KTLA paid half that just two years before.

One of the most difficult problems for the BCL to solve is intermodulation (IM) distortion. On both AM and FM this is created when two strong signals mix together to create other unwanted signals. This is especially a problem with FM radios of today. The transistor and the IC do not have the signal handling ability of the vacuum tube. The tube is gone and the designers are constantly at work to improve the solid state devices. However, if you purchase an inexpensive radio, there will be more of a problem with IM products than with an expensive radio. The expensive sets also have IM problems, but they are generally better able to handle stronger signals before interference is obvious. Not everyone can afford the expensive radio that enjoys DX, and many DX'ers do not have the advantage of a rural location, which would be less prone to the IM interference than their city cousins.

The problem is more severe on FM than AM since the solid state devices are not as perfected at the FM frequencies. One other point should be made; not all the IM problems of the FM band are the problem of the receiver; some are the result of too many broadcasters with too much power located too close to each other. When there is a situation like this, there is little hope for any improvement. Some TV signals could also create problems, as well as airports, if the DX'er is located too close to either of these facilities.

First, let's tackle the AM problems. Even the most expensive receiver may be overloaded by too strong a signal. The receiver, properly handled, may operate satisfactorily in the same building with a 50 kilowatt transmitter. For the newer solid state receiver, probably the worst antenna one could use is the long wire or random length wire over about 25 feet in length. The only successful way to use a long wire type of antenna is with an antenna tuner that will tune through the broadcast frequencies. A shortwave tuner will not work properly. The tuner will allow only the frequency to which the receiver is tuned to pass through. All others are rejected. If more than one local signal is still heard, then the attenuator or RF gain must be reduced. Preamps of any type are not going to work well with long wires on the broadcast band and below, whether they are built in or external. The exception to this rule is the location of the receiver being many miles from broadcast transmitters of any power.

Beverage antennas would be in the same classification as long wires, except they are directional. I'm not lumping them totally with long wires but they produce a lot of signal at the antenna terminals. If there is too much signal at the antenna terminals of a receiver, an attenuator will reduce the signal, possibly reducing the IM and overloading. If the internal attenuator is not sufficient, then an external one could be added. I'll give some examples next month.

Another way to cope with IM is by using filters. This would be difficult to do with a built-in antenna, but if the antenna is external, the filter could be inserted between the antenna and the receiver. It might even be incorporated within the antenna tuner.

This discussion on IM will continue next month. This type of interference is the most often asked about in letters from readers. It is a complex issue to solve and we'll do what we can to help you understand how to resolve this problem.

The loop antenna is a solution for IM distortion and we have plans for box loops for $5.50 and ferrite loops for $7.50. Modification for the R-70/71 preamp is $2.50 and a listing of AM stereo stations is $2.50. All of these items are postpaid. The mailing address for all correspondence is P.O. Box 5624, Baltimore, MD 21210. Hope to see everyone next month.

SCANNER SCENE

BY CHUCK GYSI, N2DUP

MONITORING THE 30 TO 900 MHz "ACTION" BANDS

In the few years that I've been writing this column for *POP'COMM*, I've tried to keep scanner listeners abreast of the changing technology in VHF/UHF listening, and I've also presented some of the basics for monitor hobbyists to help them learn new phases of their listening hobby. I think I'm presenting a good mix, considering the amount of mail our readers send to this column.

I felt this way until I received a letter from Marilyn R. Kudisch of Chestnut Hill, Massachusetts. Marilyn stated in her letter that she reads *POP'COMM* and tries "to figure it all out." She asked some basic questions about getting started in scanning: How to get started? Who can help me get started? What's a good scanner for a beginner? What's the best way to buy a scanner—at a store or by mail order?

I'm sure many readers who look at this column each month may be shortwave listeners (SWLs), broadcast band DX'ers (BCB DX'ers, those who tune in distant AM and/or FM stations), utility listeners (those who listen to point-to-point and two-way communications on the HF 3-30 MHz bands), and even Ham radio operators. Many probably wonder about getting started in scanner listening, but don't know where to get started. Thus, this column hopefully will give some of you the insight into what scanner (or VHF/UHF) listening is all about and how to get started in the hobby.

The Uniden Bearcat 210XL is a popular model that offers 18 channels, AC/DC use and programmable tuning in the 32-50, 144-174, and 421-512 MHz bands.

First of all, what can you expect to hear on the VHF and UHF radio bands? A general rule of thumb here is that you can expect to hear anybody who uses a two-way radio. That can range from the garbage man to the police officer, from the security guard to the pizza delivery crew, from the mall builder to maintenance staff at a high school, from a firefighter to a pool-cleaning service. You also can expect to hear paging messages sent out to pocket beepers, mobile phone calls, FBI agents, aircraft pilots, ham radio operators, and others.

Most scanner listeners get started listening to their local emergency services: fire, police, and ambulance. The frequencies used by emergency services are public knowledge and most stores that sell scanners will have the necessary information. They'll also probably be selling a local scanner directory that details thousands of frequencies you can tune in to within the range of your scanner.

Before you buy a scanner, you'll want to determine what you want to listen to. If you're interested in listening exclusively to your town's police and fire departments, you might want to buy a scanner that uses crystals. While these scanners usually cost a little less than most programmable scanners, they need individual crystals (plug-in modules) for each channel you wish to listen to. These crystal scanners usually come in four, eight, and ten-channel models. The crystals are set to a specific frequency and cost between $3 and $8, depending where you buy them from. If you want to listen to a different frequency in one of the channels in the scanner, you'll have to purchase an additional crystal for each additional channel. If you keep finding additional frequencies you want to listen to, it could become quite expensive buying new crystals all the time. With the cost of frequency-synthesized programmable scanners on the market dropping to record-low prices, it certainly is advisable to purchase a programmable radio. You'll be able to change frequencies in any of the channels as simple as dialing a phone number.

Scanners can cover any of the following bands: 30-50, 108-136, 136-144, 148-174, 225-400, 406-420, 450-470, 470-512, and 800-950 MHz or higher. The primary scanner bands that almost every scanner will cover are 30-50, 148-174, and 450-512 MHz. It is in these bands that you'll hear most emergency services, two-way business band users, mobile phone calls and paging, power utility crews, taxi cabs, marine radio, railroads, news reporters, federal agencies, and surveillance units. Some scanners give you extended coverage so you can listen to hams on the following bands: 28-30, 50-54, 144-148, 220-225, 420-450, and 1215-1300 MHz. Aircraft can be tuned in on the 108-136 MHz band (which is AM, as opposed to FM that is used on all the other scanner bands for two-way communications) and military aircraft and satellites can be heard on the 225-400 MHz band. The federal government uses blocks of frequencies in the 30-50 MHz band as well as 162-174 and 406-420 MHz bands. The 470-512 MHz band is divided up into seven blocks (470-476, 476-482, 482-488, 488-494, 494-500, 500-506, and 506-512 MHz), and one or two of those blocks are assigned to each of the United States' top 20 cities in population. For instance, 470-476 and 476-482 is assigned to New York City, while 500-506 and 506-512 is assigned to the Philadelphia area. In addition, the 800 MHz band is used in most metropolitan areas. For instance, 851-866 MHz is used for public safety and business band communications, while 870-890 MHz is used for cellular telephone transmitters.

The person getting started in scanning would be best to start out buying a scanner that can cover the essential scanner bands: 30-50, (called VHF low band), 148-174

(called VHF high band), 450-470 (called UHF band), and 470-512 MHz (called UHF-T band because it uses UHF TV Channels 14-20).

After you buy your scanner, the best bet is to sit down and familiarize yourself with the instruction manual. Most radio operators are notorious for opening the new radio's box, plugging in the radio, and fiddling with the buttons and switches. Then they read the owner's manual. That's allright if you've played with scanners before and know about the operation of various models. However, if you're new to the hobby, take the 10 minutes and read through the essential parts of the manual. Try the various step-by-step directions for entering frequencies. The National Weather Service broadcasts on 162.400, 162.475, and 162.550 MHz in most areas of the nation; if you plug in one of these frequencies first, you can hear your scanner receive a station. Then, you can try plugging in the local police and fire channels. However, if you live in a small town, it may be a while before you hear some chatter.

If you feel you really need some help getting started in scanner listening, thousands of other radio hobbyists are generally willing to help you. There are several scanner clubs across the nation, including SCAN and the All Ohio Scanner Club, that have members ready and willing to help. Your local scanner store may know of any local clubs. The scanner club members can help you select a radio that will meet your listening needs, help you select which channels to listen to and guide you along as you explore a new hobby. Don't forget: As a subscriber to *POP'COMM*, you are entitled to one free classified ad (30-word maximum) each year. You could place an ad seeking help from other scanner hobbyists to help you get a good start. The All Ohio Scanner Club (P.O. Box 148, Vandalia, Ohio 45377) offers a similar service for its members in its newsletter.

Once you start looking around for a scanner that will suit your needs, you'll find a wide variety in hand-held, mobile, and base (home) models. If you're on the go a lot and think you'd like to listen to communications at various sporting events and air shows, the hand-held version might be the best bet. It also is useful if you are involved in the news media and need to keep up to date on what is going on—for instance, at a fire scene. A mobile unit is good if you like to keep posted on highway conditions while you are driving; you can monitor highway patrol units and traffic helicopters. A base scanner is good if most of your monitoring will be from home and you just want to know what is going on around the neighborhood. If you're considering a mobile scanner, be aware that some states have laws against the use of scanners in motor vehicles. Your local police department or scanner store can advise you of the details. Unless you have a unique need for a hand-held model, you'll be best to get a scanner that runs off 12 volts and has an AC adapter, thus you can use it in either your car or at home. Some models will run off of both 120 volts AC for home use and 12 volts DC for mobile use.

The Regency HX1200 is a hand-held model that uses nicad batteries, has 45 channels, and covers the 30-50, 118-136 (aero), 144-174, and 406-512 MHz bands.

When checking out the various models, don't go for all the bells and whistles right away. You can always upgrade to a better model in the future, once you begin to master the art of VHF/UHF listening. The prices you can expect to pay for a new scanner run from $85 up to as much as $800 and more. Typically, though, you can expect to pay between $100 and $250 for a good beginning model. Some of the more popular names in scanners are Regency, Uniden Bearcat, Radio Shack's Realistic, J.I.L., Fox, Yaesu, and ICOM.

Most electronics and Amateur Radio dealers carry a selection of scanners from which to choose. In a store, you can actually try out different models to see how they operate and find one that is best for you. However, the cheapest way to buy a scanner is often by mail order. Several mail order scanner retailers advertise here in *POP'COMM*. You'll pay shipping costs (typically $4 to $8 per radio), but you won't be paying sales tax if you live out of state. The mail order firms offer service by UPS and warranty service is handled by the manufacturer. Stores also offer warranty service, but the radio still has to be sent back to the manufacturer typically, because of the microprocessors inside the radio. The manufacturers won't let the dealers tamper with the insides of the radios. Shop around and buy your radio from the store or mail order firm that offers the best price.

We're interested in hearing from all our readers. You can send your comments, photographs, questions, and frequency lists to: Chuck Gysi, N2DUP, Scanner Scene, Popular Communications, 76 North Broadway, Hicksville, NY 11801-2909. PC

LISTENING POST

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

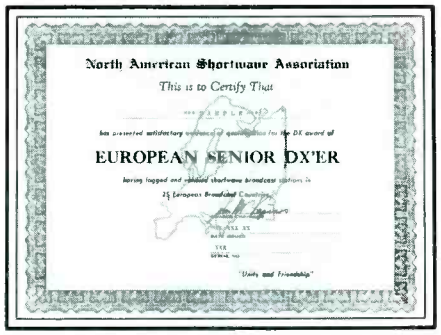
Shortwave sometimes imitates life. In this example—landlord raises rent, tenant has to move out. The landlord is the Voice of America, the renter is United Nations Radio. Rental fees for VOA transmitting facilities shot up from $30 per hour to $179 per hour, and the UN can't afford those kind of rates. So, for the first time in 40 years, UN Radio is silent except for a few programs carried mostly by domestic stations. The VOA says its rental fees had been kept unnaturally low and that the increase brought them more in line with what other countries who provide relay facilities are charging. Radio France, for example, charges up to $600 per hour. The two sides have discussed the matter in an attempt to reach an agreement, but have finalized nothing so far and, in the meantime, United Nations radio is "UN-heard."

Just in case the long-expected KVOH shows up by the time you read this, here's their spring schedule: 6.005 from 0600 to 0800, 9.852 from 0300 to 0500, 9.525 from 1400 to 1600 and 0500 to 0600, 11.930 from 0000 to 0300, 15.120 from 2000 to 0000, and 17.775 from 1600 to 2200. Most programs from this new High Adventure Ministries station at Rancho Simi, California will be in English with some Spanish planned for later. Reception reports can be sent to KVOH, High Adventure Broadcasting Network, Box 7466, Van Nuys, CA 91409.

In September Zimbabwe takes on a three year chairmanship of the non-aligned movement. What does that have to do with shortwave? Jut that the Zimbabwe government is planning an external service on shortwave to tie in to its new position. The project will cost some $10 million and envisions a three to four hour daily broadcast aimed at the Far East, Africa, Europe, the Caribbean, and South America. Frequency assignments have already been applied for, although the station may be up to two years away from completion. The shortwave ambitions are largely in response to what the Zimbabwe government terms propaganda against it coming from South Africa. Thanks to Eason Jordan in Atlanta for the details on this story.

Radio Earth has made yet another move, this time to the new WHRI in Indiana and, in the process, has gone back to its original scheme of airing one hour programs nightly and is currently heard at 0300 on 7.400. In the meantime, Radio Earth's plans for its own transmitter on the island of Curacao in the Netherlands Antilles appear to be on track, based upon what head man Jeff White told us recently.

A familiar voice may return to shortwave, temporarily anyway. Anyone who has listened to shortwave for more than a year will certainly know Clayton Howard, who served with HCJB in Quito, Ecuador for over four decades and hosted the station's DX Party Line program for a good portion of that time. The current host, John Beck, is due to go on leave this summer and there's a chance that Beck's replacement might be Clayton Howard. There's a problem, though. Anyone who works at HCJB is responsible for raising their own support money and, in order to return to Ecuador, Clayton needs between $3,000 and $4,000 to support his stay there. Tax deductible donations to help Clayton Howard's encore can be sent to him at 20 Westlake Drive, Orange City, FL 32763.


North American Shortwave Association

This is to Certify That

EUROPEAN SENIOR DX'ER

One of the many NASWA award certificates, now available to anyone who can qualify.

Lt. Arnal C. Cook, standing outside his shack, on board the USS Independence.

One of the DX programs reports that Spanish Foreign Radio plans to put a relay station in Costa Rica, but we've no idea when this might be expected on the air.

By the time you read this there may be a new station on the air from the Dominican Republic, carrying at least one voice familiar to longtime SWLs! If the plans are even partially on track, it should have shown up by now. There'll be a good amount of English carried if we've gotten the picture correctly. Watch the area around 15.045 during the daytimes and check 7.420 or nearby in the evenings.

The most extensive awards program available to the shortwave broadcast listener is that run by the North American Shortwave Association. Until just recently only NASWA members could apply for these awards. But NASWA and Awards Chairman John M. Kapinos have announced that the awards are now available to non-members as well. The NASWA program offers a wide range of achievement certificates for beginner and old pro alike. They're great additions to the shack wall. You can get full details on what's available, costs, and rules by contacting John M. Kapinos, 86 South Quinsigamond Avenue, Shrewsbury, MA 01545. Enclose $1 in the U.S., $2 or 5 IRCs elsewhere.

Readers who use computers in their shortwave hobby will want to know more about the new ANARC Shortwave BBS, which now operates 24 hours a day, 7 days a week. Among other things the system carries the Radio Netherlands monthly program news and Radio Canada program previews for each weekend. There are a dozen public bulletin boards covering open messages, questions and answers, loggings, QSL information and electronic mail. For more information send a self addressed stamped envelope to ANARC BBS, 4347 29th St. SE, Rochester, MN 55904-6043.

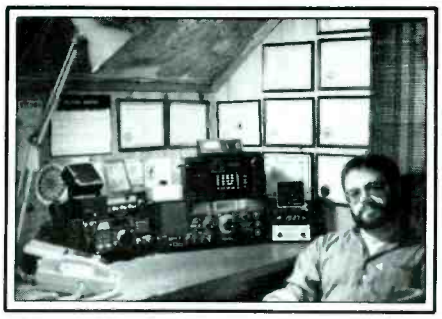
The second edition of the Danish Shortwave Clubs International publication *Home Service Stations Outside the Tropical Bands* is available now. It covers all active domestic broadcasting stations above 5.900 with powers and transmission times. It is available for 8 IRCs Airmail from DSWCI, Tavleager 31, DK-2670, Greve Strand, Denmark.

The Mail, Boss, The Mail!

Gary Hickerson in Ft. Smith, Arkansas notes that the Falkland Islands Broadcasting Service is back on 3.958. Gary says the station uses 2.380 from about April through September and has been really strong on the 80 meter channel this past winter. It may be our imagination, but it seems they've been reported on 3.958 just about every month over the past year.

If you live in the Philadelphia area and would be interested in forming an informal

Three-year-old Paul Bledsoe, son of reporter Gary, gets an early education in front of Gary's Kenwood R-2000 receiver.



Here's Listening Post reporter Ken Cobb in his cozy Portland, Maine shack.

listener group, contact Bob Ziajka, 2615 East Clearfield Street, Philadelphia, PA 19134.

We have an updated schedule for the Icelandic State Broadcasting Service, which Charles Loukus in Saginaw, Michigan spotted in the publication *News From Iceland*. ISBS now broadcasts to Scandanavia, Britain, and Europe on 13.758 at 1215-1245, on 9.640 from 1300 to 1330, 9.675 from 1855 to 1936/45 (presumably the "45" indicates a lengthened broadcast on weekends), and 5.060 from 1855 to 1935. It also broadcasts to Canada and the U.S. on 9.775 from 2300 to 2335/45.

James R. Coyle of Johnson City, New York adds to our earlier discussion of interference to shortwave reception. James says he's checked out his home and found several culprits causing problems for his R-600, including touch-on, touch-off lamps; fluorescent lights; neon light master power lights and switches; the cable TV converter and remote control box; computers and computer games and motors. It's a jungle out there, James.

Lt. Arnal C. Cook wins this year's award for the most unusual shack. He does his listening from a helicopter operating off the *USS Independence*. Arnal says the AN/ARC92 high frequency transceivers they use allow reception of shortwave broadcast stations, off a 26-foot wire on the 'copter's tail. Arnal related a number of stories about his listening experiences. One had him off the coast of Beirut in 1983 waiting for clearance to take off when another helicopter landed in front of his. At the time he was listening to the BBC reporting on the rescue of an American pilot and the pilot being returned to his ship. Just as the BBC uttered those words, the back of the just landed helo opened and out stepped that very pilot! As Arnal says, "how's that for up-to-the second accuracy?"

Caroline Eaton in Herndon, Virginia says she and hubby Don are hearing the clandestine Radio Caiman on 7.470 now, and as strong as ever. Yup, a recent frequency change Caroline, but we're no closer than ever to locating an organization or address for the operators of this station. A group called Pro Libertad de Cuba claims it is theirs, but we've not been able to find anything on this group. Bad PR, fellas!

The new AWR station building on Guam right now was expecting to take delivery of two 100-kilowatt transmitters in May, according to an item sent in by Eric Staehling of La Mesa, California. Based on that, AWR might be expected on the air some time this summer. The FCC has assigned the call letters KSDA.

So, what's happening around your shack? Let us know. We need your loggings (by country with your last name and state abbreviation after each, and with enough room to cut between items) as well as photos of you and your shack, QSL copies, clippings, questions, comments, schedules, experiences, and what-have-you. We appreciate hearing from regulars and newcomers alike! Our address is: Listening Post, Popular Communications, 76 North Broadway, Hicksville, NY 11801.

Listening Reports

Here's what' on. All times are GMT.

ALASKA- KNLS, 7355 at 1830 w/religious & public affairs pgm (Twiggs, AK); 1925 in English & Russian (Bledsoe, AK).

ALBANIA- R. Tirana, 7120 at 0241-0259 in English (Neff, OH); 0143 with "U.S. agressions against Libya" (Eaton, WA); 9480 in English to Europe (Meece, OH); 9500 at 2228 w/IS, into French at 2230 (Green, GA).

ANGOLA- Emmisor Regional da Zaire, M'banza Kongo on 4885 at 0735 in Portuguese w/music & talk (Fravel, WV). A bit late for Angola--Ed.

ANTIGUA- BBC Relay, 6005 in English at 2137, 6175 at 0508 (Neff, OH).

Deutsche Welle Relay 6040 at 0145 in English. QRM from Cuba (Shute, FL); 6120 in English at 0500 (Lenamon, TX); 6130 at 0515 in English (Meece, OH).

ARGENTINA- RAE on 9690 at 0113 w/Mailbag; turned down 5 QSL requests due to insufficient details in the reports! (Eaton, VA); 0115 in English; Portuguese at 0200 (Meece, OH); 0008 in Spanish (Green, GA); Portuguese at 0135 (Witsman, IL); 11710 at 0100 in English (Neff, OH).

AUSTRALIA- R. Australia, 6060 at 0108 w/English news (Neff, OH); 0910 w/world news (Hunt, NC); 1203 world news (Green, GA); 15160 at 0435 in English (Cobb, ME); 0515 in English, weak (Coyle, NY); 0640 features/letters (Neff, OH).

VNG (time station), 4500//7500 at 0945 w/ID & freq (Green, GA); 12000 at 0442, faint (Eaton, VA)

VLM4, 4920 in English at 1118 (Green, GA).

VLW9, Perth, 9610 at 1400 world news, old U.S. pops (Hunt, NC).

AUSTRIA- R. Austria Int'l. on 5945 at 0636 w/Austrian news, siscussion (Bledsoe, AK); 9590 at 2140 in English, classical music (Hunt, NC); 9725 at 1845 in English w/talks, sports; into German at 1900 (Cobb, ME).

BELGIUM- BRT in English on 5910 at 0030 (Lenaman, TX); 0028 "You are tuned to Brussels Calling" (Eaton, VA); 5905 at 1910 w/Brussels Calling (Cobb, ME).

BELIZE- R. Belize One, 3285 w/man & woman in English & Spanish, live remote, American & Latin pops to 0607 s/off w/anthem (Bryan, WA); 0453 w/pops & time checks (Eaton, VA); 1150 pop music, ID, religious pgm (Cobb, ME).

BENIN- ORTB Cotonou on 4780 at 2237 w/ID, local music (Green, GA); 0709 tune in, in French (Fravel, WV).

BOTSWANA- R. Botswana, 7255 from 0400 s/on in Setswana & English (Ross, Ontario).

BRAZIL- Radiobras, 11745 in English at 0200 (Coyle, NY); 0223 in English (Neff, OH); 0202 w/Brazilian pops (Eaton, VA).

R. Cultura do Para, Belem, 5044.8 at 0250 -0300 s/off in Portuguese w/closing announcements (Cobb, ME).

R. Guaiba, Porto Alegre, 6000 at 2350 in Portuguese, easy listening music (Lingenfield, PA).

Radiofussora Amazonas, Manaus, 4805 at 0930, good level w/music & talks in Portuguese (Bryan, WA).

Radio Difusora Maranhao, Sao Luis, 4755 at 0726 w/music in Portuguese (Fravel, WV).

R. Itatiaia, Belo Horizonte, 4805 at 2241 w/music & talk (Fravel, WV).

R. Clube do Para, Belem, 4895 at 0229 in Portuguese w/ID, news (Green, GA).

R. Globo, Rio, 11805 at 2257 w/ads, ID's (Green, GA).

R. Nacional Amazonas, 11780 w/ID's, promos, music (Green, GA).

BULGARIA- R. Sofia, 7100 at 0110 in English w/sports news (Neff, OH); 0405 on 7115 w/discussion (Eaton, VA).

BURKINO FASO- RTVB Ougadougou, 4815 at 2245 in vernaculars w/local music (Green, GA).

CAMEROON- R. Dualo, 4795 in French w/ID, talks at 2245 (Green, GA).

CANADA- R. Canada Int'l on 5960 at 0401 in English (Neff, OH; 9625 in English at 1818 (Neff, OH); 11955 in English at 1435 (Hunt, NC); 15260/17820 English at 1800 (Lenamon, TX).

CHU (time station) on 3330 at 2218 w/time annets in English/French (Meece, OH).

CKZU Vancouver on 6160, all day (Lyster, BC).

CFRX Toronto, 6070 at 1622 w/ID; relays CFRB (Meece, OH).

CHILE- R. Nacional, 15140 in Spanish on 15140 at 1750 w/U.S. Top 40, strong but distorted (Shute, FL); 2130 in Spanish (Coyle, NY); at 2038 (Neff, OH); at 2050 (Ross, Ontario).

CHINA- R. Beijing, 9390 in English at 0015 (Meece, OH); 9820 in English at 0000 (Lenomon, TX); at 0043 (Neff, OH); 9820//11970 at 0009-0055 s/off. Spanish QRM on 11970 (Lyster, BC); 9945 in Chinese at 0922 (Green, GA); 11685 at 0028 in English (Lyster, BC); 11980 at 0400 in English (Bledsoe, AK).

CPBS-1, Beijing home service, tentative on 5860 at 2251 (Lingenfield, PA).

CLANDESTINE- La V. del Cuba Independiente y Democratica, anti-Castro, 6305 at 0647 in Spanish (Eaton, VA); 2230 on 9940 (Lenamon, TX); at 0145 (Twiggs, AK); 11635 at 2216 w/rock music & woman announcer (Neff, OH).

R. Truth, anti-Zimbabwe, 5015 at 0435 in English w/political talks (Fedor, CA)

COLOMBIA- La V. del Llano, 6117 in Spanish at 0615 w/many ID's for "Radio Super," the network name (Bryan, WA); Latin hits from 0550-0610 (Witsman, IL).

Caracol Neiva on 4945 at 0628 w/William Tell Overture (a/k/a the Lone Ranger's theme) (Shute, FL).

R. Cultura Surcolombiana, 5010 at 0243 w/Latin music, ID in Spanish (Green, GA).

La V. de Centauros, 5955 at 1145 w/LA pops, ads for Sherwin-Williams paints, ID's (Green, GA).

La V. de Maria Maria, Maria, Bogota, 47755 at 0034 w/Latin pops, ID (Green, GA).

Ondas del Orteguaza, Florencia, 4975 at 0027 w/mostly talk, many mentions of Florencia (Green, GA); ID's & music (Cox, IA) Time?--Ed.

COSTA RICA- R. Reloj, 6006 at 0638, music, ID w/echo & time checks (Neff, OH); 0609 weak but readable (Witsman, IL); 4832 at 0654 "Radio Reloj, numera uno en Costa Rica" (Eaton, VA).

TIFC, Faro del Caribe, 5055 at 0315 in English w/religious program (Eaton, VA); 0330 in English (Lenamon, TX); religious pgm in Spanish, classical guitar 0540-0603 s/off; Spanish starts at 0400 (Witsman, IL).

TIRS R. Impacto, 6160 at 0259 ID, freq, Latin music (Ross, Ontario); 0132 ID's, ballads, instrumentals (Neff, OH).

CUBA- R. Havana Cuba, 6100 at 0412 in English w/news (Bledsoe, AK); 6140 at 0205 in English (Eaton, WA); 9740 at 0220 in English w/discussion (Bledsoe, AK); 15230 in Spanish at 1900 (Lyster, BC); 15300 in English at 2112 (Neff, OH).

CZECHOSLOVAKIA- R. Prague, 5930 at 0300 in English w/news, ID (Ross, Ontario); 0104 in English (Neff, OH); 7345 at 0200 in English (Neff, OH); 0134 in English (Witsman, IL); 11990 in English at 0300 (Lenamon, TX).

OLB5 (time station), 3170 at 0011 w/time pips (Green, CA); Although readers often submit time station info to this column, they are usually classed as utes-- Ed.

DOMINICAN REPUBLIC- R. Clarin, 11700 at 2100 in Spanish w/news on hour, ID's, Latin pops (Bryan, WA); 0850 w/calypso (Eaton, VA); 2155 w/Latin rhythms (Neff, OH).

EAST GERMANY- R. Berlin Int'l, 6125 at 2145 in English w/discussion, mailbag (Eaton, VA); 2213 in English/German (Neff, OH); 9560 w/English ID, 0412 close (Twiggs, AK).

ECUADOR- HCJB, 6230 at 0630 w/DX Party Line (Cobb, ME); at 0530 (Lenamon, TX); 0230 w/DX Party Line (Neff, OH); 9820 at 0100 w/Passport (Green, GA); 9870 at 0634 in English (Shute, FL); 12095 at 1438 in English & 2135 on 15270 (Neff, OH).

R. Quito, 4920 at 0012. ID is "Radio Quito, La Voz de Capital" (Green, GA).

HD2IOA (time station), 7600 w/time pips & announcements at 0128 (Green, GA).

La V. de las Caras, Quito, 4795 w/ID, classical music/vocals (Green, GA). Time?-- Ed.

R. Nacional Espejo, Quito, tentative on 4679.6 at 0500. Possible ID then, no copy by 0505 (Cobb, ME); 0212 on 4680 w/ID, short bursts of talk/music (Green, GA).

R. El Mundo, 4750 in Spanish at 0032 (Green, GA).

La V. de Upano, Macas, 5039 at 0207. Man w/music; mention of broadcasting from a university (Lingenfield, PA); 0111 in Spanish w/ID (Green, GA).

R. Catolica, Quito, 5055 in Spanish at 1057 w/anthem, ID & talk (Green, GA).

R. Jesus del Gran Poder, Quito, 5050 at 1013 w/anthem, ID, announcements (Green, GA).

R. Zaracay, Santo Domingo, 3395 at 0144 in Spanish w/music, jingles ID (Ross, Ontario); 0205 time checks & ID, music (Cobb, ME).

R. Federacion, Sucua, 4960 tentative at 1120-1145 w/Latin pops, mentions of Ecuador (Cobb, ME).

EGYPT- R. Cairo, 9805 at 2115in English, "Voice of Cairo" Egyptian news, music (Hunt, NC); 17675 at 1224 w/apparent Koran readings, news headlines in English (Eaton, WA).

ENGLAND- BBC World Service, 9670 at 1630 w/soccer (Meece, OH); 3955 w/music at 2227 (Green, GA).

EQUATORIAL GUINEA- R. Nacional, Bata, 4925 at 0537 w/music & Spanish (Fravel, WV).

FALKLAND ISLANDS- FIBS, 3958 at 0406 in English w/male DJ, pops, interviews. Also noted at 0900 s/on (Fedor, CA). Nice going!--Ed.

FINLAND- R. Finland Int'l, 11945 at 1405 in English to N. America (Lingenfield, PA); 15400 at 1330 w/mailbag (Hunt, NC); 1205 w/news & ID as "Your complete information system from Finland & the north" (Eaton, VA); 1418 w/skeds (Neff, OH).

FRENCH GUIANA- RFI Relay, 6055 in English at 0243; French on 9790 at 1811 (Lyster, BC); 9800 at 0445 w/news in English (Meece, OH); 0420 w/news in English (Cobb, ME); at 0445 (Neff, OH).

GABON- Africa #1, 15200 in French at 1626, vocals, ID 'phone conversation in French (Neff, OH).

GALAPAGOS ISLANDS- La V. de Galapagos, 4810 at 0155 w/vocals, man with s/off & ID's, anthem to 0205, carrier off 0209 (Fedor, CA).

GHANA- GBC, 3366 at 2250 w/news, sports, ID in English. Also on 4915 in vernaculars w/chants & "Radio Ghana" ID (Green, GA); 4915 at 2244 w/ID, news (Neff, OH); 2245 (Lenamon, TX).

GREECE- V. af Greece, 9420 at 0235, Greek music (Twiggs, AK); 9905 at 2200 in English (Lenamon, TX); 0132 w/English, music to 0145, then Spanish (I think), off 0147 (Bryan, WA).

VOA Relay, Rhodes, 7205 in English at 0226 (Green, GA).

GUATEMALA- TGNA R. Cultural, 3300 w/"Hora de Reforma" & ID at 0545, instrumental "musica de su agrado" to 0622 then "Luis Palau Answers" advice column (Witsman, IL); 0622-0630 s/off (Fravel, WV); 0400 in English (Lenamon, TX).

GUYANA- GBC on 5950 at 0800 s/on, English w/music, woman w/African-flavored music (Bryan, WA); pops & commercials at 0839, time checks (Fedor, CA).

HAITI- 4VEH, 4930 in French or Creole, 0300 (Lenamon, TX).

HAWAII- WWVH (time station) on 10000 at 0137, woman giving time at 45 seconds after the minute (Meece, CH).

INDIA- All India R., 9910 in English at 2210 (Lenamon, TX); 9912 at 2250, English news at 2300, faded by 2315 (Fedor, CA); 9950 in un-ID language at 1320 w/ID, talk (Green, GA); 11715 at 2259, sitar music, news in English (Bledsoe, AK).

INDONESIA- R. Republik Indonesia, Ujung Padang, 4719 at 1529 w/ID in Indonesian, local music (Twiggs, AK).

IRAQ- R. Baghdad, 9610 at 2135 in English w/ID, skeds (Green, GA); 0525 in Arabic, cookoo clock sound (Bledsoe, AK); 0506 in Arabic (Lingenfeld, IL).

IRELAND- R. Dublin, 6910 at 2344 w/pops & golden oldies (Eaton, VA).

ISRAEL- Kol Israel an 7410 at 0017 w/discussion (Eaton, VA); 0004 w/English news (Neff, OH); 9435 at 2011 English news/commentary (Twiggs, AK); 0204 news, ID, "T.G.I.F." (Neff, OH).

ITALY- RAI, 5990//5975 at 0100 in English (Lenamon, TX); 9575 at 0101 (Eaton, VA); 0105 woman w/news in English till 0120, 3 songs to 0130; "This is Radio Roma broadcasting from downtown Rome" (Bryan, WA); 0140 w/bird chirp IS, church music (Bledsoe, AK).

IBF, National Electrotechnical Institute, Turin, time signal station at 0700 on 5000 w/time sigs, English ID (Cobb, ME).

JAPAN- NHK R. Japan, 15420 at 2328 w/Journal (Lyster, BC).

KUWAIT- R. Kuwait, 11675 at 1910 in English w/Sportsworld, old U.S. pops (Hunt, NC); 2000 in English (Lenamon, TX).

LESOTHO- R. Lesotho, 4800 in an African language at 0300 (Lenamon, TX).

LIBERIA- ELWA, 4760 at 2120 in English w/religious program, ID at 2132 (Cobb, ME).

ELBC, 3255 at 0630 w/program anncts, sked in English, music, into vernaculars (Fedor, CA); 0702 news in English (Fravel, WV); 2315 news, ID in English (Green, GA).

VOA Relay, 17870 in English w/Nightline Africa at 1620 (Green, GA); 7195 at 2250-2300 s/off (Cobb, ME).

LIBYA- R. Jamahiriya, 15450 w/African Service in English, U.S. pops, Libyan news (Hunt, NC). As of this writing, English programming reported to have been taken off the air--Ed.

LITHUANIAN SSR- R. Vilnius (via R. Moscow facilities), 11860 at 2300 in English (Bledsoe, AK).

LUXEMBOURG- R. Luxembourg, 6090 at 0755 in German w/rock, male DJ (Lingenfield, PA), 0000 in English, news, rock, phone calls (Neff, OH).

MAURETANIA- ORTM, Nouakchott, 4845 at 2318 w/music & talk in Arabic or vernaculars (Fravel, WV); 2215 in Arabic (Green, GA).

MEXICO- La Hora Exacta, Mexico City, 9555 at 1748 in Spanish w/time checks each minute (Shute, FL).

R. Huayacoclota, 0022 in Spanish w/light music on 2390 (Green, GA). Good catch!-- Ed.

MOROCCO- VOA Tangier Relay, 9530 at 0545 in Albanian (Lingenfield, PA).

MOZAMBIQUE- R. Mozambique, tentative at 0256 s/on w/xylo IS on 3338.6, ID by man, more IS then silence 0259-0304 when anthem, IS, news in Portuguese (Fedor, CA).

NAMIBIA/SOUTHWEST AFRICA- S W Africa BC Corp, 3295 in German w/classical music (Green, GA)-- Time?-- Ed; 0108 in Afrikaans on 3270 (Ross, Ontario); 3295 at 0330 in English/German/Afrikaans (Lenamon, TX).

NETHERLANDS- R. Netherlands, 9540 at 2032 in English to Africa (Neff, OH); at 2052 (Meece, OH).

NETHERLANDS ANTILLES- R. Netherlands Relay, 6165 at 0224 w/Happy Station program (Bledsoe, AK); 9590 at 0257 to N. America (Neff, OH).

Trans World R., Bonaire, 9535 at 0306 in English w/religious programming (Neff, OH).

NICARAGUA- V. of Nicaragua, 6015 at 0155 w/English news; into Spanish at 0200 (Eaton, VA); 1135 in Spanish (Cobb, ME); English at 0430 (Lyster, BC); 0523 in English (Neff, OH).

NIGERIA- V. of Nigeria, 7255 at 0520 w/news in English (Eaton, VA); 0622 w/choral music (Shute, FL).

R. Nigeria, 4990 at 2230-2307 s/off in English, pop music, ID, time check, religious fable, choir music, national news, closing anncts (Cobb, ME).

FRCN, Kaduna, 4770 in English w/local music at 2249 (Green, GA); 0633 w/music (Fravel, WV).

NORTHERN MARIANAS- KYOI, Saipan, 15405 at 2306, U.S. pops, woman announcer in Japanese & English ID "This is Super Rock KYOI from Saipan" (Bledsoe, AK).

NORTH KOREA- R. Pyongyang, 11735 at 2340 in English at 2349 s/off (Bledsoe, AK); 11880 in Spanish w/ID, military music, anthem, 2247 close (Twiggs, AK); 15150 at 0043 to 0500 s/off in English (Lyster, BC).

NORWAY- R. Norway Int'l, 9525 at 2219 w/current pops (Eaton, VA); 15310 at 1400 in English (Hunt, NC).

PAKISTAN- R. Pakistan, 9735 at 1804 in Arabic-sounding language; QRM from BBC

on 9740 (Lyster, BC); 13605 in (believed) Turkish at 1639. Tentative (Green, GA).

PARAGUAY- R. Nacional, 9735 in Spanish at 0936. Into Guarani(?) pgm w/talk, ID, music at 0930 (Green, GA); 0115 w/soccer match in Sponish (Bledsoe, AK).

PERU- R. Atlantida, Iquitos, 4790 at 0038 in Sponish w/ID (Green, GA); 0220-0240 pleasant Andean music, ID's, talk (Cobb, ME).

R. Los Andes, Huamachuco, 5030 at 1005 in Spanish w/music, ID (Green, GA).

R. San Juan de Chota, 5275 at 0047, Indian-type music, ID (Green, GA).

R. Eco, Iquitos, 5010 at 0315 in Spanish, rapid-fire announcers, 1 loud mention of "Radio Eco" (Cobb, ME).

PORTUGAL- R. Portugal, 6095 at 0039 w/pops & mention of no broadcasts on weekends (Eaton, VA).

SENEGAL- ORTS, Dakar, 4890 at 0605 w/music then fading out (Fravel, WV); 2233 w/news (Green, GA).

SOUTH AFRICA (REP. OF)- Radio RSA, 6010 at 0150 w/Africa Today (Eaton, VA); 9585 at 2130 in English (Hunt, NC); 0409 English ID & sked (Twiggs, AK); 2256 w/IS & ID for Spanish service (Shute, FL); 9615 at 0210 in English (Meece, OH); 0203-0231 in English (Neff, OH); 11900 at 1858 ID in English, into Portuguese (Green, GA); 3230//4990//7270 at 0255 w/IS, ID & English progroms (Green, GA).

SABC in English at 0400 on 4835 (Lenamon, TX).

Capital Radio, Transkei in English on 3930 at 0330 (Lenamon, TX).

SOUTH KOREA- R. Korea, 11810 at 0030 in Spanish & 0214 in English (Lyster, BC); 0204 in English (Bledsoe, AK).

Echo of Hope (clandestine), 3985 at 1521, mostly trad Korean ballads & some Korean announcements (Twiggs, AK).

SPAIN- R. Exterior Espona, 6055 at 0110 in English w/travelog, Spanish folk music (Cobb, ME); 0602 in English w/ID, freq announcement (Bledsoe, AK); 0130 world news (Hunt, NC); 9630//11880 to 0016 (Lyster, BC); 9630 at 0500 in English (Lenamon, TX); 0135 in English (Neff, OH).

SWITZERLAND- Swiss Radio Int'l, 3985 at 2135, //6165 (Cobb, ME); 9535 at 2128 w/IS,into Portuguese (Green, GA); 9725 at 0205 w/news, Swiss folk music (Eaton, VA); 9885 at 2118 w/Shortwave Merry-go-Round (Meece, OH); 0310 to 0330 in Italian (Cobb, ME).

SYRIA- R. Damascus, 9560 at 2015 in English w/end of news, easy listening music (Green, GA).

TAIWAN- V. of Free China, 11745 at 2100 in Korean & Chinese (Twiggs, AK); 11860 at 0420 w/Chinese music (Bledsoe, AK).

UKRANIAN SSR- R. Kiev, 9765 at 0043 w/Ukraine Today (Lyster, BC); 0050 w/Music From The Ukraine program (Bledsoe, AK).

UNIDENTIFIED- 11490, Arabic or similar at 1543, mostly talk (Green, GA). Perhaps the clandestine Voice of Afghan Fighters-- Ed.

UNITED STATES- WHRI, World Harvest Radio, Noblesville, IN, 7400 at 0446 w/ID (Shute, FL); 0450 in English (Coyle, NY); 0301-0400 in English w/Radio Earth (Neff, OH); 9615 at 0257 (Lenamon, TX); 9770 at 2155 (Sebrian, CA); 11865 at 1907 (Bledsoe, AK).

WINB, 15145 at 2245 w/World Radio Bible Broadcast (Green, GA).

KCBI, Dallas, 11790 at 2052 w/Texas Me And You (Witsman, IL); 2103 w/World of Radio (Neff, OH); 11905 w/Radio Connectian at 1800 (Green, GA).

WRNO on 6185 at 0435 w/Rock Line (Neff, OH); 7355 at 0221 w/rock, ads, ID's (Green, GA); 9825 at 2340 w/Flight To Midnight (Meece, OH)

AFRTS (via VOA) on 6030 at 0657, s/off 0700 (Neff, OH).

VOA in Arabic, 17740 at 2140; French on 9605//17640 at 2145; oriental language 15135 at 1850 (Lyster, BC).

KGEI on 7365 at 0229, ID, music, in Russian (Twiggs, AK).

WYFR w/Taiwan Relay on 9852.5 at 2142 in English (Meece, OH); 5985 at 0212 w/VOFC program; 12060 at 0655 in English w/gospel music (Neff, OH).

USSR- R. Moscow, 6000 (via Havana) & 15135 in English at 0431 (Lyster, BC); 13705 w/Russian by Radio at 1634 (Green, GA); 7115 at 0347 in English (Neff, OH).

Presumed Ufa at 1001, weak, tentative (Green, GA). Think Petropavlovsk-Kamchatsky is more likely-- Ed.

Krasnoyarsk, tentative, 5290 in Russian at 1208 (Green, GA).

R. Yakutsk, 7200//7345 at 0340 in Russian (Bledsoe, AK).

R. Orbita IV, 9490 in Russian at 1354, classical music (Lingenfield, PA).

Radiostansiya Rodina service, 11740 at 2230 following R. Vilnius program (Twiggs, AK).

R. Mayak, 15175 at 1115 w/piano music, news in Russian (Eaton, VA).

R. Anadyr, 4030.5 at 0620 in Russian, tentative (Bledsoe, AK).

R. Peace & Progress, 12065 in English at 1404 (Lingenfield, PA).

VATICAN CITY- Vatican R., 9605 at 0050-0110 in English (Lenamon, TX).

VENEZUELA- La V. de Carabobo, Valencia, 4780 at 0933 w/Latin music, fast ID in Spanish (Bryan, WA).

R. Rumbos, Caracas, 9660 at 0217 in Spanish w/ID, easy vocals (Green, GA); 0352 ID in Spanish, news by woman (Eaton, VA).

R. Mara, Maracaibo, 3275 at 0253 w/Latin pops, ID, ads (Green, GA); 0400 w/ID & s/off (Witsman, IL).

R. Mundial Bolivar, 4770 fram Ciudad Bolivar at 1035 in Spanish w/music, many ID's (Bryan, WA).

VIETNAM- V. of Vietnam, 10040 at 2030 s/on in English w/ID, sked (Twiggs, AK).

WEST GERMANY- Deutsche Welle, 3995 in German at 2332 w/ID, also 7275 at 0300 w/IS & into Pushto(?); 5960 at 0500 in English (Bledsoe, AK); 17810 at 2137 in German (Lyster, BC).

Bayerischer Rundfunk, 6085 at 0759 in German (Lingenfield, PA). Presume this is the one you mean-- Ed.

Put the receiver on standby and let's say thanks to: Karl R. Witsman, Oakwood, IL; Ken Cobb, Portland, ME; Robert S. Ross, London, ONT: Don and Caroline Eaton, Herndon, VA; Jim Fedor, La Mesa, CA; Michelle Shute, Pensacola, FL; James R. Coyle, Johnson City, NY; Larry Cox, Des Moines, IA; Eric Bryan, Auburn, WA; Billy Hunt, Durham, NC; Gary L. Bledsoe, Anchorage, AK; Darrell Lingenfield III, Chambersburg, PA; Mark Meece, West Chester, OH; Larry R. Fravel, Clarksburg, WV; George L. Green, Warner Robins, GA; Jerry Lenamon, Waco, TX; Stuart Lyster, Keremeos, BC; Bruce R. Serbrian, Los Altos, CA; and D.J. Twiggs, Ft. Richardson, AK.

Til next month, good listening! **PC**

ON THE LINE

NEW AND EXCITING TELEPHONE TECHNOLOGY

BY JULIAN MACASSEY, N6ARE

Modems And Data On The Phone Line

The big catch-phrase used by telephone people these days is "Voice and Data." These people think this has just been discovered and they are here to sell you the latest technology. The bad news is people have been sending data down telephone lines for decades. The key to automatic tellers at banks and terminals in stores is sending data down the phone line.

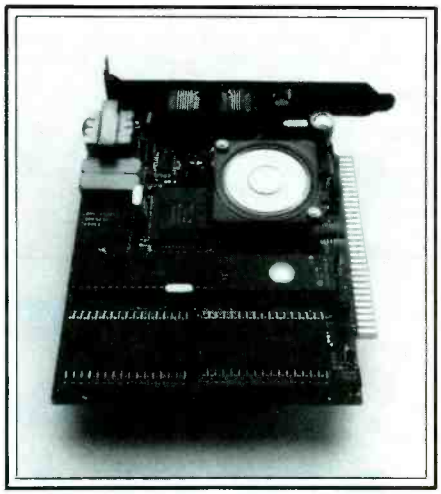
Today's system peddlers claim they can send data down a pair of wires simultaneously with voice. This is not new either. The correct term for this technical trick is multiplexing. Phone companies have been multiplexing phone lines for fifty years.

Anyone with access to a phone line can send data down that line. Even sitting in a cheap motel, any computer owner can connect a computer or terminal to the motel phone line. Once on the phone line, that computer can connect to any other computer in the world. The only barrier to connecting computers together is the cost of the phone call.

The device that connects computers and phones together is a modem. Modem stands for MOdulator DEModulator. What it does is take the square wave signals of a computer and convert them to audio tones. RTTY and Telex signals are pretty much the same. The signals used on RTTY and Telex are slower and do not have the same number of characters available. Whereas Telex signals travel on the phone line at 50 baud, computer modems are faster. The slowest modem in common use is 300 baud. The current favorite for high speed is 2400 baud. There are some modems working at 4,500, 9,600, and 19,200 baud. These high-speed modems are expensive and specialized. Standards are a bit thin on the ground in this region.

A modem can be a box that sits by the phone with connections to the phone line and computer RS232 connector. Some popular personal computers have the modem built in. With a built-in modem, all you have to do is plug in a modular jack.

Most modern modems have built-in dialers and microprocessors. To make a connection, just dial from the computer keyboard. Some computers have built-in auto-dialing software. To call the bank, just type BANK and sit back while the call goes through. The standard for auto-dialing is called "Hayes Compatible." The company that makes the most auto-dialing modems is called Hayes. Some of the software used with Hayes modems allows the computer to autodial and receive data unattended. This means the computer can send or receive data in the dead of night when phone rates are lowest and the lines are less noisy.



Onboard V22.BIS modem for IBM PC, manufactured by Novation, Inc.

These days, there are about 50 manufacturers of modems, with more joining the fray daily. Prices have been falling with each new entry. At one time a 300 baud modem cost $300. Now you can buy a 300 baud modem for under $20. When 1200 baud modems first became available, they were over $1,000. The latest prices are hovering around $175. The current modem that is causing all the excitement runs at 2400 baud. These modems have been costing around $700. Five manufacturers are readying single IC modems for 1200 baud. Following the 1200 baud modems are single chip 2400 baud modems. This is going to cause massive cost reductions in the near future. It is also going to mean smaller modems that will fit inside any computer.

A Bell standard 1200 baud modem can switch to the slower speed of a 300 baud modem. This means that an owner of a 300 baud modem can communicate with a computer with a 1200 baud modem. Also, if the phone lines are too noisy to support 1200 baud, the modem can be switched to 300 baud.

The most common speeds in use are 300, 1200, and 2400 baud. The speeds are the same all over the world. The tones that are used are not standard at the 300 and 1200 speeds. In the U.S., the standard was created by Bell. The rest of the world uses CCITT* standards. Fortunately, the whole world uses the same CCITT standard for 2400 baud use. These different standards make international computer connections tricky. If calling a computer in another country, the odds are its modem will work to CCITT specifications. You can buy CCITT modems here in the U.S. Some manufacturers now make dual standard modems that will work anywhere in the world.

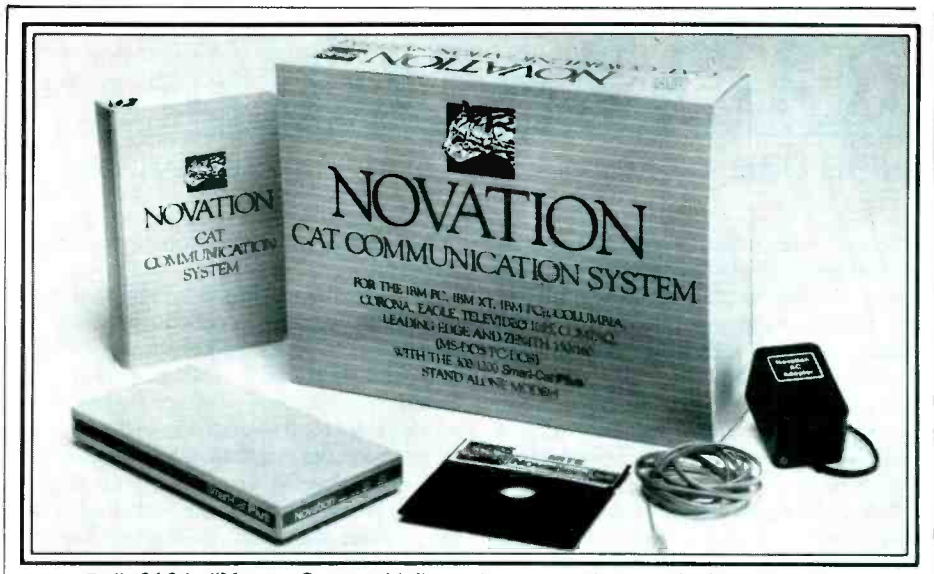
What does a modem sound like? The 300 baud modems sound like fast RTTY, a rapid two-tone jingling. The 1200 and 2400 baud modems make a rushing sound like an FM radio receiver with a broken squelch. If you pick up a phone while a modem is on the line, you may lose the connection. Modems will abort if noise is detected on the line. Some modems have a monitor speaker on them so you can hear the tones. Listening to this noise for hours at a time can become tiring. Luckily, the monitor speakers can be switched off.

There is much excitement currently around four letters—ISDN. This stands for Integrated Standard Data Network. Some wits have suggested that it stands for "I Still Don't Need it." This is supposed to give us 64,000 baud connections down the phone line. This translates to a screenful of text every quarter of a second. No one can read that fast, not even Evelyn Wood. They claim it will run over a standard phone line. This assumes a perfect phone line that is not too long. What the crosstalk will be like with several hundred of these circuits running in parallel no one has been able to say.

One thing is certain; if the phone com-

Commonly Used Modem Standards

Speed	Standard	Modulation Method
300	Bell 103	Frequency Shift Keying
300	CCITT V21	Frequency Shift Keying
1200	Bell 212A	Phase Shift Keying
1200	CCITT V22	Phase Shift Keying
2400	CCITT V22.BIS	Quadrature Amplitude Modulation



Bell 212A "Hayes Compatible" modem manufactured by Novation, Inc.

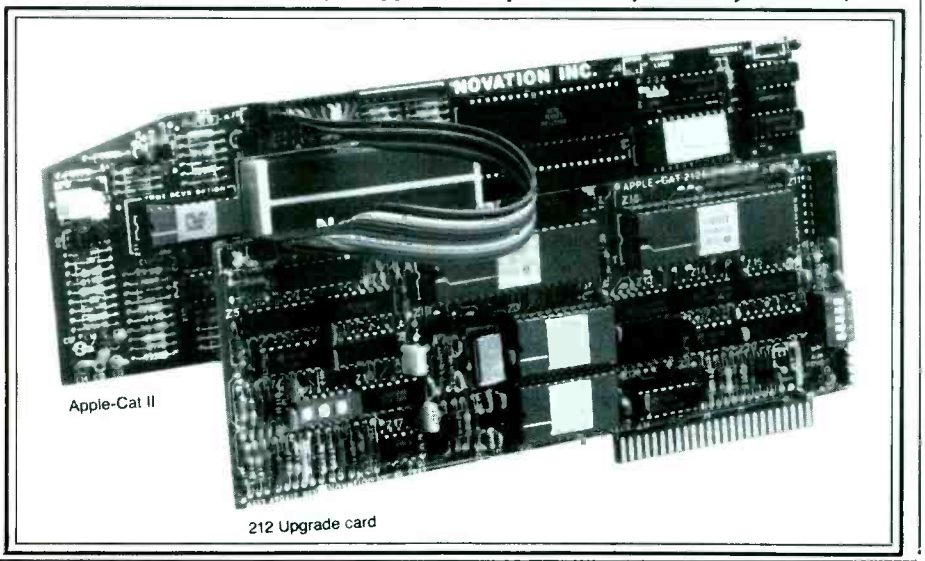
pany offers you a phone line capable of running data and voice at 64 Kilobaud, it will not cost the same as a regular line, which can easily handle data at 2.4 Kilobaud. Unless there is a specific need to shuffle data at high rates, the old phone system will work just fine. For those few people who do need to dump large computer files point-to-point, we already have several choices: Satellite, fiber optics, terrestrial microwave. The more ISDN is looked at, the more it looks like a solution in search of a problem. What phone customers want right now is good cheap reliable phone service. The residential and small business service represents most of the telephone network. The planners of ISDN seem to ignore this fact and discuss residential service with contempt.

Those people who need to move large amounts of data can easily justify a satellite terminal. The price of satellite terminals is continually falling. The rental cost of transponders is also falling. One geostationary transponder can cover one third of the world. A single transponder can cover the continental U.S. Two terminals in the U.S. can then talk to each other for the same cost, whether they are separated by 20 or 2,000 miles. If ISDN is to be competitive to this, they are going to have to work very hard. Landline phone costs have been rising alarmingly in the past couple of years. The costs for special data circuits and private lines have been rising the fastest. We are rapidly reaching the point where it will be profitable for small companies to pop up their own satellite terminal on the roof.

But for regular data communications, the current network and modems do a fine job. For under $200, anyone anywhere can send and receive data. Taking advantage of off-peak phone rates, text and data can be sent cheaper than the U.S. Mail and instantly, too. PC

*CCITT is "Comite Consultatif International Telegraphe et Telephone," (International Telegraph and Telephone Consultative Committee). This organization creates international telephone standards.

Onboard Bell 212A modem for Apple II computers manufactured by Novation, Inc.



RADAR REFLECTIONS

RADAR DETECTORS AND THEIR USE

BY JANICE LEE

Helfrick Among Supporters Of ESP Legislation

A bill which would allow the use of electronic speed timing devices by local police in the state of Pennsylvania was unanimously approved in the state Senate recently.

Sen. Edward W. Helfrick was among the supporters of the legislation, which was prompted by a recent state Supreme Court decision. The court ruled that the Excessive Speed Preventer, a speed timing device used by local police departments, could be used only by state police.

"The Supreme Court's interpretation of the law determined local police were not allowed to use electronic speed timing devices in checking driving speeds," Helfrick said. "This new legislation simply expands on the law, and allows local police to use electronic speed timing devices."

The bill continues to restrict the use of radar to the state police, but allows the speed of a vehicle to be timed "on any highway by a police officer using a mechanical or electrical timing device."

The ESP machine, which was the subject of the Supreme Court's decision, uses two sensors, each 10 feet long, which are taped across the roadway. The sensors are connected to a timer inside the police car, which measures the time it takes a vehicle to drive from the first sensor to the second, then calculates the vehicle's speed.

The legislation approved by the Senate would also permit local police to use other devices which measure and calculate the average speed of a vehicle between two points. One such device is VASCAR, which is used by several local police departments.

Sheila Millers, a spokesperson for Helfrick, said the bill will now go to the House of Representatives for concurrence. It would then go to Gov. Dick Thornburgh for his signature.

"I am hopeful my fellow legislators will realize the importance of this bill," Helfrick said, "and the beneficial effect it will have on helping our local police officers keep the highway safer by catching speeders."

Who's The Ham Behind The Mask?

West German police know a car was traveling 51 in a 30 mph zone, but they don't know who to charge. Their evidence is a radar-camera photo of Miss Piggy grinning through the open sun roof!

Juergen Schnee, police spokesman in this central West German city, said "There's nothing we can do" about the speeder who tooled along Highway 42 in an Opel recently, wearing a mask likeness of the heavy-lidded Muppet.

Schnee said police traced the license number and sent notice of a fine to the car's owner. But he "wrote back saying he had lent his car to many people—relatives, friends, parents—and he had no idea who was driving at the time."

The owner also invoked his right under German law not to give evidence against someone else, said Schnee, who would not identify him.

"We have asked the drivers' license bureau to order the owner to maintain a logbook" of the car's travels, Schnee said.

The police spokesman, not immune to levity, also remarked: "Yes, we all found it quite funny here, quite a lark." He added, "But we hope it will not happen again. We don't want others out there who read the newspapers to become copycats."

Emergency Highway Helpline

The superintendent of the Nebraska State Patrol recently announced a pilot program in conjunction with the International Association of Chiefs of Police and the states of Iowa, Missouri, Louisiana, Maryland, New York, and Virginia in launching a universal nationwide telephone number to facilitate the reporting of accidents, dangerous drivers; including drunk drivers, crimes in progress, stranded motorists and other potentially hazardous situations on our highways and roadways.

The citizens of Nebraska and the nation have shown a willingness to assist law enforcement in removing drunk drivers and reporting other potentially hazardous situations by participation in the R.E.D.D.I program since its inception in May of 1981. The new toll free Emergency Highway Helpline, 1-800-525-5555, will allow the public a greater opportunity to report emergencies while traveling throughout Nebraska as well as the seven other participating states.

Hopefully, the remainder of the 40 contiguous states will be providing this number in the future, so that wherever someone may be traveling, they can dial the same emergency number, 1-800-525-5555 and be placed in immediate contact with that states' Patrol Agency. We would like to stress that callers on the Emergency Highway Helpline will not be required to give their name in order to report an emergency.

The new Emergency Highway Helpline will be monitored by the Nebraska State Patrol, who will ensure that the nearest appropriate emergency service is dispatched. This new service will improve the response time of state troopers as well as other emergency personnel. In no way will this new emergency phone line replace the present 911 systems already in operation throughout Nebraska.

The Emergency Highway Helpline will provide similar services outside those towns and cities who operate a 911 system. Hopefully, the state will be able to display the Emergency Highway Helpline number on all important roadway signs as well as all rest stops and major interstate interchanges.

To publicize the new Emergency Highway Helpline, the Nebraska State Patrol, in conjunction with Mothers Against Drunk Drivers and AAA, plan to conduct an intensive radio and television blitz in order to increase the public's familiarity with the new toll free number. Cards will be made available explaining the Helpline, as well as key chains and stickers displaying the new emergency number. In addition, all of Nebraska's State Patrol marked patrol cars will prominently display decals with "Emergency 1-800-525-5555."

Connecticut Was Likely The First To Establish Speeding Laws

The history books show that at the turn of the century, Connecticut legislators had an inkling of what the horseless carriage would do to civilization, so they passed what is reported to be the world's first automobile speed law.

In 1901, the state ruled that automobiles could not go faster than 12 mph within city limits and 15 mph in country areas.

The law contained a provision, ironically discarded in later years, decreeing that cars had to stop or slow down if they annoyed or frightened horses. These days, there is talk of reminding drivers of that rule so that today's horses won't be stressed by motorists' disregard.

A maximum fine of $200 or a 30-day jail sentence could be levied against offenders, making today's speeding fines seem paltry by comparison.

But hurrying motorists pressed on and the speed law was amended in 1905 to a top speed of 20 mph along country roads.

Not that there were many motorists; in 1907, when the state issued its first driving licenses, only 8,991 paid the $2 fee.

They didn't have to take driving tests until 1914, however.

Ed Carroll, director of management services at the state Department of Motor Vehicles, said the next revision of the state's instruction manual for motor vehicle operation should contain a referenc to the responsibilities of a driver when approaching a person riding a horse on a public highway.

That responsibility would include an obligation to reduce speed or stop to avoid

frightening or striking the horse.

A 1907 law required motorists to reduce speed when approaching a horse, other draft animal, or a person, and if the person or animal appeared to be frightened, the motorist was required to stop and even wait for the animal to pass.

"We seem to have come about 360 degrees on that particular legislation," Carroll commented.

Finding the old laws and deciphering the newest legislation has been Carroll's specialty since he moved to his current post in 1972, although he has been with the department since 1959.

Although his job deals with the dissemination of the legislation, Carroll has opinions on laws that could be passed.

He said, "We have to be careful, because we need legislation that is workable."

New Radar Video Announced

Motorists plagued with speeding tickets can now turn to their VCR's for professional advice about defending themselves. Recognizing that numerous tickets are caused by faulty traffic radar or improper officer training, the Radio Association Defending Airwave Rights, Inc. has created *Radar on Trial*.

Radar on Trial documents the history of radar and the problems that cause spurious radar readings. It also depicts a typical radar speeding trial in traffic court while explaining why and how to establish a specific defense. Drivers who have never been in a courtroom will find that this is excellent preparation for their own defense of radar-based speeding tickets.

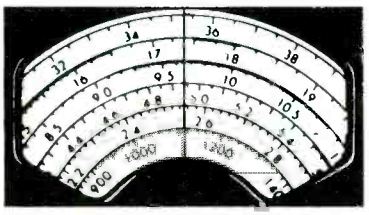
Radar on Trial features a nationally-recognized radar expert, Lee L. Nichols, Jr., Director of Engineering at the Virginia Military Institute. Dr. Nichols discusses various types of traffic radar units and describes how they work. He also illustrates traffic radar's many shortcomings caused by mechanical and operator errors. These errors have all been documented by tests conducted for the National Highway Traffic Safety Administration and the International Association of Chiefs of Police. Dr. Nichols concludes by suggesting ways to improve traffic radar's accuracy and dependability.

The second part of the video presents a court case with Judge Alfred Nesbitt presiding. Nesbitt was the first judge to actually put traffic radar on trial. He did this after seeing a news program featuring a traffic radar unit that clocked a tree traveling 86 mph and a house sauntering along at 26 mph. In a landmark 1979 decision, Nesbitt ruled that radar evidence was not admissible because of traffic radar's fallibility. As a result, approximately 80 cases were dismissed in Dade County Traffic Court. In addition, Nesbitt's decision forced Florida to establish guidelines for the use of radar, for operator training, and specifications for radar equipment purchased by the state.

The video was written and directed by John Tomerlin, a professional automotive writer. A former race car driver, Tomerlin has been writing about automotive safety for many years. Not long ago the editor of *Road and Track* wrote: "We believe John Tomerlin's articles on highway legislation and traffic safety are the most significant pieces of automotive journalism ever published."

Radar on Trial may be ordered by calling 1-800-448-5170, or by sending $34.95 plus $2.00 for handling and postage, making a total of $36.95, to: RADAR, Radio Association Defending Airwave Rights, Inc., 4949 S. 25A, Tipp City, OH 45371.

Janice Lee is the Editor of Monday, A.M., *the newsletter of Electrolert, Inc.* PC



COMMUNICATIONS CONFIDENTIAL

BY MIKE CHABAK

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

In the January '86 CommCo column I made a fundamental error in my discussion of Air Force One & Two. To amend my glitch, here is the correction: SAM 27000 and SAM 26000 are the two aircraft assigned for use by the President of the United States. Normally SAM 26000 will act as the back-up aircraft for Air Force One (which is normally the SAM 27000 aircraft), and in this capacity IDS as SAM 26000. Rarely does the Vice President use SAM 26000. Instead he will be flown by one of the other SAM aircraft, and when aboard, that aircraft IDs as Air Force Two. In other words, SAM 26000, or for that matter whichever aircraft acts as a back-up to the Presidential aircraft, IDs by its SAM number and NOT as Air Force Two. I hope this clears up my error.

South African Stas

POP'COMM reader Francois Steyn of Hillbrow, South Africa sent some interesting data concerning several S.A. stations. These included (ZRP) SANAE Base Antarctica and the two metro stations located on the islands of Gough and Marion. (ZOE) Gough Island is located south and east of Tristan de Cunha in the South Atlantic, and (ZRS) Marion Island lies close to Prince Edward Island, which are both well south of Durban, South Africa.

From a North American monitoring standpoint, these stations would be very good catches indeed. Unfortunately, hearing them will be a major challenge.

Currently these three stations conduct a USB voice mode radiotelephone link-up with the South African point-to-point station (ZUD) Olifantsfontein. The purpose is to allow personnel at SANAE and the island metro stations to talk with friends and relatives back home.

The schedule is Sunday starting at 0700 GMT and can last upwards to 1000 GMT. The comms are duplex with ZUD sending a test tape and being responded to with a test tape from one of the above. Once the link-up is established, the best frequency for transmission to ZUD is decided upon for the radiotelephone exchange. (ZRS) Marion also conducts daily RTTY (50/850) exchanges with ZRO Pretoria Metro, starting at 0630 GMT on its frequency of 13402 kHz. In addition, Marion has USB/RTTY links with (ZOE) Gough, (VLV) Mawson Base-Australian Antarctic, (ZRP) SANAE Base Antarctic, (FJY2) Kerguelen Island, and occasionally with other Antarctic stations. These transmissions occur when needed.

Here's an attractive card that Larry Kress of Ohio sends out to stations he monitors.

Francois reports these USB mode frequencies to be active: ZUD, Olifantsfontein, uses two frequencies at the same time for a two station link-up. These are 14805 and 14887 kHz. The three stations will respond using one of the following: ZRP SANAE Base—8265, 11145, 11165, 12442, 12462, 16425, 16435, and 18985 kHz; ZRS Marion Island—13402, 14402, 16300, and 16325 kHz; ZOE Gough Island—16552 and 16425 kHz.

It must be noted that *both* voice and RTTY could be heard on the above mentioned frequencies, and that ZRP/ZRS/ZOE can utilize each other's frequencies if propagation conditions warrant it.

As I said, for North Americans, monitoring these South African stations will not be easy. Undoubtedly the best time frame will be during the late fall through early spring season.

QSLing them presents its own problem. South Africa *no longer honors* IRCs. You will have to send "mint" South African stamps to cover return postage. For these, check out your local stamp store.

As for a mailing address, Francois suggests you send "care of" the following: South African Weather Bureau, Private Bag X447, Pretoria, 0001 South Africa.

Antennas

My January '86 discussion on antennas and the individuals own electromagnetic environment brought forth many interesting letters from the readers. Several were from monitors who live in apartment complexes situated in major cities, and were literally being inundated with electrical interference. After trying various antennas and configurations, they finally opted for an active antenna. The results were dramatically different. A New York City monitor bought an active antenna and this put him back in the monitoring business. In contrast, a Chicago monitor did the same, only to find the situation even worse. If anything, this illustrates that what works for one may not work for another because each of us monitors within his or her own unique electromagnetic environment.

For those of you who are fighting the static barrier, here are a few things to try out. If you can only set up an indoor antenna, try a short 20 to 30 foot design and purchase an inexpensive antenna tuner. This will allow you to "electrically" lengthen it to match the frequency. The rationale for this is that a short antenna is less sensitive to the longer wavelength type static.

If possible, mount your antenna in various places within your room, either horizontally or vertically. A vertical set up—ceiling-floor, floor-ceiling and spaced out as far as practical—might give you a better signal/noise ratio than it being in a horizontal configuration. If there is still no improvement, try shortening the antenna even more; I mean down to 10/15 feet and use an antenna tuner. This might sound crazy, but think about this. Last winter I monitored McMurdo and South Pole, indooors with the now discontinued Uniden portable rig, with just its 44-inch whip antenna!

Of course, the static may not be coming in via the antenna, but via the AC line. The obvious option if your rig has a DC battery mode is to disconnect it from the AC outlet, load in the dry cell batteries, and then compare reception with the AC fed mode. If your rig doesn't have this option, check out the local radio supply store for AC line filters. They won't cut out all the static, but maybe just enough. If nothing seems to work, make inquiries of your radio monitoring friends to ascertain if you could "borrow" their active antenna. If you can swing such a deal, you won't have to shell out the dollars to buy one, and then maybe find out that it doesn't help out at all. If it does, then you know which model to purchase.

Other than experimenting, a single cure-all remedy cannot be offered. Each of us monitors in a different EM environment, and solutions to the problem, if there are any, will likewise differ. Try the least expensive options first, and if there seems to be no other option and you're willing to take a monetary gamble, try an active antenna. Which one must be your own decision, for they, too, may or may not work, depending on the situation encountered.

USCG Cutters

Monitoring USCG cutters has proved to

be a very popular utility pastime, and what makes it even more enjoyable for some is that the cutters readily verify reception reports.

The USCG fleet of vessels is in two basic divisions. One is the small boat fleet, which ranges in size from motorboats up to the 52 footers. These Coast Guard vessels are very common around marinas, on lakes and rivers, or anywhere else people go boating. They're primarily assigned roles involving maritime safety and local search and rescue operations. All of the small boat fleets operate in the VHF/UHF frequency range.

The vessels of the other division are called cutters. These are vessels of 65 feet or more in length. Almost all of them are HF equipped and therefore these are the CG ships that are encountered on the maritime shortwave bands. There are 14 basic cutter types, and here is a breakdown:

WAGB	Icebreaker
WHEC	High Endurance Cutter
WIX	Training Cutter
WLB	Buoy Tender (seagoing)
WLI	Buoy Tender (inland)
WLIC	Construction Tender (inland)
WLM	Buoy Tender (coastal)
WLR	Buoy Tender (river)
WMEC	Medium Endurance Cutter
WPB	Patrol Craft
WSES	Surface Effect Craft
WTGB	Icebreaking Tug
WYTL	Harbor Tug (small)
WYTM	Harbor Tug (medium)

Of these cutters, the inland/river tenders and the harbor tugs have no HF capability.

CGC Frequencies

CG Cutters can pop up on a large variety of USCG frequencies, some U.S. Navy circuits, most 2 MHz marine operator channels, and on a select number of U.S. government agency frequencies. Comms are either USB voice or RTTY employing either a simplex or duplex mode. For those of you situated near the coasts, the 2 MHz marine band offers ample opportunity to monitor CG Cutters, along with various CG shore stations. For primarily USCG communication activities, one should check out the frequencies of 2606 through 2748 kHz for CG Cutter/CG shore simplex mode USB voice traffic.

Above 2 MHz there are a number of duplex mode USB circuits used by the cutters. Shown are the CG Cutter transmit frequencies followed by the CG shore station transmit frequency:

4081.6-4376.0
4106.4-4400.8
4134.3-4428.7
6200.0-6506.4
6206.2-6512.6
8195.0-8718.9
8241.5-8765.4
12342.4-13113.2
12379.6-13150.4
12426.1-13196.9
16475.5-17248.4
16497.2-17270.1
16534.4-17307.3
16574.7-17347.3
22015.5-22611.5
22052.7-22648.7

These are some of the more active simplex mode USB voice frequencies:

3253.0	8291.1
4125.0	8294.2
4376.0	8768.5
4419.4	12429.2
5320.0	12432.3
5680.0	12435.4
6218.6	13150.4
6221.6	16587.1
6512.6	16593.3
6521.9	22127.1
8245.0	22133.3

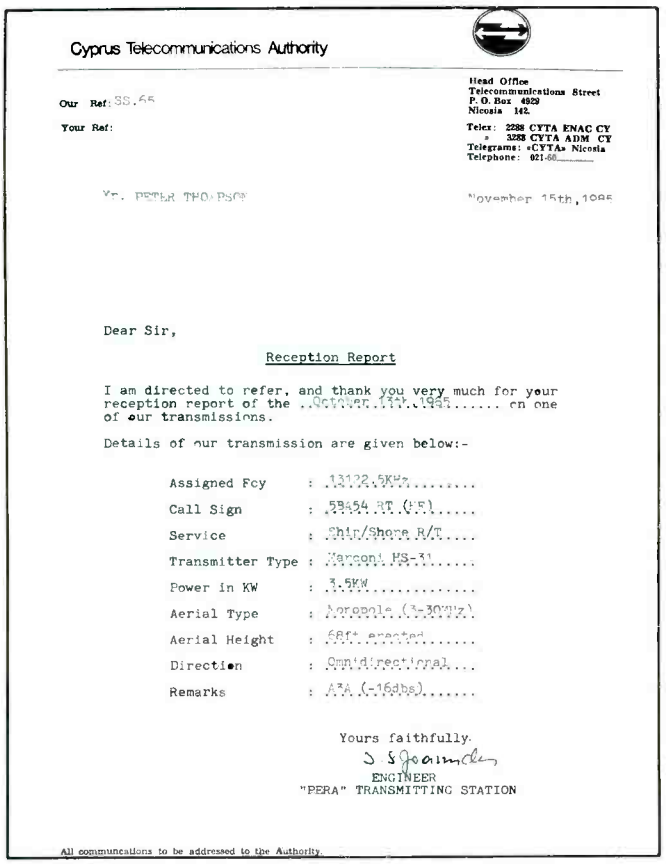
Many cutters are RTTY equipped and normally use either a 75/850R or 75/170R mode. Here are just some of many RTTY cutter side duplex or simplex frequencies:

2646.0	8580.0
2666.0	8632.0
2672.0	8648.0
2682.0	9108.0
2690.0	9125.0
3387.0	10136.0
4170.0	10166.0
4177.0	11434.0
4228.0	12519.5
4243.0	12887.5
4296.0	12491.0
4314.0	12495.0
4335.0	12502.5
6256.0	15654.5
6266.0	16660.0
6353.0	16664.0
6381.0	16668.0
6419.5	16693.5
7528.0	22192.0
8295.6	22200.0
8343.5	22224.5
8347.5	27540.0

U.S. Coast Guard Cutters perform a variety of tasks. Some maintain river and harbor navigational aids, and all, when required, assist in search and rescue operations. As the USCG is America's maritime police force, it falls on the Coast Guard to enforce U.S. and international maritime laws. This could involve fishery protection, oil spills, and preventing illegal aliens from entering the U.S. by sea. Of course, the most noted law enforcement duty has been drug interdiction. These missions involve shadowing, stopping, boarding, and searching. If "contraband" is found, arrest and confiscation is made, along with the drug laden ship being taken to the nearest U.S. port.

Only the Coast Guard has authority to board, search and, if warranted, make arrests and confiscate contraband on the high seas.

In some instances, U.S. Naval warships have assisted in these high seas interdictions. But in accordance with the law, U.S. Naval personnel cannot board the suspect vessel. Instead, a USCG boarding party



Cyprus Telecommunications Authority

Head Office
Telecommunications Street
P. O. Box 4929
Nicosia 162.

Our Ref: SS.65

Your Ref:

Telex: 2288 CYTA ENAC CY
" 3288 CYTA ADM CY
Telegrams: «CYTA» Nicosia
Telephone: 021-68

Mr. PETER THOMPSON

November 15th, 1985

Dear Sir,

Reception Report

I am directed to refer, and thank you very much for your reception report of the October 13th 1985 on one of our transmissions.

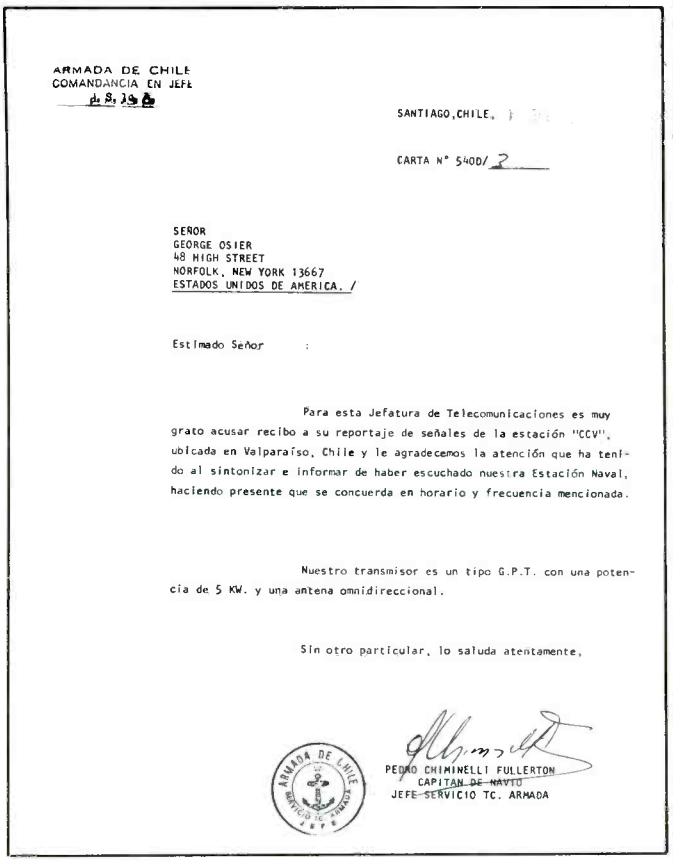
Details of our transmission are given below:-

Assigned Fcy	:	13132.5KHz
Call Sign	:	5B454 RT (FF)
Service	:	Ship/Shore R/T
Transmitter Type	:	Marconi HS-31
Power in KW	:	3.5KW
Aerial Type	:	Horopole (3-30MHz)
Aerial Height	:	68ft erected
Direction	:	Omnidirectional
Remarks	:	A3A (-16dbs)

Yours faithfully.
S Sgeorgiades
ENGINEER
"PERA" TRANSMITTING STATION

All communications to be addressed to the Authority.

Peter Thompson of Great Britain was fortunate enough to receive this verification letter from Cyprus Telecommunications Authority.



ARMADA DE CHILE
COMANDANCIA EN JEFE

SANTIAGO, CHILE,

CARTA N° 5400/ 2

SEÑOR
GEORGE OSIER
48 HIGH STREET
NORFOLK, NEW YORK 13667
ESTADOS UNIDOS DE AMERICA. /

Estimado Señor :

Para esta Jefatura de Telecomunicaciones es muy grato acusar recibo a su reportaje de señales de la estación "CCV", ubicada en Valparaíso, Chile y le agradecemos la atención que ha tenido al sintonizar e informar de haber escuchado nuestra Estación Naval, haciendo presente que se concuerda en horario y frecuencia mencionada.

Nuestro transmisor es un tipo G.P.T. con una potencia de 5 KW. y una antena omnidireccional.

Sin otro particular, lo saluda atentamente,

PEDRO CHIMINELLI FULLERTON
CAPITAN DE NAVIO
JEFE SERVICIO TC. ARMADA

The Chilean Navy sent George Osier this QSL letter written in Spanish.

contingent is carried aboard the USN ships that participate in the anti-narcotic missions.

Coast Guard Cutters conducting these missions work with the U.S. Customs Service and the U. S. Drug Enforcement Agency. When doing so, the cutters will use a tactical callsign. The most common has been *Shark*, followed by the cutters hull numbers. The most famous of the USCG cutter drug busters has been *Shark 626*, the CGC Dependable (WMEC 626).

Some of the more active frequencies used by CG Cutters to interface with the anti-smuggling agencies are: 2808.5, 5800.0, 7675.0, 14686.0, and 18666.0 kHz, USB voice.

There are other missions that CG Cutters take part in, and some are assumed to involve national security. In these instances, cutters can be heard working a USCG Commsta, using a typical USN alpha-numeric type tactical callsign, such as November 7 Papa.

Other than the instances in which a USCG Cutter uses a tactical callsign, your chances of obtaining a verification of your monitoring are almost 100%—this is, of course, providing you follow utility comm reporting restrictions.

BY DON SCHIMMEL

Intercepts Section

Mike Chabak has provided some more very fine intercepts. This time, the target was Antarctica on a frequency of 8997 kHz and the loggings were made during the period of 0406-0927 GMT. All transmissions were USB and included Mac Center (McMurdo ATC Antarctica) wkg aircraft XRAY DELTA 01 (LC-130 aircraft from VXE-6 sq), NPX-South Pole Antarctica sending weather report to Mac Center, NBY-Byrd Surface Camp Antarctica sending weather report to Mac Center, Beardmore Camp (temporary scientific camp Antarctica) wkg South Pole, and NQU-Siple Station Antarctica wkg South Pole.

George Osier, New York forwarded another nice batch of intercepts. He included a QSL letter he received from the Chilean Navy and thought you readers would like to see it. Thanks, George.

Ron Seymour, Missouri wrote to say "I read your January '86 article in *POP'COMM* concerning 'Monitoring the Cruise Ships'. Your article sure cleared up a lot of USB traffic I didn't know existed! I logged about 40 ships and could hear faintly to very well both sides of phone and ship/shore traffic." Ron furnished an excellent tip on a source of information on cruise ships and freighters that carry passengers. The books contain a description of the ship, picture, tonnage, capacity, itineraries, and owner addresses. This latter data will facilitate your QSL requests. The first title is *Ford's Freighter Travel Guide* and costs $7.95 postpaid. The second title is *Ford's International Cruise Guide* and it is $8.95 postpaid. The address for ordering is PO Box 505, Woodland Hills, California 91365. For you readers who are into the marine scene, these books certainly should be ideal reference material to have on hand.

A nice note came from Bob Neubaur, Florida with his first intercept of a "numbers" transmission. It was a YL/SS on AM with 4F groups at 0040. Bob said his equipment consisted of a borrowed Hallicrafters S-40B and a metal window frame for his antenna. Just goes to show you that a lot of signals can be heard with a simple installation.

The matter to be passed on to readers is a list of some SSB 5F numbers intercepts sent in by David Alpert, New York. Here is his list:

Freq	Time	Day
3692	0430	Friday
4028	0620	Monday
4483	0615	Sunday
5133	0615	Monday (not // 8056)
5936	0700	Saturday
6291	0715	Sunday
6835	0830	Friday
7342	0615	Wednesday
7430	0540	Friday
7908	0805	Wednesday (pinning my S-meter)
8056	0615	Monday (not // 5133)
12036	1900	Saturday

A letter was received from Peter Thompson in Great Britain, who says he is using a Yaesu FRG-7 receiver with a 60 foot longwire antenna. He forwarded some fine intercepts, as well as a copy of a reception re-

port he had recently obtained. Here is what he had to say:

"I enclose a photo-copy of a QSL letter I received from the Cyprus Telecommunications Authority. As the legality of 'Ute' listening is rather dubious here in Britain I don't usually send many reception reports. On the day I heard 5BA however, they were transmitting a test tape, so I couldn't see any harm in it. Funnily enough I thought I would send them a reception report when I heard them, but I didn't know the address. Then, lo and behold, I opened up my next copy of *Popular Communications* to find a list of handy addresses including the one in Cyprus. I certainly wish there was a magazine like it over here."

Patrick Griffith, Colorado sent in a copy of an article that appeared in the *Rocky Mountain News* concerning an Air Force radio tower to be erected in Jefferson County, Colorado. The County Commissioners sent a letter to Air Force Officials pointing out, "It is our understanding that a complete environmental impact statement is required whenever a tower is 300 feet high. Proposing a 299-foot tower merely to circumvent this process violates the spirit and intent of this requirement." The tower is to be part of the Ground Wave Emergency Network and would link the North American Aerospace Defense Command in Colorado Springs to Lowry Air Force Base in Denver. It is one of 56 unmanned towers that will be built to link the nation's military forces in the event other communications devices fail. This matter reminds me of the States versus Feds battle regarding the U.S. Navy ELF Project antenna installation in Wisconsin and Upper Michigan.

I must again appeal to contributors to the Intercept Section to please allow several lines (3-4) between logged items. It is extremely difficult when cutting the items apart to avoid cutting into the recorded information if there is no space between items. In addition please place your name and state after each item. Perhaps this sounds fussy, but in dealing with hundreds of items each time a batch of letters arrives, I have to seek methods to help keep order in the material being considered. It is a fact of life that the selection process is enhanced when the material is more easily handled. Thanks.

244: HDS, unlocated beacon at 0318 (Kneitel, NY).
248: UL, Dorval Airport, Montreal PQ at 0509 (George Osier, NY); at 0059 (Kneitel, NY).
290: YLQ, LaTuque PQ, beacon, 0322 (Kneitel, NY).
296: , G, Sands Point BC, beacon at 0752, (Terry O'Laughlin, WI).
313: Z, Cape Canaveral FL, beacon at 0506 (Kneitel, NY).
365: FT, Ft. Worth TX, WX at 0455 (O'Laughlin).
368: SIR, Rawlins Muni WI, beacon at 0452 (O'Laughlin, WI).
391: DDP, San Juan PR, beacon at 0736 (O'Laughlin, WI).
396: ZBB, Bimini, Bahamas beacon, 0605 (O'Laughlin, WI).
404: YSL, St. Leonard N B, beacon at 0456 (Kneitel, NY).
411: HAE, Hannibal MO, beacon at 0534 (O'Laughlin, WI).
472: NMF, USCG Commsta, Boston MA w/diver & torpedo warnings, navig aid status for sea coast, CW at 0036 (Osier, NY).
482: WSC, Global Marine Communications, West Creek NJ in CW at 0124, tfc/QSX 482 kHz, 6/8 MHz (Osier, NY).
3090: YL/SS in AM at 0133, 5F gps (Osier, NY); at 1210 (Kneitel, NY).
3348.2: V beacon in CW at 0110 (Kneitel)
4035: 2 stations, USB, could be out-of-band Hams or illegals. Alpha Alpha net w/callsigns like AAV5FG (Robert Pastrick, PA). Sounds like U.S. Army MARS as they use AA prefixes & one of their freqs .s 4036.5 kHz-- Ed.
4063: WCM, Withamsville OH, USB at 1548 to river vessels (Robert Margolis, IL).
4066.1: USS RENTZ (FFG-46), USB w/med emergency 'phone patch via San Diego CSS-1 (Mike Chabak, AZ).
4070: SS 5F gps, AM at 0403, s/off mid-group at 0413 (O'Laughlin, WI).
4125: Missouri River barge tfc near Sioux City IA; also Aukland, New Zealand VOLMET on same freq. (Jeffrey Hall, WA) What time?-- Ed.
4139: YL/SS in AM at 0145. "Atencion" repeated 3 times then 5 digits repeated for 2 minutes, followed by 5F gps (Osier, NY).
4197: Un-ID station w/Polish or Slavic language CW at 18 wpm 0226-0234 (Jerry Brumm, IL).
4259: YHM (Indonesian alloc.) in CW at 2244 w/callsign marker (Gary Vendetti, NJ).
4263.5: UDH, Riga, Latvian SSR, VVV in CW at 2238 (Vendetti, NJ).
4277: ZLB2, Awaruo, New Zealand, CQ in CW, freq list at 1321 (Osier, NY).
4303: MTE (UK alloc.) in CW, marker at 0140 (Vendetti, NJ).
4357: WAH, St. Thomas VI, USB at 0705; KMI, San Francisco CA also noted at 0722 w/phone patch to FAIR SEAS (Margolis, IL).
4360: USS BERKELEY (DDG-15) wkg San Diego CSS-1, USB at 0618 w/phone patch (Hall).
4428.7: USCG Commsta, Honolulu HI calling C2CR in USB at 0538 (Pat Griffith, CO).
4448.4: U beacon, CW at 0220 (Kneitel, NY).
4589.5: N beacon, MCW w/occasional data bursts at 0456 (Kneitel, NY).
4612: RELEGATE in USB at 1618 w/coded msg then checks w/stations AWARENESS, GEOMETRIC, COAST GUARD, ROADSIDE, SEA BASS, RARE BIRD. All US accents (Peter Thompson, England).
4637.5: Barge tfc, USB. Houston base to units at 0400 (Shirley Lieb, IL).
4670: SS/YL in AM at 1105 calling "390," counting to 10. Announced Grupo 250 at 1110

& into 4F gps. FIN at 1151 (Margolis, IL); at 0300 (Lieb, IL).

4722: MVU, W. Drayton Air Base (RAF), England, in USB w/WX at 0205 (Ross, Ontario).

4731: Andrews AFB & FREELAND set up RTTY circuit, initially on USB at 0305 (Dan Burns, PA).

4805: VVV marker in CW at 0840, no ID (Dennis Murphy, CA).

4936: CKN92, Canadian oil rigs in USB discussing drilling depth & casings used, heard 1313 (Osier).

5070: LACERATE in USB at 0625. Active net w/RTTY bursts, much discussion about "Event 0100Z" (Hall, WA); also ANTHOUSE to LAST DAY in USB requesting encrypted message, same style as Foxtrot messages. Monitored at 1029 (Osier, NY).

5080: X0S, Q7E in USB at 0601. Semi-military net w/FLEET CONTROL, ALLIGATOR JULIET, KILO 2 & requests for DPU's from all units (Hall, WA).

5118: SS/YL in AM w/4F gps //6804 kHz (Lieb, IL).

5300: F beacon in CW at 0835 (Murphy, CA).

5309.3: Z beacon in CW at 0004 (Vendetti, NJ).

5386: AMAZON, 11th mile, San Clemente CA in USB at 0102. USMC field net w/San Clemente requesting mortar ammo, fuel, etc., from 11th mile, BLT-11 (Hall, WA).

5541: Stockholm (Sweden) in USB at 1647 working Overseas National Flight 107 arriving at Manchester, w/phone patch to dispatcher (Thompson, England).

5574: Hawaii Air 916 to San. Francisco, USB at 0514 (Griffith, CO).

5652: Niamey, Niger, ATC in USB at 0056 to un-ID aircraft, in French (Thompson, England).

5658: Khartoum, Sudan, ATC working Sabena 500 in USB at 0049 (Thompson, England).

5696: 616 in comms w/630, USB at 1006 (Bryant, TN).

5710: EE/OM in USB, w/accent giving 5L phonetic gps at 0435; much mic clicking, many mistakes & repeats (Lieb, IL).

6185: S5N & Y2B in AM at 0610. Very odd 2-way w/RTTY bursts, almost atop BBC Antigua (Hall, WA).

6200: WYA4674, Research Vessel NEW HORIZON w/WX to USCG San Francisco, USB at 1227. Duplex w/6506.4 kHz (Chabak, AZ).

6240: OM/SS in AM at 0437 w/5F gps, German accent (Hall, WA).

6471.1: 6Y1, Kingston, Jamaica, in CW at 0221 w/call marker (Gary Bledsoe, AK).

6572: Un-ID fishing trawler tfc. No callsigns, plenty of salty language, USB at 0404 (Murphy, CA).

6601: Gulf of Mexico oil rig comms, the language here is rough around the edges, USB at 0154 (Hall, WA).

6696: H2T calling 6PE in USB at 0454 (O'Laughlin, WI); S0U passing encrypted tfc to 5BE, in USB at 0102, possibly USN ASW net (Vendetti, NJ).

6761: SAC bases INJECTOR and TANK CAR to SAC aircraft NICK 46, COORS 23, TANSY 94 in USB at 0210 (Griffith, CO); SKYBIRD to SAC aircraft BLACK EYE in USB at 0510 (Lieb, IL).

6789.9: EE/YL repeating CHARLIE INDIA OSCAR ZULU in USB at 0045 (Ross, Ontario)

6804: SS/YL in AM w/535-1-0 for 10 min; 10 tones then 4F gps at 0500 (Lieb, IL).

6825: SS/YL 5F gps at 0523 (Murphy, CA).

6840: EE/YL in AM/USB at 0213, 5L phonetic gps (Burns, PA).

6889: SS/YL w/5F gps, AM at 0500. Not the usual voice (Lieb, IL).

7605: EE/YL sending VICTOR LIMA BRAVO 2 in AM at 2247 (Burns, PA) Reputed to be Mossad station in Israel.

7700: 303 working 302, USB at 2216. Wanted check point info. This is a U.S. Dept. of Energy frequency (Margolis, IL).

8112: SS/YL #'s station, AM at 0806. Loud signal but with fading at times (Bob Brown, CA).

8175: SS/YL in AM/USB at 0806 w/5F gps, obvious computer noises in b/g, not usual YL (Hall, WA).

8383: BLHZ, MING UNIVERSE, a Tiwanese container ship w/CW Telexes at 0500 (Margolis, IL).

8418: SS/YL w/4F gps at 0500 (Lieb, IL).

8446.7: RTEU, Soviet vessel in CW with a

8463: JOU, Nagasaki, Japan, in CW w/CQ & QSX marker at 0613 (Chabak, AZ).

8510.3: UKK3, Nakhodka, USSR, in CW at 2330 calling 4KT; w/QSX info (Bledsoe, AK).

8515: UFL, Vladivostok, USSR in CW, CQ/QSX marker at 0610 (Chabak, AZ).

8542.3: PKI, Jakarta, Indonesia, in CW at 1708 calling CQ (Bledsoe, AK).

8623.3: RJS (USSR alloc.) in CW calling UBEG at 0554 (Bledsoe, AK).

8646: D beacon in CW at 1715 (Osier, NY).

8698: FJP8, Noumea, New Caledonia in CW, calling CQ at 0540 (Bledsoe, AK).

8716.1: A7D, Qatar, in CW at 1653 w/call marker (Bledsoe, AK).

8731: Capetown Radio in USB at 0020 w/voice mirror "This is the international radiotelephone service of Capetown Radio." (David Alpert, NY).

8849.2: Honolulu Tower in USB at 0501 reporting that AGAR 25 aborted due to vibration in #3 engine (Bledsoe, AK).

8989: Australian AF, Sydney, in USB at 0858 w/phone patch to RICHMOND & comms to 09 discussing oil for engines (Dewey Bryant, TN).

9014: CYNIC 102 in USB at 1715 to BATTLESTAF w/requst for crew member "in the vault;" phone patch via Scott AFB (Hall, WA).

9023: SENTRY 54 w/phone patch via CABLE CAR to RAYMOND 24 in USB at 0137 (Burns, PA); DRAGNET UNIFORM to DEER HUNTER 14 in USB at 0352 w/scrambled speech check (Bryant, TN).

9125: SS/YL in AM w/5F gps to end at 0212 (Burns, PA).

9950: ZME6, Raoul Isl., Kermandec Is., in USB, phone patch in progress via ZLZ51 (Wellington, New Zealand) from 0620-0635. Duplex w/5225 kHz (Chabak, AZ).

10388.8: 325 calling 232 & asking for QSV at 0203, in CW w/bad chirp (Kneitel, NY).

11055: AF-1 to Andrews AFB, USB w/phone patches at 2014 (Alpert, NY).

11118: CIGAR BOX in USB at 2311 to SERENADE & LETTER BOX (Burns, PA).

11121: OM w/Arabic 5F gps in AM, distorted audio, loud hum in b/g at 1252 (Osier, NY).

11176: TIP 25 to Albrook AFB in USB at 0058 (Vendetti, NJ).

11179: Clark AFB to Hickam AFB in USB at 2106 (Hall, WA); MacDill AFB to MAC 50267, USB at 1645; Loring AFB in USB at 1711 to MAC 70001 (Thompson, England).

11181: B1X w/SKYKING message, USB at 0014; B1X is a USN base doing a USAF function--it's rare but I've heard it done before (Vendetti, NJ); AUSTIN 61 to McChord AFB in USB at 1640; NAVY PJ00 w/phone patch via Scott AFB; GRILL 23 (flight of 2 C-130's) w/patch to BACON 20 of Rhode Island National Guard via Scott AFB while returning from Bermuda (Griffith, CO).

11198: 3 ECHO/4 ZULU in USB at 2232. U.S. Army Reserve net w/talk about field antennas; 3 ALPHA also in net (Hall, WA).

11228: RAFT LOG & MacDill in USB at 1738 setting up RTTY circuit. RAFT LOG also monitored on 11243 (SAC Alpha freq.) (urna, PA).

11233: 3701, the aircraft of Prime Minister of Canada w/phone patch at 1907 via Trenton Military (Bedient, MN).

11272: BASIN 06 & BENDER MILITARY in USB at 1552; tfc about coordinates, times, aviation ceilings (O'Laughlin, WI).

11509: TORCH 31 to ABNORMAL 1 (Vandenberg AFB) & RIOT CONTROL in USB at 1927 (Hall, WA).

11867: MS beacon in CW at 1818, ID sent twice each 30 seconds (Osier, NY). Sounds like a Soviet jammer station.

12697.6: UIB2, Magadan USSR in CW at 0202 w/traffic list (Bledsoe, AK).

12780: D3E51/61, Luanda, Angola, in CW w/marker at 2131 (Kneitel, NY).

12861.5: 5AT, Tripoli, Lybia w/VVV CW marker at 0740 (Bledsoe, AK).

12970.2: SUH, Alexandria, Egypt in CW w/VVV marker at 0743 (Bledsoe, AK).

13023.2: D3E51, Luanda, Angola, in CW at 1730 w/marker (Bledsoe, AK).

13057: LSA4, Boca, Argentina w/Spanish language CE tfc at 2243, also call marker; possible new freq for LSA (Brumm, IL).

13122.5: 5BA54, Cyprus, w/USB test in Greek & English at 1535 (Thompson, England).

13192: Odd French African comms in USB at 1812. No ID's, several mentions of Cameroons. Abruptly off at 1816 (Hall, WA).

13257: ARCHITECT in USB to ASCOT 2451 at 1600. ASCOT 2451 enroute Nairobi-Palermos (RAF traffic). Burns, PA).

15015: Incirlik AFB to SQN 46 in USB at 1300 (Thompson, England).

15018: Elmendorf AFB & AUTOMATIC establishing RTTY contact after USB at 0115 (Burns, PA).

15737: RAF Gibraltar in LSB at 1447. Telephone hookup was called Gibraltar Exchange; talk of RAF pilot who didn't want to land his plane at Gibraltar because of terrain (Margolis, IL).

18027: TOY SHOP heard at 1738 in USB to Andrews AFB (Margolis, IL).

18808: Radiotelephone comms in Swedish at 1622 in USB between MFA Stockholm & Swedish Embassy in Managua, Nicaragua (Margolis, IL).

18940: SS/YL 5F gps, AM at 1711 (Margolis, IL).

20876: XQ8AF1, Cerro Tololo Inter-American Observatory (La Serena), Chile in LSB English at 1855 w/phone patch to KFK92, Kitt Peak National Observatory, Tucson, AZ). (Chabak, AZ).

22430: HMZ, Pyongyang, N. Korea in CW at 0202 w/CQ marker (Bledsoe, AK).

25197: LSA8, Boca, Argentina, w/news in Spanish, CW at 2038 (Margolis, IL).

27886: JOB (possibly Nagasaki, Japan) w/CQ in CW at 2317 (Murphy, CA). PC

America's First Silver Dollar

In Accordance with Its Established Policy, The Washington Mint Hereby Announces a Limited Release of 4,115 Silver Dollars from the period 1772-1821.

A recently rediscovered private cache of **4,115** historic Silver Dollars from our nation's colonial period has now been authenticated and certified.

The specifications for this special public sale are as follows:

Historical Data:

England ignored the colonists' requests for Silver coins, so the enterprising Americans turned to the Spanish Piece of Eight as a primary means of exchange. These legendary Silver Dollars (bearing the denomination 8 Reales) were struck at the famed Mexico City Mint, the first mint in the Americas, and then shipped to the 13 colonies.

The high precious metal content of these Silver coins made them an immediate favorite with the Americans, and they remained extremely popular *even after our nation began to mint its own currency*. Remarkably, these Silver Dollars continued to be a legal coin in the United States until 1857.

Coin Description:

The obverse of each coin bears the profile of Charles III, King of Spain, and the year in which it was minted. The reverse bears the crown and shield of the Spanish Empire, the 8 Reales denomination, and the Mexico City mintmark.

Each coin was minted between 1772-1821, and each measures 39.5mm in diameter (slightly larger than the U.S. Silver Dollar that it inspired).

Metal Content:

Each one of these Silver Dollars contains 27.67 grams (427 grains) of .900 Fine Silver.

Restrictions:

This special release of America's First Silver Dollar is restricted to private citizens only -- No dealer orders will be accepted. A limit of ten coins per order will be strictly enforced, and all orders are subject to acceptance by The Washington Mint.

Sale Prices:

Each Silver Dollar in this release is priced at $80.00 plus $2.50 for postage, handling, and insurance. (Total: $82.50)

Special Discounts:

The following discount prices apply for customers placing quantity orders:

Three Silver Dollars for $225.00 plus $5.00 (Total: $230.00)
Five Silver Dollars for $345.00 plus $5.00 (Total: $350.00)
Ten Silver Dollars for $670.00 plus $5.00 (Total: $675.00)

Order Instructions:

All mail orders *must* be accompanied by a check or money order for the full amount. Credit card customers are advised to place their orders by calling:

Toll Free 1-800-348-3500

(24 Hours a Day)

No lottery mechanisms will be utilized for this sale. Orders will be filled on a strict FIRST-COME, FIRST-SERVED basis according to the POSTMARK date of mail orders and the TIME AND DATE of telephone orders. The Washington Mint, one of America's foremost private mints, fully guarantees satisfaction with a 30-day, money-back policy. Certification of Authenticity will accompany each Silver Dollar in this release.

Check and money order customers should send their orders directly to:

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Washington, DC 20009

BETTER SIGNALS

ANTENNAS AND SIGNAL IMPROVING ACCESSORIES

BY ED NOLL, W3FQJ

In A Car SWLing With A Portable

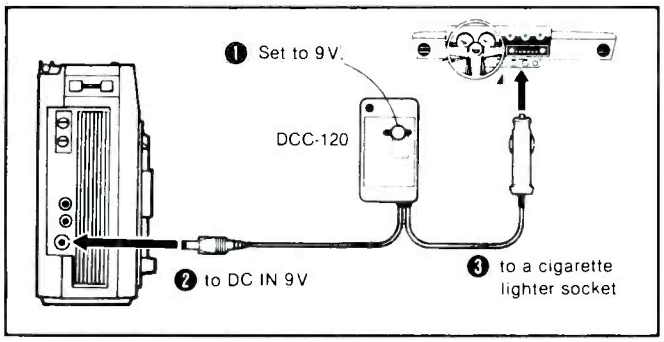


Figure 1: *Optional power supply for Sony ICF 6500W.*

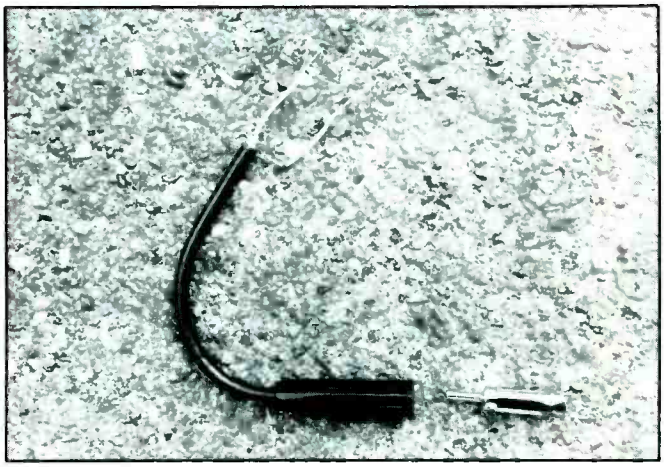


Figure 2: *Adaptor to connect auto antenna radio jack to portable.*

There are two ways of SWLing in an auto. One, you can listen in motion. If a station is strong, the signal dips and the interference is tolerable except in very bad locations. Two, you can seek out a high spot, park, and do some real DX'ing. Another good listening spot is along the coast with that clear over-the-water shot to another continent. Since most SWL portables also include the MW band, you may consider some dusk hunting for foreign broadcast stations. Listening in the car is inexpensive and you are protected from inclement weather. It is also easy to move away from a noisy location or other disturbances. Consider, too, the quiet background level of an isolated hill top. There are no big problems involved in preparing for such a DX venture.

Ignition noise is a problem for in-motion SWL listening. Some manufacturers of portables make available an optional 12-volt car battery assembly that can be plugged into your dashboard lighter. Or, you can prepare one yourself. This is a good way to go and usually results in considerably less trouble with engine noise as compared to the use of the radio battery. If you plan to use the auto battery for operation of the radio be certain the arrangement derives the proper DC voltage required and is connected to the battery receptacle of the portable with correct polarity. The optional car battery arrangement made available for my Sony ICS-6500W, shown in Figure 1, consists of lighter plug, a voltage converter that must be set to the 9 volts required by the radio, and a plug that connects to the battery receptacle. Note that the center conductor of this plug is negative. Study the operating instructions of your own portable to make certain you go the right way.

Often, a portable requires that any external antenna lead be connected to screw terminals. Most mobile antenna lead-ins terminate in an auto radio antenna plug, although other plugs are found as well. An adaptor for making a changeover between an auto antenna plug and two wires to which spade lugs can be attached is shown in Figure 2. This photo shows a typical Motorola antenna plug on the left, and to its right is the adaptor into which such a lead-in plug can be inserted (Radio Shack 274-713).

A variety of antennas, as well as a variety of mounts, can be selected, such as FM, FM/VHF/UHF, car and van TV, CB, etc. Search for types of antenna and mount that best suit your car and whether you want a permanent or temporary installation. For the latter situation a magnetic mount is attractive. Luggage rack mounts are versatile and can be detached when desired.

Blessed with a luggage rack, I was able to use an AM/FM antenna that had a mount that could be attached to a cross member of the luggage rack and held in position by its wing screw (Radio Shack 12-1324). Also attached was a CB luggage-rack mount. The former was used for on-the-move portable listening, as shown in Figure 3. Antenna rods were fully extended to approximately 30". Performance on the 19 meter band was excellent whenever I was in the clear. However, remember you must often drive with all sorts of wires above you and to the side. The usual AM or FM broadcast signal is many times stronger than a received shortwave signal. Receiving conditions are, for the most part, up and down, but at times unexpectedly good. If propagation is favorable, results at a high, quiet location are exceptional.

A CB whip antenna screwed into the CB luggage rack mount improves signal pickup at a parked location. At the same time there is no great problem in connecting and disconnecting the whip from the mount.

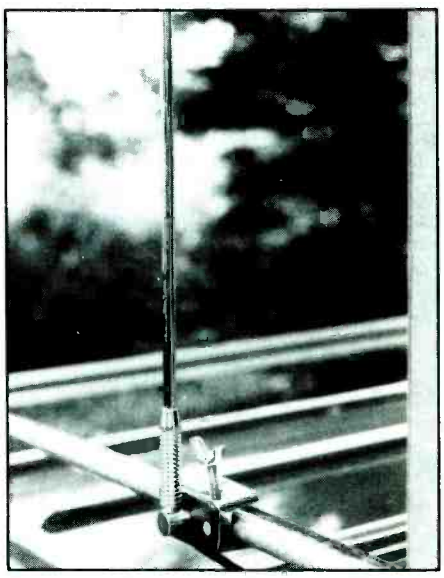


Figure 3: *FM vertical for use with shortwave portable.*

As mentioned in a previous column, a short screw with a 3/8th thread can be screwed into the mount to hold a wire antenna. Consequently, you can find an isolated spot and really stretch out a long end-fed longwire antenna, which can be helpful on the lower frequency shortwave band. All the listening can be done in the car away from any adverse weather situations. When your DX'ing session is completed, all you need do is wrap up the wire and tape it firmly to the luggage rack. Then you can go on your way. To use the luggage rack mount you must attach a PL-159 plug for connect-

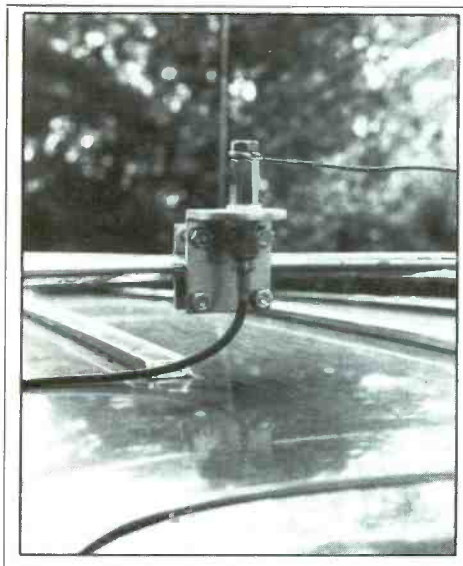


Figure 4: *End-fed longwire connected to CB luggage rack.*

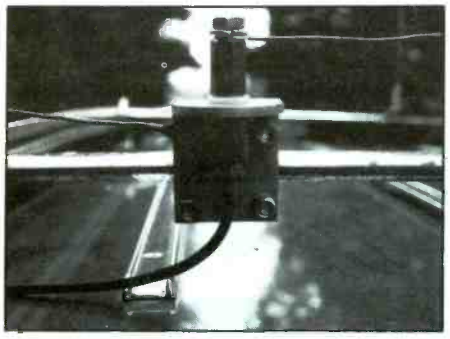


Figure 5: *Connecting a 19-meter dipole to luggage mount for mountain-top listening. Roll up wire, tie them down, and move on to next site.*

ing to the mount. At the opposite end of the line the inner conductor and braid must be dressed and attached to spade lugs.

The manner of connecting the end-fed longwire is shown in Figure 4. If you wish to favor any shortwave broadcast band use a length of antenna wire that is a quarter wavelength long. Use insulated wire and just bare a short section for connecting to the short screw that is tightened into the mount's top connector. The opposite end of the antenna wire can be tied to a tree or any other convenient position. There is no problem in constructing a dipole with one segment attached just like the single wire antenna. The other quarter-wave segment of the dipole can be held down by one of the bolt/nut combinations that hold the mount to the cross piece of the car luggage rack, as seen in Figure 5. Cut each segment to about 15′3″ and you have a 19-meter dipole that you can orient broadside to any preferred direction. The antenna might be low to the ground, but who cares if you have chosen a very high location.

Mailtalk

Jack Bromley of LaCross, Wisconsin, brings signal to his Sony via a two-wire line that connects to the terminals of a car/van VHF-TV antenna (Radio Shack 15-610), which is attached to a window of his car. First, he wound a coil over a plastic tube from an old felt tip pen, slipping it over the antenna of the portable. The two wire ends of the coil were attached to the line from the VHF-TV antenna. Coil was wrapped with 25′ of No. 18 insulated wire and then covered over with electrical tape. This was his inventive answer to reducing car engine noise. He'd like to hear from any others who have used a similar idea to listen to shortwave broadcasts while driving along the highway.

A frequent inquiry from readers questions the relative merits of longwire and dipoles. Most are aware that a dipole has a narrower bandwidth than a longwire and that performance drops off when you go off its spectrum of operation. However, the longwire, too, dipsy-doodles in its performance as a function of its overall electrical wavelength on a specific band. The truth of the matter is that a dipole can be made very convenient for certain applications and responds favorably to various adaptations that permit multi-band operations. Also, longwires of specific lengths instead of "guess" lengths do a better job according to certain needs. These considerations have been brought out previously and will be continued to be stressed in the column. So keep coming back for monthly guidance. Next month—"how to test an antenna?" PC

Beaming In *(from page 4)*

scheme to keep occupied and entertained. Using bulldozers intended for construction and snow removal, the crew began rounding up hundreds of boulders and large rocks. Over a period of months, these were laboriously piled up to form enormous letters spelling out a four letter word that they felt summed up their feelings about being assigned to the desolate spot. I'll leave it to your imagination as to what this word was.

When postwar transatlantic airline passenger service began flying the polar routes, several of those routes passed directly over the location of the former communications station, thus treating passengers to a glimpse of this word spelled out in gigantic letters.

Supposedly an on-site inspection team was sent and decided that there was no quick and easy way to erase the massive stone word from the landscape. Ultimately the airline route had to be shifted to avoid any further fly-overs and resultant passenger complaints.

I've been told that, despite 40 years' worth of Greenland's winters, the word is still there and sometimes even shows up in photos taken by surveillance satellites. The word could well turn out to be the first message from humankind seen by little green astronomers on other planets when they train their telescopes toward Earth! And, just think, I've heard this story over the years from no less than ten relatives of the operators who personally rolled those giant stones into place. Gee, don't you hope that story's true? I do!

At least six times people have told me about the legendary method of achieving communications security by using two CW transmitters on different frequencies, one for the dots and the other for the dashes. The dot contact of the bug is connected to one transmitter, the dash contact connected to the other. Dots on one frequency, dashes on the other; you have to tune it in on two receivers. I've spoken to people who claim to have seen such circuits in use by others. I've spoken to people who tell me that they've copied such circuits. In all my years of tuning from one end of the spectrum to the other, I've never come across such transmissions. Have you?

Before the days of radar, shore-based radio direction finder stations guided ships into fog-shrouded harbors. Two or three D/F stations would take bearings on a radio signal from a ship and plot the ship's position. A series of positions, or fixes, could be used to guide a ship into the harbor.

No special equipment was required by the ship. Any ship with a transmitter and receiver could use this service offered (in the old days) by the U.S. Navy. A ship, after requesting a fix, would be directed to send a series of MO's in CW on 375 kHz. The letters MO (-- ---) were used because they made a distinctive total dash combination that made it easier for the shore stations to use for bearings.

One merchant captain, legend dictates, trying to make San Francisco in a dense fog, had his radio operator call the shore D/F station for bearings. The shore station told him to send MO's. The bearings were taken and calculated, then transmitted to the freighter. The ship's operator yelled the position up the voice tube to the worried captain on the bridge.

The captain consulted his charts. His face flushed as he bit down hard on the stem of his pipe and yelled back to the ship's operator. "Call that idiot on the beach and tell him his fix puts us in the Mark Hopkins Hotel!"

The voice tube answered, "Aye, aye, Captain."

Sparks translated his skipper's sharp words into dots and dashes and sent them to the shore operator.

The captain paced the bridge like a caged tiger, cussed, gritted his teeth, scratched his whiskers, and grimly peered into the surrounding fog for the Point Bonita Lighthouse beacon.

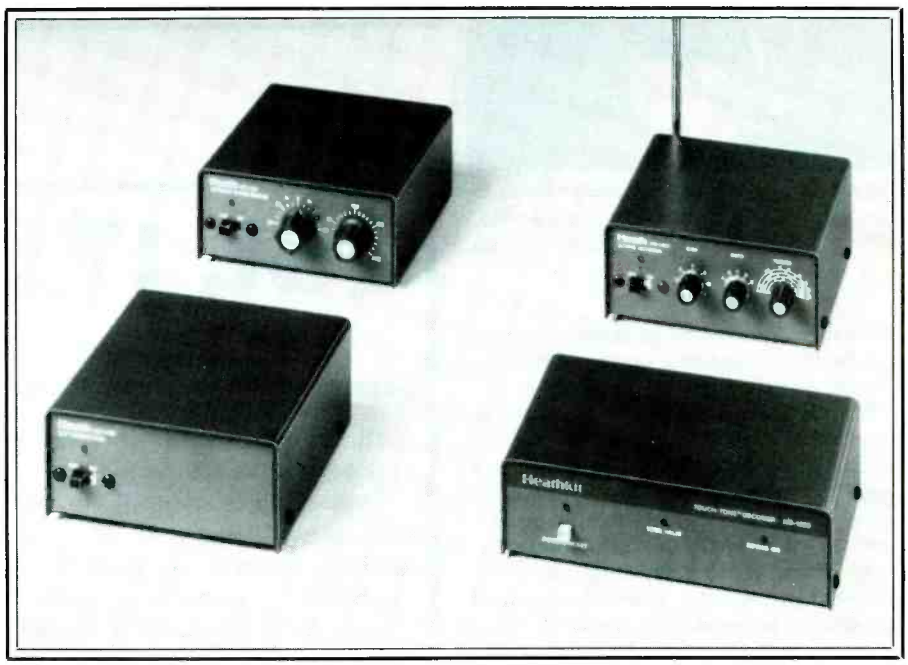
The frequency was strangely quiet, then after a long pause the Navy operator answered.

"Send more MO's and I'll give you a room number."

Allright, so it isn't as crusty as the legend of the pre-med student and the ice cream sundae, but it's what we're handing down to coming generations here in the communications game. Wadda ya' want from me? At least I've done my share for posterity by helping to pass them along; now it's your turn. Just keep in mind that you personally knew someone who knew someone that participated in each of these.

One more thing (and I really hate to mention this); the fact is that you're sort of—er—ah—obligated to do your share in maintaining radio's hallowed traditions. It's true! Once weaned on your first burst of static, you either do your share or else face up to the Wouff-Hong, the Rettysnitch, the Blifsky, and sundry Uggerumpfs. My sense of good taste forbids me to say more about these consequences except to add that whatever they are, they're nothing good.

Products *(from page 43)*



used in series with the speaker of a receiver or scanner. When activated, the HD-1530 mutes the receiver speaker until it detects a unique DTMF (dual-tone multi-frequency) code. The unit will then operate in a preprogrammed manner. A code consisting of symbols and numbers found on most 12- or 16-digit keypads is programmed into the HD-1530. If an incorrect code is detected, the decoder will automatically reset, cancelling any action. An entry timer may be set from 3 to 26 seconds. If the correct code is not entered within this time period, the unit will reset. The most common application of the HD-1530 is to remove the mute on the receiver speaker. The HD-1530 may also be used for the operation of single functions in the control of a repeater, such as ON/OFF control or as a secondary control link for autopatch. The Touch Tone Decoder operates on 7.5 to 11 VAC or 11 to 16 VDC; 175 mA maximum and optional power cubes are available.

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