

ICD08635

POPULAR COMMUNICATIONS

DECEMBER
1997

Cops and Scanning: Veteran Officer Stays One Step Ahead

- **Special Update—Tauzin to Fix Flawed 2369!**
- **Pop'Comm Spotlights: JRC's NRD-345 HF Receiver**
- **CTCSS—What It Can Do For YOU**

****News Flash**—Radio Australia Gets Funded**

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**PLUS: Computer Corner, Product Parade,
The Pirate's Den, CB Scene, The ACARS
MUCH MORE!**



Look To AOR For The Best Receivers



The introduction of the all new AR7030 shortwave receiver is geared to the discerning and dedicated listener. The AR7030 is the result of a combined project between AOR and a UK designer. The AR7030 represents the very latest and best design, featuring exceptionally strong signal handling and bristling with enhanced features, with coverage from 0 - 32MHz. The AR7030 has been targeted to handle strong signals that are of prime concern of European listeners. It offers greater than +35dBm IP3 (Intercept Point) and greater than 100dBm dynamic range. The DMOS FET QUAD first mixer with NCO drive DDS offers the ultimate performance. All this and great sensitivity better than 0.5µV for 10dB S/N in AM mode and better than 0.3µV for 10dB S/N in SSB. Selectivity too is razor sharp offering greater than 90dB @ 10kHz SSB and greater than 100dB @ 20kHz. No other receiver "in this class" nor indeed at considerably higher price can match the sheer performance excellence of the AR7030, RS232.

AR5000 Cyberscan

Test Results of the AR5000 vs. the competition show the AR5000 Superior in...

- Widest Coverage 10kHz to 2600MHz*
 - 77 Functions front panel or RS232 controlled
 - Sensitivity -Noise Figure -Dynamic Range
 - Minimum detectable signal (MDS) -Superior IF Filtering
 - 10.7MHz IF output levels and more
- Government Agencies and Serious Scanner Users also gave the AR5000 two thumbs up.**
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***AR8000B non restoreable cellular blocked, unblocked available for export-government & qualified users.**



AR7030 Superior by Design

Here is what the Pros say...

- *Larry Magne Passport To World Band Radio ★★★★★ Five Stars
- *World Radio TV Handbook. Table top Receiver of 1997
- *John Wilson noted U.K. Receiver guru —Shortwave Magazine 5/97 "AR7030 is at the leading edge of RF performance and will not be bettered for a long time."
- *Radio Netherlands ★★★★★ Five Stars

AR7030 'PLUS'

For those who want the "edge" this model has been designed for you. All aspects of performance have been carefully studied and specific performance enhancements makes this the ultimate receiver.

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PLUS
PERFORMANCE

Price TBA



PLUS
PERFORMANCE

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Price TBA

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- Power: 13.8VDC < 5A AC Adapter included
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AR8000B Cellular blocked. Unblocked available.*



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POPULAR COMMUNICATIONS

DECEMBER 1997

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Scanners provide officers with a wealth of information that might not be broadcast over police radio. Here's one officer's story of scanning and keeping one step ahead.

By Officer Stefan Jagoe

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By J.T. Ward

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By Alice Brannigan

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By Jock Elliott



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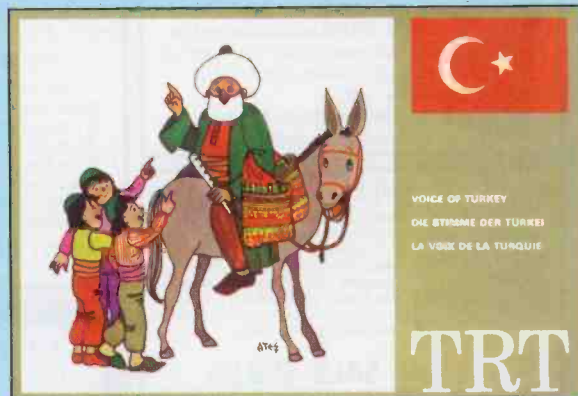
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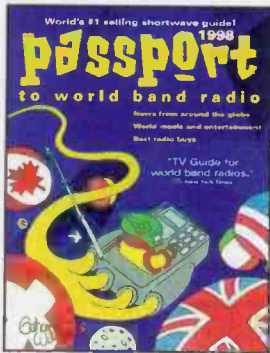
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ON THE COVER: Mounted Officer, Angie Bevier, of the Boise, Idaho Police Department, on duty in a park located across from the state capitol. To learn more about police and communications, read "Police and Scanners: An Interesting Mix in Western Kentucky" by Officer Stefan Jagoe on page 8. (Photo by Larry Mulvehill).

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Tuning In

AN EDITORIAL

BY HAROLD ORT, N2RLL, SSB-596

We're Biting at Their Heels

Because every second counts when it comes to tracking H.R. 2369, "The Wireless Privacy Enhancement Act of 1997," we've decided to post this edition of "Tuning In" on our WEB site at <<http://www.popcomm.com>>. Things typically move at a snails pace in Washington when you're not looking, but when our elected officials are in the mood or sense opposition, the pace quickens. So as this is being written in mid-September, H.R. 2369, the bill introduced by Rep. Billy Tauzin that would give the United States of America one of the most restrictive monitoring laws in the world, has been referred to the Subcommittee on Telecommunications, Trade and Consumer Protection, and has unfortunately picked up another sponsor, Rep. Thomas Manton (Dem., 7th Dist. NY). At this writing it hasn't been scheduled for a hearing, but stay tuned because it is gaining momentum.

But that's OK, because the monitoring public has picked up some sponsors of its own, including many police and sheriffs around the country along with several media outlets that stand to lose access to those wonderful scanners in the newsroom if 2369 becomes law. Since this bill was introduced on July 31, *Pop'Comm* has looked for ways—some conventional, some not-so-conventional—to reach the greater American public with this issue. More than 40 radio stations and news networks have been personally contacted. In one particular case we scored a direct hit in the Tauzin camp by confronting him personally on a wide-coverage talkshow on WWL radio in New Orleans. When you've got 30 seconds to tell your side of an issue, it isn't nearly enough time, but it gave me the opportunity to ask him point blank why he wanted to prevent folks from taking their scanners to the racetrack on Saturday afternoon to hear the race comms. While he was clearly agitated by the call, I was able to brand his "it's all in the name of cellular privacy" reply a very large crock. Of course he never really answered the question and proceeded to

ramble on about cellular privacy, but at least he knows we're in his backyard—and we'll be back!

My gut feeling after making dozens of calls and experiencing many interviews, is that there is a very real, vocal group of cellular users that want privacy. They don't see the difference between a wired phone and a wireless device. The mere thought of someone listening to their conversation goes against all they believe in, and frankly, I can understand their concern. The fact is they, like you and me, have private matters to discuss with friends, relatives and business associates—matters that should remain "private" and untapped by anyone, anywhere. These typical cellular users, in my opinion, don't care *how* privacy is achieved, and honestly, they'd probably welcome anti-monitoring legislation because it's viewed as a step in the right direction. But upon further examination, they also recognize that it's important not to lose our right to monitor the airwaves. In more than one radio interview I could almost hear the wheels turn in the announcer's mind as I explained how Congress is out of control by legislating what we can and cannot hear. One internet posting said it very effectively "this is the legislative equivalent of banning the automobile to prevent car theft." Well said, don't you agree? It's this type of message we need to keep hammering to the media in our hometowns. Folks like patrolman Donald Imhoff of the Paducah-McCracken County (KY) DES Police are important in this battle. He says, "I have yet to come across a person using a scanner or any other monitoring receiver for ill gain. That is not to say that it doesn't happen. I'm sure it does. A good comparison would be the gun scare craze that has and is occurring now. I firmly believe in the right to bear arms. That is one of the foundations of our great country." He continues, "Last spring our region was inundated with floodwater.

(Continued on page 80)

POPULAR COMMUNICATIONS

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A Veteran Police Officer Scans Every Day . . .

By Officer Stefan Jagoe

Although many people don't realize it, most police officers, especially those in small to mid-sized communities, carry a scanner of some sort in their patrol cars. Usually purchased at their own expense, the scanners provide the officers with a wealth of information about happenings in their cities; information that may not be broadcast over the police radio.

I have policed the city of Paducah, Kentucky for nearly 15 years. It's a scenic town with a rich history, located on the banks of the Ohio River in western Kentucky. It's population is about 30,000. Four states converge here; Kentucky, Illinois, Missouri, and Tennessee. This, of course, means that many different law enforcement agencies are at work in the surrounding area. To the scanner buff, it means non-stop action on a variety of frequencies. To me, as a police officer, it means that I never leave roll call without my scanner.

A surprising number of people are under the impression that a police officer anywhere can pick up the mic and exchange information with cops everywhere. This of course, is far from true. While there are communities where police agencies have access to a shared frequency, most police departments maintain their own frequencies for communications within their jurisdiction. With my 100-channel scanner, I can stay abreast of what stolen cars other agencies are looking for, back-up the state trooper who has made a traffic stop within city limits, and gather tidbits of information that fellow officers in other departments have discovered.

Knowing what the agency next door is doing can often be crucial! For instance, directly across the Ohio River from



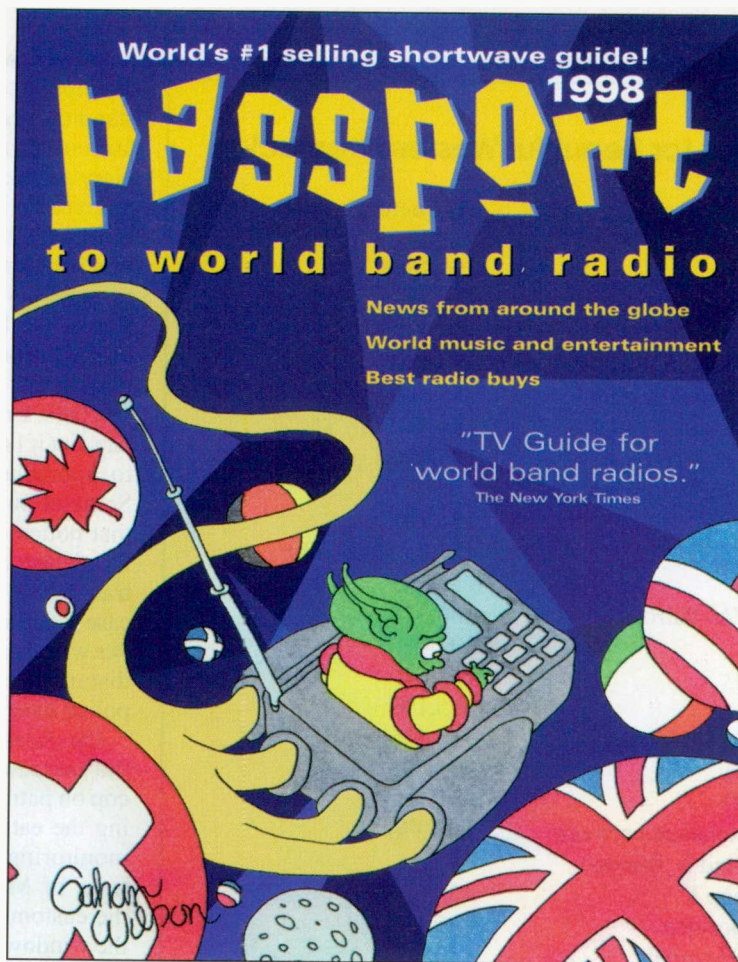
The author outside the Allie Morgan Communications Center. The center is home to McCracken County Central Dispatch which receives all 911 calls placed within McCracken County, and dispatches all the emergency agencies in the county including Paducah PD and Fire.

Paducah are the communities of Brookport and Metropolis, Illinois. Both have their own police departments operating on different frequencies, and both are also served by the Massac County Sheriff's Office, operating on yet another frequency. Many times my scanner has forewarned of a pursuit entering or about to enter Kentucky. Without the scanner, I would be forced to wait for the Brookport officer in pursuit to notify Brookport dispatchers that the pursuit is likely to enter Kentucky. The Brookport dispatcher, operating out of the Massac County Sheriff's Office, will notify Paducah PD Central Dispatch over a frequency shared by dispatchers in southern Illinois and western Kentucky. Central Dispatch now advises the Paducah officer assigned to the area bordering the state of the pursuit.

As you might imagine, this allows much more time for the pursuit to enter the city limits and perhaps end in a foot chase or physical confrontation before Paducah officers are even aware of the Illinois' officers in their jurisdiction. The scanner cuts out the "communications middleman" and enables me to know what's going on as it happens. Shared frequencies are becoming more common, but until they are the norm, scanners afford officers the opportunity to stay one step ahead of the game.

Other Reasons the Cops Listen

In addition to other police agencies, your local cops may listen to public util-



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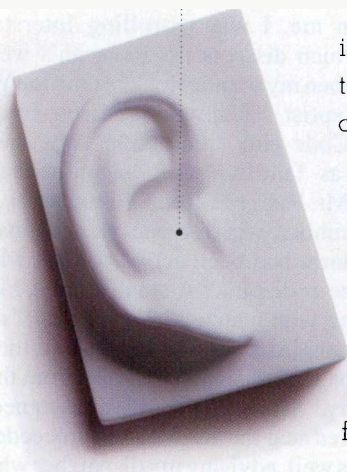
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Stefan's Frequencies for Beautiful Western Kentucky

Agency	Frequency
Paducah Police (trunked) (Includes all City of Paducah agencies)	856.7375, 857.7375, 858.7375, 859.7375 and 860.7375.
Marshall County Sheriff	159.150
Livingston County Sheriff, Fire and Rescue	155.880
Lyon County Sheriff	154.040
Graves County Sheriff	155.610
"River County" Sheriff (Carlisle, Fulton and Hickman Counties)	154.785
Kentucky State Police, Post 1	453.850, 453.300
Kentucky Fish/Wildlife Police	151.145
Land Between The Lakes (TVA) Patrol	166.325
Brookport, IL Police	39.50
Metropolis, IL Police	155.680
Massac County, IL Sheriff	155.190
Mound City, IL	155.555
Illinois State Police Emergency Response Network (ISPERN)	155.475
Point-to-Point Channel (for exchange between dispatchers of W. Kentucky and S. Illinois)	155.370
Missouri Highway Patrol, Troop E	42.06
Mercy Regional Ambulance Service	155.160
Lourdes and Western Baptist Hospitals Emergency	155.340
Massac County, IL Ambulance	155.340
McCracken County Fire	158.760
Lourdes and Western Baptist Hospital in-house paging	155.220
McCracken County Disaster and Emergency Services (DES)	155.805
Paducah Barkley Field Control Tower	119.600
Memphis Air Traffic Control	133.650
Marine Channel 16	156.800
Comcast Cable Repair Service	485.375
Paducah and Louisville (P&L) Railroad	160.215, 160.915, 161.900
Western Baptist Hospital Police	462.025
Security Taxi Cab Company (Dispatcher)	152.330 (receives on 157.590—mobile units are opposite)
Kentucky Oaks Mall Security	464.550
Kentucky Dept. of Highways	47.220
McCracken County Road Dept.	151.100

ity companies, ranging from the electric company to the local cable TV repair service. The two-way radio of private security services are also monitored, as are ambulance-to-emergency room communications and even the local taxi cab service. I've found this one to pay off more than you'd think. Other than the police, who else patrols the city streets more than taxi cabs? Large cities, of course, may

have several taxi companies, making the monitoring of their radio traffic impractical. However, Paducah has only one cab company, which also provides service for portions of southern Illinois, so I keep their channel at the ready. I have apprehended drunk drivers, responded to auto accidents before they were dispatched, and located wanted persons by carefully monitoring the taxi frequency. Persons

attempting to avoid the police due to outstanding warrants will frequently take a taxi out of the area, as will robbery or burglary suspects.

I recall a Paducah case not so long ago in which a bank robber who fled on foot was kept under observation by a cab driver until police arrived to make the arrest. The driver kept his dispatcher informed of the suspects movements. This information was then passed on to police dispatchers. Unfortunately I didn't work that day, but if I did, I would surely have come to appreciate my scanner even more. Some of our local taxi drivers are aware that police officers monitor their traffic. I've heard on more than one occasion a transmission begin with the words, "in case a cop is listening . . ." The taxi driver will then go on to report an accident, disturbance or other incident requiring police intervention.

On occasion, the scanner will become the source of entertainment for a lonely cop on patrol. I often joke that I'm studying the eating habits of the criminal by monitoring the drive-thru communications of McDonald's restaurants—both the customer and the employee working the window can be heard on 35.020 MHz in most cities, and the window employee can be heard communicating with front-line employees on 154.600. These are very low-power transmissions, so you need to be within a couple of city blocks to receive them. I have a new found respect for the poor guy or gal in the window after hearing some of the abuse that is often dished out by hungry and impatient patrons.

I recall another time when the joke was on me. I was patrolling Interstate 24, which dissects the Paducah's west end, when my scanner locked onto the Western Baptist Hospital security frequency. "Code pink, code pink," was the call. I was familiar with the announcement, "Mr. Red, Mr. Red," followed by a floor number, which meant the hospital's fire alarm had been activated. But what was the code pink? A small fire? A kid playing with matches? Then I hear "she's on the third floor moving toward the elevator, and she's taken a baby from the nursery." I radioed the officer assigned to the area near the hospital and proceeded there as well, advising my dispatcher what I had overheard. Dispatch acknowledged and said they would be calling the hospital. That's why I never leave roll call without the scanner, I thought. Suddenly the hospital guard's voice crackled, "I've got her at the main entrance, call the police." No



The console of my police cruiser features a 100-channel Bearcat Sportcat (with a mag-mount antenna on top of the cruiser for better reception), Motorola Spectra 800 MHz police transceiver, and a Tandy handheld cell phone. A CB radio is not visible in the photo, but I keep an ear on Channels 9 and 19. (Photo by Eric Jagoe)

need. The police were listening and just about there. Then my dispatcher said, "Unit 156, you can disregard. This was only a drill." But if it weren't, I thought, I had cut out the "communications middleman" once more.

Other frequencies that have proven to be helpful are Wal-Mart's in-store two-ways which are sometimes used by loss prevention employees as they nab a shoplifter, the local TV station news crews, the local newspaper's comms with

their photographers, in-house paging systems of the local hospitals, the National Weather Service, barge traffic on the Ohio River, Coast Guard transmissions and a few of the many railroad frequencies in the area.

While keeping an ear on the scanner, I do have to keep the other ear on the police radio! This task is made easier by the fact that the Paducah Police Department made history in 1993 by becoming the first department in the Commonwealth to convert from dated VHF radios to an 800 MHz trunked system. All city agencies have talk groups in the system. For example, the police department is allocated eight channels; a primary comms channel on which calls for service are dispatched—this is the Patrol Channel; an information channel designated for secondary comms from dispatch to the officer on the beat; a channel for lengthy transmissions between officers that would otherwise tie up the primary channel—this is the Car-to-Car channel; a detective channel; another secondary channel for any lengthy conversations called Patrol-2; a channel for administrative matters; a channel that bypasses

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Picturesque Kentucky Lake at Grand Rivers, KY near the Tennessee River.



There's plenty of VHF marine band listening in the Kentucky Dam Marina area at Gilbertsville.

“... the Paducah Police Department made history in 1993 by becoming the first department in the Commonwealth to convert from dated VHF radios to an 800 MHz trunked system.”

repeaters for short-distance officer-to-officer traffic called the Direct Channel; and a channel which enables city and county officers to communicate, abbreviated PD-SO. Channels are changed by using an arrow key to scroll, and on the screen the channel title, rather than a number is displayed. This keeps it simple!

While officers are patrolling and monitoring the primary channel, the radio will scan the information channel, the Car-to-Car channel, and the PD-SO channel to ensure that no information is missed. However, when the radio detects traffic on the primary channel while scanning the other three it will automatically return to that frequency, unless of course, the officer intends to remain on one of the other frequencies. In this case the scanning feature can be disabled and the radio locked onto only frequency. All this can make monitoring by scanner enthusiasts a nightmare, so you can imagine how excited I was to see the feature on scanning trunked systems in the February '97 issue of Pop'Comm! Now when I'm asked, "Hey officer, I've got the list of frequencies for the 800 MHz system, but which one are you guys on, I refer them to the article.

I don't believe that Marconi could have ever known what far reaching effects he would have on mankind when he made that first transmission, but I can say that next to Sir Robert Peel, he's my hero! ■

✉ **Editor's note:** A special thanks to Officer Stefan Jagoe for his article. We would like to invite other qualified readers, including public safety professionals, who would like to write a similar article about radio monitoring in their state/region or province to contact us via e-mail at <popularcom@aol.com> or send a letter to *Popular Communications* magazine, 76 North Broadway, Hicksville, NY 11801. Articles must meet strict guidelines for accuracy and content. Two or three representative photos are also required for publication.

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Special Pop'Comm Update

Tauzin Agrees To Fix Broken 2369

By J.T. Ward

A little more than a year ago, while I was still writing the monthly scanning column for this magazine, I predicted that it wouldn't be long before the federal government acted to ban scanners outright, or at least moved to enact further restrictions on what we, as radio hobbyists, can and cannot legally monitor. This summer two members of Congress launched a double-barreled assault against the scanning hobby. Both Rep. Edward Markey, D-Mass., and Rep. William "Billy" Tauzin, R-Louisiana, filed bills that if passed as written would prohibit the manufacture or importation of scanners capable of receiving the vast majority of what are commonly called "business band" frequencies.

Specifically, H.R. 1964 (Markey) and H.R. 2369 (Tauzin) will order the Federal Communications Commission to deny type acceptance to any radio capable of receiving frequencies designated for use by the Commercial Mobile Radio Service (CMRS). This means that scanners capable of receiving transmissions on many business-band radio frequencies would be banned.

Without question this is bad news for scanner owners. NASCAR, CART and other motor sports communications would be off limits, as might the wireless mics used by stage performers. Monitoring fast food restaurants would likely be impossible, as would listening in on mall and theme park security forces. Even those listeners who monitor only public safety communications could be affected since in some areas public agencies have been licensed on business band frequencies when the available public safety and local government frequencies have already been assigned.

As bad as Rep. Markey's bill is, Tauzin's goes much further, and is potentially far more damaging to the radio monitoring hobby. Section 3, Paragraph A, Part I of H.R. 2369 will change the wording of Section 705 of the Communications Privacy Act of 1934 from "interception and divulge" to read "interception or divulge."

Right now it's pretty much OK to listen to whatever you like (except cellular, cordless phones and PCS, of course) as long as you don't repeat what you hear, or use it for personal gain.

Under H.R. 2369 it appears that even the

act of listening to anything but AM/FM broadcast and television stations, Citizens Band and amateur (ham) radio operators, aircraft and boats or ships could be illegal. But would it really? Remember, H.R. 2369 is an amendment to Section 705, 47 U.S.C., Section 605. And what does Section 605 say in its very first line? It says "Except as authorized by chapter 119, title 18."

So, you have to go back to Chapter 119, Title 18, and there you find it says "(g) It shall not be unlawful under this chapter or chapter 121 of this title for any person—(ii) to intercept any radio communication which is transmitted—(I) by any station for the use of the general public, or that relates to ships, aircraft, vehicles, or persons in distress; (II) by any governmental, law enforcement, civil defense, private land mobile, or public safety communications system, including police and fire, readily accessible to the general public; (III) by a station operating on an authorized frequency within the bands allocated to the amateur, citizens band, or general mobile radio services; or (IV) by any marine or aeronautical communications system.

Right here we have an exemption for all the things that the vast majority of scanner and shortwave listeners like to monitor. But is it really? Neither Tauzin's staff, nor even attorneys at the FCC's legislative affairs office are certain. There is, perhaps, a simple solution. *If Tauzin would incorporate the exemptions in Chapter 119 directly into his bill it would be much more palatable to the majority of scanner and shortwave monitors.*

Some Hope on the Horizon!

Representative Tauzin has now admitted that the bill is flawed. His press aide, Ken Johnson, said during a September telephone interview that H.R. 2369 was never intended to ban public safety or other government monitoring, but only to strengthen laws protecting the privacy of cellular telephone and PCS users. "It was an honest oversight," Johnson said. The bill's authors didn't know that some government agencies are licensed on commercial Specialized Mobile Radio frequencies, he said. "There's a bug in the bill, and Billy has said he's not going to move it until it's fixed," Johnson said.

Steve Mansfield, manager of legislative and public affairs for the American Radio Relay League, said the ARRL has already submitted replacement language replacing the ban on CMRS frequencies with more narrow language limited to cellular and PCS frequencies. Since these communications are already illegal to monitor, deleting them from scanners (cellular is already deleted) should have little impact on scanner listeners.

That's fine, but what about Section 3 of H.R. 2369, where it appears to make it illegal to monitor anything but AM/FM broadcast and television stations, Citizens Band and amateur (ham) radio operators, aircraft and boats or ships? Asked about the impact of changing "and" to "or" in Section 3, Johnson said he was unaware of any impact on the scanning and shortwave hobby. Once the potential effect of that tiny change was explained he promised to have the Congressman's legal staff look into it.

For more than 60 years both Congress and the courts have held that the current wording, which prohibits the divulgence of information gathered by radio monitoring, to be adequate protection. For nearly 50 years we in this country broadcast messages of freedom and liberty to oppressed peoples behind the Iron Curtain. Many of them listened on radios that were banned, on frequencies that were illegal to monitor. Should H.R. 2369 be enacted in its present form, the United States may have the most restrictive laws on radio listening since the fall of Communism in eastern Europe.

Both Congress and the FCC have a long history of protecting the public's right to the free flow of information, including the ability to monitor radio transmissions, including public safety agencies. If Tauzin's H.R. 2369 passes as written that protection may be eliminated. "We know there's one bug, and we're going to fix it. If there are other bugs and we become aware of them we'll fix those, too," Johnson promised.

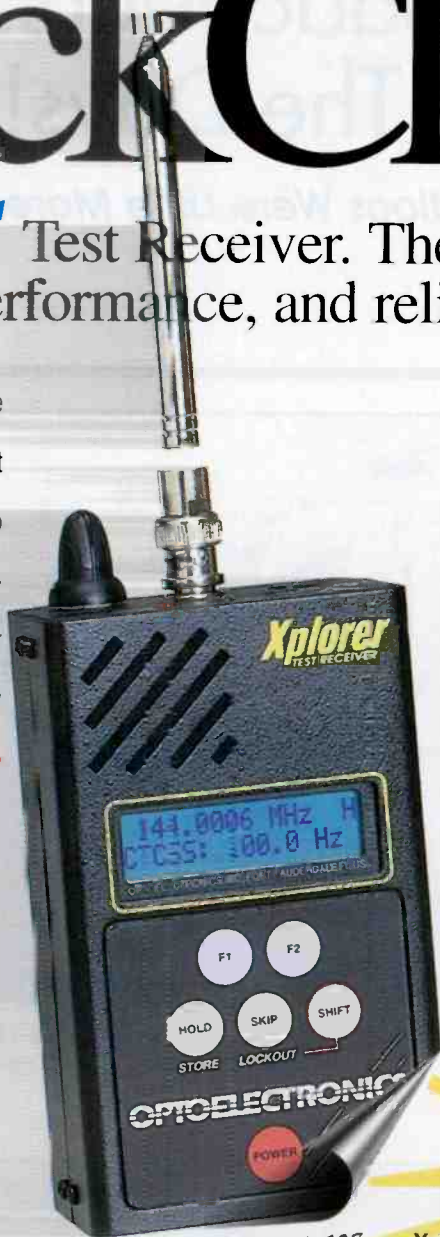
At this point we need to give Tauzin and his staff the benefit of the doubt, to take them at their word and hope for the best, while at the same time remaining vigilant and making sure that the changes made minimize the bill's impact on the scanning hobby. We'll keep you posted here and on the *Pop'Comm* Web page as this situation unravels. ■

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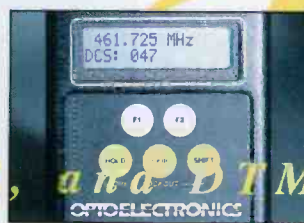
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Personal Broadcasters: Those Were The Days!

*In The 1920s, Many Stations Were Little More Than Tabletop
Hobby Operations*

By Alice Brannigan

Would you like to own and operate your own private broadcasting station? In recent years there have been many communications hobbyists who would give anything to do this. There are also those who continue to beg the FCC to permit such stations to legally exist, perhaps using low power in the FM band, the FCC has firmly rejected all proposals. Some folks have given up hope, and illegally taken to the FM, AM, and SW bands without benefit of FCC sanction.

Back in the early days of radio broadcasting, it was not this way. Virtually anyone who took a fancy to the new technology could get a license of one kind or another to put a little station on the air, and such stations quickly popped up from coast-to-coast in the early 1920s. The first stations were operating by virtue of actual broadcasting licenses, as well as school, ham and experimental licenses. Stations were located in bedrooms, basements, attics, garages, barns, stores, banks, churches, colleges, offices, and dozens of other locations.

This was a mix of commercial and non-commercial operations. Often they were owned by hams, especially those who also sold and repaired radio receivers. Mostly the low-powered private stations operated for only a few hours at a time, and perhaps only on certain days of the week. Their programs were usually impromptu and informal, frequently filled with rather awful live local unprofessional talent. They also played phonograph recordings.

Audiences usually loved these stations, especially those located in their own home towns where the only other stations that could be heard might be in distant cities. Distant listeners also enjoyed them because they provided challenges in the new hobby of DX monitoring. Though running only flea power, the little stations



The original KFBE location at Clin's. That's Mr. Horn leaning on the counter over to the right-center. (Broadcast Pro-File photo supplied by R. H. Horn, CA).



When KFBE was moved briefly to its second store location in San Luis Obispo, here's how it looked. (Broadcast Pro-File photo supplied by R.H. Horn, CA).

dere Mr. Broadcaster :

"Will you like me to kum up
and sing for you my young man says
my voice is that eavenly that I ought
to be on the pictures!"



Early broadcasters liked to fill their air time with live local talent, and had no shortage of offers to perform. Unfortunately, the majority of volunteers were unprofessional and pretty awful. This 1923 joke postcard pokes fun at the pop phenomenon.

received reception reports and fan mail from listeners hundreds of miles away.

There were scores of these stations, the careers of which usually closely followed the personal fortunes and enthusiasm levels of their owners. Many fizzled because their owners lost interest. The government revoked numerous licenses because of technical violations or inactivity. Sadly, all too many of the little stations came and went without leaving sufficient ripples in the annals of broadcasting for them to be easily or often recalled, either individually or as a group.

Nevertheless, many personal stations, as well as those starting out as flea-powered amateur and experimental broadcasters, did persevere and flourish, and continued in operation for many years, even until today, some with as much as 50 kW (perhaps under different call letters, and usually under different owners). A few of those include KCLN, KFI, KNBC, KLZ, WDRC, WMT, WOC, WWL, WBT, WDAY, WCOL, and KRKO. Amateur, experimental, and college stations of the early 1920s that received regular broadcast licenses included, for example: 1ZE/WBBG, 1ZC/WCJ, 4XD/WBT, 5RK/WREC, 5XD/KOB, 5XT/WKY, 6ADZ/KNX, 6AM/KLS, 6XAE/KYY, 6XAG/KJJ, 6XAJ/KZM, 6XAK/KYJ, 6XC/KZY, 6XD/KOG, 6XE/KQW (now KCBS), 6XG/KDN,

8CR/WLW, 8MK/WWJ, 8XK/KDKA, 8YC/WHCU, 8ZAE/KQV, 9XJ/WILL, 9XM/WHA, 9YA/WSUI, 9YB/WBAA, 9YI/WOI, 9ZAF/KIZ, and 9ZP/KGFX.

A Typical Personal Station

Reuben H. Horn, who worked at Clin's Electric Shop in San Luis Obispo, CA, was granted a limited commercial license in late July of 1922 for a broadcasting station. Horn was actually one of the earliest individuals to obtain such a license, as broadcasting had only begun in earnest

earlier that year. He was assigned the call letters KFBE for 10 watt operation on the common frequency of 833 kHz.

This license was issued for the station to be located at Clin's store, 990 Monterey Street, a two-story brick structure built in 1894. Two masts were built on the roof and a flat-top "T" type antenna was strung up. The studio was located in the back of the store, while the transmitter was on the balcony above the studio.

KFBE's broadcasts commenced in July of 1922. In early 1924, KFBE was running a one-hour 4:30 p.m., sked every

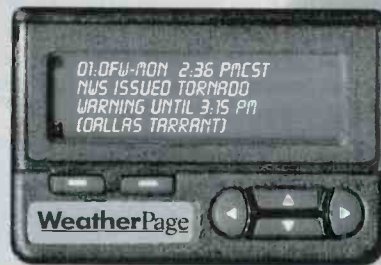
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Here's Pittsburgh's KQV in 1919 when it was first flea-power broadcasting as amateur station 8ZAE. These days it runs 5 kW.

Monday, Wednesday, and Friday. By 1924, KFBE had increased to 50 watts and had been reassigned to operate on 1240 kHz. It was heard from as far away as Oregon. But something happened, and later that year Horn quit Clin's Electric shop and removed his equipment from the premises. In November of 1924, Horn told the Department of Commerce that KFBE had been, "dismantled and permanently discontinued." The government deleted the station's license.

In February of 1925, Horn connected with a partner and together they opened

up Horn and Wilson's Radioland, a new store at 605 Monterey Street. Whereas Clin's had sold everything electrical, from light fixtures to appliances, as well as radios, Radioland was devoted exclusively to the sales of radios and radio parts. Horn went back to the Bureau of Navigation, U.S. Dept. of Commerce and said he wanted his license reinstated. The government obliged, and in February, KFBE was permitted to return to the air, but this time on 1390 kHz. The transmitter was installed in the basement.

KFBE did not thrive in its new envi-

ronment. After only a few months of operation, KFBE's broadcasting activities were abandoned, with the station leaving the air for good. The government deleted the license in May of 1925.

More than 70 years after the fact, it's hard to accurately say why KFBE died. But we do know for certain that in less than three years, KFBE had arrived with lots of hope, operated from two locations, and was then abandoned.

We have a pair of rare photos of KFBE, showing each of its locations. In addition, several cards sent in by KFBE's listeners expressing appreciation for the station's programs. These are Broadcast Pro-File photos that were supplied to them by Reuben H. Horn of San Luis Obispo.

Thanks to Broadcast Pro-File for permitting us to use material from their profile of KFBE. BP-F is a company that (for a reasonable fee) researches and prepares in-depth accurate historical profiles of all FCC licensed AM/FM broadcasters, past and present. A catalog of services and fees is available for \$1 from: Broadcast Pro-File, 28243, Royal Road, Castaic, CA 91384-3028. Please let them know you read about it here.

Meanwhile, In Canada . . .

Most people today don't realize that during the first years of the broadcasting era, Canada had 10 licensed low-power (about 10-20 watts) non-commercial stations categorized as "Amateur Broadcasting Stations." Heard over wide areas, most had special programs for DX hobbyists, and all issued QSLs. They used "10" as their call-sign prefix, and apparently all operated on 1190 and/or 1200 kHz. Because broadcast station directories practically never listed them, today they have managed to become all but totally forgotten.

Here is what our research has been able

Gentlemen:

I want to express my appreciation with this APPLAUSE CARD, of the Program received from your station on Mar. 18, 1925.

I wish to especially commend the following:

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Listener J. A. McAllister

Address Central Point Oregon.

City Central Point State Oregon.

Say it with "APPLAUSE CARDS"

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A prepared "applause" card sent in by one of KFBE's listeners from Oregon stating the signals were clear but not too strong. (Broadcast Pro-File photo supplied by R.H. Horn, CA).

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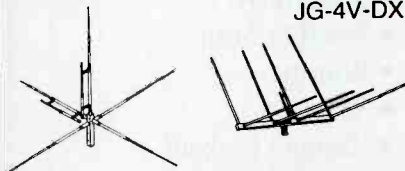
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Input Volts 500. Milliamps 30 on Modulators.

THANKS FOR YOUR LETTER-CARD.
This will verify your reception.

Thos Brown
Manager.

Canadian amateur broadcaster 10BQ sent out this QSL in 1932 for one of its special DX tests.

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Wishes to thank you for your communication and hereby verifies your reception of our programme of *Jan 10 1932* as the selections mentioned comply with our log. 10B.P. is maintained by radio fans, and does no advertising, the station is entirely home made. Wingham is a town of 2400 population and is the only town in Canada having a broadcasting station. Our operating hours are given on the back page.

May we have the pleasure of hearing from you again?

Yours truly,

W. Buchan

For whatever reason, in 1932 the QSL from amateur broadcaster 10BP told folks it was located in the only town in Canada having a broadcasting station.

to piece together on these nearly unknown pioneer broadcasters:

Station 10AB, Moose Jaw, Sask., was operated by W.G. Buchanan (amateur 4AM), of the Moose Jaw Radio Association, located in the Grant Hall Hotel. It began operating on April 22, 1922, and claimed to be the oldest amateur station in Canada. The station was affiliated with several broadcasting networks, and had

been reported from every U.S. state, and all Canadian provinces (except the Maritimes). In 1933, this station became present-day station CHAB.

Station 10AD, owned by James S. Neill and Sons, Ltd., Fredericton, New Brunswick, started broadcasting on January 12, 1923. In 1926 it became CFNB, which ran 50 watts.

Station 10AK, Stratford, Ont., was op-

erated by M.I. Higgins (3ACG) at his electric and radio shop, 151 Ontario Street. The station operated on 1190 kHz with 15 watts. It claimed to be "one of the oldest" amateur stations in Canada, having commenced broadcasting in 1927. In 1935, it turned into station CJCS.

Radio station 10AS, owned by the Island Radio Co., Charlottetown, P.E.I., started up on August 15, 1924. In 1925 it evolved into CFCY, which ran between 50-100 watts.

Station 10AT, licensed to Horace N. Stovin, Main Street, Unity, Sask., went on the air in 1923, then turned into station CHSC in 1925, which ran 250 watts on 840 kHz. However, CHSC did not work out and left the air after only a few years. Station 10AT, Trail, B.C. The government reissued the call letters 10AT on December 25, 1931, and in 1933 this 10AT became station CJAT.

Station 10BI, Prince Albert, B.C., started in 1925 and evolved into commercial station CKBI in 1933.

Station 10BP, Wingham, Ont., was operated by the Telephone City Radio Assn. (2SH) on 1200 kHz with a home-brewed 25 watt transmitter. Special DX programs were on 1190 kHz. It was owned by W. Cruickshank, of The Radio and Electric Shop. The station began operation on February 20, 1926, and in 1935 became CKNX. The 10BP QSL curiously stated that Wingham was "the only town in Canada having a broadcasting station."

Station 10BQ, Brantford, Ont. was operated by Harold Brown on 1200 kHz. It used 15 watts into an antenna consisting of two 50-ft. Inverted-L type wires strung 75 ft. high. They claimed the station was heard from Newfoundland to New Zealand." In 1934, the station became CKPC.

Station 10BT, was owned by the Western Ontario Better Radio Club, Chatham, Ont. It commenced operation with 25 watts in 1926 and two years later had become CFCO.

With the exception of short-lived CHSC in Saskatchewan, the commercial broadcast station heirs to each of these wonderful and obscure radio stations are still in regular operation.

We invite you to pass along for use here any old time radio or wireless photos, picture postcards, QSL cards or letters (good photocopies will do just fine), station listings, news clippings, etc. We also seek your memories, anecdotes, and column suggestions. Our e-mail address is <Radioville@juno.com>. See you on the road to Radioville. ■



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A LOOK BEHIND THE DIALS

Philco Block Condensers, and the NJARC

I have a lot to talk about this month—we will be starting on Philco radio restoration topics—more specifically, we'll be digging into those strange black bakelite boxes found in 1930s vintage Philco radios. And a reminder, please send in pictures of *your* radios or collections! I know some of you made some good finds over the summer at yard sales, so please share them with the rest of us.

A Reader Writes

Reader Tod Warr asked for your help in identifying his Emerson set in my September column. John C. Montpas of Marshalltown, Iowa was kind enough to provide the following information for Tod: "A personal thank you for the great articles and help you afford in your columns. In the September 1997 column a reader needed help identifying an Emerson radio. The radio is shown on page 80 of "Machine Age to Jet Age, Vol. I" by Stein. It is a model AM 153 made in 1937. This set is shown in Rider volume 9-1.

"... considering the vast numbers of Philco radios produced in the 1930s, you will end up with a few in your collection sooner or later."

"As a collector of vintage radios, I again thank you for the help and information found in your column." Thank you John for the kind comments, and the photo of your rather extensive collection!

Your Vintage Radio Club

Do you belong to an Antique Radio club that offers outstanding membership programs? If so, let our readers know about your organization! We get a lot of letters from folks asking about clubs, especially those with programs for newcomers to the hobby. Photos taken during



John Montpas's neat radio collection. John has put together quite an impressive assortment of small wooden and plastic table sets.

club events are welcome. Sorry, we cannot list specific auction or radio meet dates for your organization; there just isn't enough room to do so. A schedule of radio events appears monthly in *ARC* for those interested in attending club radio meets or auctions.

Reader John Ruccolo Writes . . .

"I just wanted to drop you a line and tell you I enjoyed your article on capacitors (and where to get them) in the May '97 *Pop' Comm*. A few months ago I volunteered to take over the capacitor program for the New Jersey Antique Radio Club (NJARC). We purchase caps in quantity and sell them to our members at a small markup, with the profits going into the club treasury. So, your article was very useful to me. My compliments on your good work! I suppose a lot of readers busted you on the early electrical pioneer "Farad," who was of course Faraday! Sorry, I couldn't resist!" (No, John, you were the only one. I guess you aren't going to be interested on my follow up

pieces on Bobby Transformer or William Dial, then?—Ed.)

Club Spotlight: The New Jersey Antique Radio Club

Readers can learn more about the NJARC through their homepage: <[http:// www.eht.com/oldradio](http://www.eht.com/oldradio)>. The NJARC meets the second Friday of each month. The meeting hall is in Freehold, NJ, at the Grace Lutheran Church, located one block east of Rte. 9 on Main Street (rte. 537) at the corner of Park Avenue. The club publishes a monthly newsletter, too. Dues are \$15 annually, and new members are welcome!

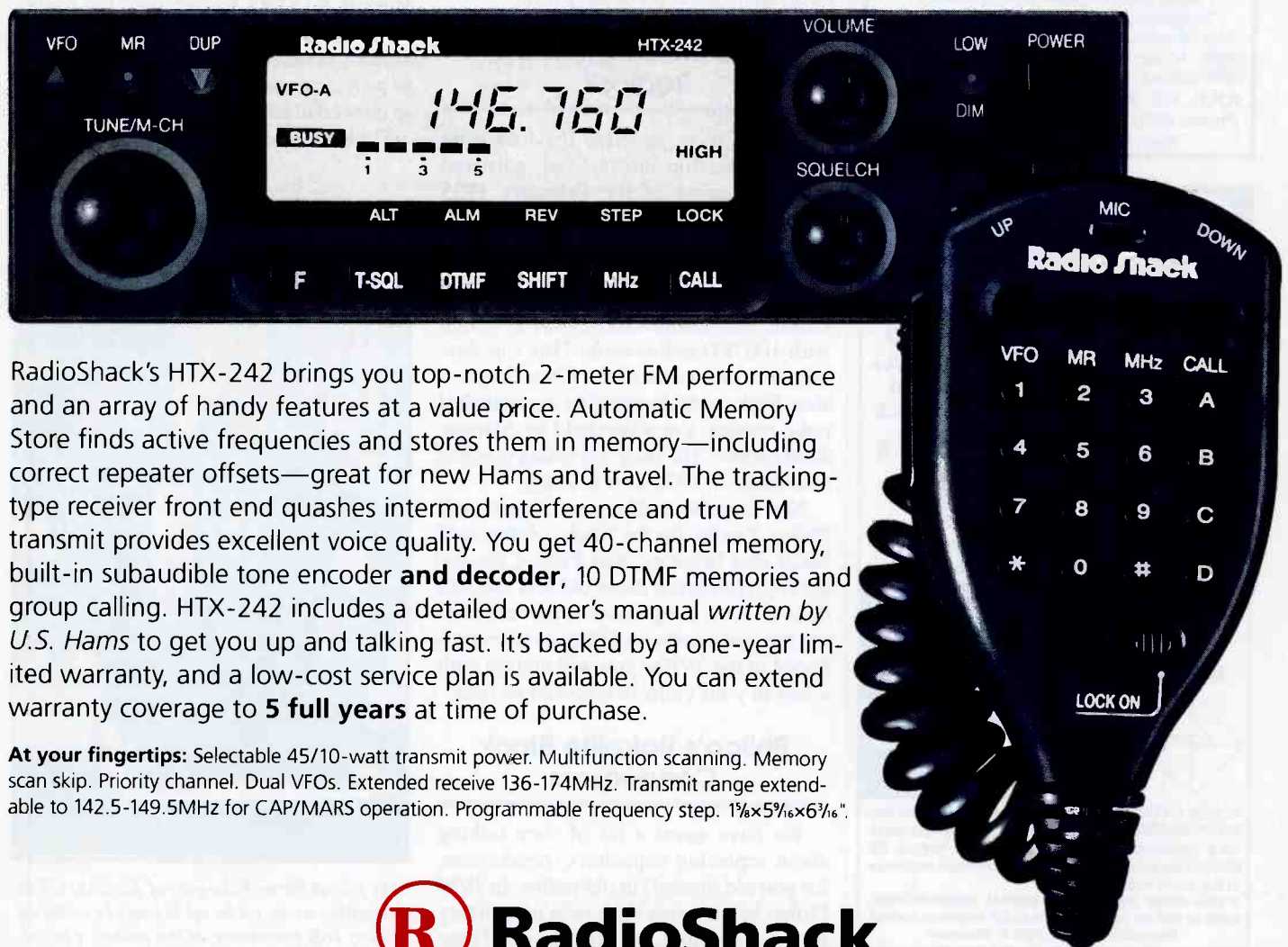
Every month there is a radio small Radio Swap Meet before and after the formal meeting, which starts at 7:30 p.m. There is a radio collecting presentation given by a member at each meeting. Additional club info is available from John Dilks, at 609-927-3873, between 6 and 9 p.m. EST.

Sounds like lots of fun, and an active group. Visiting the Webpage I noticed the club had an annual summer picnic

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and swapmeet scheduled. Wish I could have been there!

Finding and Pricing Old Radios

The easiest way to find good sets at a fair price is to attend radio shows and radio auctions. The Radio XXVIII show in Boston last February was a good example of the diversity of sets found at these shows. Prices are reasonable, and sometimes downright cheap! You will find the "dealers" with tables of radios with "list"

prices, but they often carry the same radios back home after the show. You will also see the other end of the spectrum—folks who enjoy fixing up old radios and selling them at little profit, or those who are selling off sets that no longer meet their current interests, again at fair prices.

Sharkfest or Hobby?

One wag aptly noted that thanks to the recent downturn in wood set prices here in the Northeast we now have a hobby again instead of a sharkfest! Amen.

One of the most frequently asked questions by newcomers is "what is my set worth?" There are many good price guides for vintage radios on the market, and we will be reviewing many of them as space permits. But, I'll let you in on a secret. The best price guides appear monthly in the pages of *ARC* in the auction reports. These reflect the current true value of a set, based on its condition and geographic location of the event.

Who Made The Most Radios?

Bryan Coyan supplied the following radio production information, garnered from the pages of the February 1935 pages of *Forbes* magazine. In 1934 Philco sold 1,250,000 radios; the production figures for RCA were 500,000 radios; Crosley and Grunow, 300,000 each; and Zenith and Atwater Kent were also tied with 100,000 radios each. This was during the worst years of the Great Depression. Philco was dominating the cathedral radio market, a position held by Atwater Kent earlier. "Hi-Tech" investing was just as volatile in 1935 as it is today!

My favorite radios are Zenith and Philco. Zenith, for the "look" of those old black dial beauties; and Philco, for the great performance those old sets can still deliver! One thing is for sure: considering the vast numbers of Philco radios produced in the 1930s, you will end up with a few in your collection sooner or later.

Philco's Bakelite Block Condensers

We have spent a lot of time talking about replacing capacitors (condensers, for you old timers!) in old radios. In 1930 Philco began using their own proprietary line of capacitors, err, condensers. These were housed in small rectangular black bakelite shells that were potted. By the

end of the '30s, the block style capacitors were being phased out and replaced by the more conventional waxpaper capacitors; block style capacitors were being used for AC line bypassing in Philcos up through the 1940s.

The Philco block capacitors were made in two styles: the first production blocks were called "miscellaneous" or "standard by-pass condenser." Later models were referred to as "universal" block condensers. I suspect Philco envisioned that a few models of these "universal" condensers would serve all of their design and production needs. Alas, by the end of the '30s, there were over 300 different styles of Philco block condensers—some discontinued, and some still in use.

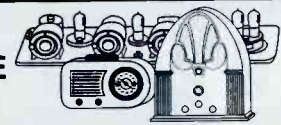
"The Radio Collector's Guide to Philco Bakelite Block Condensers"

ARC magazine's technical editor, Ray Blintiff, K1YDG, has written "The Radio Collectors Guide to Philco Bakelite Block Condensers," and was kind enough to provide us with a review copy. Already in its second edition, this booklet has over 100 illustrations, and gives data for 343



My friend Peter Eslinger, of Enfield, CT is all smiles as he picks up his newly restored Philco 16B tombstone at the author's home. And, no wonder—this 11-tube 1933 art-deco classic is the envy of Philco buffs everywhere!

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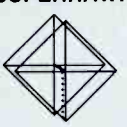
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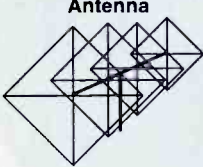
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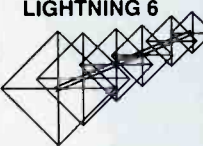
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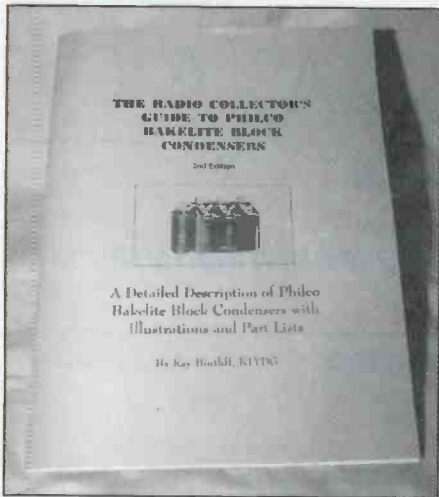
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Ray Blintiff's "The Radio Collector's Guide to Philco Bakelite Block Condensers" is a must-have for any Philco radio collector.

different block condensers models. Ray gives tips on rebuilding these devices, covers the history of the Philco block capacitor and the part numbering schemes. The price is \$9.95, and it may be ordered through the ARC or AES bookstores.

If you are going to be collecting or servicing early Philco radios, Ray's book is a must have for your library!

Inside the Philco Bakelite Block Condensers

The blocks were made in three sizes. All were intended to be chassis-mounted using a single self-tapping metal screw. For certain block styles, the screw also served as a chassis ground return. Solder terminals riveted to the top of the block served as tie-points between the internal parts in the block and the radio's wiring.

No more than three terminal sets were used on the Philco blocks. Sometimes only a single component was housed in the block, and an otherwise free un-used terminal was used as a convenient tie-point for other wires or components. The Philco blocks were stamped with Philco part numbers that gave no indication as to the actual parts values used inside.

Usually, the Philco blocks housed one or two capacitors. However, several models were produced that also contained a capacitor and resistor combination. The capacitors were simple waxpaper affairs, with fine leads that went through the rivet holes and were soldered to small ties on the terminals. The resistors were made up of lengths of a very fine diameter resistance wire, wound in a figure eight and

bundled in a section of light cardboard material. Once the components were mounted internally, the block was filled with a hot tar potting compound.

The tar served a twofold purpose. It held the components in place, and it (supposedly) sealed the capacitors against moisture. I suspect it also was there to deter fixing the beasts—Philco hoped the dealer would opt to spent about 13 cents for a new block rather than try fixing the old one! Unfortunately, the tar rarely formed a good seal around the entire capacitor body. Almost every Philco block capacitor I have tested has some amount of leakage. Most repair folks got around the repair-or-replace problem by simply cutting the offending lead to the block, and using a dangling capacitor for a quick repair. It is pretty rare that you won't find one or two paper caps flopping around in a vintage Philco chassis that had earlier block capacitor failures.

When I first started restoring Philco sets, I would simply clip out and discard the old blocks, and replace them with terminal strips and new components. It made for a very neat looking job, but I soon realized I was also taking a large part of the "soul" from these old sets and discarding

it. After several years of experimenting with these beasts, I have a system down pat that allows me to quickly rebuild all of the blocks in a Philco set and retain the original chassis appearance.

The February "Radio Connection" will show how to remove the tar and components without making a royal mess, and what capacitors and resistors are best suited for Philco block restorations will follow in April. Next month the Radio Connection spotlights a most unusual Sylvania portable from the Cold War era.



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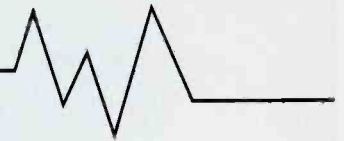
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Radio Resources



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Get set for blowout prices on FCC type-accepted, synthesized, 55-channel, 25-watt, narrow-band FM, VHF transceivers. You can buy these sets brand new, for under \$125; and when the FCC soon makes a big announcement, I bet the price will even go lower!

You can also get the same deal on full-featured, 55-channel, synthesized, VHF, handheld transceivers with a full five watts output! These transceivers offer terrific sensitivity with powerful GaAsFET front-end preamps.

These radios are part of the maritime mobile service and tune into 25 kHz-spaced marine channels, ± 5 kHz deviation. Selectivity is -70 dB for each adjacent channel! Sensitivity with GaAsFET front-ends is better than $.08$ μ V. All equipment is brand new, and readily available via mail order without tax. You don't even need a marine radio license!

No, the Federal Communications

Marine Channels			
Channel	Transmit	Receive	Use
24	157.200	161.800	Public correspondence, ship-to-coast
25	157.250	161.850	Public correspondence
26	157.300	161.900	Public correspondence
27	157.350	161.950	Public correspondence
28	157.400	162.000	Public correspondence
84	157.225	161.825	Public correspondence
85	157.275	161.875	Public correspondence
86	157.325	161.925	Public correspondence
87	157.375	161.975	Public correspondence
88	157.425	162.025	Regional public correspondence

Commission is not doing away with the marine VHF radio service. In fact, the VHF marine radio band is one of the most important lifesaving radio services today, *throughout the world*. The same marine VHF channels found in the inexpensive 25- and 5-watt portables are the exact same channels you would use in the Mediterranean, going around Cape Horn, or cruising off of Tasmania. The VHF ma-

rine radio band is here to stay, but new FCC proposals could open up the legal use of marine VHF in automobiles and on land, too!

From Freeways to Waterways

When cellular telephone service came on the air, boaters found that phoning



VHF handheld radios are now at bargain prices for making phone calls as a result of recent changes in the law.



A 25-watt VHF transceiver can be found for under \$139! This is Standard's "Horizon Eclipse +" transceiver.

home or calling the office was a lot easier on these cell phones as opposed to using the very antiquated marine VHF service. Placing calls on marine VHF channels through the public correspondence network was as old-fashioned as placing a long-distance phone call 40 years ago. On the marine VHF phone channels, it could typically take up to five minutes to get patched into the phone number you were calling, and cellular phone customers found out real quick that good cellular coverage extended well out to sea. The switch was automatic.

As PCS comes up along the coastlines, it's taking any last mariner holdouts and quickly converting them from marine VHF and over to PCS for phoning home and calling the office.

As you can see, the marine VHF public correspondence channels have a 4.6 MHz split, listening high, and transmitting low. The FCC has spent several years seeking out comments to promote innovative telephone communication services on marine VHF, and the marine VHF community signaled "YES, let's make some changes to increase flexibility in this service."

"We conclude that the public interest would be served by giving licensees more flexibility in the use of maritime spectrum, while preserving the core purpose of this internationally allocated radio service to promote safety of life and property at sea," comments the Federal Communications Commission in their Second Report and Order PR Docket 97-217.

When the rules become effective, *marine two-way radio equipment will be permitted on land for making phone calls on VHF, rather than cellular or PCS.* Here are the major rule changes:

✓ Permit medium-frequency (MF), high-frequency (HF), and very-high-frequency (VHF) public coast stations to automatically connect marine radios with the public switched network (PSN).

✓ VHF public coast stations will serve units on land (providing priority is given to communications originating on boats).

✓ Streamlined VHF public coast station assignment of additional channels without having to provide any proof of channel loading.

✓ New rules to insure affordable digital selective calling (DSC) radio equipment available to the maritime community.

Why would anyone want to make a phone call on marine VHF, rather than

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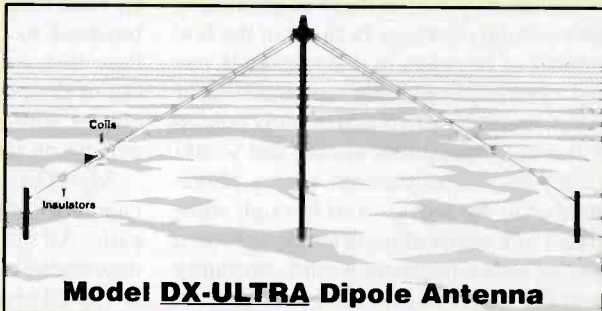
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current solutions to current problems

Boaters' Comparison Between Cellular and MariTEL

	Cellular	MariTEL
Range:	2-10 miles	50+ miles
Access:	Subject to blackouts	24 hours on 6,000 miles of coast and rivers
Fees:	Roaming charges	No roaming charges
	Long distance	No long distance charges
	Activation charge	No activation charge
Reception:	Static interruption	Clear reception
Use:	Must be kept dry	Water-resistant
Added benefits:	NONE	Long distance cards
		Short and maritime discounts
		Free calling to towing service for distressed vehicles
Equipment:	New phone required	Uses existing VHF set

through their own cellular service? One reason might be lower monthly or yearly rates for someone who makes few phone calls. Another reason might be the capabilities of marine single-sideband and the capabilities of making skywave contacts in an area not served by strong cellular or PCS signals. There are many remote areas of the country where there is absolutely zero cellular coverage because of the few number of travelers in that region. If you had a marine single-sideband transceiver in your vehicle, you could quickly link up with a high seas phone station that would gladly patch you through to any phone number in the world. And through automated link establishment (ALE), modern marine SSB equipment would constantly scan the bands to find the best signal on the air for getting that phone call through on the first try.

The automatic telephone interconnect device may be external to the inexpensive marine VHF set. A company called MariTEL has been buying up old-fashioned marine VHF stations from coast to coast, and this company has dramatically extended its area of coverage and improved

its marine radiotelephone service dramatically on VHF.

"We're not done yet," says Mitchell Hauser, MariTEL's CEO and President. "Our aim is to regularly improve the automation of our system so that boaters will continue to receive increased value from their VHF radios." More than likely, MariTEL is expecting a flood of new business to come from their subscriber base that will take the radio equipment out of their boat, and use it in their vehicles or with portable marine VHF transceivers on shore.

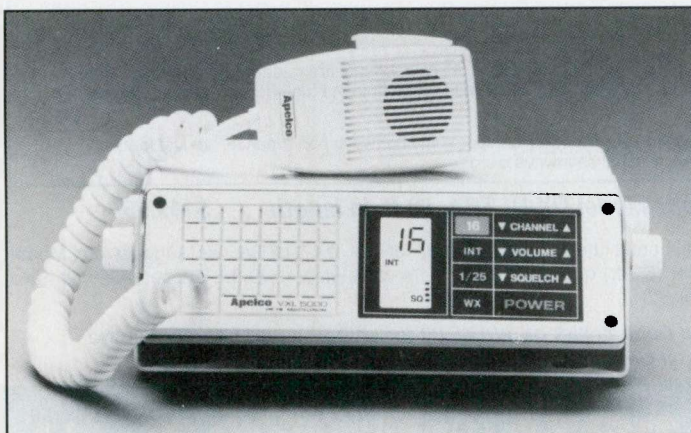
MariTEL has already improved the capability of making ship-to-shore phone calls. All the VHF user needs to do is to depress the microphone button for 6 uninterrupted seconds, and the operator will be on the line. MariTEL's announcement, "Advancements in encryption assure that the user's call is completely private—no longer can ship-to-shore conversations be monitored by the entire fleet!" sounds good, but it doesn't have the same confidentiality as conventional cellular or PCS. All marine calls are strictly analog, narrow-band FM, and this "encryption"

is nothing more than masking the vessel input from being retransmitted by the shore station. You can still easily tune into the 160 MHz shoreside conversation loud and clear. And if you scan the 157 MHz ship frequency down 4.6 MHz from shore, you can hear the other side of the call, too. However, it must be pointed out that tuning into a public correspondence marine phone call violates the Communications Privacy Act. But you must monitor the phone channel to insure that it is not in use before depressing the mic, so what are you going to do?

MariTEL offers mariners several different "plans" to keep your yearly phone bill well below what you might spend on cellular or PCS if you use your equipment infrequently. And once mariners get permission to use their equipment on land, I suspect there will be additional "plans," too. For more information on MariTEL and its proposed service to marine VHF equipment on land, contact Mitchell Hauser at MariTEL, 452 Courthouse Rd., Gulfport, Mississippi 39507; phone 601-897-7770 or FAX 601-897-1001.

Also Features Digital Selective Calling!

Marine VHF providers are also gearing up for the requirement that their 25-watt sets have the capability of digital selective calling to meet new regulations that may go into effect in 1999. This means there will be a glut of "older" marine VHF gear that will work quite nicely for marine phone calls (on land), and will still work nicely out on the boat when talking ship to ship and ship to shore. You should see marine VHF prices plummeting shortly.



This Apelco VXL 5000 VHF FM Radiotelephone will also be at bargain prices.



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IMPORTANT NOTE: You will not be permitted to use a marine VHF set on simplex ship-to-ship channels to talk car-to-car or car-to-home. This is specifically prohibited, and the FCC promises vigorous enforcement to any vehicle station using their set on frequencies other than the authorized local telephone channels. Although recreational marine VHF licensing is now abolished, the Part 80 rules are still valid and enforced.

Part 80 of the FCC's rules are available from Fair Press Service, phone 202-463-7323, Volume 47, Code of Federal Regulations, Part 80 to End. (This includes marine radio, aviation radio, land mobile, personal radio, amateur radio, direct broadcast satellite service, and fixed microwave service.)

Big Static Between Inverter Manufacturers

Are you running your laptop out of the car on one of those small inverters? This is a good way to go to protect your laptop's power supply from any direct connection to your automobile's 12-volt source. I have seen some temporary lash-ups work reasonably well for the first few days, and then go up in smoke when the operator starts the car with the laptop switched on. The spikes out of the vehicle's alternator may or may not take out the power supply, but will certainly scramble some memory.

Power inverters with their modified sine wave do a reasonable job of taking 12 volts DC, changing it up to 110 volts modified sine wave AC, now allowing you to plug in your external AC power adaptor that then charges the internal lap-

top battery that might be running on 17 volts DC. It seems a long way around the voltage circuit, but it works. This also gives you an inverter that can run a guitar amplifier, soldering gun, small blender, or just about any other household item that doesn't pull more watts than the inverter is capable of delivering.

A little 150-watt inverter can nicely run any household AC appliance that draws less than 1.5 amps at 110 volts AC, and the little inverter also has enough surge protection to usually deliver twice the power output to get small induction motors like a little drill up to speed.

If you want to run a microwave, or a hair dryer, or a massive rock-n-roll sound system, then you need an inverter that can crank out up to 1,500 watts. These big, powerful inverters can also work backwards and become battery chargers.

Two of the biggest inverter manufacturers are Trace Engineering (Arlington, Washington) and Hart Interface Corporation (Seattle, Washington). These two companies were so focused on the marine and RV market several years ago that they completely missed the small inverter market, and are now faced with hundreds of Canadian and imported inverters that do a very nice job of taking 12 volts, and jacking it up to 110 volts AC.

And now Trace Engineering and Hart have again diverted their attention on just doing business to involve themselves in a lawsuit where Hart claims Trace intentionally used confusing and misleading language in its product materials to lead purchasers to believe that its products passed the rigorous testing of Underwriters Laboratories (UL). Trace characterizes the Hart Interface lawsuit as an ill-conceived marketing ploy. "This is nothing more than a well-orchestrated

smear campaign; the lawsuit is simply a part of their strategy," comments Bill Roppenecker at Trace.

According to Roppenecker, Hart Interface's claim of trademark infringement and deceptive trade practices is without merit. "They say we copy the color of their power product for the truck market. The color is gray. Virtually every power product in this market and every other market is gray."

While both companies talk about the testing process of their inverters, both parties, including all other inverter manufacturers, sidestep the issue of enormous amounts of broad-band radio frequency interference radiating directly from their devices onto nearby radio frequencies where we are listening.

"Our communications vehicle was deployed at an emergency training exercise, and our onboard radios were tuned into frequencies covering 8 MHz SSB all the way up to 460 MHz UHF-FM. Everything worked well for the first 10 minutes," comments Bill Alber, WA6CAX, a reserve sheriff out of Central California. "Then they turned on the inverter to power up the laptop. That's that!" comments Alber. "That" refers to the instant radio frequency interference blackout caused to all nearby receivers in the vehicle. In fact, the noise coming off of the inverter was so severe that other emergency communication units right next to the main comm van had to pull away in order to regain radio reception.

The broadband radio frequency interference is in direct proportion to inverter efficiency. Switch-mode DC-DC converters develop harmonics from the fast rising voltage and current pulses that can sometimes travel up to 40 feet away from the device. Electronic designer Frank Good-



Power inverters may give out high noise levels.



Noise filters will help minimize noise from inverters.

enough comments in Electronic Design Magazine, "Increasing the rise and fall times of the switching pulses by lowering the circuits slew rate will decrease noise, but raises the switching losses." His article acknowledges that switching-type regulators may produce copious amounts of broadband radio frequency interference.

Improved designs of 12 volt to 110 volt AC inverters may include a switcher design around a "magic" chip, the LT1533 from LTC, where the combination of slew control in the linear region and loop recovery from the NPN transistor's non-linear off-and-off states keep harmonic noise down to a minimum. But if your communications vehicle already has inverters in line, there are some steps that you can take to minimize broadband radiated noise.

1. Ground the inverter's external metal case with copper foil that runs directly to a major chassis ground point. Use foil instead of wire to minimize radiated noise.

2. Install ferrite chokes on both the red and black 12-volt power leads. Install them as close to the inverter as possible.

3. Install ferrite chokes on the AC line that leads from the inverter to the AC distribution source. Install additional AC line filter chokes on each power cord running to the onboard computers. Insure there is a metal roof between all antennas and the voltage inverter. Relocate the inverter, if necessary, as far away from roof-mounted antennas as possible.

4. In impossible cases of inverter broadband noise, re-route DC and AC wiring through metal conduit to help isolate RFI.

And how do you know you have bad radio frequency interference from a noisy inverter? Go on any high-frequency channel, tune in between strong signals, and turn the suspected device on and off and listen to your noise floor. If you switch a piece of electronics on and the noise floor immediately jumps up three S-units, and that weak signal you were hearing completely disappears, the device you turned on is the source of the noise. Filtering and shielding is your next step.

Happy Holidays!

Enjoy the winter. Make sure all of your antenna's coaxial cable connections are covered with flexible sealant to keep rain and snow from ruining your radio connection. And then enjoy the airwaves when it's too cold or wet to go outside. See you in January! ■

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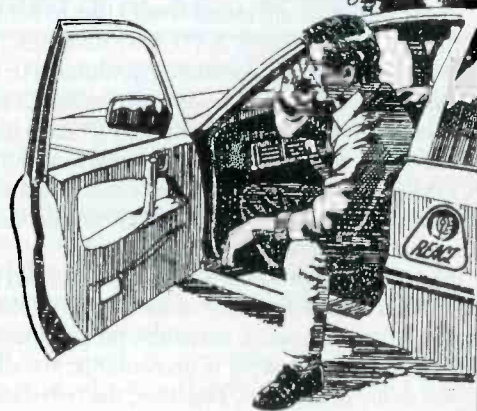
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Product Spotlight

POP'COMM REVIEWS PRODUCTS OF INTEREST

BY PETER BERTINI

<RadioConnection@juno.com>

Japan Radio Corporation's NRD-345 HF Receiver

Japan Radio Corporation's products are well regarded for their solid construction, reliability and performance. My vintage NRD-515 has never failed during 20 years of daily use. Founded in 1915, JRC is one of the oldest and most respected firms in the Far East.

The NRD-345 receiver breaks with the traditional sequential model numbering scheme used for the NRD-505, NRD-515, NRD-525 and NRD-535 line of receivers. Perhaps this is because the NRD-345 is marketed to compete with more moderately priced receivers, and is not the "heir apparent" for the NRD-535. I was anxious to see if this ambitious young upstart could deliver, and avoid the "ideal second or backup receiver" judgement by this reviewer.

The JRC-345

The receiver covers from 100 kHz to 29.99999 MHz. Selectable modes offer AM, S.AM (Synchronous AM), USB, LSB, CW and FAX reception. There is no FM mode. The receiver is a double-conversion design, and has 100 memory channels. The control placements are well thought out, making this receiver very user friendly. The features are quickly mastered after a quick reading of the manual.

A large LCD display predominates the top center of the receiver's front plate. The backlighting is a gentle green illumination. The LCD characters have excellent contrast and a wide viewing angle. Seven large display digits allow reading the frequency down to the 10's of Hz position. The LCD display also shows the current mode, filter, attenuation and AGC status, as well as memory channel and tuning step information. The frequency display also serves as a UTC or local time clock with timer functions.

Analog S Meter and The Noise Blanker

Three cheers for JRC! A *real* analog S-meter adorns the front panel in this receiver. I deplore S-meters using LCD or LED bargraph displays.

The optimum setting for the noise blanker level is set by a front-panel control. NB off or on status is stored in any of the automatic or preset memory positions.

Besides the main tuning and NB level controls, there are two remaining linear controls. One controls the audio gain, the other the "tone" of the received audio. The tone control is marginally effective; it provides a simple

roll-off of the highs in the received audio. It was of some value in reducing "hiss" in the CW or SSB modes.

Tuning The JRC

The large main tuning knob has a grip-rubber facing and a flywheel tuning feel. The main tuning control is ideally located at the bottom center of the panel. A high-quality optical shaft encoder (50-steps per revolution) interfaces the tuning knob to the microprocessor. The tuning may be electronically locked. Several tuning rates are offered. Pressing the kHz button allows tuning in 10's of kHz, kHz, 100 Hz or 10 Hz steps! The 10 Hz step position tunes in 5-Hz steps, or 250 Hz for revolution. This ultra fine tuning rate is excellent for serious CW reception. The kHz tuning steps are advanced sequentially to the next highest rate of tuning with each press of the kHz button.

For rapid frequency excursions, a 1 MHz step rate is achieved by hitting the MHz button. Hitting the MHz button again reverts the tuning back to the previously selected kHz tuning rate. The display shows the tuning rate by the use of a < mark to the left of the appropriate display digit. Two large buttons, located to either side of the main tuning knob, are marked with < (down button) and > (up button) arrows. These are for single stepping tuning increments. This feature facilitates rapid frequency excursions without overshooting the target frequency.

Two VFOs are provided. Each VFO retains its own settings for mode, filter, AGC, tuning rate, and NB and attenuator status. The receiver is microprocessor controlled; all tuning is done by DDS (Direct Digital Synthesis control) of the PLL. The receiver has good, but not excellent, PLL noise-sideband performance. More on this later.

The receiver frequency may also be entered by keystroking the desired frequency into the numeric keyboard (top right). Once entered, the frequency is displayed and is tunable by the VFO in operation at the time, or via the < > buttons. For example, entering 1360 and the kHz button tunes the receiver to 1360 kHz. Entering 13.60 and the MHz button instantly brings you to 13,600.00 kHz. (The display is in kHz.) All keybuttons have a "click" feel for tactile verification of entries.

Your favorite shortwave or amateur bands are also quickly accessible using the keyboard. Entering 31 and tapping the Meter button (mtr) brings you to the 31 meter shortwave band, 9500.00 kHz to 9900.00 kHz! Initially



The JRC NRD-345 receiver has above average signal handling ability.

you would start at the lowest frequency, and the mode, filter, tuning rate, etc., based on data stored in ROM memory settings in the receiver. Twenty-two preset meter-band memory positions are provided and are shown in table 4.1 of the users manual.

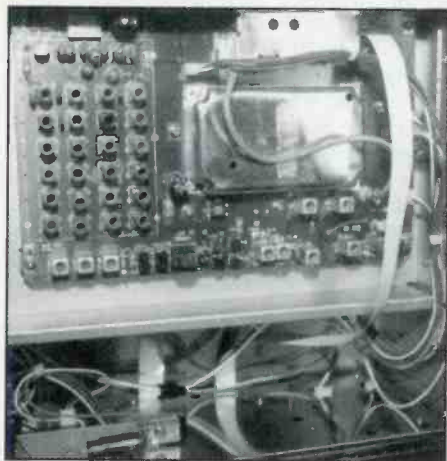
There is more. Once you change any of the receiver parameters, such as filter, mode, etc. while within the confines of the specified meter band frequencies, these parameters will be memorized by the NRD-345. Suppose you are monitoring a specific 31-meter station on 9890.00 kHz, using the AM mode, narrow filter, and fast AGC setting. The attenuator (ATT) and Noise Blanker (NB) are on. After 20 seconds, these parameters are all stored in EEPROM and become the new presets for the 31 meter band! Holding the Meter (mtr) button in while powering on the receiver restores the meter band settings to the factory presets.

Problems With Meter Band Tuning

For some odd reason, the designers chose frequency limits that were a bit odd for the 160, 80 and 40 meter amateur Bands. For example, 160 meters is limited to 1907.500 to 1912.500 kHz, while the DX window on this band is 1825 kHz! I would like to have my 160 meter tuning start at 1825 kHz, with receiver parameters favoring CW operation, but the preset meter-band limitations prevent my doing so. This shortcoming is easily overcome by using some of the 100 memory channels to spot your favorite amateur haunts.

Memories and Scanning

The receiver will hold 100 memory channels, each of which retains the frequency, filter, mode, AGC, and whether the attenuator or NB are on. Memory recalls are tunable. All VFO, meter band memories, scan memories



Interior view of the '345.

select a "block" of channels to be scanned, say from channel 19 to 33. Channels may be skipped over during the scan sequence by hitting the "pass button." The scanning may also be halted if an interesting signal appears. Unprogrammed channels are not scanned. There is no squelch control.

The keyboard allows any memory channel to be brought into one of the VFOs for manual tuning. Channels may be set to "pass" to prevent scanning of those channels. Channels may be erased in total, singly, or in operator-determined blocks. Writing to a new channel is as simple as hitting memory write (MW), entering the channel number via the numeric keypad followed by the "enter" (ent) button. If you fumble a digit on the numeric keyboard, the "clear" (clr) key will erase and clear the errant data entry.

IF Filtering

Two filters are fitted as standard equipment: a 4-kHz AM filter, and a 2-kHz SSB filter. Both filters are low-cost (as compared to crystal or mechanical filter types) Murata ceramic filters in the final 455-kHz IF. The filters are decent, I was satisfied with their performance. The receiver allows any installed filter to be used on any mode. The narrower 2-kHz sideband filter was especially useful for ferreting out weak

AM stations in crowded bands.

There is only one optional filter position. You will need the CFQ-8673 auxiliary filter board to mount one of the five optional filters: the CFL-231 with a 300-Hz bw, the CFL-232 with a 500 Hz bw, the CFL-233 with a 1.00 kHz bw, the CFL-218A with a 1.8 kHz bw, or the CFL-251 2.4-kHz bw filter. The optional filters are expensive, but they are very high-quality crystal types.

Unfortunately, the stock AM and CW filters are not easily removable. You may only add one additional filter. I am not happy with this arrangement. As a CW operator, I would need either the 300 or 500 Hz filter for serious CW work. Ditto for SSB, I would prefer using 1.8-kHz bandwidth filter when conditions are poor. There is plenty of wasted space inside of the JRC receiver. It has room for as many optional filters as JRC offers. And, why are the two stock filters permanently installed?

On a more positive note, I did notice that a post IF ceramic filter is used before the detectors. Post IF filtering limits the broadband noise spectra generated by the IF stages from reaching the detectors and reduces high frequency noise and "hiss" in the audio.

CW Performance

In CW, the exact transmitter frequency is

and the current front panel parameters are held by an internal lithium backup cell with a five year rated lifespan. Some disassembly is needed to reach this cell which is mounted under shields in the front panel.

The receiver scans 100 channels (from 00 to 99) in what JRC calls "pause scanning." In this mode the receiver will stop at each memory channel for a duration of one to 9 seconds as set by the operator. The operator may pre-

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DELTACOMM I-8500 Communication Manager for the ICOM IC-R8500 communication receiver. With speed as a design goal DELTACOMM's QUICK LOG function will log signal level, frequency, mode, date, time and optional Global Positioning System (GPS) coordinates at speeds in excess of 2400 channels per minute. Here are a few examples of the many advanced features DELTACOMM I-8500 has to offer

- Load 40 channels of information including ALPHA NUMERICS into one of the R8500's memory banks in 3 seconds.
- Separate volume level, resume scan delay and maximum monitor delay plus 40 character information field for each scan channel.
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Visit our Internet Web Page or Phone/FAX us for program features, new product releases and pricing schedule. DELTACOMM is available for ICOM R9000, R7100, R7000, R71, R72, IC-735 (features vary with type of radio). Also check out our DELTATONE 2.0 repeater programmer.

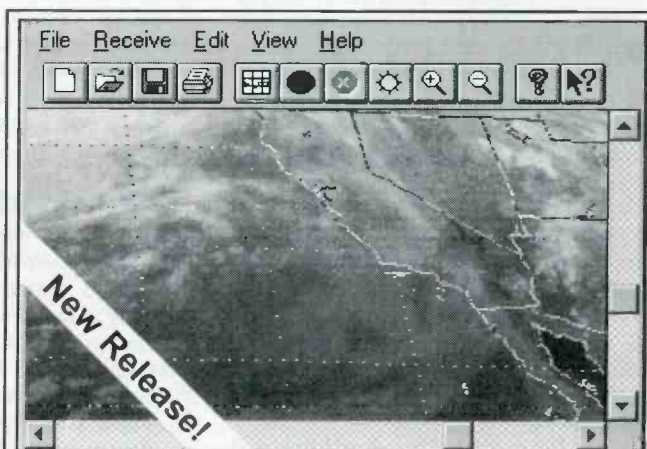
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SSC's best selling Fax and Telex decoding system now runs under Windows. Connect our new Windows FSK demodulator between your PC and SSB to receive weather fax, NAVTEX, RTTY, Amtor, ASCII, Sitor, FEC and Morse code. Receive weather and radio telex while your PC runs other software. The product includes demodulator, software, manual, frequency list and broadcast schedule. SSC also makes modems and software to receive weather satellites and SSTV. Call or write for our complete radio products catalog.

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CIRCLE 67 ON READER SERVICE CARD

THE MONITORING MAGAZINE

CIRCLE 81 ON READER SERVICE CARD

December 1997 / POPULAR COMMUNICATIONS / 37

displayed when the receiver is in the CW position, and the receiver is tuned for a 800 Hz beatnote. The JRC uses the LSB mode for CW reception, and also offsets the BFO for this mode. Using the stock 2-kHz bw filter, it is possible to tune past zero-beat, and well into the opposite sideband. CW operators preferring to use a beat note lower than 800 Hz may easily find themselves on the wrong "sideband" for this mode, or bothered by stations falling into the bandpass on the "wrong" side of zerobeat. The optional CW filter is a "must have" for other than casual CW work, or for narrow FSK RTTY.

The 5-Hz tuning rate is well-mated for the CW mode, especially when using the narrower 300-kHz filter. Since the AGC is RF, and not AF derived, the AGC action remained the same whether using 300 or 800 Hz beatnotes. (Note: The BFO frequency is fixed; you are stuck with the 800 Hz tone when using narrow CW filters.) Some CW operators prefer to shut off the receiver AGC, and manually "ride" the RF gain control. Unfortunately, there is no RF gain control. The receiver may be programmed, during power up, to allow three AGC modes: slow, fast and off.

Sideband and AM Operation

In either the USB or LSB mode the receiver accurately depicts the carrier frequency when the receiver is properly tuned to the SSB station. Ditto for the other modes: the receiver always accurately displays the carrier frequency when the mode is properly tuned. A tuning rate of 25 or 50 Hertz steps would have been nice for tuning around for SSB activity. The lowest 5-Hz tuning is great for fine tuning, but is too slow for rapidly moving across a band. The 100 Hz step rate is great for finding and rough tuning SSB stations, but it does not offer the tuning resolution needed for this mode.

I zero beat a few commercial AM BCB stations and WWV on 10 MHz while in the SSB mode. At 10 MHz, the receiver was a mere 3 or 4 Hertz off, which is far better than the 100 Hertz allowed.

I like to DX on the AM broadcast bands, and found the AM audio pleasing and relatively free of distortion. The receiver audio will deliver 1 watt into an 8-ohm speaker. An internal speaker is supplied, and there is an external speaker jack on the rear apron. A standard 1/4 inch headphone jack is on the front panel and it will handle either mono or stereo earphones. A rear panel jack provides audio at 25mV rms into a 100 k-ohm load for recording.

The S.AM (Synchronous AM detector) mode handled strong fading without problem on the AM and SW bands. Since the receiver does not shift frequency when changing sideband modes, exalted-carrier reception also fared well in our tests. But why bother—the synchronous detector does a fine job.

A rear panel jack provides 0.7 volts rms line-level audio for driving an outboard FAX

decoder. Neither the FAX or recording audio are affected by the tone or volume control settings.

Signal Handling

I rarely experienced overload problems while using the 345 on a variety of Yagi and longwire antennas. PLL noise is a small problem. At times there were signs of reciprocal mixing when strong stations were present on adjacent channels. The problem rapidly diminished at wider signal spacings.

The preamplifier is comprised of four FET devices in parallel, and the first mixer stage uses four more FET devices. The receiver is spec'ed at 100 dB dynamic range, and I have no reason to doubt it.

There are two antenna jacks. One is a standard SO-239 for 50-ohm antennas. The other is for using unbalanced 450-ohm wire antennas. A rear-panel mounted slide-switch selects either antenna jack.

If anything, the '345 is a bit too sensitive! The noise floor rises dramatically on any frequency range when an external antenna is applied. While the 20-dB attenuator helps—it may have made more sense for JRC to provide a means to bypass the internal RF preamplifier. This would improve the RF dynamic range, something an attenuator does not do. This is another area where a RF control would help.

AM-BCB listeners will also quickly note that another 20-dB attenuator is automatically applied whenever listening below 1800 kHz. There are no provisions to disable this second attenuator. The 345, using a less-than-optimum longwire antenna on the 450 antenna jack, was one of the hottest LW performers I have had the pleasure to review.

Input Bandpass Filtering

An input lowpass filter with a cutoff of 540-kHz is automatically selected when operating in the LF region. Another lowpass filter serves the AM BCB with a cutoff at 1.8 MHz. Between 1.8 MHz and 30 MHz one of five bandpass filters are automatically selected. These filters prevent intermodulation products generated by extremely strong out-of-band signals. Each of the filter assemblies uses coreless coil forms. Cheaper bandpass filters sometimes use lower-cost ferrite chokes—but these can generate IMD due to core saturation and resulting non-linearities caused by strong RF signals. Most entry level receivers lack frontend bandpass filtering entirely.

The first IF operates at 44.855 MHz with a second IF at 455 kHz. The receiver has excellent image and IF rejection—both exceed 70 dB.

Computer Control

While unpacking the '345 I was surprised to see a 25-pin RS-235C jack on the rear panel.

The receiver is readily interfaced to your home computer. Every front-panel push-button control function can be done via software commands (and they control just about everything!), or their current status monitored. A major portion of manual is devoted to the software commands; and a sample program is given. I suspect you will see many programs including the '345 in short order. One thing that I consider important is lacking—the ability to monitor and record signal strengths on the computer.

Overall Impressions

I enjoyed using this receiver, and I was not very happy when the time came to return it. It handles like a high-end receiver should. I did miss some features that are standard fare on other similarly-priced receivers. I have already mentioned the lack of an RF gain control. There were times when having variable BW or passband tuning would have helped with reception problems. There is no manual or automatic tracking notch filter present in the NRD-345. Most of these problems can be handled to some degree by an external DSP or active audio filter. Internal construction is first rate; the liberal use of shields on the PC boards keeps the digital noise out of the receiver. I detected no spurious signals throughout the tuning range.

The NRD-345 is housed in a handsome cabinet with a black satin finish, measuring 250 × 100 × 238mm, and weighs in at 3.5kg. The internal speaker is under the top cover. A tilt bail arrangement allows for easier access to the controls when used on low benches. It is attractive enough for use in domestic settings; its black hi-tech look is similar to the current styling found on home entertainment devices. While there is no AC power supply within the receiver—it needs an external 12 volt DC at 800 mA supply—a JRC NBB-429 117 Vac power pack is included at no extra charge. "Export" models include power packs for 220 volt operation. To support the clock and timer functions, the power pack runs continuously—something you may wish to be aware of during storms or when leaving on extended vacation. The instruction booklet is complete and includes basic alignment instructions. Schematics, board layouts, and parts lists are reserved for the technical manual which is not included.

With a suggested \$800 price tag, the NRD-345 is rubbing shoulders with the Drake R8A, AOR 7030, Lowe's Europa 250, and the new Fairhaven RD500 receiver. There are certainly a few things missing on the NRD-345 that I would like to have, but no receiver is perfect. On the plus side the NRD-345 is easy to use, offers some interesting features, has decent filters and above average signal handling ability. It is one honey of a small receiver, and one I would recommend to all my friends. ■

The Ham Column

BY KIRK KLEINSCHMIDT, NTØZ

GETTING STARTED AS A RADIO AMATEUR

The New Ham's Radio Library

In my years as a *QST* editor, one of the most amazing job perks imaginable was access to the ARRL Technical Department Library—an entire room filled with thousands of books and magazines about Amateur Radio and electronics. From hot-off-the-press ARRL volumes, to turn-of-the-century texts, to nearly every North American ham radio magazine ever printed—you name it, and it's probably in there somewhere! Your personal ham radio library, however meager at its inception, is no less important. And while it will probably never reach such lofty heights, it will provide you with hours of learning, enjoyment and, as it grows over time, a personal historical perspective on your ham radio history.

Those First Steps

To get your library off to a good start, this month's column briefly examines amateur radio publications from a newcomer's point of view. Let's take a look.

Two things hams can never have enough of are antennas and reference books (CDs?). Cash flow concerns aside, your living conditions may restrict the former, but only your shelf space restricts the latter—and there are plenty of worthwhile publications available to fill any size bookcase.

Ham radio books and information resources fall into four main categories: study guides, reference books, operating manuals and “just-for-fun” reading. Let's look at a few of the books and CDs that are available in each category.

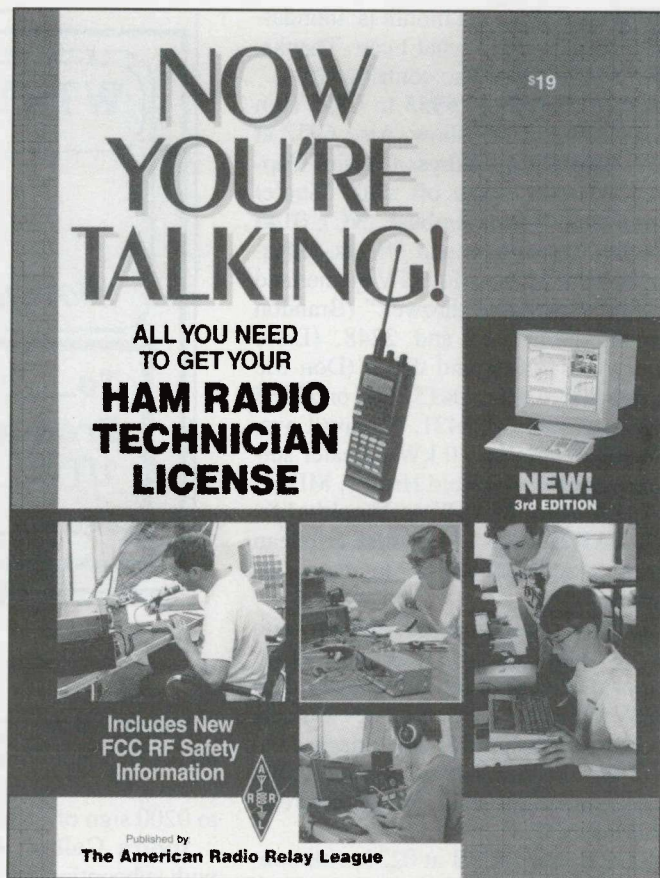
Study Guides/Getting Your Ticket

If you're interested in becoming a ham, high-quality training and educational materials are a must. Beginners should acquire *Now You're Talking! All You Need to Get Your Ham Radio Technician License*. The new third edition of this popular study guide contains everything you need to earn your Technician license, and includes help in selecting and setting up radios, antennas and station accessories. This is the best ham radio beginner's book available anywhere and it will answer many of your questions.

The ARRL's Technician Class Video Course, three video tapes and a detailed 164-page course book, provides a visual alternative to *Now You're Talking*. The course covers every FCC question with correct answers, detailed explanations and full-screen graphics and animation.

Reference Books

Books that contain data, construction projects, tables, charts and special lists are handy to have around your radio room. The 1998 Callbooks, for example, available in North American and International editions, list call signs, names and address information for more than 700,000 licensed radio amateurs in North America and 600,000 licensed radio amateurs in countries out-



side North America. CD-ROM equivalents include Buckmaster's *HamCall* and *The Radio Amateur Callbook*.

Pound for pound, no ham radio reference book packs as much punch as the 1997/1998 edition of the pocket-size *ARRL Repeater Directory*, which lists frequencies, locations and call signs for nearly 20,000 FM and ATV repeaters in North, South and Central America.

With 6 million copies in print since its first printing in 1926, *The ARRL Handbook* is truly the radio amateur's "Bible." Its 1200+ pages contain training and simple tutorial information on radio technology from its invention to the latest state-of-the-art devices, explanations of how ham equipment and circuits work, beginning through advanced electronics theory and dozens of fascinating construction projects. A CD-ROM version of the *Handbook* is also available.

Next in line when it comes to popularity is *The ARRL Antenna Book*, now in its 18th edition. In addition to featuring hundreds of antenna construction projects and design data, the *Antenna Book* is a comprehensive reference on the theory of antennas, transmission lines, SWR and other related topics.

(Continued on page 81)

The Pirate's Den

BY EDWARD TEACH

FOCUS ON FREE RADIO BROADCASTING

Tons of Great Loggings, So Let's Get Going!

The word for the month is: inundated! I'll get in what I can. Thanks, to everyone who contributed!

Radio Metallica, 6955 to 0355 sign off with their 100th show. Also 6952 at 0232. Blue Ridge address (Marina Pappas, NM) 1442 sign off with "Secret Agent Man." (Jack Ambush, NC); 0145 with Dr. Tornado, sound effects. (Messenger, MN) 2228 various TV themes and "10,000 watt flame thrower." (Brandon Artman, PA) 1913 and 2248. (Dave Jeffery, NY) 2308 and 0235. (Don Mc Clarren, MI) 0331 to 0415 close on **11855** with test. Again at 0421. (Kenny Love, SC) 0054 claiming 10 kW repeater service for pirates. (Harold Hickey, MI)

Not Radio Metallica Worldwide, 6955 USB heard at 0110 with Caribbean music, criticism of Radio Metallica. (Ed Rausch, NJ)

Radio Eclipse to 0408 sign off with Steve Mann. Also 0121 and 0300 (Pappas) 0246 with ID and off. (Artman) **6955V USB** at 0249; rock, news of the week, mailbag. (William Hassig, IL) 0152 with variety of music, including Christmas songs. Blue Ridge Address. (Wilkins, MO)

KOLD, 6955 USB at 0233 with boogie woogie songs, Stoneham, MA address. (Pappas)

Radio Eurogeek, 6955 USB heard at 0304 with ad for "Psychotic Friends Network." (Pappas)

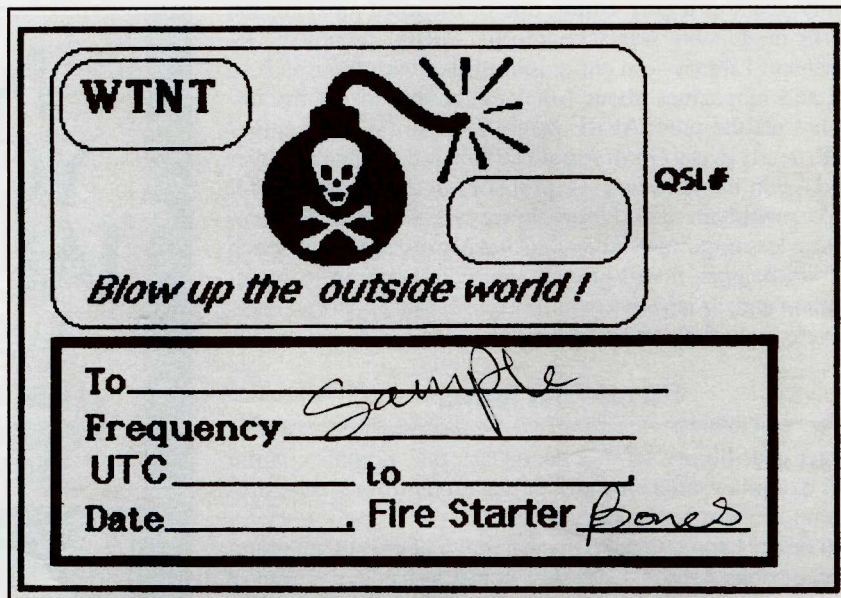
WNOT, 6955 at 0224. (Pappas) 0120 with ID by "the amazing Mumford." (Rausch) 0100 "shortwave's raunchiest rock and roll." (Hickey)

Jolly Green Radio, 6955 USB with tests at 0050. (Pappas)

WARR, 6955 USB at 0153 with comedy, gruff-voiced IDs. (Pappas) 0536 with Captain No Beard. (Love)

Voice of Shortwave Radio, 6955 USB at 0215 under Radio Eclipse with Mary Tyler Moore theme. Another time at 0203 with International House of Chile commercial. (Artman) 0155 with old time newsreel audio parody songs. (Rausch)

Orbital Mind Control Satellite, 6955 USB heard (no time given) with announcers Slacker boy and The Munk with Sci-Fi sound bites. (Rausch)



Here's a volatile QSL card from WTNT.

KRAP, 6950 at 2245. (Rausch) 0155 with DJ "Fred Flinstone." Also 2330. (Hassig) 0308. (Dick Pearce, VT) 0150 to 0200 sign off. (Garry Ramsey, NC)

Indira Calling, 6955 USB at 0045 with subcontinental music. (Rausch)

Voice of Communism, 6955 at 0123 with Cold War Radio Moscow programs. (Rausch, NJ)

Hope Radio, 6955 at 1527 with political commentary and satire. (Rausch)

Radio Clandestine, 6955 at 0300 with commercial parodies. (Artman) 0331 with parodies. (Pearce)

WREC, 6955 USB with humor show, Ren and Stimpy sign off. (Artman) Heard at 0015 and 0101 with commercial and song parodies. (Hassig) 0100 with parodies. (William Wilkins, MO) 0025 with ID by PJ Sparx. (Mc Clarren, MI) 1430 with parodies of AOL and Chelsea Clinton. (Pearce)

WMPR, 6955 at 2155 music and monotone IDs. (Artman)

Radio Zanax, 6955USB at 0150. "The Relaxation Station" with 20/20 report on Zanax, Off with "Don't Worry, Be Happy." (Hassig)

Lounge Lizard Radio, 6955 USB at

0035 with lounge music, off with "Volare." (Hassig)

WLIS, 6955 USB at 0047 "You are listening to the interval signals of your life." (Hassig) 0048. (Wilkins)

WLS, 6955USB at 0211 with old WLS jingles and old top 40. (Hassig)

Alan Masyga Project, tentative, 6955 USB at 0010 with Pink Floyd at varying speeds. (Hassig) 2251 with Alan Parsons music. (Silvi, OH)

WARR, 6995 USB, 0155 with rock and comedy routines. ID as "WARR, where it's war against the war on pot." (Ken McWatters, TX) 0130 with rock, commercial for "High Times" magazine and Internet address. Hosted by Captain Bluebeard. (Hassig)

Take It Easy Radio, 6955 USB at 0337 signing on with the Eagles' song. (Hassig) Also **TIE Radio**, variously at 0548, 0558 and 0652. Announcer has a southern accent and sounds like a live broadcast. (Wilkins)

WRFI, 6955 USB at 2140 on 6955 USB with beeps and tone tests, prank phone calls. Reports to: <alt.radio.pirate>. (Hassig)

(Continued on page 81)

Tap into secret Shortwave Signals

Turn mysterious signals into exciting text messages with this new MFJ MultiReader™



MFJ-462B Plug this self-contained MFJ MultiReader™ into your shortwave receiver's earphone jack.

Then watch mysterious chirps, whistles and buzzing sounds of RTTY, ASCII, CW and AMTOR(FEC) turn into exciting text messages as they scroll across your easy-to-read LCD display.

You'll read interesting commercial, military, diplomatic, weather, aeronautical, maritime and amateur traffic... traffic your friends can't read -- unless they have a decoder.

Eavesdrop on the World

Eavesdrop on the world's press agencies transmitting *unedited* late breaking news in English -- China News in Taiwan, Tanjung Press in Serbia, Iraqi News in Iraq -- all on RTTY.

Super Active Antenna

"World Radio TV Handbook" says MFJ-1024 is a "first rate easy-to-operate active antenna... quiet... excellent dynamic range... good gain... low noise... broad frequency coverage."

Mount it outdoors away from electrical noise for maximum signal, minimum noise. Covers 50 KHz to 30 MHz.

Receives strong, clear signals from all over the world. 20dB attenuator, gain control, ON LED. Switch two receivers and aux. or active antenna.

6x3x5 in. remote has 54 inch whip, 50 ft. coax. 3x2x4 in. 12 VDC or 110 VAC with

\$129⁹⁵ MFJ-1024 MFJ-1312, \$129.95.

Indoor Active Antenna

MFJ-1020B \$79⁹⁵

Rival

outside long wires with this *tuned* indoor active antenna. "World Radio TV Handbook" says MFJ-1020 is a "fine value... fair price... best offering to date... performs very well indeed."

Tuned circuitry minimizes intermod, improves selectivity, reduces noise outside tuned band. Use as preselector with external antenna. Covers 0.3-30 MHz. Has Tune, Band, Gain, On/Off/Bypass Controls. Detachable telescoping whip. 5x2x6 in. Use 9 volt battery, 9-18 VDC or 110 VAC with MFJ-1312, \$129.95.

Compact Active Antenna

MFJ-1022 \$39⁹⁵

Plug this new compact MFJ all band active antenna into your general coverage receiver and you'll hear strong clear signals from all over the world from 300 KHz to 200 MHz -- including low, medium, shortwave and VHF bands.

Also improves scanner radio reception on VHF high and low bands.

Detachable 20 in. telescoping antenna. 9 volt battery or 110 VAC with MFJ-1312B, \$129.95. 3/4x1/4x4 in.

Copy RTTY weather stations from Antarctica, Mali, Congo and many others. Listen to military RTTY passing traffic from Panama, Cyprus, Peru, Capetown, London and others. Listen to hams, diplomatic, research, commercial and maritime RTTY.

Listen to maritime users, diplomats and amateurs send and receive error free messages using various forms of TOR (Telex-Over-Radio).

Monitor Morse code from hams, military, commercial, aeronautical, diplomatic, maritime -- from all over the world -- Australia, Russia, Hong Kong, Japan, Egypt, Norway, Israel, Africa.

Printer Monitors 24 Hours a Day

MFJ's exclusive *TelePrinterPort™* lets you monitor any station 24 hours a day by printing their transmissions on your Epson compatible printer.

Printer cable, MFJ-5412, \$9.95.

MFJ MessageSaver™

You can save several pages of text in 8K of memory for re-reading or later review.

High Performance Modem

MFJ's high performance *phaseslock loop* modem consistently gives you solid copy -- even with weak signals buried in noise. New threshold control minimizes noise interference -- greatly

improves copy on CW and other modes.

Easy to use, tune and read

It's easy to use -- just push a button to select modes and features from a menu.

It's easy to tune -- a precision tuning indicator makes tuning your receiver easy for best copy.

It's easy to read -- the 2 line 16 character LCD display with contrast adjustment is mounted on a sloped front panel for easy reading.

Copies most standard shifts and speeds. Has MFJ AutoTrak™ Morse code speed tracking.

Use 12 VDC or use 110 VAC with MFJ-1312B AC adapter, \$12.95. 5 1/4x2 1/4x5 1/4 inches.

No Matter What Guarantee

You get MFJ's famous one year *No Matter What™* unconditional guarantee. That means we will repair or replace your MFJ MultiReader™ (at our option) *no matter what* for a full year.

Try it for 30 Days

Order an MFJ-462B MultiReader™ from MFJ and try it in your own setup -- compare it to any other product on the market regardless of price.

Then if you're not completely satisfied, simply return it within 30 days for a prompt and courteous refund (less shipping).

Order today and try it -- you'll be glad you did.

Receive Color News Photos, Weather Maps, RTTY, ASCII, Morse Code

MFJ-1214PC \$149⁹⁵

Use your computer and radio to receive and display *brilliant full color* FAX news photos and incredible WeFAX weather maps with all 16 gray levels. Also RTTY, ASCII and Morse code. Animate weather maps. Display 10 global pictures simultaneously. Zoom any part of picture or map. Frequency manager lists over 900 FAX stations. Automatic picture capture and save.

Includes interface, easy-to-use menu driven software, cables, power supply, comprehensive manual and Jump-Start™ guide. Requires 286 or better computer with VGA monitor.

Super Hi-Q Loop™ Antenna

The Super Hi-Q MFJ-1782 Loop™ is a \$269⁹⁵ professional quality remotely tuned 10-30 MHz high-Q antenna. It's very quiet and has a very narrow bandwidth that reduces receiver overloading and out-of-band interference.

High-Q Passive Preselector MFJ-956 \$39⁹⁵

The MFJ-956 is a high-Q passive LC preselector that lets you boost your favorite stations while rejecting images, intermod and other phantom signals. Covers 1.5-30 MHz. Has preselector bypass and receiver grounded pos. 2x3x4"

Mobile Scanner Ant.

Cellular MFJ-1824BB/BM \$199⁹⁵

look-a-like. Covers 25-1300 MHz. Highest gain on 406-512 and 108-174 MHz, 19 in. Magnet mount. MFJ-1824BB has BNC/UHF plug; MFJ-1824BM has Motorola plug.

MFJ Antenna Matcher

MFJ-959B \$99⁹⁵

Matches your antenna to your receiver so you get maximum signal and minimum loss.

Preamp with gain control boosts weak stations 10 times. 20 dB attenuator prevents overload. Pushbuttons let you select 2 antennas and 2 receivers. Cover 1.6-30 MHz. 9x2x6 inches. Use 9-18 VDC or 110 VAC with MFJ-1312, \$12.95.

High-Gain Preselector

MFJ-1045C \$69⁹⁵

High-gain, high-Q receiver preselector covers 1.8-54 MHz. Boost weak signals 10 times with low noise dual gate MOSFET. Reject out-of-band signals and images with high-Q tuned circuits. Pushbuttons let you select 2 antennas and 2 receivers. Dual coax and phono connectors. Use 9-18VDC or 110 VAC with MFJ-1312, \$12.95.

Dual Tunable Audio Filter

MFJ-752C \$99⁹⁵

Two separately tunable filters let you peak desired signals and notch out interference at the same time. You can peak, notch, low or high pass signals to eliminate heterodynes and interference. Plugs between radio and speaker or phones. 10x2x6 in.

Easy Up Antennas Book

How to build MFJ-38 \$16⁹⁵ and put up inexpensive, fully tested wire antennas using readily available parts that'll bring signals in like you've never heard before.

Covers receiving antennas from 100 KHz to almost 1000 KHz. Includes antennas for long, medium and shortwave, utility, marine and VHF/UHF services.

MFJ-107B \$9⁹⁵

MFJ-108B \$19⁹⁵

MFJ-105B \$19⁹⁵

MFJ-108B, dual clock displays 24 UTC and 12 hour local time *simultaneously*. MFJ-107B, single clock shows you 24 hour UTC time. 3 star rated by *Passport to World Band Radio!*

MFJ-105B, accurate 24 hour UTC quartz wall clock with large 10 inch face.

MFJ Antenna Switches

MFJ-1704 \$59⁹⁵

MFJ-1702B \$21⁹⁵

MFJ-1704 heavy duty antenna switch lets you select 4 antennas or ground them for static and lightning protection. Unused antennas automatically grounded. Replaceable lightning surge protection device. Good to 500 MHz. 60 dB isolation at 30 MHz.

MFJ-1702B for 2 antennas.

World Band Radio Kit

MFJ-8100K \$59⁹⁵ kit

MFJ-8100W \$79⁹⁵ wired

Build this *regenerative* shortwave receiver kit and listen to shortwave signals from all over the world with just a 10 foot wire antenna.

Has RF stage, vernier reduction drive, smooth regeneration, five bands.

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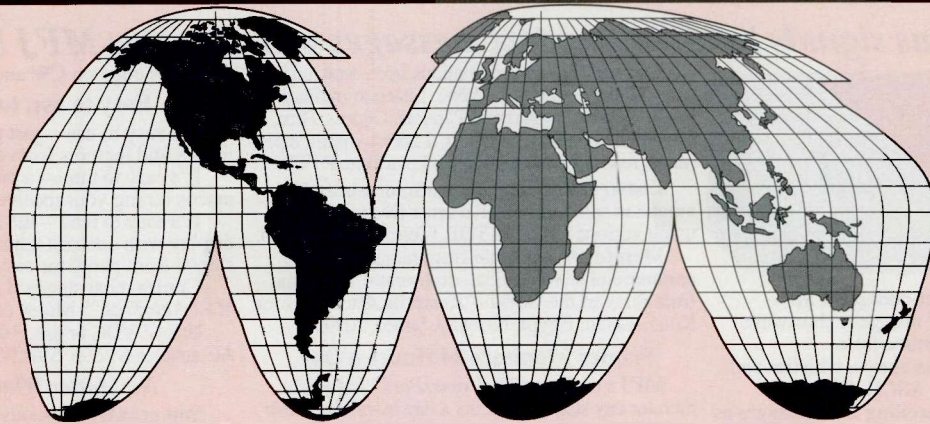
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Pop'Comm's World Band Tuning Tips

December 1997

This listing is designed to help you hear more shortwave broadcasting stations. The list includes a variety of stations including international broadcasters beaming programs to North America, others to other parts of the world, as well as local and regional shortwave stations. Many of the transmissions listed here are not in English. Your ability to receive these stations will depend on time of day, time of year, your geographic location, highly variable propagation conditions and the receiving equipment used.

AA, FF, SS, GG, etc. are abbreviations for languages (Arabic, French, Spanish, German). Times given are in UTC, which is five hours ahead of EST, i.e. 0000 UT equals 7 p.m. EST, 6 p.m. CST, 4 p.m. PST.

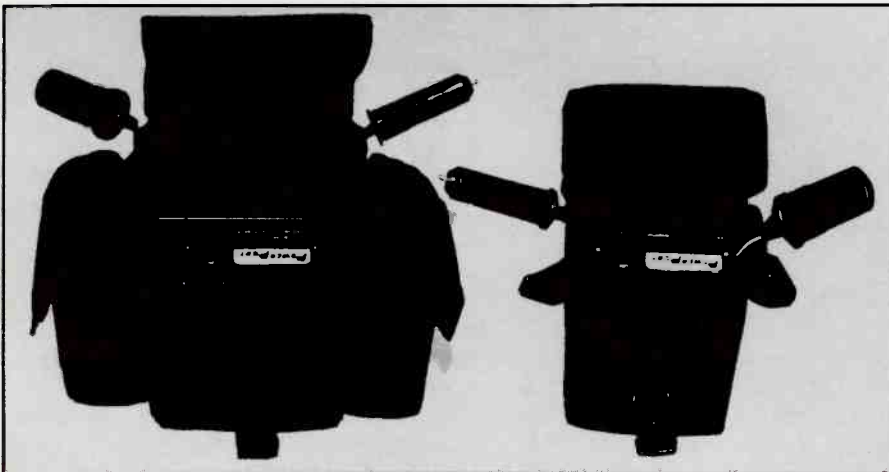
UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0000	5077	Caracol Colombia, Colombia	SS	0200	11710	RAE, Argentina	
0000	9705	R. Mexico Int'l	SS/EE	0230	7160	Radio Tirana, Albania	
0000	11870	Radio Yugoslavia		0230	9835	Radio Budapest, Hungary	
0030	4800	Radio Popular, Ecuador	SS	0300	3240	Trans World Radio, Swaziland	local
0030	6020	Radio Netherlands		0300	3300	Radio Cultural, Guatemala	SS/EE
0030	9655	Radio Austria Int'l		0300	4830	Radio Tachira, Venezuela	SS
0100	3210	Radio Exterior de Espana, via Costa Rica	SS	0300	4914	Radio Cora, Peru	SS
0100	3365	Radio Cultura, Brazil	PP	0300	4930	Radio Internacional, Honduras	SS
0100	4449	Radio Frontera, Bolivia	SS	0300	4985	Radio Brazil Central	PP
0100	4805	Radiodifusora Amazonas, Brazil	PP	0300	5025	Radio Rebelde, Cuba	SS
0100	4832	Radio Reloj, Costa Rica	SS	0300	7150	Radio Ukraine Int'l	
0100	5019	Radio Horizonte, Peru	SS	0300	7210	Radio Belarus	local
0100	5930	Radio Slovakia Int'l		0300	7300	Voice of Turkey	
0100	6120	Radio Budapest, Hungary		0300	9495	Hrvatski Radio, Croatia	EE
0100	6135	Swiss Radio Int'l		0300	9550	Radio Ukraine Int'l	
0100	7260	Voice of Vietnam, via Russia	EE	0300	9590	BBC via VOA	
0100	13670	Radio Canada Int'l		0300	9690	China Radio International, via Spain	
0130	5522	Radio Sudamerica, Peru	SS	0300	9700	Radio Bulgaria	
0130	7102	Radio Bosnia-Hercegovina	local	0300	15115	Radio New Zealand Int'l	
0130	7290	Radio Sweden		0330	3955	Channel Africa, South Africa	local
0200	5045	Radio Clube do Para, Brazil	PP	0330	5030	Adventist World Radio, Costa Rica	
0200	6000	Radio Havana Cuba	EE	0330	9580	Radio Budapest, Hungary	
0200	6045	Deutsche Welle, Germany		0400	3270	Namibian Broadcasting Corp.	
0200	6090	Radio Bandeirantes, Brazil	PP	0400	4765	Radio TV Congolaise, Congo-Brazzaville	FF
0200	6150	Adventist World Radio, Costa Rica	SS	0400	7485	Radio Norway Int'l	NN/EE
0200	6175	BBC via Canada		0400	9435	Kol Israel C77	EE
0200	9735	R. Nacional Paraguay	SS	0400	9905	Swiss Radio Int'l, via French Guiana	
0200	11620	Radio Dushanbe, Tajikistan	local	0430	9485	Radio Bulgaria	

UTC	Freq.	Station/Country	Notes	UTC	Freq.	Station/Country	Notes
0500	4770	Radio Nigeria, Kaduna		1300	15615	Reshet Bet, Israel	HH
0500	4890	Radio France Int'l, via Gabon	FF	1300	15630	Voice of Greece	
0500	4904.5	Radiodifusion Nationale, Chad	FF	1330	12045	Radio Japan via Sri Lanka	EE, others
0500	4915	Ghana Broadcasting Corp.—Radio Ghana		1330	13730	Radio Austria Int'l	
0500	4960	Radio Cima, Dominican Republic	SS	1330	21515	Radio Portugal Int'l	
0500	5047	Radio Lome, Togo	FF	1400	11865	BBC via WYFR	
0500	6055	Radio Exterior de Espana, Spain		1400	11985	Voice of Russia	
0500	6105	Radio Universidad, Costa Rica	SS	1400	17780	RAI, Italy	II
0500	6185	R. Educacion, Mexico	SS/EE	1400	17830	Qatar Broadcasting Service	AA
0500	7255	Voice of Nigeria		1430	9355	Herald Broadcasting—KHBI, Saipan	
0500	7270	RTV Gabonaise, Gabon	FF	1430	9485	Radio Sweden	
0500	7305	Radio France Int'l, via Gabon	FF	1430	9535	Radio Japan NHK World	
0500	7480	R. Bulgaria		1430	9680	Radio Veritas Asia, Philippines	various
0600	3290	GBC Radio, Guyana	SS	1500	9785	China Radio Int'l	
0600	3366	Ghana Broadcasting Corp Radio One		1500	9880	Radio Kuwait	AA
0600	4815	RadioTV Burkina, Burkina Faso	FF	1500	9985	Radio Norway Int'l	NN/EE
0600	4870	ORTB, Benin	FF	1500	11690	Radio Jordan	
0600	7295	Radio Norway Int'l	NN/EE	1500	13635	Swiss Radio Int'l	
0630	6015	R. Austria Int'l, via Canada		1500	13785	Radio Pyongyang, North Korea	
0630	15570	Vatican Radio		1530	9585	Voice of Islamic Republic of Iran	
0700	4783	Radio TV Malienne, Mali	FF	1530	12120	Voice of Hope, via Georgia Rep.	
0700	6115	Radio Union, Peru	SS	1600	11900	Channel Africa, South Africa	Swahili
0700	6165	Swiss Radio Int'l		1600	17465	Radio Prague, Czech Republic	
0700	7430	Voice of Greece		1600	21560	Deutsche Welle, Germany	GG
0700	9675	NBC, Papua New Guinea		1700	9200	Radio Omdurman, Sudan	
0700	9830	Radio Havana Cuba (USB mode)		1700	11570	Radio Pakistan	Urdu
0800	4885	Radio Clube do Para, Brazil	PP	1700	11625	Vatican Radio	
0800	7180	Radio Norway	NN	1700	15200	Radio Portugal Int'l	PP
0800	9500	Trans World Radio, Swaziland	EE	1800	11725	RTT Tunisia	AA
0900	3925	Radio Tampa, Japan	JJ	1800	11785	Qatar Broadcasting Service	AA
0900	4755	Radio Educacao Rural, Brazil	PP	1800	11990	Radio Kuwait	
0900	6010	Radio Mil, Mexico	SS	1800	15265	Radiobras/Radio Nacional, Brazil	PP
0900	6035	Radio Vlaanderen Int'l, Belgium		1800	15320	RAI, Italy, via Ascension Island	II
0900	6060	Radio Nacional, Argentina	SS	1800	15450	RTT Tunisia	AA
0900	9765	HCJB, Ecuador		1830	11730	Voice of Greece, via USA	GG/EE
0900	9885	Swiss Radio Int'l	II	1830	13695	Voice of Turkey	
1000	3220	Radio Morobe, Papua New Guinea	Pidgin	1900	7465	Kol Israel	
1000	4790	Radio Atlantida, Peru	SS	1900	9765	Voice of the Mediterranean, via Russia	
1000	4975	Ondas del Orteguaza, Colombia	SS	1900	11605	Kol Israel	
1000	5020	Solomon Islands Broadcasting Corp.		1900	15345	RAE, Argentina	
1000	6115	La Voz del Llano, Colombia	SS	1900	17785	VOA, via Morocco	
1000	6135	Radio Santa Cruz, Bolivia	SS	1930	15505	Radio Kuwait	AA
1030	3215	Radio Manaus, Papua New Guinea	Pidgin	2030	9510	Trans World Radio, via S. Africa	EE, others
1030	5995	Radio Melodia, Peru	SS	2030	9965	Voice of Armenia	
1030	11715	Radio Korea, via Canada		2030	11960	HCJB, Ecuador	
1100	3340	Radio Altura, Peru	SS	2030	15185	Radio East Africa, Eq. Guinea	
1100	4820	Radio Mam, Guatemala	local	2100	12015	HCJB, Ecuador	
1100	4875	La Cruz del Sur, Bolivia	SS	2100	13610	Radio Damascus, Syria	
1100	5019	Ecos del Atrato, Colombia	SS	2100	17815	Radio Cultura, Brazil	PP
1100	6175	Faro del Caribe, Costa Rica	SS	2100	17820	Radio Canada Int'l	
1100	12085	Voice of Mongolia	various	2200	6180	La Voz de Guatemala	SS
1130	6120	R. Japan, via Canada		2200	9445	Voice of Turkey	TT/EE
1130	9540	Radio Nacional, Venezuela	SS	2200	9570	R. Portugal	PP
1130	9650	R. Korea, S. Korea, via Canada		2200	11815	RAI, Italy	
1130	9750	Radio Occidente, Venezuela	SS	2230	5945	Radio Austria Int'l	
1130	15240	Radio Sweden		2245	9600	Vatican Radio	
1200	4900	Voice of the Strait, China	CC	2300	5895	Croatian Radio	
1200	6095	Polish Radio		2300	5975	BBC via Antigua	
1200	11805	Radio Norway Int'l	NN/EE	2300	7125	Voice of Russia	
1200	13790	R. Bulgaria		2300	7475	RTV Tunisienne, Tunisia	AA
1200	15125	Radio Republik Indonesia	II	2300	9725	Adventist World Radio, Costa Rica	
1200	17575	Radio France Int'l, via French Guiana		2300	15190	Radio Inconfidencia, Brazil	PP
1230	6155	Radio Austria Int'l	EE	2330	5960	Radio Canada Int'l	
1230	9525	Polish Radio		2330	6165	Radio Netherlands via Bonaire	
1230	9715	Radio Tashkent, Uzbekistan	Urdu	2330	9510	Radio Romania Int'l	
1300	7365	KNLS, Alaska		2330	9925	Radio Vlaanderen Int'l, Belgium	
1300	13715	Radio Slovakia Int'l	RR	2330	9935	Voice of Greece	GG

Product Parade

BY NANCY BARRY
AND R.L. SLATTERY

REVIEW OF NEW, INTERESTING AND USEFUL PRODUCTS



More Power for Handhelds

It is now possible to have the power of a 35 watt base station with your 2 meter handheld radio. Cutting Edge Enterprises has released its PowerPort RF-35; a unit that amplifies your signal to 35 watts.

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PowerPort RF-35, grab the carrying strap and take it with you. The PowerPort RF-35 is fully charged and comes with RG-174/U minicable with BNC connector for your HT, and a mini "j" antenna on 10 feet of cable is tucked in to one of the accessory pockets.

If you would like something even more lightweight, you can try the RF-35 Jr. This unit offers .75 hours of solid talk time and unlimited standby and weighs just 3 lbs.

For more information, contact Cutting Edge Enterprises, 1803 Mission St., Suite #546, Santa Cruz, CA 95060; phone 800-206-0115.

Find The Information Fast

If you have an online computer, the Internet offers you enormous opportunities for marketing investigative services to produce considerable extra income at extremely low cost. Joseph Seanor's 185-page how-to manual, *The Private Invest-*

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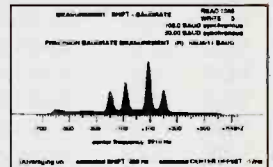
Many radio amateurs and SWLs are puzzled! Just what are all those strange signals you can hear but not identify on the Short Wave Bands? A few of them such as CW, RTTY, Packet and Amtor you'll know - but what about the many other signals?

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- ARO-N-ARO1000 Duplex Variant
- ARO-E3-CCIR519 Variant
- POL-ARO 100 Baud Duplex ARO
- TDM242/ARO-M2/4-242
- TDM342/ARO-M2/4
- FEC-A FEC100A/FEC101
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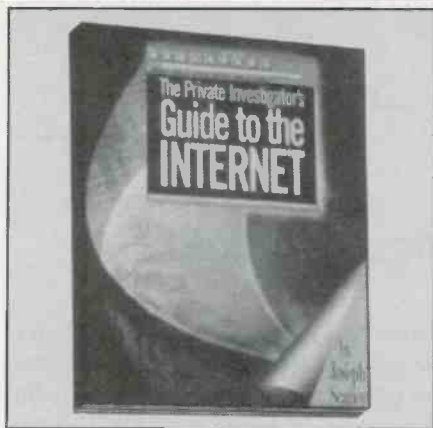
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The author is a recognized authority in

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The Private Investigator's Guide to The Internet is \$34.95, plus \$5 s/h (\$7 to Canada) from CRB Research Books, P.O. Box 56, Commack, NY 11725-0056. NY residents please add \$3.30 tax. MC/VISA welcomed! All phone orders, call 516-543-9169.

Radio Monitoring—The How-To Guide

The cover says this book is "The complete 'hands-on' guide to the magic, action-packed world of radio communications . . . and much more." Judging by what's inside the book, we'd have to agree.

T.J. "Skip" Arey, WB2GHA has done a good job of providing the radio enthusiast—newcomer and oldtimer alike—with a potpourri of information including a concise history of radio and even something that's pretty standard for books like this—a guide to the spectrum, broken down nicely from DC to daylight.

A good chunk of the book, pages 39–96 covers what can be heard on mediumwave, along with a discussion of MW

antennas and equipment. Included is an easily understood section on propagation. Then nearly 100 pages of shortwave tips, information and techniques giving plenty of good, basic information, especially for the newcomer; what's on SW, typical frequencies, propagation, antennas, and even clubs. Arey, who has been DXing the bands for a long time, hasn't missed a beat in the shortwave section of the book. Included is everything a newcomer would need to get started in the fascinating world of Radio Monitoring.

The final section of the 344-page book covers VHF/UHF monitoring A to Z. Included is a manufacturer listing and complete frequency allocation table. All in all, the book is packed with resources, tips and plenty of how-to information—your copy will be dog-eared and used for many years to come!

Radio Monitoring—The How-To Guide published by the Index Publishing Group costs \$19.95. They can be reached at 3368 Governor Drive, Suite 273A, San Diego, CA 92122 or by phone at 800-546-6707. They charge \$4.75 s/h for the first book. They publish lots of other books, so be sure to check Index out on the Internet at <<http://www.indexbooks.com/ipgbooks>>.

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The Computer Corner

BY BONNIE ZYGMUNT/ED GRIFFIN

RECEIVER CONTROL, SOFTWARE AND MORE

Web Resources To Help YOU Become Politically Active . . .

This month's column is a little different than those I've written in the past, because the subject isn't a review of computer software, or a radio, but rather a summary of the on-line resources available to folks who share our interest in radio related hobbies, and wish to gather information and communicate with others in support of the hobby.

There is no guarantee of the "right" to monitor radio communications in the Constitution or Bill of Rights in the United States, so our ability to do so is largely influenced by the will of the American people, as it's interpreted by our elected officials in the position of writing and sponsoring legislation.

Knowing how to use on-line resources to stay informed about pending legislation, and to let your voice be heard to those who exercise the will of the people, has become more important as privacy

issues have moved to the forefront of this nation's concerns. In addition to contacting those who shape our laws, the on-line resources also allow for contact with others of a similar mind who support the same desired result.

The widespread use of e-mail has made it easier to get the word out, sound the alarm, and pull together grass roots support for the things that we feel are important. Familiarity with search engines and Web tools helps when you are performing research. There's ample concern that if individuals don't speak out, the only voices our elected representatives may hear will be those of business concerns and political lobbies.

The focus of this column will be resources that are related to the radio hobby, but there's some general information that will prove valuable to anyone concerned with political activism. One of the first

resources is a mailing list set up solely for the purpose of announcing and discussing pending legislation related to radio monitoring. To subscribe to the list send an e-mail message to <scan-legal-request@nomad.n-reading.ma.us> with a subject of subscribe and subscribe in the body of the message. You will then receive via e-mail information sent to the list, and will also receive information on how you may post messages to the list that will be seen by all of its subscribers. If you wish to get the messages in a digest format, all grouped together instead of individual messages then instead send an e-mail message to <scan-legal-digest-request@nomad.n-reading.ma.us> with a subject of subscribe and subscribe in the text of the message. This will result in a weekly mailing of all of the messages.

One of the first questions a person might ask is "Who is my elected repre-

Test-Only Menu

Common Cause

Holding Power Accountable

Business as usual... only worse.

See What Big Tobacco, Insurance, Labor, Lawyers and Lobbyists gave in soft money to both parties in the first six months of the year.

PROJECT INDEPENDENCE sign the petition

THE MONEY trail

know your CONGRESS

WASHINGTON watchdog

TAKE ACTION

What's New

FEATURES

- 1 Momentum Builds For Ending Soft Money System
- 2 Five Americans Honored for Outstanding Public Service
- 3 Channeling Influence: as seen in Wired magazine
- 4 Gambling Interests Tripled Their Soft Money Giving In 1996
- 5 Be an "Online Organizer" for Campaign Reform
- 6 Support Project Independence and Get a Free Screensaver

CONTENTS

- About Common Cause
- In The States
- Current News Releases
- Campaign Finance Studies
- Cast Your Vote
- Take the Quiz!

SITE INDEX SITE SEARCH FEEDBACK LINKS SURVEYS

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CAUCE

Coalition Against Unsolicited Commercial Email

The Coalition Against Unsolicited Commercial Email

Latest News! - Updated July 16!

Membership Statistics! Sorted by State & Congressional District!

NOTE: The membership stats pages use cookies! If cookies concern you, please do not use the membership statistics pages.

Get the CAUCE PGP Key!

The Problem: Unsolicited commercial email, more commonly known as "spam", is a growing problem on the Internet. If you've used the Internet for any length of time, you've probably received solicitations via email to purchase products or services. **Read why this is a Bad Thing.**

A Solution: A group of Internet users who are fed up with spam have formed a coalition whose purpose is to promote legislation which amends 47 USC 227, the section of U.S. law that bars "junk faxing", so that it will cover electronic mail as well.

In order to raise awareness of this issue, we are conducting a number of activities which are designed to garner support, both in the public and in Congress, for our goal- the elimination of spam!

How You Can Help:

Join CAUCE! By joining, you will receive a newsletter via email, delivered on a regular basis, keeping you up to date on the current activities, as well as information on how you can help! In order to join CAUCE, we will need some basic contact info, such as your address and Congressional District.

Tell Others! Tell other Internet users about CAUCE, put it in your signature, link to it from your web page (Check out the Link Buttons!), and encourage others to do so. We don't have to tell you not to spam it, right?

Check Current Events! We have all the current activities that CAUCE is engaging in listed in one place. Check it out!

Home The Problem Why We Support What we do A Solution NON-Solutions

The Common Cause Web site can help you become politically active.

If unsolicited e-mail is bugging you, this Web site may be able to help.

sentative?" when setting out to contact them. There are some Web sites that let a person find out the contact information for their state and Congressional officials. One, <<http://www.voxpop.org:80/zipper/>> will take your zip code and return the names, addresses and phone numbers of your House and Senate representatives. I entered my home zip code and it returned for my representative "The district for 94583 is California number 10. Your Representative is Ellen Tauscher (D), 1440 Longworth House Office Building, Washington, D.C. 20515, (202) 225-1880, Fax: (202) 225-1868 This congressperson does not use e-mail." I then used the option to find out information on the Senators that represent me and it returned "The Senators for 94583 (California) are: Senator Barbara Boxer (D), 112 Hart Senate Office Building, Washington, DC 20510, (202) 224-3553 This Senator does not have a fax number. E-mail: senator@boxer.senate.gov and Senator Dianne Feinstein (D), 331 Hart Senate Office Building, Washington, DC 20510, (202) 224-3841, Fax: (202) 228-3954, E-mail: senator@feinstein.senate.gov." This Web site also supports sending an e-mail message to a congressional committee using a fill-in-the-form type of method.

Another site giving government e-mail addresses is <<http://www.berkshire.net/~ifas/activist/index.html>>. This Electronic Activist site lists a directory of e-mail addresses for congressional representatives, state governments, and media entities. It's as simple as clicking on the state of your choice. Find the entity you wish to write to, and click on the name. Your browser will open up a window in which you can type your e-mail message. Go to <<http://clerkweb.house.gov/mbrcmtee/maillinglists/ASCII/memberlabels.txt>> to get a no-frills list of the mailing addresses of congressional reps. If you want to reach your representative's office, try this phone number in D.C. 202-224-3121 for the House and Senate.

CompuServe members have an easier option. Using the GO CONGRESSGRAM option they can, for a small fee, type a message that CIS will laser print and mail to the Congressional representative of the senders choosing. This combines the speed of e-mail with the impact that a letter brings.

Looking at Current Laws and Pending Legislation

Sometimes it's important to understand what laws are on the books already,

or what the wording of the pending legislation looks like. There are Web sites that allow a user to look up this information at both the state and national level. Use the Senate's <<http://thomas.loc.gov>> to search and locate information. The Internet Law Library for the House of Representatives is located at <<http://law.house.gov/>>. These pages offer a wealth of way to search for information on legislation at the federal level.

Other Interesting Sites

Individual states often have a Web site, such as the New York State Assembly which is located at <<http://assembly.state.ny.us/>> and contains information on bills in NY state.

The FCC's Web pages are at <<http://www.fcc.gov>>. You can also call the FCC Office of Public Affairs, David Fiske at 202-418-0500. The FCC has posted a fact sheet on monitoring at <<http://www.fcc.gov/investigation.html>>.

How to Make Contact

After researching the issues, and finding out who to contact, the next step is to write your thoughts down in a clear and concise manner, and communicate them to those that can help you reach the desired result. E-mail is quick, but a telephone call and letter might also be required, as a follow-up item to convey the importance and urgency of the matter. Web sites often contain telephone and postal contact information in addition to e-mail addresses. An easy way to send an e-mail message is to point your browser to <<http://www.house.gov/writerep/>> which leads you through a fill-in-the-blanks method of writing to your representative if they have e-mail, or displays their mailing address. Examples of letters voicing concern and opposition to the recent anti-monitoring legislation are online at this site: <<http://www.geocities.com/CapeCanaveral/4800>>.

It can be just as important to contact others in your community or hobby, as it is to contact elected officials. Other clubs, media outlets, and businesses can be sent a brief communication to make them aware of the issues, and appeal for support. There are organizations on the Web whose Web sites may contain information useful to the monitor. The Electronic Activist site I mentioned also lists the e-mail addresses for newspapers, television, and radio stations in your state.

There are other organizations who

The #1 Ham Study Guide

There has NEVER been a better time to get your first Amateur Radio License!

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This edition contains all the new question pool material for exams taken after June 30, 1997.

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The American Radio Relay League
225 Main St.
Newington, CT 06111



have Web sites that may be a good example of on-line activism such as the Common Cause Web site at <<http://www.commoncause.org>> and the Center for Democracy and Technology's <<http://www.cdt.org/>> as well as the Voters Telecommunications Watch's <<http://www.vtw.org>>. A Web site that has information on running a well organized lobbying effort is <<http://www.cauce.org/>>. This effort is against unsolicited e-mail, and might also be of interest to many readers of this column.

Now that I've shown you the who,

what, where, when, and why of on-line activism, when are you going to give it a try? This column is written well in advance of the publication date, and I'm hopeful that recent anti-monitoring bills introduced in Congressional committee's won't have passed in their original forms. Even if these bills are defeated or modified so they don't contain across the board restrictions on monitoring, it will still be important to lobby for support of the hobby. If they are still in play when you read this, it's urgent that you do something before it's too late. An alert about

these pending bills can be found on-line at <<http://www.ggw.org/nf2g/alert.html>>. Harold Peach's Web site at <<http://www.uky.edu/~hpeach/congress/HR2369IH.htm>> also contains a copy of the bill and its associated wording changes to existing law. Also, <<http://www.ggw.org/nf2g>> is the NF2G Scannist Pages and Dave Stark has placed legislative alert information and lots of other related topics on-line. I'd highly recommend this site for someone who needs to find out the background on recently introduced legislation. **Ed Griffin**

The Big Acquisition and Webs In The Computer Corner Contest Winners Announced

A big story that broke in early September was the acquisition of CompuServe's worldwide online services by America Online. Some people have lamented that this action will spell dark days ahead. They say that AOL is primarily for entertainment, where CompuServe was more serious and business minded. CompuServe also had their detractors complaining that many premium services they wished to access were too expensive because of the metered per-minute basis. CompuServe was the oldest online service, started in 1979. It grew steadily through the 1980s, but lost ground to AOL in the early 1990s. Currently AOL has nine million subscribers to CompuServe's 2.6 million.

Steve Case, president of AOL, has stat-

ed that the upcoming months will see each online service being operated separately as before. In the future they will try making some of CompuServe's business & professional content available to AOL members, and make some of AOL's unique technologies available to CompuServe customers. AOL is also anticipating that the additional 100,000 CompuServe modems will improve their connection problems.

If you were one of the 2.6 million who used CompuServe to connect to the Internet, how has this sale affected you? Has the sale affected any AOL users who read this column? Personally, as a member of AOL, I'm looking forward to seeing what new features will be coming my way. Contact me at my e-mail address

<BSZ3866@aol.com> if you have a tale to tell about either of these services. Tell us how they treated you in the past and how the merger has affected you, if at all.

Webs In The Computer Corner Winners!

Hearty congratulations go out to our "Webs In The Computer Corner" contest winner. The contestants sorely tested the judges to come up with the three winners. They want to express their appreciation to each and every reader who sent in a nomination. There were so many commendable and deserving Web pages out there. Each provides the public with a porthole into new areas of interest to explore. Of course, many of the Web pages submitted had some aspect of the radio hobby, but they also showed that our readers have many other facets to their life.

The first winner is Vincent Manoogian with his Web page at <<http://www.mindspring.com/~vincem/>> which he calls Radio Hobbyist's Haven. His home page, and the subsequent links, have a rich green marble background and the text is easy to read. There are graphics with movement and interesting links, including an up-to-date link about the current congressional bill H.R. 2369 which plans to outlaw scanning. Vincent is from North Carolina and his radio interests include amateur radio, commercial radio, scanner listening, longwave, medium-wave, and shortwave listening. He is presently licensed as an amateur radio operator (Extra Class), and a commercial radio operator (GROL, GMDSS/O/M, T2, radar endorsement). He is a member



The first winner of the "Webs In The Computer Corner" Contest is "Radio Hobbyist's Haven" by Vincent Manoogian.

Webs In The Computer Corner Contest Offerings

<http://larc.mi.org/>
<http://members.aol.com/scanrjok/index.html>
<http://www.qsl.net/k14hlp/index.html>
<http://www.geocities.com/Heartland/Plains/7321/main.html>
<http://www.geocities.com/Heartland/7241>
<http://members.aol.com/wcaradio/n1wca.html>
<http://scream.iw.net/~scottnel>
<http://www.futuris.net/wpkn/schwartz>
<http://www.cns.uni.edu/~vollmerj>
<http://tempest.tcbi.com/~lilmac/cb.htm>
<http://www.pcok.com/~n5ogp/okdxa>
<http://www.wva.com/~scooter/yrx>
<http://www.bono.com/bubba>
<http://w5gb.nmsu.edu/kc5kto/>
<http://www.dxer.com>
<http://www.arrowweb.com/RMM>
<http://www.signacom.com/tenmeternet>

of the Durham FM Association (DFMA), Raleigh Amateur Radio Society (RARS), Radio Amateur Satellite Corporation (AMSAT), and a lifetime member of the American Radio Relay League (ARRL). Congratulations, Vincent!

The second winner is located at <<http://www.bono.com/>> created by Robert "Dale" (Bubba) Piedfort in California. His graphics are superb with movement and flash, including twinkling stars in the background. He also has many interesting links that will bring people back to his Web page time and again. Great job, Dale.

The third winner is located at <<http://www.angelfire.com/la/guwapo>>. It is created by Kevin, (friends call him K.K.) from Port Sulphur, Louisiana. It's his first time doing a Web-page (which he thanks Angelfire for their help). It is a very splendid Web page for a first time effort, with scanned pictures and an attractive background. Way to go, Kevin.

All three of these web page creators will receive a FREE one-year subscription to *Pop'Comm* or a one-year extension on a current subscription. I'm sorry to say that anyone who submitted a Web page URL after September 8, 1997 was not included in the judging so that I could meet the deadline for this issue. I sincerely appreciate all the readers who participated in this contest and I will keep any submitted addresses on file in case we hold another contest in the future.

Now that you have heard all about the good Web pages offered for our contest, I want you to switch gears and think back on all the pages you tried to check out in the past that really ticked you off. Maybe they sounded really interesting when you



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Subject: Comparative Gain Testing of Citizen's Band Antennas
Ref: Rye Canyon Antenna Lab File #70529

We have completed relative gain measurements of your model 1000 antenna using the K40 antenna as the reference. The test was conducted with the antennas mounted on a 16' ground plane with a separation of greater than 300' between the transmit and test antennas. The antennas were tuned by the standard VSWR method. The results of the test are tabulated below:

FREQUENCY (MHz)	RELATIVE GAIN (dB)	RELATIVE POWER GAIN (%)
26.985	1.30	35
27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
27.405	2.00	58

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Individual test results may vary upon actual use.

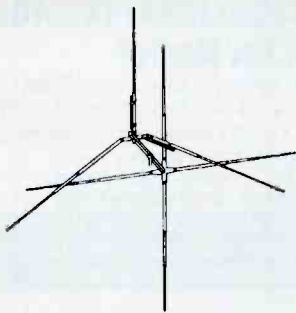
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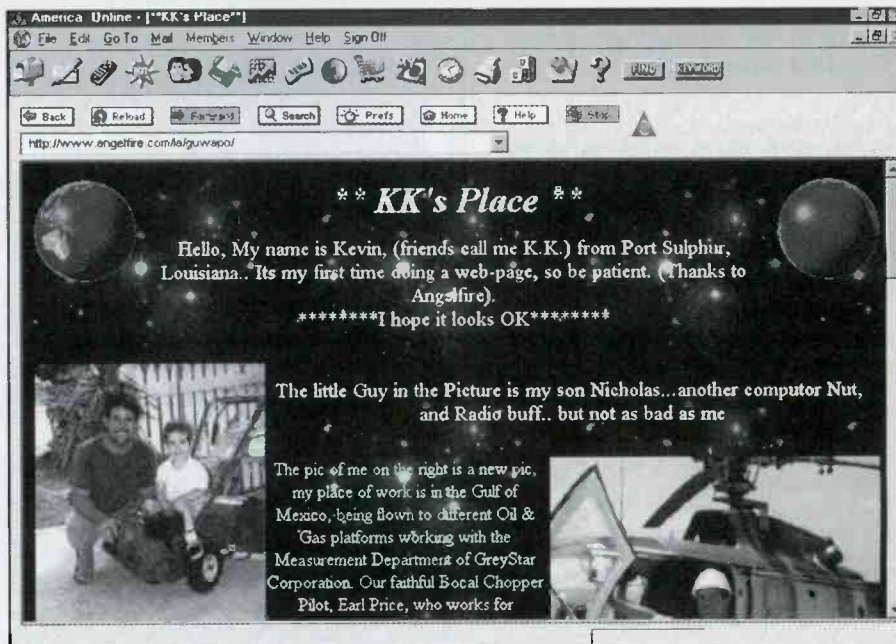
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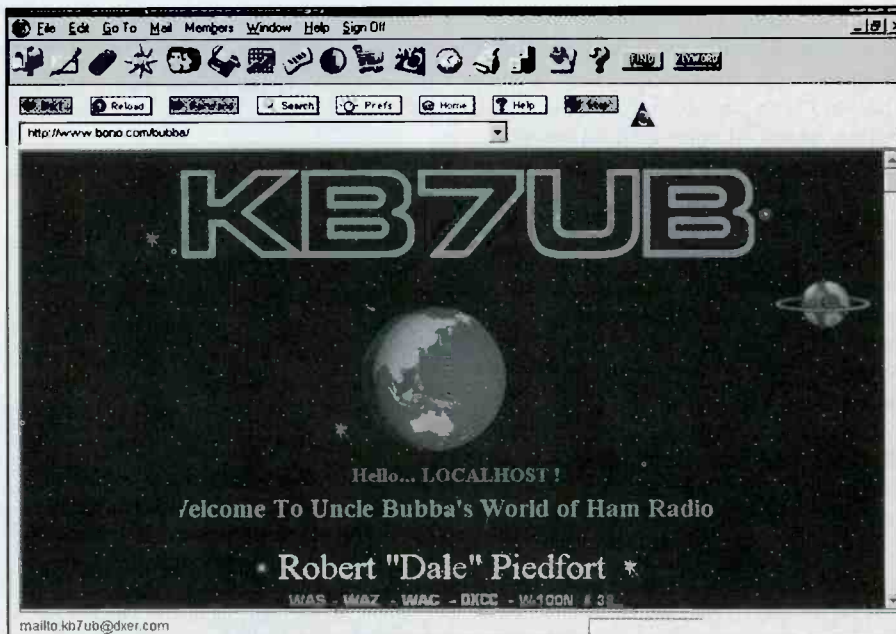
The third winner of the "Webs In The Computer Corner" Contest is "KK's Place" by Kevin in Port Sulphur, Louisiana.

found them with a search engine, but when you tried to load them in it took forever or locked up your computer? Didn't you wish there was a way to vent your frustrations against the mind-numbing and time-wasting World Wide Wait? Well, now revenge is possible. A free software program called Web Vengeance by SegaSoft is being offered at www.segasoftware.com/web-vengeance/main.html. This program allows you to shoot virtual AK-47s or hurl rotten tomatoes at slug-

gish or aggravating Web pages. With a mouse click users can launch stones, arrows, missiles or other tools of destruction. When you are done with the screen it looks like you have destroyed the page, but it really isn't. Makes you feel good, though. Check it out.

Don't forget to check the Pop'Comm Web page at <http://www.popcomm.com/> to see what's new or to contact the editors. Happy clicking.

Bonnie Zygmunt



The second winner of the "Webs In The Computer Corner" Contest is "Uncle Bubba's World of Ham Radio" by Robert "Dale" (Bubba) Piedfort.

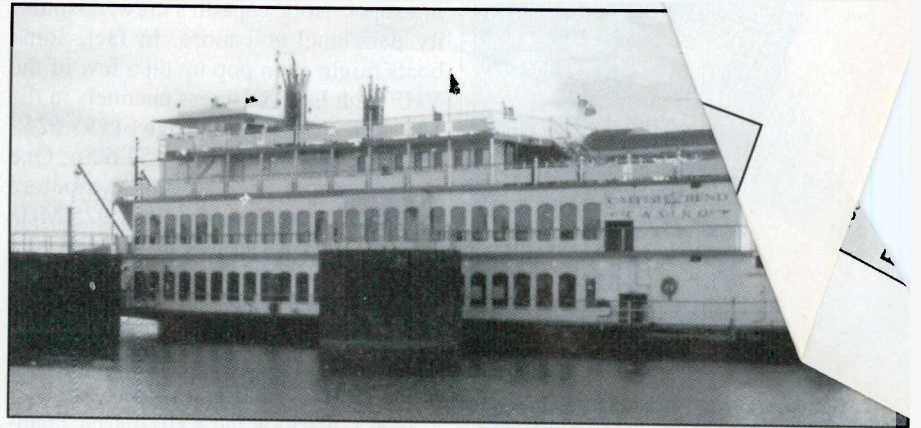
Scanning The Globe

MONITORING THE 30 TO 900 MHz "ACTION" BANDS

BY CHUCK GYSI, N2DUP

Time to Plug in the Plows

The winter months turn our interests toward winter monitoring, and if the weather cooperates (or doesn't), there will be plenty to hear. Be sure you have lined up all the frequencies you need to monitor in the event of a winter weather emergency. You'll want to be able to hear not only snowplows, but also tow trucks, auto clubs, traffic reporters, as well as private plow operators that use business band frequencies. Typically, these plow operators are construction firms or towing outfits that equip their biggest trucks with plows for winter weather snow plowing of contracted parking lots and drives, as well as highways in some states.



This former river boat was used as a floating casino in Fort Madison, Iowa, until it was replaced earlier this year by a larger boat. The casino's operations take place on six UHF frequencies, each with designated purposes. (Photo by Chuck Gysi, N2DUP)

On the Rails

Pete Murphy of Gary, Indiana, writes to ask about frequencies that are used by railroads. He specifically requested information on what he heard from railfans about remote transmitters. Railroads usually use remote transmitters along rail lines to keep in touch with trains while they are traveling in certain areas. These remote transmitters usually operate on designated road channels and can be activated by dispatchers either by microwave or telephone lines. This allows rail crews to have constant contact with their dispatchers no matter where they are on trackage. Some railroad communications, such as those in a rail yard, are short distance, however, and don't need to transmit over a wide area. In many areas of the United States, railroads operate private telephone systems on some of their frequencies so rail crews can make telephone calls over their radios.

If you want to know where to look for railroad communications, all you have to do is search in 15-kHz steps in the following range: 160.215 to 161.565. There

"The Secret Service generally uses a set group of frequencies allocated to the White House Communications Agency."

also are some 12.5-kHz channels on UHF from 452.3125 to 452.4875 and 452.7625 to 452.9625. Likewise, the accompanying "input" frequencies exactly 5 MHz higher at 457 MHz also may be used for inputs or mobile communications. In fact, on UHF you'll probably find data tones as trains pass by. These tones are transmitted by radio boxes installed on the last car of a train to send signals to the crew in the locomotive. The rear-end detectors have replaced the caboose of the past.

Finding the Feds

An anonymous reader asked about frequencies used by several federal agencies, including the Drug Enforcement Agency, the Bureau of Alcohol, Tobacco and Firearms and the Secret Service.

You may want to search the 418-MHz band for DEA channels. Most simplex and repeater operations can be found here, as well as the low end of 419 MHz.

BATF uses these primary frequencies: 165.2875, F1 simplex and F3 repeater output; 166.5375, F2 simplex and input frequency for F3 and F8 repeaters; 166.4625, F4, or Treasury Common, used by all U.S. Treasury Department agencies; 165.9125, F5 for surveillance; 173.8875, F6 simplex and F8 repeater

output; and 168.000, F7 simplex and F6 repeater input.

The Secret Service generally uses a set group of frequencies allocated to the White House Communications Agency. Some of these frequencies include: 165.7875, Baker; 165.375, Charlie; 165.2125, Mike; 164.8875, Oscar; 166.5125; and Sierra (primary presidential protective detail use). Most Secret Service communications are digitally encrypted, however, there still usually is a surprising amount of clear voice communications during a visit. For those with CTCSS decoders, the Secret Service uses a tone of 103.5 hertz. Many metropolitan areas have Secret Service repeaters that operate on discreet VHF high-band frequencies for use on a statewide or regional basis. For more information on federal frequencies, check out "The 'Top Secret' Registry of U.S. Government Radio Frequencies" from CRB Research Books. Write to: CRB Research Books Inc., P.O. Box 56, Commack, N.Y. 11725. The book is edited by *Pop Comm's* senior editor, Tom Kneitel, K2AES.

High Rolling on the River

Ben Takis of Quincy, Illinois, wrote asking about what frequencies gambling river boats use. For those not up on this

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gambling aspect, there are casino boats operating on the waters of the Mississippi River and other larger rivers in Illinois, Iowa, Mississippi and other states. These boats can be found using a variety of frequencies for various purposes.

The first place to check is business band frequencies from 461 to 465 MHz and 466 to 470 MHz for possible use. Many of the boats are using the "splinter" or "interstitial" channels that fall 12.5 kHz between regular business band channels. These splinter channels, such as 466.5375 and 469.9125 (note they fall between normal channels 466.525 and 466.550, as well as 469.900 and 469.925 MHz), are restricted to low-power, typically two watts or less. You might find some of the river boats using both splinter channels as well as routine business band channels, perhaps so they can use higher power than the splinter channels allow. While a lot of the communications are simplex, don't be surprised to find a few repeaters aboard some of the vessels.

On the smaller river boats, you may find only one or two business band frequencies in use. On the larger vessels, you

"... some larger newspapers may use a variety of radio systems in their operations."

might stumble across as many as a dozen or more for various purposes. Some of these uses include: security, maintenance, paging, food service, surveillance of gaming rooms, vault personnel, gaming supervisors, captain's crew, hospitality personnel and more. In fact, some boats might even pop up on a few of the VHF high band business channels in the 151- and 154-MHz range (151.625-151.955, and 154.515 to 154.600). One river boat that operated in Iowa before moving to Louisiana used 151.925 MHz for the captain's crews in its Motorola handhelds, which also were set up on VHF marine frequencies. By having the business band frequency and marine channels in the same handheld radio, it proved more versatile for its users.

Don't overlook the VHF marine channels while searching for river boat communications, too. If the vessels are floating and approach bridges along the rivers, they usually need to notify the bridge-tenders on designated marine channels monitored by the individual bridges. They also obviously are required to monitor VHF marine Channel 16, 156.800 MHz, the emergency and calling frequency. Occasional chitchat between the river boat and passing barges also might be heard on other marine channels.

One other place to look along the Mississippi River are the 217-MHz marine phone frequencies. The inland waterway communications system has a network of towers along the Mississippi and other nearby rivers that offer telephone service to vessels. The towers, which transmit on frequencies between 217 and 218 MHz, repeat transmissions from the boats on the 219-220 MHz band. These communications are in clear-voice FM and typically a lot of personal telephone calls can be heard on these frequencies. However, business also can be transacted (noticeably more private than using the marine telephone channels in the 161-MHz range in the VHF marine band), as well as data such as fax. Some of the river boats also offer their guests the use of the inland waterway phone system, but it comes at a very steep price. No wonder many boats don't allow cellular phones on board! They'd prefer a captive audience for their high-priced phones.

One last place to look for river boat communications is on police frequencies.

Typically, many of the river boats are either required or have the occasional need for state agents to board the boats to ensure state laws are being enforced by the boat's crew. For instance, in Iowa, agents of the Iowa Division of Criminal Investigation use their designated frequency of 154.920 MHz when on board gambling boats. The agents, trained in gambling laws and potential problems, carry handheld radios while on board the boats. Base stations on the same frequency usually are installed at their office set up at dockside. The boats have brigs on board to detain arrested subjects while cruising, if necessary, and police can be called to the dockside to help agents unload suspects.

If you have a list of river boat frequencies you've uncovered, feel free to send them in to this column and we'll publish them in the upcoming months.

More on Casinos

Thad F. Harty, a retiree from Sioux Falls, South Dakota, spends time each



This is the dispatch remote and paging encoder used for dispatching reporters and photographers at a New Jersey newspaper. (Photo by Chuck Gysi, N2DUP)

“... most casino communications take place in the 461-465 MHz range ...”

winter in Las Vegas, Nevada. He says he frequents the casinos at least once a week and was wondering where he could obtain a list of frequencies used by the casinos so he could listen from his apartment. One of the easiest ways to obtain a list is to start searching for frequencies yourself. Much like the casino river boats, most casino communications take place in the 461-465 MHz range, however, some have migrated to the 851-861 MHz region, including some trunked systems. In addition, paging operations are on the 929-MHz band for some casinos (and all of this applies not only in Nevada, but also in Atlantic City, New Jersey, and various Indian casinos across the land). If you search through these two band ranges, you'll hear most of the casino action.

If you want an actual listing of casino frequencies, one suggestion is to pick up a copy of "Monitor America," published by SMB Publishing (1-800-SCAN-701) or "Police Call Plus" at any RadioShack store. Both books have detailed casino frequencies for gambling hot spots.

Get Your ID

Since three readers wrote in recently to inquire, I'll fill you in on a little secret. Well, it's not that big of a secret. It is, however, one of the more popular questions I get here at "Scanning The Globe." You want to become a registered monitor? You'll receive a distinctive identifier, such as my own, KPA3CA, which helps identify you as a serious monitor when writing to others, especially when seeking verification letters or QSLs.

For more information on the registered monitor program, write to CRB Research Books Inc., P.O. Box 56, Commack, N.Y. 11725, and tell them *Pop' Comm* sent you!

In the News

Fred Silverstein of Staten Island, New York, wants to know what frequencies are used by newspapers in his and other areas.

Newspapers are allocated two basic groups of frequencies. The first one is a block of four VHF frequencies: 173.225, 173.275, 173.325 and 173.375 MHz. The second group is on UHF. Base stations, repeaters and mobiles can use 452.975 and 453.000 MHz, while mobiles can use

457.975 and 458.000. In addition, a handful of frequencies are reserved for low-power handheld use: 452.9625, 452.9875, 457.9625 and 457.9875. Newspapers use these frequencies for a variety of functions, including circulation (newspaper delivery), administrative and dispatch (delivery of advertising materials) and news (both reporters and photographers). Some newspapers even might use the frequencies for advertising sales representatives, vehicle maintenance, paging and more.

While a lot of newspapers use these few channels, many smaller papers can't afford to invest in all the equipment needed to put a major radio system on the air. Instead, they may use conventional business band frequencies (a newspaper is a business, and thus qualifies for that radio service). Most newspapers using business band will show up on shared repeaters in the 461-465 MHz band, or on T-band frequencies in the top 20 metropolitan areas. In addition, some newspapers use 800 MHz repeaters and trunked systems, not to mention 935-940 MHz trunked systems in major cities. In fact, some larger newspapers may use a variety of radio systems in their operations.

For instance, a newspaper might use one or two VHF channels at 173 MHz for news photographers, a UHF frequency at 453 MHz for circulation deliveries, a UHF business band frequency at 461 MHz for outlying circulation units, an 800-MHz trunked system for reporters on assignment and low-power frequencies at 453 and 458 MHz for building security and data transmission for press operations monitoring. Check around and see what you can find.

Write In!

What are your favorite frequencies? Do you have any scanner-related questions? Do you have any listening tips worth passing along to your fellow readers? How about sending in a photo of your listening post or antenna farm? Write to: Chuck Gysi, N2DUP, Scanning the Globe, *Popular Communications*, Box 11, Iowa City, Iowa 52244-0011, fax to 516-681-2926, or e-mail to <SCAN911@aol.com>. Make sure you indicate in your e-mail that you are writing regarding this column. ■

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CB Scene

BY JOCK ELLIOTT, SSB-734

27 MHz COMMUNICATIONS ACTIVITIES

Christmas Presents

This is that wonderful time of year when it just feels right to count our blessings and to look forward to the holiday season ahead. Here are some of the things that I am grateful for:

* **All the great CBers who are out there**—My on-the-air experience convinces me that about two percent of the CBers cause 100 percent of the problems. The remaining law-abiding 98 percent of the CBers get no credit for being the terrific folks that they are.

* **All the dedicated individuals and teams who monitor CB Ch. 9** and provide assistance to people in trouble. Since I wrote a column this summer questioning whether REACT International is on track with its priorities, I've received many letters from both REACT and non-REACT teams saying, "Hey, WE monitor Ch. 9." To all those who perform an often thankless task with dedication, enthusiasm, and professionalism, a great big tip of the hat for a job well done.

* **"Legal" sideband clubs**—It has occasionally saddened me that sometimes I can hear sideband operators banging away on the illegal freeband frequencies while the channels (16, and 35-40) that have been traditionally used for sideband operations go virtually unused (at least in my area of the country). Recently, however, I've seen a resurgence of sideband clubs that operate within the 40 legal channels, and these operators seem to have more fun than mere mortals should be allowed to have! Further, they don't have to worry whether their operations are legal.

* **Innovative CB manufacturers**—Right now, there seems to be a race on between Cobra and Cherokee to see who can build the most innovative CB equipment to make communications easier and more pleasurable. Frankly, I hope both companies do very well, because it is good—very good—for us CBers.

* **The people who read this column**—I saved the best for last. Your letters and

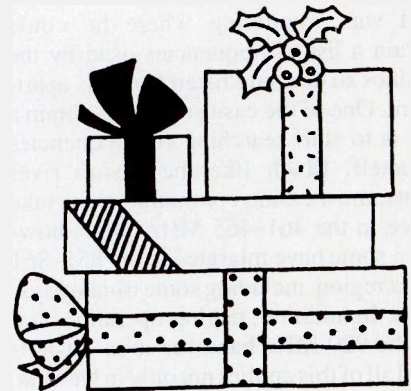
cards with those great comments, questions, and observations have been simply invaluable to the success of this column. With the expanded format of this column in 1998, we'll be dipping into the mailbag far more often. So keep those cards and letters coming, and remember to include your shack photos!

Christmas Presents for Boys and Girls Who Have Been VERY Good

Recently, I changed vehicles from a roomy sport utility "urban assault vehicle" to a compact wagon. Suddenly, I was faced with an unanticipated problem: where to mount a CB radio. Looking around, there was simply no place to mount my nice, big, hairy-chested sideband mobile rig that didn't interfere with someone's knees, the shifter, or something else. Fortunately, Cobra Electronics came to the rescue with a CB that simply bristles with innovation. Called the 75 WX ST, this is a compact, remote-mount CB radio. All the electronics and controls are built into a slightly oversize speaker-microphone. The wire from the "microphone"—really it is a complete transceiver in a hand-held package, goes to a small connector box that can be mounted on the firewall or placed under one of the front seats. The coax from the antenna screws onto the connector box, and that's it. This CB radio can be used in any vehicle because it requires NO mounting.

And what a radio this is! It includes 40 channels for AM mode operation, a full four watts of transmit power, 10 weather channels, a backlit LCD panel that gives the status of all transceiver functions, a selectable frequency display (!), instant 9/19, dual watch, scanning, memory channels, and even Cobra's innovative SoundTracker technology.

SoundTracker is a new idea that Cobra has been working on that decreases noise on receive and boosts the audio power of the transmitted signal. Even though I have asked Cobra—really nice—a couple of times what the circuitry is actually doing, they won't tell me. Neverthe-



less, I've tried several of their radios with SoundTracker, and it really works. It can reduce background hiss on receive substantially and provide an added punch to the transmitted signal. While SoundTracker won't always make it easier to copy a difficult signal or make sure that your signal gets through under bad conditions, there are many times when it does help, and it is definitely worth having.

The bottom line: I really like Cobra's new 75 WX ST. It packs all the goodies you'd want in a radio for the road (including weather channels, which I consider essential) in a package that can be mounted anywhere. Suggested price of the 75 WX ST is \$149.95

Cobra's New HH-45WX

I'd had just about decided that the 75 WX ST was the slickest new radio I had seen in a while . . . when I got an eyeball on Cobra's HH-45WX. This is a small citizens band handi-talkie that includes almost all of the cool stuff from the 75 WX ST. You get 40 AM channels, 4 watts output, 10 weather channels, dual watch, scanning, instant 9/19, a high/low power switch, an LCD panel with selectable frequency display, a rubber ducky antenna, and a slide-off battery pack that takes 6 AA alkaline cells.

Pop the rubber ducky antenna off the top of the HH-45WX, and, with the help of a BNC/SO239 adaptor (not included), you can hook this handheld transceiver to a roof-top full-size CB antenna. A cord for connecting the HH-45WX to your car's cigarette lighter comes standard



Cobra's 75 WX ST packs a complete mobile transceiver with weather channels and SoundTracker technology into a slightly oversized speaker-microphone.

with this radio. Accessories that are available for the HH-45WX include a battery cartridge for NiCd batteries, a charger, and a speaker microphone.

Now, I'm sure you're ahead of me on this, but it doesn't take Albert Einstein to figure out that, with a speaker microphone, an adaptor, and an external antenna, the HH-45WX can quickly be converted from



Cobra's diminutive HH-45WX is loaded with sophisticated features, including 10 weather channels, scanning, dual watch, 40 AM channels, plus lots more.



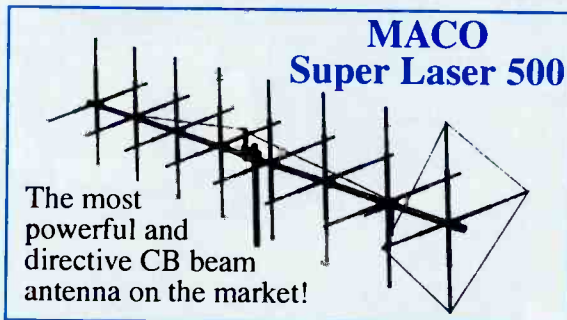
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a neat handi-talkie to an incredibly tiny mobile transceiver that works a heck of a lot better than some of the so-called CB "help" radios that I have tried.

I've personally used the HH-45WX, and I think it is impressive. It's neat to be in a new place, pop this handi-talkie out of my pocket, hit SCAN and see if anyone is talking on CB. In addition, the NOAA Weather Radio circuitry works so well that I frequently take the HH-45WX with me to serve as a Weather Radio. Suggested retail price of the HH-45WX is \$149.95. If you're looking for a great present to give (or receive), I can heartily recommend either the 75 WX ST or the HH-45WX.

Give a Christmas Present to Your Community

One of the things that impresses me about CBers is that they are generally very helpful to people who are in distress. One of the things that you can do to "give a present" to your community is to monitor CB Ch. 9. It's dedicated to emergency communications and traveler's assistance by FCC rules, and you can help.

If there is a local REACT team, you can join them, or you can form your own REACT team, or you can simply be an independent monitor. But however you choose to do it, monitoring Ch. 9 can be a great service. Sure, there may be many hours when you hear nothing at all. But you don't have to be glued to your CB. Simply squelch out the noise and go about your business. If a call breaks the squelch, see if you can provide assistance. It's just that simple.

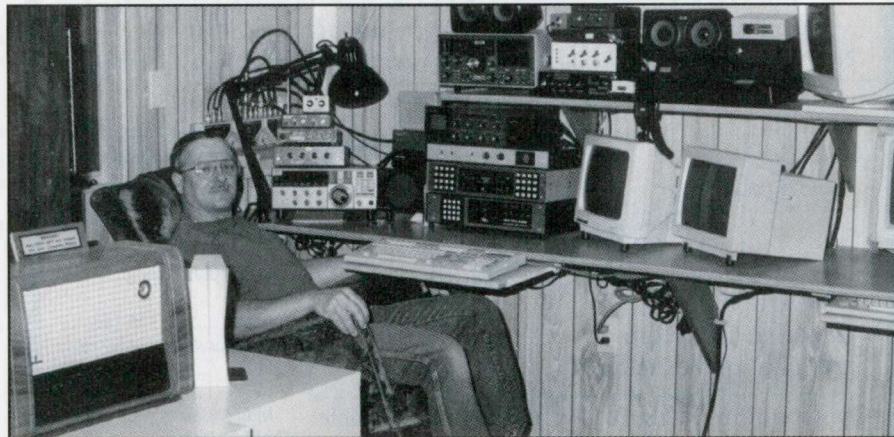
If you join an organized group that is monitoring Ch. 9, be sure that they let people know that you are monitoring by sending a news release to the local newspaper. If other CBers are using Ch. 9 as a chat channel, point out to them, politely, that the channel is reserved and that you are trying to monitor for assistance calls. It's not always fun, but it can be immensely satisfying to provide a service to your community by monitoring Ch. 9.

Give a Gift to Your Hobby

As I mentioned before, I think CB sidebanders who operate in the 40 legal channels have more fun than anyone involved

How I Got Started

Congratulations to Steve Baker of Michigan



Steve Baker of Limestone, Michigan at his well-equipped monitoring post.

Popular Communications invites you to submit in about 150 words how you got started in the communications hobby. Entries should be typewritten, or otherwise easily readable. If possible, your photo (no Polaroids, please) should be included.

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

The person whose entry is selected will receive a one-year gift subscription (or one-year subscription extension) to *Popular Communications*. Address all entries to: How I Got Started, *Popular Communications*, 76 North Broadway, Hicksville, NY 11801-2909 or e-mail your entry to <popularcom@aol.com>, letting us know if you're sending photos.

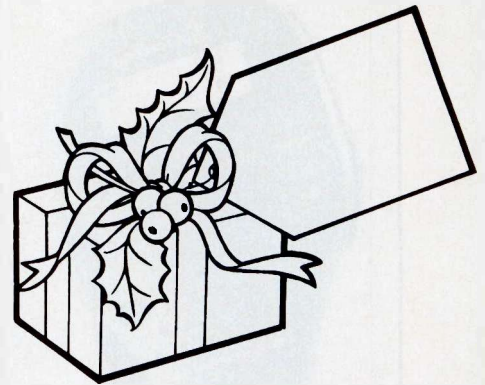
Our December Winner

Michigan reader Steve Baker tells us his curiosity in radio was sparked when he was in the military. Steve says, "The

government sent my organization to the middle of nowhere for a month; no TV, radio, phone, newspaper or mail. The only communications was a satellite link with our embassy. It became apparent to me how much information we receive through various media and how alone we could feel without contact from the outside world.

"This incident began a deep interest in propagation and shortwave radio that continues for me today."

After a week, I discovered the only saving item on this trip was my portable AM/FM clock radio. Late at night I was able to pick up a BBC station from some unknown location. Since my little radio ran on "AAA" batteries and there were no extras, I couldn't keep it running very long. I'd listen to the news on the hour and then pass the information along to other members of our group. But with that limited information we felt connected to the world. This incident began a deep interest in propagation and shortwave radio that continues for me today. My current passion centers around digital utility station monitoring. I have a variety of receivers and decoding equipment which give me many hours of fun and satisfaction—and I still listen to the BBC at night.



in a radio hobby, including hams. If there isn't a regular sideband network in your area, consider starting one.

Simply pick a time and night, a channel (usually 36–40 lower sideband), and invite people to participate in the net. Talk to AM operators, ask if they have sideband capability, and, if they do, suggest that they drop by for some friendly conversation during the network. Listen on the airwaves for other sidebanders, and, when you hear them, extend a cordial invitation to participate in the net.

Start the net on time and invite people to check in. If you've decided that you are going to give your sideband network a special name and issue unique identifier numbers, be sure to keep track of people's names and numbers in a notebook so you can call them by name when they check in the next time. Try these things, and you may be surprised at the response you get. In addition, you may be astounded at the fun you have if you are persistent at trying to start your own sideband network.

"... I think CB sidebanders who operate in the 40 legal channels have more fun than anyone involved in a radio hobby..."

In the future, I hope to do some profiles on some sideband clubs that are dedicated to operating in the 40 legal CB channels. If you have a club that you'd like to nominate for a profile, write to me here at *Pop'Comm* or e-mail me at <CBEditor@aol.com>.

Until the next time, my very best wishes for a blessed holiday season and a prosperous and healthy New Year. As they used to say when I was a kid, "Have a cool Yule and a frantic first!" ■

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Broadcast DXing

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Something Old and Something New . . .

I've received a few inquiries about old time radio programs heard on 670 kilohertz from WMAQ Chicago, and whether or not other stations carry these programs. WMAQ is among the many premier radio stations that first signed on the air in 1922. WMAQ is considered one of the pioneers of radio broadcasting, leading the industry with innovative programs such as the radio dramas, and their news and sports coverage. Many of the old time radio programs like the popular Amos 'n' Andy were originally produced and aired from the old WMAQ Merchandise Mart studios as the Chicago NBC flagship in the 1930s. Old Time Radio can be heard on WMAQ weeknights at midnight and weekends at 1 a.m. Eastern time. If you're not within earshot of WMAQ, listen for "The Drama Hour" on KNX Los Angeles on 1070 every night at 9:00 p.m. I've provided a partial listing of radio stations that carry old time radio programs on a regu-

lar basis. Several public radio and college FM stations also broadcast old time radio programs. A complete listing which is updated monthly can be found on the internet at <<http://www.old-time.com>>.

Digital Television Arrives

The FCC has granted KHVO (TV) Hilo, Hawaii the first commercial digital television (DTV) construction permit in the United States. While this represents a major milestone toward development of DTV, don't throw out your old TV just yet, as there is plenty of work still to be completed in the development of DTV standards and hardware. Broadcasters will be able to continue transmitting on existing analog channels while simulcasting on the new digital channels during an extended transition period. Originally, any broadcasters awarded DTV channels were going to be required to give up their

analog channels by 2006. But now it appears that analog TV won't disappear quite so fast, as the new deadline will be based on market penetration. This means that the market will determine when analog TV is to become obsolete, rather than forcing consumers to accept DTV by a pre-determined deadline. It also gives those agencies responsible for development of national and world standards some breathing room, to work out their differences and produce what will hopefully be compatible formats. Two of those agencies are the Society of Motion Picture and Television Engineers (SMPTE) and the European Broadcasting Union (EBU), which recently formed a task force to investigate the implications of DTV standards beyond the scope of broadcasting. In addition, computer electronics and software companies are concerned with establishing standards that will strengthen the bond between television and the home computer. While Apple, Compaq, Intel, and others have been involved in the process, Microsoft has secured its position as an industry player through its expansion into broadcasting with ventures such as MSNBC, and its lobbying efforts on behalf of the National Association of Broadcasters (NAB) which helped to gain elimination of the 2006 deadline. Despite these efforts, broadcast industry interests remain primarily in the rapid deployment of high definition television (HDTV) without being clouded by ancillary issues. Meanwhile, integrated circuit manufacturers are already working on the design of chips for development of low-cost multi-format receivers in anticipation of volume market demand by 2000. (Remember those multi-format AM stereo receivers?)

And What About Digital Radio?

A number of major manufacturers are already demonstrating digital audio broadcast (DAB) receivers in Europe, including Blaupunkt, Delco, Grundig, Kenwood, and Panasonic, with products expected to be available in 1998. More than 100 radio stations in Europe are now

Call	Freq.	Location	Local Time & Days
CHQR	770	Calgary, AB	11 p.m. daily
CKNW	980	Vancouver, BC	8 p.m. Sat. Sun.
KMJ	580	Fresno, CA	9 p.m. Mon-Fri, 10 p.m. Sat. Sun.
KNX	1070	Los Angeles, CA	9 p.m. daily
KABL	960	San Francisco, CA	9 p.m. Mon-Fri
KGFT	100.7	Colorado Springs, CO	8:30 p.m. daily
KEZW	1430	Denver, CO	7 p.m. Mon-Fri, 6 p.m. Sat.
WICC	600	Bridgeport, CT	7 p.m. Sun.
WNWS	570	Tampa, FL	11 p.m. Mon-Fri
WHO	1040	Des Moines, IA	9 p.m. Mon-Fri
KIDO	630	Boise, ID	11 p.m. Mon-Fri
KRIC	100.5	Rexburg, ID	9:30 p.m. daily
WMAQ	670	Chicago, IL	12 a.m. Mon-Fri, 1 a.m. Sat. Sun.
WJKL	94.3	Elgin, IL	10:00 pm Mon-Fri, 8 p.m. Sun.
WODT	1280	New Orleans, LA	7:06 p.m. Mon-Sat.
CIFX	1290	Winnipeg, MB	7 p.m. Sun-Fri., 9 p.m. Sat.
CJOB	680	Winnipeg, MB	1 a.m. daily
WAAM	1600	Ann Arbor, MI	10 p.m. Mon-Fri.
KLBB	1440	Minneapolis/St.Paul, MN	8 p.m. Mon-Fri.
WLOL	1470	Minneapolis/St.Paul, MN	8 p.m. Mon-Fri.
KFEQ	680	St. Joseph, MO	11 p.m. Mon-Fri.
KSRN	92.1	Reno, NV	10 p.m. Mon-Fri.
WBBF	950	Rochester, NY	11:06 p.m. Mon-Fri.
WSAI	1530	Cincinnati, OH	10:30 p.m. Mon-Fri
CHML	900	Hamilton, ON	2 a.m. Mon-Fri., 10 p.m. Sun.
CKWW	580	Windsor, ON	9 p.m. Mon-Fri.
WQBB	104.5	Knoxville, TN	10:05 p.m. Mon-Fri.
KAAM	620	Dallas, TX	8 p.m. Mon-Fri.
KSL	1160	Salt Lake City, UT	10:11 p.m. Mon-Fri.
WFIR	960	Roanoke, VA	10 p.m. Mon-Fri.
KUOW	94.9	Seattle, WA	10:30 p.m. Mon-Fri.
WOKY	920	Milwaukee, WI	9 p.m. Mon-Fri.

Seeking Permits to Construct New AM Stations

CA	Julian	890 kHz	330 watts
FL	Havana	1180 kHz	1 kW/250 watts
ND	Fargo	740 kHz	
VA	Suffolk	1450 kHz	1 kW
WA	Blaine	1600 kHz	50/10 kW

Granted Permit to Construct New AM Station

US	(mobile)	530-1705 kHz	40 watts (KF2XBF)
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Seeking Permits to Construct New FM Stations

AL	Selma	89.5 MHz	
AL	Troy	91.1 MHz	2 kW
AR	Marvell	90.7 MHz	50 kW
AR	Waldo	99.1 MHz	
CA	Barstow	91.3 MHz	
CA	Camino	89.9 MHz	
CA	Coachella	90.3 MHz	320 watts
CA	Lamont	91.7 MHz	
CA	Laytonville	90.1 MHz	170 watts
CA	Placerville	89.9 MHz	
CA	Pollock Pines	89.9 MHz	
CA	San Joaquin	89.7 MHz	
CA	Santa Maria	89.7 MHz	
CO	Carbondale	88.9 MHz	500 watts
CO	Montrose	88.3 MHz	
CO	Rye	90.9 MHz	
FL	Keystone Hts.	91.5 MHz	150 watts
FL	Madison	89.3 MHz	
GA	Griffin	91.7 MHz	
IA	Castana	107.5 MHz	
IA	Ottumwa	88.3 MHz	250 watts
IA	Waverly	88.9 MHz	6 kW
ID	Sun Valley	91.1 MHz	
IL	Du Quoin	90.1 MHz	
IL	Peoria	90.7 MHz	
IL	Taylorville	97.3	
IL	Tower Hill	98.3 MHz	
IN	Frankfort	90.7 MHz	250 watts
KS	Cawker City	96.3 MHz	
KS	Humboldt	94.3 MHz	
KY	Leruse	88.3 MHz	
KY	Manchester	90.1 MHz	
KY	Middlesboro	90.1 MHz	
LA	Kinder	90.3 MHz	215 watts
LA	Natchitoches	89.3 MHz	1 kW
La	Natchitoches	100.7 MHz	
MA	New Bedford	88.1 MHz	
MI	Mount Pleasant	90.7 MHz	
MI	Muskegon	91.7 MHz	6 kW
MI	Rogers Hts.	89.9 MHz	
MO	Dixon	92.1 MHz	
MO	Jackson	89.9 MHz	9.9 kW
MO	Kirksville	91.5 MHz	6 kW
MO	Rolla	90.9 MHz	
MO	Tipton	89.9 MHz	
MO	Vienna	90.9 MHz	
MS	Indianola	88.7 MHz	71 kW
MT	Kalispell	88.7 MHz	
NC	Fayetteville	91.1 MHz	500 watts
NC	Jacksonville	90.1 MHz	
NC	Wade	91.1 MHz	3.4 kW
NE	Hubbard	88.1 MHz	

NE	Sneads Ferry	89.9 MHz	
NV	Amarosa Valley	101.1 MHz	
NY	Utica	90.3 MHz	900 watts
OH	Vaughnsville	88.1 MHz	
OK	Ada	91.3 MHz	100 kW
OK	Chickasha	90.5 MHz	1 kW
OK	Seminole	89.1 MHz	500 watts
OK	Shawnee	91.3 MHz	19 kW
OK	Tishomingo	88.3 MHz	1.75 kW
OR	Pine Grove	89.5 MHz	580 watts
PA	McConnellsburg	88.7 MHz	100 watts
SC	Dillon	90.5 MHz	
SD	Clear Lake	107.1 MHz	
TX	Big Spring	89.3 MHz	
TX	Camp Wood	99.1 MHz	
TX	Denison	91.5 MHz	4 kW
TX	Doss	88.1 MHz	
TX	Falfurrias	103.3 MHz	
TX	Markham	92.5 MHz	
TX	Midland	90.1 MHz	
TX	Plainview	90.5 MHz	1 kW
TX	Victoria	91.5 MHz	
TX	Wake Village	92.5 MHz	
TX	West Odessa	88.7 MHz	100 kW
TX	Zapata	93.5 MHz	
VA	Ashland	88.1 MHz	
VA	Cape Charles	90.7 MHz	7.5 kW
VA	Galax	90.3 MHz	
VA	Goochland	100.5 MHz	
WI	Cuba City	89.7 MHz	9.9 kW
WY	Cheyenne	89.7 MHz	
WY	Newcastle	90.5 MHz	400 watts

Granted Permits to Construct New FM Stations

AK	North Pole	89.1 MHz	
GA	Savannah	88.1 MHz	
MO	Cedar Hill	89.5 MHz	
MO	Concordia	88.1 MHz	
MS	Port Gibson	89.3 MHz	
NE	Bridgeport	101.3 MHz	
NM	Santa Rosa	95.9 MHz	
NY	Liberty	88.1 MHz	
NY	Saratoga Springs	89.7 MHz	
TN	Tullahoma	88.5 MHz	
TX	Palestine	89.1 MHz	1 kW
US	(mobile)	88.1-107.9 MHz	10 watts (KF2XBF)
WA	Nile	88.1 MHz	
WY	Casper	91.3 MHz	420 watts (KUWR satellite)
WY	Gillette	90.9 MHz	

Reinstated

(new)	Charleston, IL	88.1 MHz
WRNE	Gulf Breeze, FL	980 kHz

Cancelled

(new)	Newcastle, WY	99.3 MHz	6 kW
KALG	Chadron, NE	94.7 MHz	
KBXY	Baker, CA	94.9 MHz	15.5 kW
KGXY	Lenwood, CA	96.9 MHz	1 kW
KLVU	Haynesville, LA	1580 kHz	
KPWS	Crowley, LA	1560 kHz	
KONG-FM1	Hanalie, HI	93.5 MHz	46 watts (booster)
WARI	Abbeville, AL	1480 kHz	

Previously Approved AM Changes Cancelled

WGNY Newburgh, NY 1220 kHz Change of power, frequency.

Seeking Modified AM Facilities

KBRH Baton Rouge, LA 1260 kHz Seeks day increase to 5 kW.
 WETR Eden, NC 830 kHz Seeks move to Kernersville, 10 kW nights.
 WSNR Hartford, KY 1600 kHz Seeks move to Beaver Dam.
 WUNO San Juan, PR 1320 kHz Seeks night increase to 2.3 kW.
 WWJ Detroit, MI 950 kHz Seeks day increase to 12 kW.

Requesting Changed FM Frequencies

KFIX Plainville, KS 96.7 MHz Seeks move to 96.9 MHz.
 KRVH Rio Vista, CA 101.5 MHz Seeks to change frequency.
 KUPL-FM Portland, OR 98.5 MHz Seeks to change frequency.
 KZBL Natchitoches, LA 95.9 MHz Seeks move to 100.7 MHz.

Changed FM Facilities

KAKA Salina, KS 88.5 MHz Now a satellite of KBUZ.

Pending AM Call Letter Changes

New	Old	
KBPA	KDFC	Palo Alto, CA
KMHS	KRSE	Coos Bay, OR
KSEK	KNHN	Pittsburg, KS
KTCT	KOFY	San Mateo, CA

Changed AM Call Letters

New	Old	
KKOL	KMPS	Hampton, AR
KMRZ	KMEN	San Bernadino, CA
KTNO	KINF	Denton, TX
KWUN	KMGR	Murray, UT
KYCY	KPIX	San Francisco, CA
WAVG	WXVW	Jeffersonville, IN
WDWS	WKHX	Atlanta, GA
WLEO	WZBS	Ponce, PR
WLJM	WCIT	Lima, OH
WLKY	WAVG	Louisville, KY
WMIR	WMIW	Atlantic Beach, SC
WOOX	WCYC	Bedford, PA
WTLT	WNMX	Charleston, NC
WVMC	WYER	Mount Carmel, IL
WZUR	WLEO	Ponce, PR

Pending FM Call Letter Changes

New	Old	
WVPA	WBZS	Alexandria, VA
WYAA	WEMG-FM	Crete, IL

Changed FM Call Letters

New	Old	
KAVW	KAPU	Amarillo, TX

KCCX
 KDTL
 KDVE
 KDVE-FM
 KKGL
 KKLQ
 KNAA
 KQEO
 KRRW
 KUHL
 KWCO-FM
 KXHT
 KYCY-FM
 KYLD
 KYLZ
 WAJC
 WAYC
 WBBO
 WBSQ
 WCKY
 WCLX
 WCVT
 WFMN
 WGLD
 WKEB
 WLSR
 WLZR
 WNIJ
 WNIU
 WNKK
 WPAR
 WPLT
 WPIR
 WQKE
 WRTE
 WTGE
 WVMC-FM
 WWZY
 WXBP
 WZYY

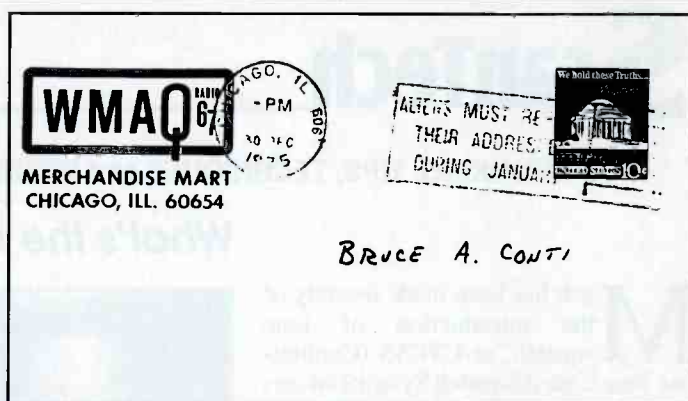
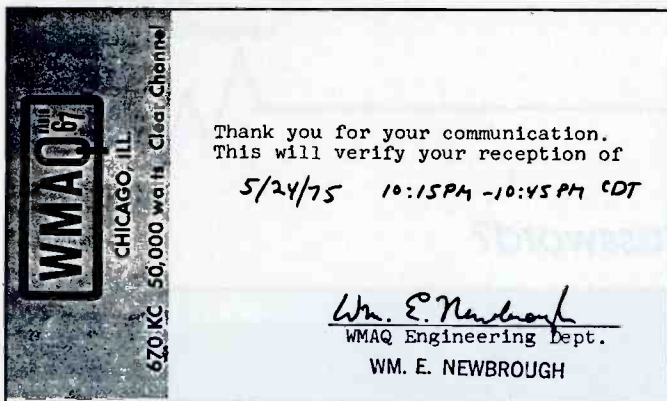
KISF
 KZYQ
 KIKM-FM
 KIKM
 KLCI
 KKLO-FM
 KAUL
 KZNM
 KXAX
 KDEO-FM
 KXXQ
 KANG
 KYCY
 KSAN-FM
 KDNR
 WLJM
 WOOX
 WQNJ
 WLIE
 WLWZ
 WJTD
 WGBQ
 WXFJ
 WGRL
 WIGM-FM
 WGGD-FM
 WLZR-FM
 WNIU
 WNIJ
 WZBN
 WPIR
 WMYT
 WPAR
 WPLT
 WVMX
 WGGZ
 WVMC
 WZVU
 WSTG
 WXKW

Lexington, MO
 Lake Village, AR
 Sherman, TX
 Sherman, TX
 Nampa, ID
 San Diego, CA
 Show Low, AZ
 Grants, NM
 St. James, MN
 Waipahu, HI
 Chickasha, OK
 Marion, AR
 San Francisco, CA
 San Francisco, CA
 Los Lunas, NM
 Lima, OH
 Bedford, PA
 Ocean Acres, NJ
 Bridghampton, NY
 St. Marys, OH
 McArthur, OH
 Stowe, VT
 Flora, MS
 Noblesville, IN
 Medford, WI
 Galesburg, IL
 Milwaukee, WI
 Dekalb, IL
 Rockford, IL
 Carthage, IL
 Salem, VA
 Detroit, MI
 Hickory, NC
 Plattsburgh, NY
 Chicago, IL
 Baker, LA
 Mansfield, OH
 Long Branch, NJ
 Hampton, NH
 Renovo, PA

New FM Call Letters Issued

Hilo, HI
 Kirksville, MO
 Lufkin, TX
 Campbell, MO
 Tahoka, TX
 Los Molinos
 Sauk Rapids, MN
 St. Ansgar, MN
 Redfield, SD
 California City, CA
 Windsor, CA
 Page, AZ
 Cedar Hill, MO
 Medicine Lodge, KS
 Sheridan, WY
 Hallettsville, TX
 Roosevent, UT
 Concordia, MO
 Folkston, GA
 Tunica, MS
 Baraga, MI
 Shelby, OH
 Elizabethton, TN
 Wetumpka, AL
 Danville, VA
 Yarmouth, ME

KANO
 KAVT
 KAVX
 KAVY
 KAWD
 KAWF
 KAWG
 KAWN
 KAWO
 KCEL
 KMHX
 KNAD
 KNLH
 KSNS
 KSUW
 KTXM
 KXRQ
 KYRV
 WATY
 WAUF
 WAUH
 WAUI
 WAUJ
 WICE
 WOKD-FM
 WYAR



QSL received by author from WMAQ, Chicago.

ready for DAB and have been broadcasting test programs. And the BBC expects to have DAB covering over 50 percent of the UK in 1998. The "European" Eureka-147 based DAB standard which has gained the support of the ITU is also in place in Canada and China. But Japan and the United States continue to lag behind in the acceptance and implementation of a DAB standard. Stay tuned!

Broadcast News/Talk

Howard Stern continues to add affiliates in Canada, including CILQ Toronto 107.1 and CHOM Montreal 97.7 FM. However, unlike other affiliates which use a seven-second delay to bleep out explicit or offensive material, CILQ will be using a 60-second delay for censoring program segments. In addition, you may hear discussion critical of Stern on CILQ's sister station CHOG "Talk 640" AM.

WTOP Washington, DC 1500 AM is simulcasting its all news format on 94.3 FM, which formerly simulcast oldies from WINX 1600 AM. WTOP hopes to capture some of the FM audience by providing an alternative for those who usually listen to music stations or NPR news on FM. WTOP was last on FM at 96.3 in 1971, before the FM station was sold to Howard University.

Those of you in Florida who might have heard the Naval Observatory master clock with Eastern and Universal time announcements on 105.5 FM weren't experiencing technical difficulties with your radios. The broadcast was an interim relay of the Observatory's time station taken off of satellite, and used to keep the new Hobe Sound—Palm Beach FM station on the air while its sale was pending.

The California Department of Transportation (Caltrans) is on the move with installation of a TIS network that will

cover over 500 miles of highway from Santa Barbara to Oregon, including a \$2 million system in Santa Cruz county. The "traffic information system" consists of a network of radio stations on 840 and message boards that alert drivers to tune in when traffic problems exist. Caltrans selected 840 kilohertz as the primary operating frequency based on a survey conducted by members of the International Radio Club of America. Stations presently on the air include WPBW721 in Novato and San Rafael, WPEI433 in San Bruno and San Mateo, and WPIJ667 in Santa Cruz and Scotts Valley.

Motorists in the Boston, Massachusetts area might have been wondering what the letters "WOW" signified as seen on vehicles throughout the region. This was part of a promotional stunt by rock station WAAF Worcester-Boston 107.3, called "Whip 'em Out Wednesday," in which male motorists were to display the letters WOW in their car windows to encourage females to reveal their breasts. The campaign was short-lived though, as it became a highway safety issue, and the mayor of Boston expressed outrage.

Boston's only country music station WKLB has switched positions on the dial with Smooth Jazz. WKLB is now on 99.5, and jazz is found on WSJZ 96.9 FM.

On The Web

Add two more broadcasters to your internet address book. The BBC's "Radio 5 Live on 909 and 693" has extended their listening area with real audio at <<http://www.bbc.co.uk/radio5/live/live.html>>. Radio 5 is the BBC domestic news/talk/sports network for the UK. And WLNG Sag Harbor, NY 92.1 can be heard at <<http://www.wlng.com>>.

Here are a couple of Web sites of particular interest to DXers. At <[http://](http://tycho.usno.navy.mil/srss.html)

tycho.usno.navy.mil/srss.html> you can download a table of sunrise and sunset times for any U.S. location. Sunrise/sunset data is not only useful for your receiving location, but also good to have for transmitter sites of target stations, as signal enhancement can occur during transmitter site dusk and dawn. And at <<http://oak.oakland.edu:8080/pub/hamradio/arrl/bbs/general>> you can download a great circle map program which will produce great circle maps for any location. A great circle map shows the world redrawn radial from a selected center location, which can be used as an aid in determining antenna direction or propagation paths for reception of signals at your location from different parts of the globe. For example, the great circle map used by the Grayland, Washington DXpedition team (centered on Eastsound, WA) indicates a clear path across the Pacific Ocean to Australia between 230 and 290 degrees. Indeed the DXpedition was quite successful at logging mediumwave signals from Australia and New Zealand, including reception of two Western Australia stations; 6DB Derby on 873 kilohertz and 6WF Perth on 720 which was the most distant catch at 9160 miles (14750 km). Click on <[gemwin21.zip](#)> to download the great circle map file, then unzip and you're on your way to making your DX den the center of the universe.

Sources

Thanks to Jean Burnell, David Clark (ODXA), Mark Connelly, Bob Gilbert, Adam Greenburg, Gary Jackson (IRCA), Larry Seabury, John Tisinger, and the NRC DX Audio Service for their input. Remember, your Broadcast DX loggings are always welcome as are your QSLs and other broadcast DX information. 73 and Good DX!

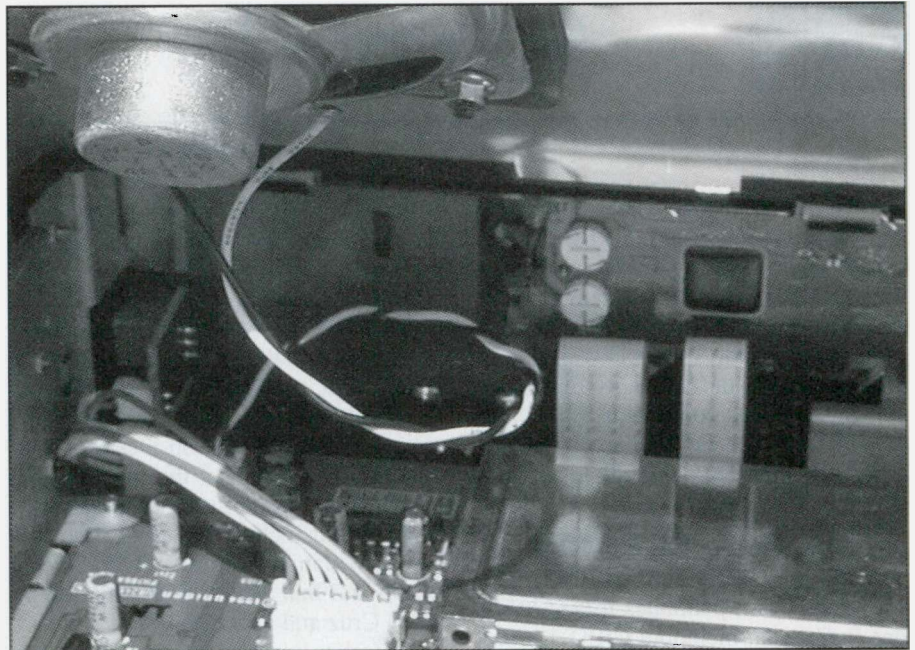
What's the Password?

Much has been made recently of the introduction of tone squelch, or CTCSS (Continuous Tone Coded Squelch System) on certain models of scanners. This can be an excellent feature to have, but there seems to be some confusion as to what exactly it will and won't do for you.

With CTCSS, the receiver will only unsquelch and allow the transmission to be heard *if it detects the correct tone on the signal*—kind of like a password. So, if each user or business has a different tone, then only the traffic for a particular business will be heard by the users of that tone and all the other receivers on the frequency will remain quiet. All this assumes that the frequency isn't all that busy and two people don't try to talk at once. Professional radio users have long been aware of the advantages of CTCSS. Sometimes these features are known by trade names, such as Motorola "Private Line"™ or PL. CTCSS and its younger cousin, DCS (Digital Coded Squelch) were invented some time back for a couple of reasons.

The first one was that frequencies for business use were becoming harder and harder to get, so the industry was interested in allowing users to share frequencies if they didn't generate enough traffic to justify a full time frequency of their own. This also allowed for a number of users to share expensive repeater systems, without listening to each other's traffic. This sharing of frequencies became common.

In addition, it meant that frequencies could be reused a little closer together than in the past when carrier was the only squelch method. If your police or fire department has a particular frequency assigned, they are not going to want to listen to traffic from another agency in the next county. The practical limit on reusing (reassigning the same frequency to another agency in a different area) was about 75 to 100 miles. CTCSS allows agencies much closer together to share a frequency, particularly in applications like alternate frequencies, or car-to-car only channels, because the two can have



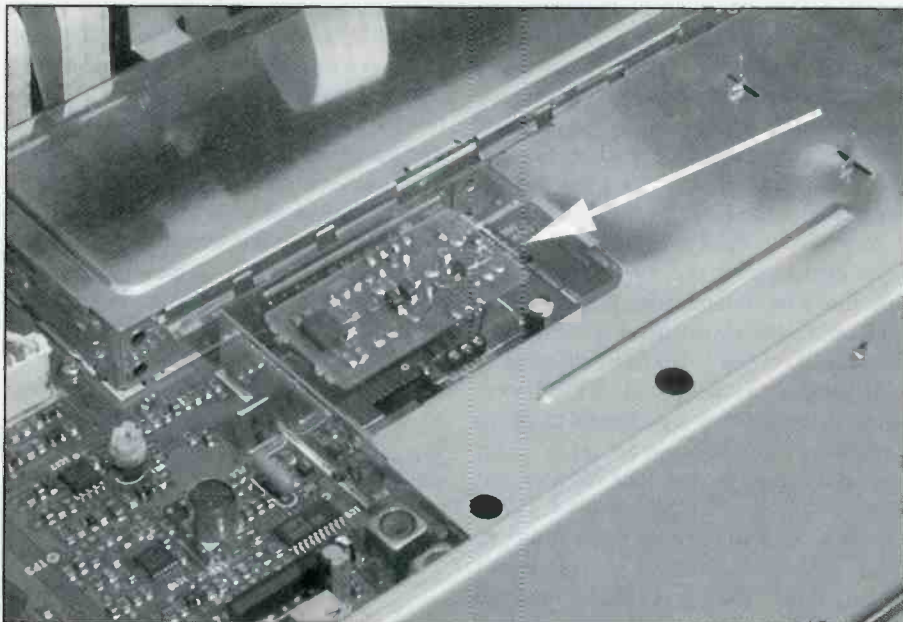
Watch out for the speaker wires as you lift the cover away. On some radios, the wires are long enough to just set the cover down, but on others you may have to disconnect the speaker from the PC board.

separate passwords (tones) keeping the traffic of the other to a minimum. Even then, there is some interference when conditions are favorable for VHF propagation, but not nearly as much as there was before.

The second major reason for the development of CTCSS, and the eventual addition of it to scanners, is interference, specifically bleedover and intermod. In the good old days of two-way FM, channels were as much as 30 kHz wide. As both technology and demand increased, the channels were split into the 15 kHz bandwidth that we have today on VHF, or 12.5 kHz on UHF. There are movements afoot to split these again into channels as narrow as 6.25 kHz for UHF. With channel spacing getting closer and closer, even commercial equipment can start to have some problems with adjacent channel interference. With CTCSS, the problem is all but eliminated. Even if the tone is the same as one used on an adjacent channel, it will not be on frequency, and therefore won't come through the

discriminator correctly, therefore the listener or user of the radio won't hear it. Keep in mind that these tones are meant to be "sub-audible"—below the range of your ability to hear. Practically speaking, the tones are so low in frequency that the radio's audio system shouldn't process them, but I have been able to hear a bit of a rumble or whine on a few radios. More people seem to complain about DCS than CTCSS, but I have not found any radio that I would consider offensive. Either way, as a listener, it won't bother you.

Scanner listeners can take advantage of both of these methods for using CTCSS or DCS, depending on the hardware and software available to you. With a tone decoder that will read out the existing code, or a computer interface that includes tone decoding, the tone in use simply shows up on the screen. With appropriate software, you can then decide if you want to squelch for that one (having your radio work mostly like the commercial users), or allow the channel to remain "open" to signals with other



A look at the installed board. Now we're ready to take full advantage of the 9000's tone squelch capabilities.

tones, but use that tone as an ID for stations transmitting it. Some decoders are CTCSS only, while others do both.

Scanners With Tone Squelch

One family of radios that has been introduced recently with tone squelch is the Uniden line of base radios. Starting with the BC-8500XLT, all of their recent base units have had the option of adding a tone (CTCSS only) board. The new BC-895 includes CTCSS as a standard feature. Look for a full review on this new radio soon. Recently, RadioShack has allowed for this option on their models PRO-2036 and PRO-2045. Presently, the only handheld available with tone squelch is the RELM HS-200, which is unique in including both CTCSS and DCS tones. Many ham transceivers allow this option also, and can make excellent scanners. One of my favorites in this category is the Yaesu FT-50, which offers both CTCSS and DCS as an option. This option makes the receiver an excellent tone based scanner for 100 channels, as well as a dual band ham transceiver.

It's also worth noting that just because your particular radio was not built with a tone squelch option, doesn't mean you're left out in the cold. Several third party manufacturers have products that can be added on to an existing scanner. My favorite is the Optoelectronics DC-440 line (442 is the current model). This unit will read CTCSS and DCS tones on its

screen with ease, once installed, and can be interfaced with software to provide for a tone squelch function. Installation is a bit more complex on these units, so we'll save that for another article.

Installing the BC-9000 Tone Board

Installation of the board is very simple, and requires no soldering (my favorite kind of modification). Let's take a quick look at the procedure on the BC-9000XLT and then the programming steps to start taking advantage of tone squelch. The tone board required is the BC-005, which is probably a special order part for most dealers. It is also available directly from Uniden customer service at 800-297-1023. It is also worth noting that it is a CTCSS only board. The radio has no capabilities for DCS, although it will, of course, operate as a conventional scanner on frequencies that use DCS.

First, unplug all the cables from the receiver. This is both a safety issue and a convenience factor. Then, the top cover has to come off (one screw on the back and the two upper screws on each side). Then slide the cover back from the front panel slightly, at the same time lifting on the back end. Don't get too overzealous, as the speaker is attached to the top cover. Be careful not to pull the wires or damage the connector.

Once the cover is off, you can locate the socket where the CTCSS board is

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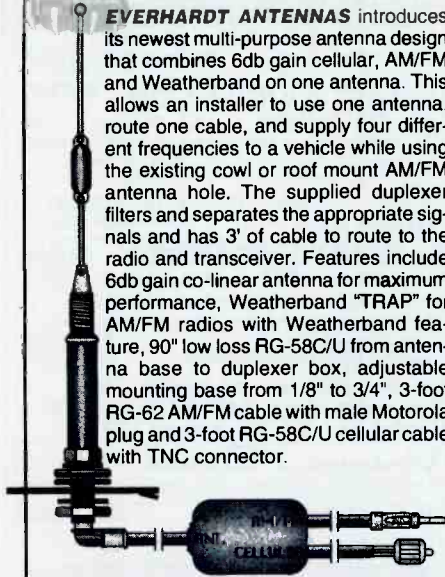
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Fort Worth, TX 76134

800-735-0176

CIRCLE 68 ON READER SERVICE CARD

installed. (See photo) Note that there are three pins on one side and four on the other. Of course, the CTCSS board has a similar configuration and they, of course, have to match. Simply line up the pins and slide the board into the socket. Double check and make sure the pins are all aligned with the holes in the socket, as it is very easy to bend one. It takes a slight bit of pressure, but don't force it into the slot. Once the board is in, put the cover back on, watching the speaker wires, and reattach the screws. We're in business!

To program a channel for CTCSS operation on the 9000, press manual to get to the channel you want to program. Then push the PROG button. The display will show "Alpha or CTCSS." Press CTCSS and then you will have the opportunity to enter a channel number if you aren't already there. Then press HOLD and 0.0 will display on the top left of the display indicating that the current tone programmed is 0.00, which allows all signals through on that frequency. Use the rotary dial to step through the available CTCSS tones until you find the correct one. Pressing ENTER will complete the process.

Now, if you've got the right tone, you'll only hear traffic from that user of

the frequency, and the interference should be eliminated, although in cases of severe interference, it may be getting into the radio another way, and may be almost impossible to eliminate. If you programmed in the wrong tone, you'll either hear a different user—if there is one on that frequency with that tone—or more likely you'll hear nothing. It's helpful to have another scanner programmed with that frequency, or at least put that same frequency into your scanner with no tone and see that it is stopping on the channel with the tone programmed in. Once you've verified that it is working correctly, you can eliminate the duplicate frequency.

Locating Tone Information

Once you have a tone reader, or CTCSS capable scanner, you have to find the tone information for the channels you're interested in. There are a number of public safety agencies that still do not use CTCSS or DCS, but most do, especially in larger metropolitan areas, and particularly agencies that still use the VHF and UHF bands. Conventional 800 MHz systems are likely to use tones, but trunked systems do not, as they rely on the central controller for receiver control.

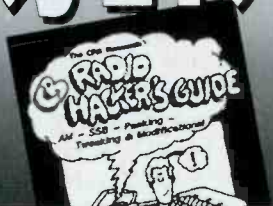
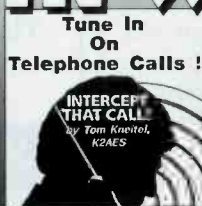
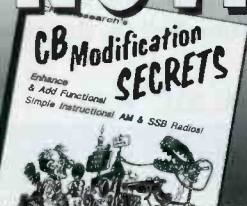
You may get lucky and be able to find the tone information published, or you may have to do some detective work to find them. Of course, once you find them, you should send them into *Popular Communications* so we can publish them and save everyone else the work.

And there you have it! Tone squelch can really be a help to your regular scanning, particularly if you're experiencing interference problems. It can also help you with identifying unknown agencies. At least, it's another piece of information you can put into the puzzle.

Your Input Needed!

I'm always interested in hearing from readers about the more technical aspects of scanning. What's on your mind? If you have a scanning topic that you'd like to see here, drop me a line. And if you have trunk tracker info for your city, I'd really like to hear from you! Fleet maps, and ID numbers would be welcome. You can reach me via e-mail at <armadillo1@aol.com.> or via more traditional methods at 9051 Watson Rd. #309, St. Louis, MO 63126. See you next month!

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CIRCLE 11 ON READER SERVICE CARD

The Listening Post

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

Radio Australia Gets Funded and XERTA Is On The Air!

Good news! Radio Canada International is to receive "ongoing annual funding." In the next two years some 15 million dollars (Canadian) will be provided to the station annually by the Foreign Affairs department and the Canadian Heritage Ministry. So it looks like we can count on the continued presence of RCI on shortwave for the foreseeable future.

WVHA, once WCSN—the former Christian Science station in Maine, has had to close down after the local power company shut off electricity to the station because it was not meeting its bills. The company which financed the original sale then took over the facility. The remaining employees were terminated and the site is now watched over by a security company. We have to wonder how long it will be before someone buys this.

Another new U.S. shortwave broadcaster may be on the way, to be based near Lake City, Florida. The new station would serve as a vehicle for Chuck Harder's "For the People" broadcasts, as well as relay programming from WFVR-910 medium wave located in Valdosta, Georgia. The American Community Oriented Radio Network would own the station (it owns the Georgia station, too) and is connected with Harder and his program.

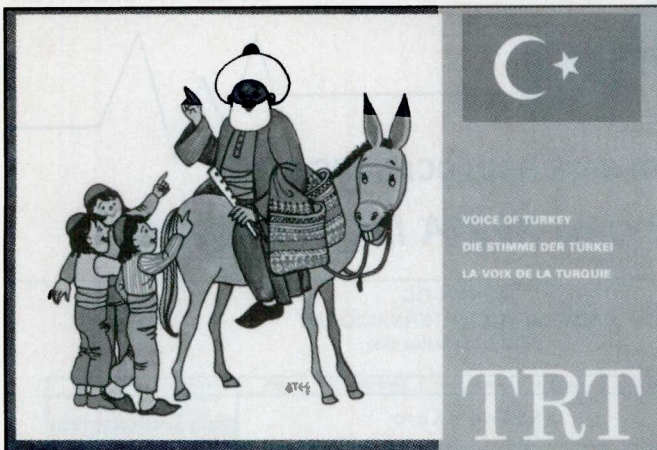
That new Mexican station we alerted you to sometime back is now on the air. XERTA—Radio Transcontinental de America, is operating on 4800, mentioning a power of 50 kW. (but very likely it is far, far less than that). It also uses the slogan "la voz comercial." The programming is in Spanish and seems to feature a lot of romantic Mexican music as well as old U.S. standards. The address is: Radio Transcontinental of America, P.O. Box 375, Tijuana, BC, Mexico—although the station actually seems to be operating from or near Mexico City. This one runs late into the nighttime hours—perhaps even 'round the clock. Signal strength is usually good, although it suffers from some QRM at times. Can anyone recall when the last really new shortwave station came on the air from Mexico? It has to be at least 20 years!

		XERMX-OC RADIO MEXICO INTERNACIONAL April / October 1997							
UTC	TM	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	
12 00-12 30	07 00-07 30	ANTENA RADIO						RADIO CORREO DEL AIRE	ESTACION DX
12 30-13 00	07 30-08 00	ANTENA RADIO						RADIO CORREO DEL AIRE	ESTACION DX
13 00-13 30	08 00-08 30	ESPEJO DE MEXICO	CINE MEXICO	VIAJERO SIN RINDBO	EN TRESERIAS	MUSICA ENTRE ONDAS	MEXICO TAURIBO	PAPALOTE AZUL	
13 30-14 00	08 30-09 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
14 00-14 30	09 00-09 30	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
14 30-15 00	09 30-10 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
15 00-15 30	10 00-10 30	POSTIC SPACE	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	
15 30-16 00	10 30-11 00	OFF THE AIR							
16 00-16 30	11 00-11 30	OFF THE AIR							
16 30-17 00	11 30-12 00	OFF THE AIR							
17 00-17 30	12 00-12 30	OFF THE AIR							
17 30-18 00	12 30-13 00	OFF THE AIR							
18 00-18 30	13 00-13 30	ANTENA RADIO						ESTACION DX	RADIO CORREO DEL AIRE
18 30-19 00	13 30-14 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
19 00-19 30	14 00-14 30	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
19 30-20 00	14 30-15 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
20 00-20 30	15 00-15 30	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	MEXICO TAURIBO	
20 30-21 00	15 30-16 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
21 00-21 30	16 00-16 30	NACIONES UNIDAS	MUSICA DE MI TIERRA	PUEBLOS INDIGENAS	PUEBLOS INDIGENAS	PASAJES LITERARIOS	PASAJES LITERARIOS		
21 30-22 00	16 30-17 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
22 00-22 30	17 00-17 30	VIAJERO SIN RINDBO	PAPALOTE AZUL	MUSICA ENTRE ONDAS	CINE MEXICO	ESPEJO DE MEXICO	RADIO CORREO DEL AIRE	ESTACION DX	
22 30-23 00	17 30-18 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
23 00-23 30	18 00-18 30	PERSPECTIVA INTERNACIONAL	ESPEJO DE MEXICO	EMPRESARIOS MEXICANOS	ESPEJO DE MEXICO	PUEBLOS INDIGENAS	UNICA DE MI TIERRA	MEXICO TAURIBO	
23 30-00 00	18 30-19 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
00 00-00 30	19 00-19 30	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
00 30-01 00	19 30-20 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
01 00-01 30	20 00-20 30	PUEBLOS INDIGENAS	CONTACTO DEPORTIVO	ESTACION DX	PERSPECTIVA INTERNACIONAL	RADIO CORREO DEL AIRE	PASAJES LITERARIOS		
01 30-02 00	20 30-21 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
02 00-02 30	21 00-21 30	MUSICA ENTRE ONDAS	EN TRESERIAS	ESPEJO DE MEXICO	PAPALOTE AZUL	VIAJERO SIN RINDBO	MEXICO TAURIBO	CINE MEXICO	
02 30-03 00	21 30-22 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
03 00-03 30	22 00-22 30	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
03 30-04 00	22 30-23 00	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
04 00-04 30	23 00-23 30	ANTENA RADIO SUMMARY						MEXICO TAURIBO	PAPALOTE AZUL
04 30-05 00	23 30-00 00	OFF THE AIR							

The schedule of Radio Mexico International shows several periods of English language programs each day. (Courtesy Andy Johns, Texas)

Need a QSL from the Voice of Mongolia? The station says it replies to all correct reception reports which contain the UTC time and date of reception, frequency, a "rundown of the programme" you heard, a short description of the receiver and antenna used and your complete mailing address, as well as any suggestions, comments or criticisms you may have. Signal strength is preferred in the SINPO format. Cassette tapes are wel-

come but cannot be returned and should not contain more than four or five segments, none of which should be longer than five minutes. The date(s) and times(s) of the recording(s) should be noted on a separate piece of paper, as should personal requests and comments. Reports should be marked for the appropriate language section at the station and two IRCs or a \$1 is appreciated to help cover return postage. The mailing ad-



The Voice of Turkey has issued any number of QSL card designs over the years. Maybe this one will put you in the holiday mood! (Courtesy Andy Johns)



The Voice of Armenia sends this sticker showing its logo and the national coat of arms.

dress is: Voice of Mongolia, CPO Box 365, Ulaanbaatar 13, Mongolia. E-mail: <radiomongolia@magicnet.mn>.

The Voice of Mongolia's English schedule is: 0900–0930 to East Asia on **15170**, 1230–1300 to Australia on **12085**, 1500–1530 to South Asia on **9720** and **12085** and Europe at 1930 to 2000 on **9720** and **12085**. Thanks to Tricia Ziegner for the info.

The Voice of Armenia is celebrating its 50th anniversary this year, having operated without interruption since September, 1947. Currently it has a staff of 76 at its headquarters at 5 Alec Manoojian Avenue, Yerevan. The current schedule to North and South America and Europe is: 1900–2000 in Armenian, 2000–2030 in French, 2030–2100 English and 2100–2115 Spanish, all on **9965**. To mark the anniversary the station plans to put a special event amateur radio station on the air during November and December (the exact schedule isn't set yet.). The tentative call sign will be EK6R50. EK6 is the prefix for Armenia and R50 for the radio's 50th anniversary. Special QSL cards and certificates are to be issued for correct reports.

Radio Aparecida in Brazil has a DX program aired in Portuguese on Saturdays at 2200–2230 on **5035**, **6135**, **9630** and **11855**. This is one of only four Portuguese language DX shows—the others are aired by the Voice of Russia, RAE in Argentina and HCJB.

The FCC has given Trans World Radio, Guam the OK to add a fifth 100 KW transmitter, and another antenna in order to provide better, more consistent reception in northern China and also increase its prime time broadcasting hours to other parts of Asia. The station still has to get local approval before it can begin instal-

ling the new equipment. TWR expects it will take just over a year before the addition is complete. Incidentally, KTWR was recently issuing a special QSL card to mark their 20th year on the air. KWHR in Hawaii and KHBN, Palau have both also recently added an additional 100 KW transmitter to their broadcast arsenals.

There seem to be new additions to the Peruvian parade every month. One of the newest is Radio Chasqui in Cusco, now operating on about **6088**. It has a split schedule—signing off in our morning (at around 1300) and then resuming broadcasts later in the day and running into our early evening hours. The programming is religious and the broadcasts are in Spanish and Quechua.

Ever since its shortwave facilities were destroyed in the Gulf War, Iraq's shortwave broadcasts have been rather shaky, rather tentative—and not very well heard. This may be changing, however. Recently Radio Baghdad has appeared on the oddball channel of **11292** (variable), running until sign off at 2301. All the programming is in Arabic and the signal strength is fairly good. The station still can't decide what to call itself. Other IDs include Republic of Iraq Radio and Radio Iraq International. The international service has also been heard on **11785** or slightly higher but this, too, seems to be sporadic. (Check **9755** as well). Their schedule lists English from 2230 to 2300.

We're in another one of those occasional periods when there are a number of Argentine domestic stations being relayed in single sideband mode on shortwave. **8098** and **11132** (both slightly variable) have been carrying such stations as Radio La Plata, Radio Rividavia, Aspen 102, "Feeling FM 107, La Red, and perhaps others. These relays don't follow

any known schedule, so you either have to get lucky or just sit on one or both channels for hours at a time (or both).

World Music Radio, which was airing weekends via Meyerton, South Africa, transmitters of Channel Africa, has discontinued using the relay.

Word keeps filtering out that the Comoros Islands plans to put its shortwave station back on the air. But there's been another of the periodic coups, revolutions, breakaways or whatever that this nation seems to suffer with greater regularity than the sunspot cycle. So it's anybody's guess as to when or if this extremely difficult DX target will next present itself.

Remember that your shortwave reception logs are always wanted and always welcome. Please list them by country and double space (at a minimum) between each item. We are also in need of such things as station literature and photos, spare QSL cards and other station items we can use as illustrations, news of station QSLing policies, address changes, pictures of you and your shack and anything else you think might be of interest. As always your continuing support is highly appreciated!

Here are the logs. All times are in Coordinated Universal Time (UTC), which is five hours ahead of EST, i.e. 0000 (midnight) UTC equals 7 p.m. EST, 6 p.m. CST, 5 p.m. MST, 4 p.m. PST. Double letter abbreviations such as AA, PP, RR, GG indicate languages (Arabic, Portuguese, Russian, German, etc.). If no such abbreviation is used the broadcast is assumed to have been in English (EE).

ALASKA—KNLS, **9365**, tentative, relaying Radio Free Asia after HCJB sign off at 2230. IS and ID for RFA in Lao at 2230 to close at 2359. (Silvi, OH)

Abbreviations Used in Listening Post

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

ANTIGUA—Deutsche Welle relay, **15410** in GG heard at 2241 with ID, music. (Jeffery, NY)

ALBANIA—Radio Tirana, **9515** with EE to Europe at 2100–2124. (Silvi, OH)

ARGENTINA—Radio Nacional, presumed, **6060** at 0737 in SS with talk by man. (Jeffery, NY) 2105 in SS with romantic Latin music. (Miller, WA) RAE, **11710** at 0245 with EE to North America. (Miller, WA)

ASCENSION ISLAND—BBC relay, **15400** at 1709 to Africa with "Focus on Africa." (Jeffery, NY)

AUSTRALIA—ABC/CAAMA Radio: **2310** from Alice Springs and **2325** from Tennant Creek, from before 1035 to fade out at 1120. (Silvi, OH)

Radio Australia, **5995** at 1442, **6065** at 1258, **9660** at 0548, **9710** at 1150 in Pidgin, **11800** at 1536. (Miller, WA) **15365** at 0438 with sports news. (Foss, AK) **17750** via Darwin (now closed, editor) at 0249 with sports. Also **17795** via Shepparton at 0257 with ID, program notes and news. (Jeffery, NY)

AUSTRIA—Radio Austria Int'l, **9655** at 0245 with ID, features. (Jeffery, NY)

BELARUS—Radio Belarus, **7210** at 0300 in RR with IS, ID "Zabodas Radiu Minsk saristka Republikye Belarus" and national anthem to news in RR. (Rausch, NJ)

BELGIUM—Radio Vlaanderen Int'l, **11690** at 2345 with news. (Hornstein, MI)

BOTSWANA—Radio Botswana, **4820** at 0420 in EE with religious talk and choir, ID at 0430. (Rausch, NJ) **7255** at 0555 with news. (Miller, WA)

BRAZIL—Radio Bandeirantes, **11925** heard at 0246 in PP with telephone interview. (Foss, AK)

Radio Educacao Rural, Campo Grande, **4755** at 0245 in PP with Brazilian music, frequent IDs. (Hornstein, MI) 0320 in PP. (Miller, WA)

Radio Cancao Nova, Cachoeira Paulista, **9675** at 0538 with religious program in PP. (Miller, WA)

Radio Nacional Amazonia, **11780** in PP with "Amazonia Brasileira" request show at 2311. (Miller, WA)

BULGARIA—Radio Bulgaria, **9485** at 0109 with music party in Bulgarian. (Wilden, IN) 0215. (Hornstein) **11720** at 0100 in EE. (Walleen, IL) 0345 with Bulgarian music. (Miller, WA)

CANADA—Radio Canada Intl, **9535** at 0200. (Miller, WA) **11690** at 2040. (Wilden, IN); **11855** at 1351 with Sunday Morning. **13670** with As It Happens at 2307. **15150** with news at 2003. **15325**

at 2013 with Spectrum and 17820 (this frequency in RR) at 1646. (Jeffery, NY)

BBC via Canada, **9515** at 1500 and **15220** at 1541. (Jeffery, NY)

CFRX/CFRB, **6070** at 0741 with commercials, ID, talk show. (Jeffery, NY)

CHINA—Nei Monggol PBS (presumed) at 0000 on **9675** in CC. (Silvi, OH)

COSTA RICA—RFPI, **7385** at 0155. (Jeffery, NY) 0448. (Foss, AK) **7580 LSB** at 0237. Also **15050** at 1849. (Wilden, IN)

Adventist World Radio, **9725** at 0531 with religious program. (Miller, WA)

COLOMBIA—Caracol Colombia, **5075** at 0409 with news in SS. (Miller, WA) **5076.9** at 0350 in SS with music, ID, news. (Hornstein, MI)

CROATIA—Croatian Radio, **5895** heard at 0400 with news. Into another language at 0405. (Hornstein, MI) **11635** heard at 2105 to 2204 in presumed Croatian. News in EE at 2205 to 2208, then back to presumed Croatian. (Silvi, OH)

CUBA—Radio Havana, **6180** at 0226 in SS. (Miller, WA) **9820** at 0226 with music, ID, frequency info, news. (Jeffery, NY) 0428 with mellow jazz. Also **11970** at 0250 in SS. (Foss, AK); **13715** at 2102 with IS and announcements. (Wilden, IN)

CZECH REPUBLIC—Radio Prague, **13580** heard with news, Press Review, ID. (Jeffery, NY)

DENMARK—Radio Denmark (via Norway) **9530** at 2328 under Magadan Radio and **9560** at 0109, both in Danish. (Miller, WA) **13805** at 0644 in DD. (Foss, AK)

ECUADOR—Radio Quito, **4919** at 0310 in SS. (Hornstein, MI) 0632 with Salsas. (Foss, AK)

HCJB, **12005** in GG at 2332 and **15140** in SS at 1525. (Jeffery, NY)

EGYPT—Radio Cairo, **15210** in AA heard at 2041 with Middle Eastern music. (Jeffery, NY)

ENGLAND—BBC, **5975** via Antigua, at 0410. (Wilden, IN) **9410** at 0302, **9580** via Thailand at 1136 and **9590** via United States at 0108. (Miller, WA) **9515** via U.S. at 0335 in SS.; **9895** via U.S. at 0259 and **9915** at 0244. (Jeffery, NY)

FINLAND—Radio Finland Intl, **11900** at 1447 in Finnish, parallel **15400**. (Miller, WA)

FRENCH GUIANA—Radio France Intl relay, **9800** at 0353. (Miller, WA) Swiss Radio Intl relay, **9905** at 0431. (Foss, AK)

China Radio Intl relay **9730** at 0420 and **13685** heard at 0252 (in SS) to close at 0257. (Foss, AK)

GABON—Africa Number One, **9580** in FF at 2204. (Miller, WA)

GERMANY—Deutsche Welle/Voice of Germany, **3395** at 0345 in GG. (Hornstein, MI); **6045** at 0502 with frequencies in use, then news. **13790** at 1903 (Wilden, IN) **9640** (via Antigua) at 0301 with news. (Hill, ID) **9690** at 2345. (Hornstein, MI) **9700** at 0534 (via Rwanda). (Miller, WA) **13780** at 0639. (Foss, AK)

GREECE—Voice of Greece, **6260** at 0340 with news. (Hornstein, MI) **9420** at 0352 with news. Into Greek at 0351. (Bannar, IN) **9590** via USA, 1342 with news. (Wilden, IN)

Radio Stathmos Makedonias, **9935** at 2100 to 2205 sign. Lots of very nice music with few announcer interruptions. In Greek. (Silvi, OH)

GUATEMALA—Radio Tezulutlan, **4835**, with music to 0300, ID in SS or local Indian language, then what seemed a news program. (Hornstein, MI)

HAWAII—KWHR, **17510** at 0255 with religious programs. Also **17780** at 0400 with Turn Your Radio On. (Jeffery, NY)

HONDURAS—Radio Internacional, San Pedro Sula, **4930** at 0405 in SS with Spanish and U.S. pops,

ID at top of the hour, more music. (Hornstein, MI)

HUNGARY—Radio Budapest, **9755** at 1900 to 1927 to Europe. (Silvi, OH) **11910** at 0249 with DX program. Telephone: 3611388328.

ICELAND—INBS, **11492** heard at 2302 with news in Icelandic to 2322 sign off. (Miller, WA)

INDIA—All India Radio, Madras, **4790**, new frequency at 0000 in Tamil with IS, ID, opening announcements by man and presumed news read by a woman. **Replaces 4990**. (Rausch, NJ)

All India Radio Mumbai, **4840** in unidentified language at 0020 with IS, ID, sitar and tambali music. Mumbai is the pre-British name for Bombay. (Rausch, NJ)

AIR, Bangalore, **11585** at 1501 in presumed Hindi. (Miller, WA)

AIR, **10330** at 1427 in presumed Hindi. (Miller, WA)

INDONESIA—Radio Republik Indo-nesia, Jakarta, **9520** heard at 1127 in II with western pops. (Miller, WA)

IRAQ—Radio Iraq Intl, **11785** at 2225 to 2255 sign off. Badly overmodulated. Does anyone know if Radio Iraq Intl is currently QSLing especially to addresses in the U.S.? (Silvi, OH)

IRAN—VOIRI, **6055** (severe interference) // **9022** (good) and **9685** (interference to 0100 when fair) at 0030 to 0127 with EE news and commentary. (Silvi, OH) **153610** at 1857 with Islamic vocal music. (Wilden, IN)

IRELAND—Radio Ireland on **15625** at 1945 with Irish ballads and talk. (Hornstein, MI) (This is a relay via Deutsche Telecom (DW transmitters) in Germany. (Editor)

ISRAEL—Kol Israel, **11585** at 1719 in Hebrew, under All India Radio. (Miller, WA)

ITALY—RAI, **11800** at 2354 in II. (Silvi, OH) Presumed in II at 2325 under usually stronger Radio Exterior de Espana beaming to North America. (Silvi, OH)

JAPAN—Radio Japan, **5960** (via Canada) at 0130 and **9535** at 1515. (Boulden, CA); **6135** at 0330 in JJ, via Ascension. (Miller, WA) **11910** at 0612 with Lets Learn Japanese. (Foss, AK)

KAZAKSTAN—Kazak Radio, **9626V** heard at 2300 in Kazak with news and music. (Ziegner, MA)

KUWAIT—Radio Kuwait, **11990** at 1906 with pops and occasional announcer in EE. ID as FM 92.5 Radio Kuwait. (Silvi, OH)

LIBYA—Radio Jamahriya, **15415//15435** at 0455 with AA music and talk. AA ID at 0500 and martial music. (Silvi, OH)

LITHUANIA—Radio Vilnius, **9855** heard at 0030 in EE with news and comment. (Ziegner, MA)

MEXICO—Radio Mexico Intl, **9705** at 0200 in SS. (Miller, WA)

Radio Mil, **6010** heard at 0221 in SS. (Miller, WA)

Radio Educacion, **6185**, 0221 in SS. (Miller, WA)

MONACO—Trans World Radio, Monte Carlo, **12085** at 1600 in unidentified language. (Ziegner, MA)


Radio Monte Carlo (via Canada, editor) on **9755** heard at 0300 with Arabic world news. (Miller, WA)

MOROCCO—Voice of America relay, **15455** at 2149 with World Report and off at 2159. (Jeffery, NY)

NETHERLANDS—Radio Netherlands, **9890**, 1341 with "Newscap." Off at 1355. (Wilden, IN)

NETHERLANDS ANTILLES—Radio Netherlands Bonaire relay, **6165** at 0510. **9720** at 1153. (Miller, WA) **6165** at 0438 and **11655** at 2002. (Wilden, IN)

NEW ZEALAND—Radio New Zealand Int'l,



May 2, 1938 6:30 pm ESDT
US Travelogue (Map will be sent)
M. C. D. Costopoulos

We acknowledge with thanks your communication reporting reception of our program on the above date from Station W2XAD—W2XAF operating on 19.950.

W2XAD operates daily from 8 a.m. to 12 noon on 21,500 kilocycles, or 13.95 meters; from 12:30 p.m. to 7 p.m. on 15,330 kilocycles, or 19.56 meters; from 7:30 p.m. to 11:00 p.m. on 9,550 kilocycles, or 31.41 meters.


W2XAF operates daily from 4 p.m. to 12 midnight on 9,530 kilocycles, or 31.48 meters.

All times mentioned are Eastern Standard Time.

GENERAL ELECTRIC
SCHENECTADY, N. Y., U. S. A.

Here's another classic QSL card reproduction, courtesy of Dr. Adrian Peterson of Adventist World Radio. This one is from darn near 60 years ago!

Listen to our programmes and you will become the friends of the "Voice of Armenia"



ՀԱՅԱՍՏԱՆԻ ՏՆՏՅԵ 50 ՎՈՅՑԻ ԱՐՄԵՆԻԱ
1947 - 1997

To Mr. HAYG SANASARYAN

This verifies your reception report on our transmission

Date: 24. April. 1997
Time: 20:40 UTC
Frequency: 9965 KHz.

Radioagency "VOICE OF ARMENIA"
Atak Manukian 5
Yerevan 25
Republic of Armenia
(347-2) 570970, 532650

This yellow and black fold-over QSL commemorates 50 years of shortwave broadcasting from Armenia.

9795 at 0523 and 15115 at 0406. (Miller, WA) 15115 at 0227 with "Cadenza" and "In Touch with New Zealand." (Jeffery, NY) 0315 with discussion of gardening books. (Wilden, IN) 0427. (Foss, AK)

NICARAGUA—Radio Miskut, presumed, 5770 at 0230 with news in SS, several mentions of Nicaragua. (Hornstein, MI) (Maybe extended schedule for some reason; they usually close around 2330. Editor)

NIGERIA—Voice of Nigeria, 7255 at 2100 with discussion in possible Hausa. (Ziegner, MA)

NORWAY—Radio Norway Int'l, 7485 at 0412. (Boulden, CA) 13805 at 1601 with ID in EE, otherwise all in Norwegian. (Wilden, IN)

PAKISTAN—Radio Pakistan, presumed, 11705 at 0229 with music and news. No ID. Poor signal. Off at 0245. (Jeffery, NY)

PAPUA NEW GUINEA—NBC Port Moresby, 4890 at 1208 with pops. 9675 at 0543 with island music. (Miller, WA) 0655 with cricket match. Interrupted for news at 0700. (Foss, AK) 0650 with reggae and rock, drums to ID by woman at 0700. No usual news at 0700; instead a public service announcement encouraging immunization. (Rausch, NJ)

Radio Eastern Highlands, 3395 in Pidgin at 0940 with pops, talk by woman between each song. ID by man at 1000 and into island choral music. (Rausch, NJ)

PERU—Radio Union, 6115 at 0508 in SS with Latin pops. (Miller, WA)

Radio del Pacifico, 9674.8, in SS at 1610 with talk by woman on religion and the importance of family values. EE pops to SS ID at 1735. (Rausch, NJ)

PHILIPPINES—Radio Veritas Asia, 11715 at 1533 in SS with religious message; QRM from BBC. (Miller, WA)

PORTUGAL—Radio Portugal, 6150 heard at

0345. Woman reading news. (Hornstein, MI) 5200 at 1751 in PP with music, ID. (Jeffery, NY)

RUSSIA—Voice of Vietnam relay, 7250 with EE to North America at 0100–0127 and 0230–0257. (Silvi, OH)

Voice of Russia, 7125 at 0300 with news. (Hornstein, MI) 9600 at 0008 (via Armenia) and 12050 at 0311 via Kharbarovsk. (Miller, WA) 9710 at 2110 with ID, music. (Bannar, FL) 9775 with EE to Europe from 1800. Tentative on 11840 in RR or RR-type at 2020–2100 with Voice of Russia IS at 2100 and broadcast in EE to Europe at 2100–2200. Tried the other six frequencies listed to North America but could not hear any of them! (Silvi, OH) 13665 at 0303 with news. (Hill, ID)

RWANDA—Deutsche Welle relay, 11810 at 1955 with woman giving African news followed by sign off. (Hornstein, MI) 15135 at 2145 in EE with feature, ID, frequency info and off at 2150. Also 17860 at 2239 in GG. (Jeffery, NY)

ST. HELENA ISLAND—Does anyone have any contact with Tony Leo, or know if all QSLs from last year (1996?) are in the mail? I haven't received mine, nor have my three sons and I wasn't sure if I should send a follow-up report yet, as I know that one has to be patient with the mail schedule to the island. You can contact me direct at <fireprof37@aol.com> with any information. (Silvi, OH)

SAUDI ARABIA—BSKSA, 11870 at 0309 in AA with call to prayer. Also 15060 at 0405. (Miller, WA)

SOUTH AFRICA—Channel Africa, 11900 with Swahili and French to Central Africa heard at 1630–1655; EE to West Africa at 1700–1730 and PP/FF at 1730 to 1750. (Silvi, OH)

Trans World Radio via South Africa on 9510 at 2000–2030 listed as Hausa and 2030–2057 listed as the Twi language. Presumed religious broadcast

and some very interesting music. (Silvi, OH)

SOUTH KOREA—Radio Korea Int'l, 7275 at 0800 with start of broadcast in JJ. (Foss, AK)

SPAIN—China Radio Int'l relay, 9690 at 0306 with news, ID. (Jeffery, NY)

Radio Exterior de Espana, 9620 at 1141 in SS. (Miller, WA)

SWAZILAND—Trans World Radio, 4775 at 0400 signing on with bells and ID in EE, then into another language. (Silvi, OH)

SWEDEN—Radio Sweden, 7135 at 0229. (Miller, WA)

SWITZERLAND—Swiss Radio Int'l, 6135 at 0330 sign on. (Boulden, CA) 0327 with IS and sign off. Also 9885 at 0357 in GG/EE with news at 0400. (Miller, WA)

SYRIA—Radio Damascus, 12085 and 13610 heard at 2115 with news. (Banner, FL) 12085 at 2300 in AA. Into SS at 2315. (Ziegner, MA) 13610 at 2350 to 0405 in AA with an SS ID on the hour. (Once or on every hour, Hugh? Editor)

TAHITI—Radio Tahiti, 15167 at 0409 in FF. Very faint. (Miller, WA) 15168, presumed, there some nights but very weak, announcer, some music. Some nights only a bit noticeable. Best around 0230. (Silvi, OH)

TAIWAN—Voice of Free China, 5950 via WYFR at 0536. Off suddenly at 0537. (Wilden, IN) 9680 at 0412 in CC via WYFR. (Foss, AK) 15600 at 2221 via WYFR. (Jeffery, NY)

THAILAND—Radio Thailand, 15395 at 0029 with EE to North America. Language change from around 0101 to fadeout around 0120. (Silvi, OH)

TURKEY—Voice of Turkey, 15385 at 2138 in TT with Middle Eastern music. (Jeffery, NY)

UKRAINE—Radio Ukraine Int'l, 7150 at 0315 with news. (Hornstein, MI) 12010 at 2100 with ID, news. (Banner, FL)

UNITED ARAB EMIRATES—UAE Radio, Dubai, 15395 at 1328 with ID, anthem, news, local weather. (Jeffery, NY)

UZBEKISTAN—Radio Tashkent, 9715 heard at 0000 in Uzbek with news, discussion. (Ziegner, MA)

VATICAN—Vatican Radio, 9605 at 0253 to 0300 with ID, music, "Lessons of History." (Banner, FL) 0313. Poor. (Miller, WA)

VENEZUELA—Ecos del Torbes, 4980 at 0400 in SS with ID, national anthem and off at 0405. (Hornstein, MI)

VIETNAM—Voice of Vietnam 7250 (via Russia) at 0200 in an Asian language. (Ziegner, MA) 10010 at 1416 in VV. (Miller, WA)

YUGOSLAVIA—Radio Yugoslavia, 9580 at 0007 with commentary, ID. "Press Review." (Jeffery, NY) 11780 at 0523 in local language, off 2259. Also 11870 at 2358 with IS, frequencies, news. (Miller, WA)

That's it! A mighty cheer, please, for the following good folks who made the effort to share their listening with you: Sue Wilden, Columbus, IN; Lee Silvi, Mentor, OH; Hugh Hornstein, MI; Dave Jeffery, Niagara Falls, NY; Ed Rausch, Cedar Grove, NJ; Ken Hill, Mt. Home, ID; Elmer Wallesen, LaGrange Park, IL; Marty Foss, Talkeetna, AK; David Banner, Ormand Beach, FL; Michael Miller, Issaquah, WA; Tricia Ziegner, Westfield, MA and Brian Boulden, Fairfield, CA. Thanks to each of you!

Until next month, good listening!

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Communications Confidential

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

The Army's Navy and More . . .

Many readers heard "ADTG," the USAV MG Henry Know (LT-802) a few months back, over a period of time on HF. The call-sign had rarely been heard prior. Well Steve Centner was the master of the LT-802 and was kind enough to write that she was being transferred from the 949th Transportation Company, Baltimore, Md to the 467th Trans Co, Tacoma, WA. This was via the Panama Canal with the 100-foot coastal tug USAV Normandy (LT-1671) in tow which was also being transferred to the 467th. Both companies are reserve units. The trip was 6,100 nautical miles and took 26 days. The LT-802 is a Reserve tug and this was the longest towing mission for the Army Reserves to date. The crew consisted of 25 reservists from Virginia, Maryland, Pennsylvania and Washington. The LT-802 is one of six Large Oceangoing Tugs in use by the U.S. Army Transportation Corps. These LT's are twin screw, 5,100 HP, three superstructures high, with nine state rooms. They are 128-feet in length, 36-feet wide and draw 16-feet of water with a full loaded displacement of 1,057 long tons.

As I have mentioned before, the U.S. Army Transportation Corps is the Army's Navy here in the U.S. and their fleet of vessels are commonly heard both on the Air Forces GHFS system and common maritime simplex channels. The most commonly heard vessels of the fleet are the 35 "Runnymede-class" LCU's, or Landing Craft Utility. All of these vessels carry the United States Ship salutation of "USAV" for U.S. Army Vessel. With the present defense draw-down in effect, this unique Army mission may be totally transferred to the Reserves soon.

According to the *Air Force News Service*, two EC-135 aircraft have moved to MacDill AFB, FL. The Office of the Secretary of the Air Force announced the aircraft will transfer to the 91st Air Refueling Squadron, 6th Air Refueling Wing, from their current unit, the 99th Air Refueling Squadron. The two aircraft support the commander in chief of United States Central Command (USCENT-

Verification of Reception

AIRLANKA 423

Date: 1 JANUARY 1996 Time (UTC): 1629


Frequency: 5670 kHz Mode: USB

Aircraft Type: A-340

Registration Number: 4R-ADA

Approx. Position: PPB (11-40N/92-46E)

Enroute: BANGKOK to COLOMBO



Signature & Official Stamp

[Signature]

PFC received by Steve McDonald (BC, Canada) for Airlanka flight that had been working Madras Radio, India, aircraft was at "PPB", the Port Blair NDB on S. Andaman Island, India.

COM). Readers may recall that in October 1996, the 6th Air Refueling Wing activated at MacDill with 12 KC-135R Stratotankers. Also the 403rd Wing at Keesler Air Force Base, MS, will transition from WC-130H to WC-130J weather reconnaissance aircraft starting in October 1998. The aircraft swap-out is expected to continue until March 1999. These are of course Keesler's "Hurricane Hunters." They are receiving the new "J" model C-130 so they can provide more timely storm and hurricane warning capabilities, thus reducing possible loss of life and property. The Reserve unit, which provides 100 percent of the Air Force's WC-130 weather reconnaissance capability, flies missions in and around the eastern Pacific, Atlantic and Caribbean basin. As with all Hurricane Hunter aircraft, the specialized weather tracking equipment can be easily removed and the aircraft used for airlift missions. At Charleston AFB, SC, the Reserve's 315th Airlift Wings host 437th AW receives six more C-17 aircraft as their conversion from C-141B's continues. Four C-141B's were retired at the same time. Projected to take place in fiscal year 1998, two RC-135W Rivet Joint aircraft will be delivered to Offutt AFB, NE.

On the Navy side of things, the USS Hopper (DDG-70) was commissioned in San Francisco recently. The Navy's newest Aegis guided-missile destroyer was named to honor the late RADM Grace

Hopper, the first woman to achieve two stars. At Kings Bay, GA, the USS Louisiana (SSBN-743), the Navy's newest fleet ballistic missile submarine, was also recently commissioned. The commissioning of Louisiana completes the nation's fleet of 18 ballistic missile nuclear submarines, and Commander Submarine Group 10's complement of 10. Louisiana is homeported in Kings Bay. No callsign info yet for either, but I'd put money on NHOP for Hopper and NLOU for Louisiana. Up in Canada, HMCS Terra Nova (DD-259) was retired after 38 years of service. She was the last of the steam-powered improved Restigouche-class destroyers. So scratch "CZJV" from your warship callsign lists. Interestingly many SWL's around the world logged Terra Nova in February of this year during the N. Atlantic SAR for the F/V Commodore, a 87-foot eastern rig scalloper which was taking on water off New England (see May 97 *Communications Confidential* logs). She was ID'ing as "Warship Terra Nova" at that time.

Readers have asked about the difference between "christening," "commissioning," etc., seen in these reports. A naval ship has four major events before entering service. The first is keel laying, when the ship is actually begun to be built. The next is launching, when the ship actually enters water for the first time. Next is christening, when the ship is given a name. The last is commission-



Steve Centner (MD) sent this picture of ADTG, the USAVMG Henry Knox (LT-802) with her tow, USAV Normandy (LT-1971).

ing, when it becomes a Navy ship and enters service. Launching and christening occur mostly at the same time, except for the ships which are built modularly.

Digital News

Klaus Betke (Germany) noted via the Worldwide UTE News Club listserver and later kindly confirmed for me through further listening, that Moscow Meteo has made some changes in their weather facsimile service. Klaus has noted Moscow Meteo active on these new frequencies: 3863.0 kHz, (possibly nighttime only), 5121.0 kHz (possibly nighttime only), 7695.0 kHz (daytime, //10980.0 kHz). Nothing more has been heard on 53.6, 144.5, 3875, 4560, 5150, 7670 and 12165 kHz. Between 1800 and 1900 UTC he copied several aviation weather charts labeled "RAFC MOSCOW" on 3863 kHz. From 1900 to 2100 various RUMS-compiled charts on 5121 kHz. The station is transmitting with 90/576, 120/576 and 120/288. Klaus also reports the "new" signals appear quite weak compared to the former frequencies and wonders if they now use less powerful transmitters, or they have a new site with different antennas. Finally, Klaus reports another FAX station, Alma Ata (Almaty) Meteo, Kazakhstan on 5325 and 9927.5 kHz has gone off air recently.

Jerry Johnson (MO) caught this announcement being sent by maritime station KPH: VVV VVV CQ CQ DE KPH KPH TFC ON HAND AT 060300Z BT, IMPORTANT NOTICE TO MARINERS BT, PLS NOTE: EFFECTIVE 30 JUN97, THE CALL LETTERS AND FRE-

QUENCIES OF STATIONS KPH AND WCC WILL BE ASSIGNED TO THE FACILITIES OF GLOBE WIRELESS. AFTER MANY YEARS OF CONTINUOUS SERVICE FROM OUR QTH AT BOLINAS, MARSHALL/ POINT REYES, AND CHATHAM, THE EMPLOYEES OF KPH AND WCC WISH YOU FAIR WINDS AND BON VOYAGE. BT DE KPH NW TFC LIST BT . . . and the station went into a traffic list. This confirms FCC approval of the purchase of KPH, San Francisco Radio and WCC, Chatham Radio, by Globe.

Eddy Waters (Southern Australia) reports finding 6MK64, the Yonhap News Agency, Seoul, S. Korea, active on 11602.5 kHz at 0750 UTC. Signal is good and strong at his location with a baud rate and shift of 50/425. This is the first time he has found this one active.

Reader Mail

SSgt. John Retikis is in the USAF assigned to Incirlik Global, Turkey. John reports that the Global crew there is working on a new QSL card for the station. Those who log and wish to QSL the station should use this address: 39CS/SCMRA, PSC 94, APO AE 09824-5000. I was lucky enough to QSL the station back in 1992 via a darkness path here to Ohio, and the QSL in use at that time is one of my favorite catches. It's good to know *Pop'Comm* is being read in Turkey and a tip of the 'ole UTE/SWL hat to John and the rest of the Incirlik Global crew for their efforts.

Wes Leatherrock (OK) noted that regarding the recent Qantas comments in

this column that the original name of Qantas was one of the questions (or answers—hi!) in the "Jeopardy" television program several months ago, and in reruns recently. Just goes to show you that you never know when some small piece of information from *Pop'Comm* will come in handy!


Alan Gale (UK) sends his monthly 5680/SAR report. Alan notes that in the news there one of Her Majesties Coastguard Rescue helicopters, believed to be Coastguard Mike Uniform (for the civil registration G-BIMU, a Sikorsky S-61N Mk II from Stornaway in the Hebrides), crashed recently while on a SAR mission to rescue two injured climbers from the 1,800 ft. pinnacle of Stac Pollaidh near Ullapool. None of the crew was seriously injured. HM Coastguard contracts with Bristows Helicopters for SAR service, hence a civil registration is used as the callsign and often shortened to the last two letters. With solar conditions peaking into 100 finally, 5680.0 kHz. should become a late night/early morning regular again for many parts of the world.

Mike from Camden, NJ checks in for the first time. Mike has been a *Pop'Comm* reader for some time and uses a DX-394 with a 60 foot dipole. Mike caught some unidentified transmissions on 8788.0 kHz. USB and was hoping for an ID. He hears the station at various times day and night, but especially around 0300 UTC. The station uses what sound's like Russian or what very closely sound's like it. He has heard some very broken English with callsign's and reference to the channel. A YL seems to be the primary operator. Well I love a good mystery and did some checking. 8788.0 kHz. is coastal maritime channel 824. There are about a dozen stations around the world assigned this frequency including Murmansk Radio, Russia. But not to jump to conclusions, I contacted Dave Wright who is a regular contributor here, and who also speaks Russian, and asked him to give a listen. Dave's report mirrors my own logs. Dave reported hearing Gdynia Radio, Poland. The station is commonly audible in the U.S. working ships in both English and Polish on this frequency, and at times very strong. Dave reports Polish is very similar to Russian in some ways and it can be easily mistaken. A YL is normally heard and if one listens carefully you will sometimes hear her ID as 'Gdynia Radio' in English. Murmansk Radio would be a rarer catch along the eastern U.S. and since other UTE folks I know have heard Gdynia at very strong

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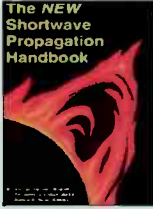
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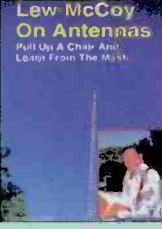
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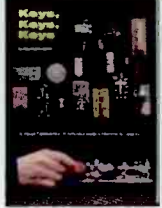


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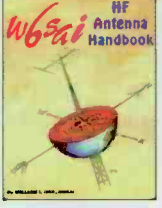
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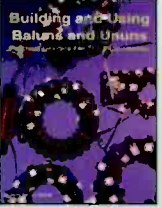
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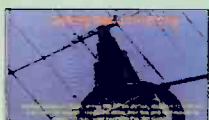
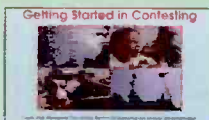


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Verified Reception of:	
Call sign	AAOJ Station FT EUSTIS
Location	VIRGINIA
Date	4 June 97 Time 2237
Frequency	1117.5 Mode
Radio	HF URC 92 Ant. 40 FEET
Comments	THANKS FOR TRANSMISSION.
Confirmed by	WJ Julian Perez (VESSEL MASTER)

First PFC returned to Shaun Warburton (FL) for his reception of AAOJ, USAV Commando (LCU-1675).

levels lately, I'd say this is Mike's station; give a listen and see what you think. Good notes by Mike on an unidentified and a good catch.

Also checking in for the first time is Shaun Warburton (FL), who sent a copy of his first ever utility QSL from AAOJ, the USAV Commando. Shaun used a PFC and a SASE sent to: USAV Commando (LCU-1675), Attn Vessel Master, 558th Transportation Co., ATTN: AFFG-Z-558, Fort Eustis, VA 23604. We hope it will be the first of many, Shaun.

Ian Julian in New Zealand, has been following the U.S. tuna fishing fleet communications in the Pacific for a good number of years and has compiled a comprehensive list of their active frequencies. Ian reports this network quite often uses a voice-scrambler. All communications are in LSB and they seem to favor pirating on the aircraft bands. Frequencies discovered so far by Ian are: 3238, 3333, 4530, 4667, 4682, 5912, 6595.5, 6600, 6718.5, 6870, 6889, 6969, 7670, 7711, 7778, 7923, 8585, 8848, 8925 (Primary), 9238, 9254, 9369, 10225, 10277, 10412, 10598, 10766, 10855, 10900, 11010, 11111, 11222, 11292, 12105, 13232, 13300 (This causes major problems to Air Traffic), 13344, 13433, 16226, 16366, 18346, 19800, 20100, 21856 and 23233 kHz. Often Ian can recognize the same voices talking on these frequencies. Ian has also been monitoring some unidentified stations on 7760.0 and 10054.0 kHz. USB and has heard stations KAW63, Lisianski Island, Hawaii and KOJ638 Tern Island, Hawaii. They have a regular weekly schedule between 0630 and 0700 UTC usually on Sunday, Monday and Wednesday's. Ian has also had them up on 8955 USB in the past. I have seen KAW63 listed as a NOAA station in Hawaii, but no ID on the second callsign. Interesting use of 10054. Maybe one of our readers can provide more information on these folks.

Michael Fleming sent a URL for an interesting internet web site he found. Mike suggests those with internet access try: <www.geocities.com/SiliconValley/1080/nasacams.html> which has almost live shots from NASA missions, along with links to audio and video as well as the Mars Mission. This is a real must for monitoring NASA launches. Chris Haliner (Germany) also found a helpful site. It gives all airport data, including tower, approach, departure, and NBD frequency, plus a summary about the airport. It is very informative, but only useful for U.S. airports. The URL is: <<http://www.air-nav.com>>.

I want to take a moment to wish our readers everywhere a happy and enjoyable Holiday Season and send best wishes for a prosperous and happy New Year. Now, on with the show . . .

UTE Logging's SSB/CW/DIGITAL

198: DIW, Dixon NDB/DME, Dixon, NC heard at 0110. (RF)
325: BHF, Freeport, Bahamas at 0127. (WP)
353: JUK, Brunswick, Ga (St. Simon's Island) at 0125. (WP)
360: NDB UNG at 2122, 8x per min., this is new catch. (CH)
444.5: PCH, Scheveningen R., CW w/tfc list at 1450. (AG)
500: OST, Oostende R. (BEL) wkg unid. ship at 0955. OXZ, Lyngby R. (DEN) QSW tfc list 435.5/449.5 at 1050. EJK, Valentia R. (IRL) QSW 515 for Nav Warn. at 2032. OXJ, Torshavn R. (FRO) CQ QSW 512.5 at 2048. LGT, Tjome R. (NOR) QSW Tfc List at 2118. EAL Las Palmas R. QSW Tfc list 446.5 at 2132. SAE, Tingstade R. (S). All in CW. (AG)
511: SPH, Gdynia R. (POL), w/CW Nav warn. at 0005. (AG)
512.5: OXJ, Torshavn R. w/CW Tfc list at 2118. (AG)
515: EJK, Valentia R. w/CW Nav Warn at 2032. (AG)
1609.5: LGB, Rogaland Radio, NOR at 0358 w/CW Marker. (AB)
2423.5: SAB, Goteborg Radio, S at 0436 in ARQ, clg selcall XPIM. (AB)
2474: PBC, Dutch navy Goeree, HOL at 0432 in RTTY 75bd CARB. (AB)
2608: FUU, French navy Toulon, F at 2251 in RTTY 75bd RY tape. (AB)
2628: AXM, Melbourne meteo, AUS at 1016 in FAX, 120/576 Wx map. (EW)
2643: A9M, Hamala Radio, BHR at 2255 in CW w/marker. (AB)
2705: Unid at 1925 in CW, Pips, 50 per minute, all night long. (AB)
2840.7: DLGZ, mv BG21-Bredstedt at 1920 in ARQ w/German CG Cuxhaven (AB)
2841: EBA, Spanish Navy in CW w/Nav Warn. at 0105. (AG)
2844: Mossad, ISR at 1900 in USB w/ULX transmission. (AB)
2872: Shanwick, G at 0404 w/various aircraft. (AB) Same wkg 'Lufthansa 409' at 0124. (AG) Both in USB mode.
2899: Gander Aeradio wkg 'Skyline 78' in USB at 0122. (AG)

Abbreviations Used For Intercepts

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

3196: "R", Russian Navy Ustinov, RUS at 2222 in CW w/Channel marker. (AB)
3245: UCE, Arkhangelsk Radio, RUS at 2100 in ARQ w/unid vessel. (AB)
3313: HEP3, Kantonspolizei Zurich, SUI at 2103 in CW w/VV de HEP3. (AB)
3350: BAA, Beijing Meteo, China at 1930 w/WX synopsis 50/425 RTTY. (IJ)
3417: YL/EE, Mossad, sending ART2 in USB at 1430, also noted on 5339 kHz w/heavy VKM from Unid RTTY. (TY)
3435: Unid NATO (poss. Royal Navy) at 2105 in RTTY, 100bd, w/encrypted msgs separated by 16 RY's + VMGCTNJHB (AB)
4018.5: Unid, at 1935 in CW . . . BT NR 19 A 28 21:24:21 1997 BT+ 5LG's. This went on for hours. Very loud signal (AB)
4028: SS/YL 5FG # Station (THU) at 0602 in AM. (AN) Cuban YL Numbers Station at 0604 in USB w/msg for 36093, 52822, and 41162. YL/SS. Did not start until 0604. (DW)
4031: "P", Kaliningrad Naval, RUS heard at 2338 w/CW beacon, repeating. //4476//3772. (AWH)
4064: EBO, Spanish Navy Vigo, E at 2123 w/CW VVV tape. (AB)
4268: CKN, Vancouver meteo, CAN at 1019 in RTTY 75/850 wx info for Canadian locations. (EW)
4271: FUJ, French Navy Noumea, New Caledonia at 1022 in RTTY 75/850 RY line test. (EW)
4274: GKB2, Portishead Radio, G at 1942 w/CW QSX tape. (AB)
4275: HPP, Panama in CW w/QSX tape at 0105. (WP)
4292: IAR, Roma Radio, I at 1940 in CW w/Weather. (AB)
4295: HWN, French Navy, Paris, F at 2125 in RTTY 75bd RY tape for FAAA (all/any French warships). (AB)
4298: NOJ, USCG Kodiak, Ak, USA at 1023 in FAX w/120/576 wx map. (EW)
4300: 6WW, French Navy, Dakar, SEN at 2322 in RTTY 75bd. (SW) **4303:** OXZ2, Lyngby Radio, DEN w/CW tfc list at 0107. (WP)
4317.5: GK12, Portishead Radio G, at 0015 w/CW marker. (SP)
4346: 9AR, Rijeka Radio, HRV at 2027 w/CW VVV tape. (AB)
4354: ZRQ, unid (S. Afr?) w/vy weak CW at 0110. (WP) (Yes, S. African Navy, Capetown reportedly via a xmitter at Simonstown -Ed.)
4402: At 0259 WOO, AT&T NJ w/high seas operator making phone calls in Air. (SW)
4465: FDI8, French Air Force Nice, F at 2144 w/CW Marker. (AB) **4507:** "Atencion" spook stn, Cuba at 1148, SS/YL w/old style callup for 408. (AWH)

- 4485:** Unid at 1654 in CW, 275 275 9T 9T 38 38 = 5FG's, each group was repeated. (AB)
- 4570:** Unid, Haiti? in LSB at 1131, 2 Kreyol spkg OM w/QSO. (AWH)
- 4765.2:** FDX, Paris, F at 0435 on in ARQ-M2 200/400 w/ch. A running 5LG tfc on ckt FDXA to Sarajevo. (AWH)
- 4855:** NPM, USN, Pearl Harbor, HI, USA at 1028 w/FAX 120/576 Wx map. (EW)
- 4880:** YL/EE, Mossad, sending ULX in USB at 1630. (TY)
- 5023.8:** Unid, poss in Germany at 0157 in ARQ-E96/85, w/beta idle, listed as HFVBR, BND Potsdam. Listed stations on nearby freqs unheard, just this one. Much stronger than usual, most BND stations normally barely audible here under good cx. (AWH) (BND is Bundesnachrichtendienst, German Intelligence—Ed.)
- 5153.8:** "P", Russian Navy Kaliningrad, RUS at 1920 w/CW channel marker. (AB)
- 5177:** YL/SS numbers stn at 0400 on Sun w/5FG. (GS) (Mode?—Ed.)
- 5266.5:** HEP5, Kantonspolizei Zurich, SUI at 2114 w/CW VVV de HEP5. (AB)
- 5277:** 63 ALPHA at 1843 passing flight ops normal to PANTHER in USB. At 1849 33 CHARLIE w/same. (MF)
- 5300:** Gendarme Net, Noumea New Caledonia at 0530, in USB 2 OM's in FF w/ Passport Info. First I have heard them in over a year thought they might have closed down. (IJ)
- 5302.5:** "RFFBBGB" Gendarmerie, Noumea, New Caledonia at 0645, in 100/850 RTTY, w/mobilization un Nouvelle Caledonie Revendication Test Msgs. (IJ)
- 5339:** YL/EE, Mossad, sending ART2 at 1630 in USB, also noted on 3117 kHz. (TY)
- 5342:** Unid U.S. Navy at 1600 in RTTY 75/850, repeating plain text test tape "DE SHIPYARD TESTING RYRYRYRYRY RYR . . ." where's the shipyard? (AWH) (possibly new construction?—Ed.)
- 5405:** JMJ2, Tokyo meteo, Japan at 1020 w/FAX 120/576 wx map. (EW)
- 5417:** SS/YL 5FG # Station (MON) at 0710 in AM. (AN) Cuban YL Numbers Station 0701 AM w/5FGs. YL/SS Started out w/3 msg. Msg interrupted after first set of id's . . . came back w/one new msg. (DW)
- 5420:** Kinloss Rescue wkg Rescue 51 here to avoid QRM on 5680. In USB at 1749. (AG)
- 5437:** YL/EE, Mossad, sending ART2 in USB at 1600. (TY)
- 5450:** Royal Air Force Volmet w/wx for northern Europe at 2025 in USB. (CH)
- 5471.6:** LN2A, Norsk PTT Sveio, NOR at 2030 w/CW Beacon, cw + data bursts (AB)
- 5505:** Shannon Volmet w/wx for southern Europe at 2048 in USB. (CH)
- 5535:** Air Canada 870 at 0148 in USB w/selcal CG-JM, wkg Speedbird R. w/FRM code for company. (TO)
- 5598:** ASPEN 11 wkg New York at 0426. (AN) (ASPEN is a c/s used by SR-71 "Blackbirds", too bad no Flt Level was hrd—Ed.) Delta 108 at 0305 wkg NY w/pp to New York Control req'd immediate diversion to JFK due to "security problem on board" cleared via JEBBE-CARAC FL 310 est JEBBE 0419. (TO)
- 5616:** USAir 16 at 0200 wkg Gander for selcal check, BF-AP, 767 w/reg. N645US. United 914 at 0212 wkg Gander for selcal AQ-BG, 777 w/reg. N777UA. (TO)
- 5629:** YL/EE, Mossad, sending SYN2 in USB at 1545. (TY)
- 5680:** Plymouth Rescue, G at 1145 w/Rescue 51 re rdo ck w/Rescue 193; at 1157 Kinloss Rescue w/Rescue 125 re same; w/Alpine 23 at 1355; w/Rescue 122 at 1352; w/Alpine 20 at 1357 (AB) At 1752 Kinloss Rescue clg Alpine 22 (MRT—Mountain Rescue Team) & asking him to QSY to 6691 kHz to avoid QRM. At 1828 Kinloss wkg Rescue 137 req he QSY to 5705 kHz if QRM is on 5680. At 1943 Plymouth Rescue called Rescue 193 & req QSY to 5705 kHz. SAREX (SAR Exercise) 6110 wkg Glucksburg Rescue (D), SAR Exercise involving SAREX U93, SAREX 275 (Danish helo), SAREX 137 (Polish helo 34091), Mike 9 Lima, & UABC simulating a search for a dummy in water at posn 5502N 01541E. Plymouth wkg Rescue 51, Rescue 193, & GUYW (HMS Guernsey) at posn. 4807N 00920W re medical emergency on board the warship. All in USB. (AG)
- 5686.4:** ARROW 5 & ARROW 1/2 at 1401 in USB re link w/SatCom, problem w/keying, contacting C9. (RK)
- 5696:** 6010, USCG HH-60J at 0441 in USB wkg CAMSLANT declaring an In-flight Emergency (IFE). The helo is suffering a loss of pressure in the ? system (probably hydraulic) & is landing at what sounded like Germantown. (DW)
- 5705:** At 1836 Kinloss wkg Rescue 137; at 1944 Plymouth Rescue in r/check w/Rescue 193, told him to remain on this frequency. At 2003 Kinloss called Alpine 22 & asked he use 4721 kHz before comms were lost due to night time conditions (it was possible to hear Kinloss monitoring bubble jammer on 5680 in background during his transmissions here! All in USB. (AG)
- 5710:** SAM 90300 at 0011 wkg Andrews. (AN) Andrews at 0257 wkg NIGHTWATCH w/data send coordination. (Ed.) Both in USB.
- 5717:** RESCUE 456, 216, others at 0134 in USB searching for lost hiking party & wkg Vancouver Military. (RK)
- 5800:** YL/SS at 0300 (SUN) w/5FG. Very weak, but readable. (GS) (mode?—Ed.)
- 5807:** ZKLF, Auckland Meteo, NZ at 1031 w/FAX 120/576 wx map. (EW)
- 5813.5:** EIP, Shannon Air, Ireland at 0700 in 50/850 RTTY w/RYRY. (IJ)
- 6224:** Various fishing vessels in USB at 1535 w/chat. (WP)
- 6227:** Various fishing vessels w/CB lingo and XXX mouths, app in Gulf of Mexico, perhaps near LA, in USB at 1538. (WP)
- 6236:** STINGRAY 33 at 1445 in USB wkg U91, some voice 5FG tfc, also ment a/c w/callsign EAGLE in area. Sounds like JIATF type activity. (AWH) (STINGRAY is a U.S. Customs call and this freq has been used by USCG before, especially during OPERATION DEMOCRACY in Haiti, so at least prob. drug interdiction net —Ed.)
- 6301.5:** PNA, Manila at 0611 in FEC w/PNA press tfc. Same tfc logged on 8399 apx 30 minutes earlier. (DW) (Boy this is a hard one to squash . . . these Philippines news relays are taken from Bulcan Radio's satellite transmission and relayed from various Filipino crewed ships to others who also relay it around the world on maritime non-paired digital ship frequencies, where they can be logged almost every 30 mins. The reference book listing these as PNA is in error—Ed.)
- 6321.5:** SVU, Athens Radio w/SVU in CW rptd w/dash at 0112. (WP)
- 6357:** SAA, Karlskrona, Sweden in CW w/QSX freq tape at 0115. (WP)
- 6379:** 4XZ, Haifa Naval, ISR w/CW VVV ID tape at 0117. (WP)
- 6380:** "TBDJ DE TBA6 TBS6 QAP" at 2100 in CW (QAP?). (CH) (Turkish Navy, Ankara . . . TBDJ is "any Turkish warship". Move from 6382? —Ed.)
- 6389:** CTP, Lisbon, POR w/CW QXSX/VVV TAPE at 0120. (WP)
- 6425:** UGC, St.Petersburg Radio, RUS at 2105 w/CW QXSX tape. (AB)
- 6437:** PWN33, Brazilian Navy, Natal at 0426 in RTTY 75/735, w/Portuguese navigational info & calltape. Down at 0428. (DW)
- 6462:** FUM, French Navy, Papeete, Tahiti at 1141 in RTTY 75/850 "RY DE FUM FUM SG". (EW)
- 6485:** Lincolnshire Poacher lady, w/5FG's in USB start at 1600, also need on 7755/10426 kHz. (TY)
- 6491.5:** JOS, Nagasaki, Japan w/CW TFC LIST at 1128. (WP)
- 6493.5:** LYL, Klaipeda Radio, LTU at 2220 CW w/unid vessel. (AB)
- 6502:** TBB6, Turkish Navy, Ankara, TUR in CW w/QAP/VVV TAPE at 1130. (WP)
- 6523.5:** U.S. Tuna Fishing Net at 0450 in LSB 2 OM's w/scrambled comms. Went in the clear with " Haven't seen a school in two weeks" and "Good luck for tomorrow". (New Channel). (IJ)
- 6637:** Royal 710 heard at 0719 in USB wkg Miami Radio. (AN)
- 6640:** American 688 at 0115 in USB wkg NY ARINC w/pp to Tulsa tech. (TO)
- 6658:** YL/EE, Mossad, sending KPA2 in USB at 1615. (TY)
- 6666.6:** U.S. Tuna Fishing Net at 0915 in LSB 2 OM's talking, mentioned they were in the South West Pacific & have plenty of Tuna. (IJ)
- 6691:** At 1757, Rescue 137 clg Kinloss in USB w/casualty sitrep. Kinloss wkg Navy 177 (QSYed here to avoid bubble jammer!) at 2009. Kinloss in r/check w/Coastguard WB at 1944. (AG)
- 6739:** Reach 50251 at 0716 w/pp Hilda East via McClellan. (AN) At 0429 Hickman wkg unid REACH flt w/tfc. (SW)
- 6765:** U.S. Tuna Fishing Net at 0630 in LSB lots Of Scrambled & clear Comms, mentioned getting good catches. (IJ)
- 6800.9:** Unid heard at 2040 with CW 'A' 23 23 + 5FG's sent twice. Ends with '000' followed by a number of 'U's. Station used short zero's. (AB)
- 6825:** VJQ, Royal Flying Doctor Service, Kalgoolie WA, Australia at 0800 in USB 2 OM's Reminiscing about the old Solid State Txers. (IJ)
- 6835:** GFL22, Bracknell Meteo, G at 2037 w/RTTY 75bd Synops. (AB)
- 6840:** YL/EE, Mossad, sending EZI in USB at 1600 w/heavy QRM from BC/CC on the same frequency, also noted on 9130 kHz. (TY)
- 6845:** VJJ, Royal Flying Doctor Service, Charleville QLD, Australia at 0730 in USB w/pp re machinery problems. (IJ)
- 6845.9:** Unid at 2028 w/CW VVV ZIK 933 + 5LG's (later also on 4798.9 kHz). (AB)
- 6849:** Christian Relief Missionary Fellowship Net, Papua New Guinea at 0830 in USB. Plenty of OM's and YL's discussing supply drops etc. This is an extensive network through out the country and has missionaries of many nationalities. (IJ)
- 6890.5:** Counting Station w/3# 2# pattern, ended transmission w/"end" at 1915-1930 in USB. (CH)
- 6917.5:** Unid station, Ecuador 0150-0230+, FEC 109/400, heard off & on w/plain text SS telexes w/"ALLPP" in header, previously noted on cryptograms, from Guayaquil. Navy? Some one line crypto 5LGs preceded by QKQKQ. (AWH)
- 6926:** "AA" & "AB", unid Indonesian Net at 0900 in USB 2 YL's passing Radiogram Msgs, not Military. (IJ)
- 6986:** NIGHTWATCH 01 at 0237 in USB wkg Andrews. (AN)
- 7305:** JMH2, Tokyo Meteo at 0910 in FAX 120/576 w/chart. (DW)
- 7333:** "DB", unid Indonesian Net at 0915 in LSB 1 YL whistling & w/SELCAL Tones repeatedly clg "A" She started to Giggle & laugh as she wasn't getting any reply. (IJ)

7400: Argentine Navy at 0220 on w/120/576 FAX, SA chart, quite readable w/ID text as "Armada Argentina Flota del Mar". (AWH)

7433.5: HLL5, Seoul Meteo at 0913 in FAX 120/576 w/chart. (DW)

7485: YL/SS numbers stn at 0316 in AM w/5FG, gone at 0345. (SW) **7535:** SESEF Norfolk at 1455 in USB w/kg USS Brisco on multiple modes. (AWH)

7546: Counting stn, YL/EE, w/3+2FG's in AM at 1100, also noted on 10597 kHz. (TY)

7654.5: EE/YL at 0223 in USB w/ 3/2 digit # station. (AN)

7692: Unid Polish Military at 1930 in 50/425 RTTY. (IJ)

7755: Lincolnshire Poacher lady, w/5FG's in USB start at 1600, also need on 6485/10426 kHz. (TY)

7760: KA W63, Lisianski Island Hawaii & KOJ638, Tern Island Hawaii at 0630 in USB 2 YL's clg conditions were poor and switched to 10 Mhz. (IJ)

7763.1: D6Z, ASECNA Moroni, Comores Islands heard at 1233 in ARQ-E3 48/850 w/wx info. (EW)

7863.5: SPW, Warsaw Radio, POL at 0804 w/CW Marker. (AB)

7888: Unid, Mexico at 1459 in LSB, 2 OM/SS passing aviation wx for various southern XE cities (Yucatan and Oaxaca). (AWH)

8012: SS/YL 5FG # station in AM heard at 0521. (AN)

8026: SAM 31682, SAM 31683 & AIR FORCE ONE w/kg Andrews at various times in USB. (AN)

8032: AIR FORCE TWO (SAM 27000) heard at 0217 in USB w/pp "Waldorf" via Andrews. (AN) ("Waldorf" is a place-name for the AT&T control point site at Waldorf, MD, for a worldwide network of Ground Entry Point (GEP) stations used to communicate with AF-1 or 2 and other command post aircraft. This system supplies a number of simultaneous full duplex telephone channels and an order wire allowing aircraft to place and receive telephone calls over the Defense Switching Network (DSN) and commercial telephone networks—Ed.)

8152: Unid, poss Mexican Military net here at 1205, OM/SS w/3 stations coordinating FEC 109/400 sessions centered on 8153.5 w/ "ALLPP" crypto tlxs. This format noted from Guayaquil last week, but this way too strong. Have heard a lot of on-line crypto ARQ 100/400 from Mexico, suspect this from there also due to relative levels of MIL comm activity, but not confirmed & accents heard not particularly Mexican. Unreadable trigraph call signs used when on voice. (AWH)

8186: YL/SS numbers heard at 0200 (SUN) w/5FG. (GS)

8222: NKVY, USNS Indomitable (T-AGOS-7) at 0118 in USB w/kg WOM, AT&T High Seas Radio for pp re suffered an equipment casualty & is enrt to Rodman Naval Base, Panama for repairs. (DW)

8249.7: East Mediterranean Shipping Co Net at 1915 in ARQ, vessels Sea Eagle, Sea Venus & M/V Adventurer 1, passing routine maintenance msgs to East Med Athens. (IJ)

8297: ADMM, USAV Contreras (LCU-2015) heard at 1000 clg AAC2, Harbormaster, Ft Eustis. AADV, USAV Bristoe Station (LCU-2006) at 1007 w/kg AAC2 w/standard posn/ETA report. Current posn is apx 60 miles North of the Dominican Republic. AADT, USAV Aldie (LCU-2004) heard at 1018 w/kg AADV, USAV Bristoe Station (LCU-2006), AADT passed his standard posn/report to AADV due to difficulty in reaching AAC2. All in USB. (DW)

8386: KDGR, M/T Paul Buck heard at 2008 in ARQ w/USN "Unclass GENADMIN" msg to various USN commands, poss MSC chartered vsl. (DW)

8394: C6QK, M/V Barrington Island at 0547 in ARQ w/AMVER & Synoptic WX reports. QTH: 3035N 06307W. Listed as C6KO by ITU. (DW)

8400: Unid at 0521 in FEC w/"Good Day. Where is you? We are standing by on 8400 rtlx +?". This was repeated over and over. (DW) (looks like a lone-some mariners "CQ"—Ed.)

8421.5: JCS, Choshi Radio, Japan at 0837 in ARQ w/msg to unid ship UGKP. (EW)

8451.8: VNM, TELSTRA, Hobart, Tasmania at 0717 w/CW ch mkr "VNM XSMIT." (DW)

8453: HWN, French Navy, Paris, France heard at 0700 in 75/850 RTTY w/RYRY & SGSG. (IJ)

8464: Lincolnshire Poacher lady, w/5FG's in USB start heard at 1500, also noted on 10426 kHz. (TY)

8497: CLA20, Havana Radio, Cuba w/CW marker at 0025. (SP)

8515: SAT, Tripoli Radio, Libya at 0712 w/CW mkr, DE 5AT 5AT. (EW)

8566: ZSJ, South African Navy, Cape Town at 0658 w/CW ch mkr. (DW)

8573: CLA, Havana Radio, with CW wheel at 1743. (SW)

8586: WCC, Chatham Radio, at 1745 w/CW wheel. (SW)

8625: FUM Papeete Naval, Tahiti, Society Islands, at 0443 w/RTTY test transmission, 75/850. (SW)

8704: SVB4, Athens Radio, GRC w/QSX info 6CH4 6CH5 8CH4 at 1855 in CW. (CH)

8764: NMO, USCG COMSTA Honolulu at 0615 w/offshore wx & nav warnings //6501//. NMN, USCG CAMSLANT at 0932 w/offshore wx. //6501//, Both in USB. (DW)

8782: HEB18, Berne Radio, Switzerland at 0447 in USB clg vsl 90MP4. (EW)

8788: SPC42, Gdynia Radio, Poland at 0122 in USB w/kg unid vsl w/attempted pp. (DW)

8828: Tokyo Volmet at 0940 w/aviation wx. Auckland Volmet at 0950 w/same, both in USB. (DW)

8842.8: RFHWW, French Forces, Papeete at 0628 in ARQ-M2 128.5/100 w/betas. QRT at 0640. ID based upon baudrate/shift. No previous logs on this freq. No CdV messages noted during time monitored. (DW)

8843: San Francisco aero—CEP-1/2 MWARA at 0224 in USB w/kg unid flt 1826 w/ATC clearance request; at 0226 w/kg Tiger 381 reporting level at 350. (MT)

8861: Mali-67148 at 0623 clg DAKAR ATCC. No joy. Khabarovsk Volmet at 1015 w/aviation wx in RR. Down at 1019 w/'Khabarovsk Konets', both in USB. (DW)

8874: U.S. Tuna Fishing Net heard at 0515 in LSB scrambled & clear comms, unid clg vsl Zoran, finished with "Good luck for Tomorrow" & "Blessing from St. Peter." Also a new channel. (IJ)

8894: Namibia 661 at 2347 w/kg Niamey w/ARP, est ENDOK 0048 FL 390, 747SP reg. V5-SFP. Air Gabon 600 at 0000 w/kg Algiers w/ARP, at ERKEL, FL 330, ETA "FCO" 0309. MKA 112 at 0020 w/kg Algiers w/ARP FL 390, est ERKEL 0019, MELOG 0038, "BOD" at 0115. DC-8F reg. 9G-MKA enrt FPST-ELLX. All in USB. (TO)

8906.8: RFHWW, French Forces, Papeete at 0718 in ARQ-M2 128.5/100 w/betas. At 0723 wx forecast info on CH B. All wx & forecast info for vicinity of Tahiti. (DW)


8925: U.S. Tuna Fishing Net at 0600 in LSB this is a very active most nights lots of scrambled and clear comms. (IJ)

8942: Singapore Air Control at 1243 in USB w/kg Brunei 876 re posn report. (EW)

8951: Cathay 828 at 1241 in USB w/kg Tokyo for posn report. (EW)

8968: HAPPYDAY w/kg Lajes heard at 0553 in USB. (AN)

8974: "Air Force Sydney", RAAF Sydney, at 0826 w/kg unid RAAF a/c. Passed wx & request to re-establish comms at 0900. SHEPHERD 966, RAAF

DDP			391
BEACON		KHZ	
This will verify you		Reception of this beacon	
Date: <u>June 2, 1996</u>	Freq: <u>391 KHZ</u>	Verified by: <u>Assistant Manager</u>	Office: <u>San Juan System Management Office (SJO), San Juan, Puerto Rico</u>
Time: <u>0417 UTC</u>	Elevation: <u>10 feet</u>	Title:	June 24, 1996
Power: <u>300Watts</u>	Location: <u>18 28 N 66 25 W</u>	Date:	
Antenna Type: <u>VERTICAL STREET TOWER</u>	Remarks:	Thanks for the report.	
<u>San Juan</u>		<u>Puerto Rico</u>	

PFC received by Allen Renner (PA) for beacon DDP, on 391 kHz in San Juan, PR.

10SQD P-3 Orion at 0858 w/kg AF Sydney. Both in USB. (DW)

9014: DOOM 80 at 0014 in USB w/pp Cannon Metro via Raymond 7. JAMBO 25 at 0205 in USB w/pp Mud Bug Control via Raymond 7. TEX 85 at 0249 in USB clg Raymond 7. (AN)

9016: NIGHTWATCH w/kg CRAWFISH at 0015 in USB for rdo ck. (RK)

9018: GASER 92 at 0253 in USB clg GASER 93 (KC-135R at Altus AFB, Ok.?). (AN) (although "GASSER", "GASER", & "GASSR" are common KC-135 call signs, these GASER's (9x) are probably "Combat Shadow" HC-130N/P's of the 9th SOS, Eglin AFB, FL—Ed.)

9037: 14K at 0112 clg TALON 29, CanForce H-3 Seaking Helo fm CFB Shearwater, part of naval exercises being held in the N. Atlantic. (DW) At 1830 discussion of pending tracks w/FOX TANGO. At 1814 PAPA clg FOX TANGO, & at 1820 OSCAR passing info to FOX TANGO. (MF) FOX-TROT TANGO net at 1354 w/kg G, D, all strong, prob Virginia Capes area. Still here after several days. (AWH) At 1430 on for several days FOX-TROT TANGO w/alligator playground traffic w/calls w/U.S./other accents. (CB) (This was a part of JTFEX 3-97 with The USS George Washington (CVN-73) Battle Group (CVBG) and USS Guam (LPH-9) Amphibious Ready Group (ARG). This Joint Task Force Exercise (JTFEX) was a work-up prior to the deployment of these forces and included NATO ships from Standing Naval Forces Atlantic and ships composing a Canadian task group—Ed.)

9130: YL/EE, Mossad, sending EZI in USB at 1600, also noted on 6840 kHz. (TY)

9154: D4B, Sal Air, Cape Verde Islands, Africa at 0730 in 50/695 RTTY with RYRY & 4646. (IJ)

9165: KMA Seoul?? at 1002 in FAX 120/576 w/blank chart. QRT at 1007. No id. (DW) (this stn, first noted May 97 by WUN members, is reportedly Tokyo Meteo—Ed.)

9197: A9M41, Manama News Agency, Bahrain at 1330 in RTTY 75/425 w/Arabic text. (EW)

9260: SS/YL at 0202 in AM w/5FG. (AN)

9263: Cherry Ripe numbers stn at 1104 in USB w/msg for '96130'. At 1110 into 5FGs. (DW) Same at 1123. (EW)

9268: Poss Cuban numbers station at 0806 in AM w/5FGs, YL/SS, missed sign-on. New freq for this station? At 0808, msg for 99205: "Atencion 99205" (DW)

9328: Vietnam News Agency, Vietnam at 1240 in RTTY 50/425 w/EE nx. (EW) (call is XVN26, nice catch—Ed.)

9340: RCH72, Tashkent Meteo, Uzbekistan at 2315 in FAX 60/576, fair w/almost-readable Siberian SA chart. (AWH)

9378.7: 3BZ, ASECNA Plaisance, Mauritius at 0345 on in ARQ-E3 48/850, ckt PTA to Madagascar, idle to 0400 then started fading quick-

ly. Return link TPA on 9192.7 (E3-48/400, diff shift) in weakly. (AWH)
9415: YL/SS numbers stn at 0400 (SUN) w/5FG. BBC could be heard because it was on 9410 at that time. (GS)
9467: Numbers stn, YL/EE USA at 1126 in USB reading 3/2FG's. (EW)
10046: 4XZ, Navy Haifa. ISR in CW w/VVV ID TAPE at 2235. (WP) Same at 2012. (AB)
10050: New York VOLMET at 1407 in USB w/wx information. (SW)
10054: KAW63, Lisianski Island Hawaii & KOJ638 Tern Island Hawaii at 0635 2 YL's just switched From their 7 Mhz channel they were yelling but still couldn't hear one another. First time I have heard these stations in two years. (IJ)
10066: Bangalore Air Control, India at 1115 in USB clg Dacca Control. (EW)
10090: Khabarovsk Volmet at 1106 in USB w/aviation wx in EE. //4663// (DW)
10100.8: DDK8, Hamburg Meteo, Germany at 0430 in 50/425 RTTY w/RYRY & frequency list went into wx synopsis. (IJ)
10215: HZN48, Jeddah Meteo, ARS at 2003 in RTTY 50bd Synops. (AB)
10242: Scrambled U.S. Customs comms at 1903 in USB. (MF)
10424: Cuba, SVR/ex-SOUD at 1532 in RTTY 75/500 crypto w/tlxs on link ID 00116, so to BPA. (AWH)
10426: Lincolnshire Poacher lady, w/5FG's in USB start at 1600, also noted on 7755/6485 kHz. (TY)
10597: Counting stn, YL/EE, w/3+2FG's in AM at 1100, also noted on 7546 kHz. (TY)
10715: SS/YL 5FG # station heard at 0321 in USB. (AN)
10805: Malaysia 202 at 0056 wkg Stockholm looking for good freq for pp to Ezeiza Control for pos-rep relay!!! PH-MCE at 0128 wkg Stockholm trying for good freq for pp. Both in USB. (TO)
10872: "S" marker for Murmansk Naval, in CW at 2345 repeating. "F" Vladivostok Naval CW beacon at 1335, tentative after request to recheck, still haven't re-confirmed ID due to usual weak sig. (AWH) "P." Russian Navy Kaliningrad, RUS at 1656 in CW w/very fast "P" marker. "C." Russian Navy Moscow, RUS at 1656 w/CW Channel marker. "S." Russian Navy Arkhangelsk, RUS at 1656 w/CW Channel marker. (AB)
10970: YL/EE, Mossad, sending MIW2 in USB heard at 1515, also noted on 8641/12747 kHz. (TY)
11056: SPAR 19 at 0049 in USB wkg Andrews (QSY 8026 USB). (AN)
11072: Counting Station w/3/2 # pattern ended transmission w/"end" heard at 2119-2126. (CH)
11110.5: RFLI, French Forces Fort de France, Martinique at 0104 in ARQ-E3 192/425 idling. (EW)
11175: ASCOT 5575 (C-130) at 2103 in USB w/pp via Offutt. (RAF's Air Support Command Operational Transport—Ed.) German Navy 4740 at 1650 in USB clg Andrews. (AN) BANDSAW INDIA (E-3 AWAC's 964th AACs) wkg CURRENT Op's re locating tanker at 1414 in USB. GORDO 11 (E-4B ABNCP) wkg Raymond 21 w/tfc via MacDill at 0148 in USB. (RK) (see 15016 info re "GORDO"—Ed.)
11202: YANKEE 8 MIKE heard at 1910 working CAMSLANT re they are on final to GITMO & request CAMSLANT secure there guard. (MF)
11220: SAM 26000 at 0130 in USB wkg Andrews. (AN)
11253: RAF Volmet heard at 2317 in USB w/wx. (AN)
11384: Honolulu Radio, USA heard at 0813 in USB clg Continental Airlines flt re posn report. (EW)
11444.2: Unid French Forces Station, at 0300 in

ARQ-E3 200 Bd Idling. (IJ) Unid at 0430 in ARQ-E3 200/400, idle. (AWH)
11450: Unid Mexican LDOC at 1310 in USB wkg "681" re arrival time at Cancun. (AWH)
11460: SAM 60206 at 0134 in USB w/pp via Andrews. (AN)
11525: CIA Counting Station heard at 2122 in AM, YL/EE w/3/2 FG's to 2145, heavy jamming. (RK)
11550: MKK, RAF London, England at 0340 in VFT 50 Bd all channels with RYIRYI & Quick Brown Fox. (IJ)
11565: YL/EE, Mossad, sending EZI in USB at 1430, w/heavy QRM from BC on the same frequency, also noted on 13533 kHz. (TY)
11570: BZC75, Urumqi Meteo, China at 0350 in 50/400 w/RYRY & Wx Synopsis. (IJ)
11576.7: FJY3, DTRE Durmont d'Urville, Antarctica at 0800 in ARQ-E3 96 Bd w/msgs. (IJ) Same (French Base) at 0340 in ARQ-E3 96/400, w/tlxs to unid acronym, telexes began w/"NR xxx" & ended w/ NNNN, none of the usual FF MIL ZCZCxxx stuff. Supposedly link to FJY2 Kerguelen, but couldn't find the return link anywhere. (AWH)
12568: UAZG, BMRT Ivan Bochkov at 2144 in RTTY 50/170, Russian-flagged 2.934 DWT Bol'shoj Morozil'nyj Rybolovnyj Trauler-BMRT, w/RYRY/DE to UDK2, Murmansk Radio, Russia, then w/admin TG from master KMD Rudenko using hull#ID MB-0001, app ex-ULYT. (Ed.)
12600.5: HEC, Berne, Switzerland in CW ID & Sitor bursts at 2037. (WP)
12601.5: OXZ, Lyngby Radio, DEN w/CW ID & Sitor bursts at 1115. (WP)
12602: IAR, Rome, I w/CW ID & Sitor bursts at 1115. (WP)
12613: XSQ, Guangzhou Radio, China at 0625 w/ARQ msg to ship "UIIP". (EW)
12747: YL/EE, Mossad, sending MIW2 in USB heard at 1515, also noted on 10970/8641 kHz. (TY)
12753: CKN, Canadian Forces, Vancouver, BC, CAN heard at 0704 w/FAX 120/576 wx map. (EW)
13022: SPE, Szczecin Radio, POL w/CW QXS ID TAPE at 2039. (WP)
13242: PIANO KEY at 1538 in USB wkg MacDill. (AN)
13444.2: RFQP, Djibouti at 1205 in ARQ-E3 100/400, no tfc noted, listed ckt DJI. (AWH)
13452: SS/YL 3/2 digit # station (R3E mode) at 0134 in USB. (AN)
13621: Cuba? yet another SVR at 2303 in RTTY 75/500, tfc, missed link ID. (AWH)
1441.5: NNNOCOL, unid, ID? 2212 USB clg ASSMS w/beam heading of south. (MT)
14485.9: P6Z, MFA France at 1226 in FEC-A 192/400 call-up for A9C Bucharest. (AWH)
14487: Lincolnshire Poacher lady, w/5FG's in USB start at 1200, also noted on 15682/16081 kHz. (TY)
14639.5: Laos News Agency, Laos at 0935 in RTTY 50/425 w/EE nx. (EW)
14656: SPW, Warsaw Radio, POL at 1333 in USB clg all ships. (AB)
14670: CHU Canada, time signal station, at 1555 in AM. (SW)
14817.5: JPA, INTERPOL, Tokyo, Japan at 0700 in ARQ w/encrypted msgs. (IJ)
15016: GORDO 26 at 1609 in USB w/pp Offutt Global & then Andrews Global via MacDill. WGY914 at 1822 in USB clg Impurity. (AN) (GORDO is the "front end" callsign used by the E-4B's in the "NIGHTWATCH" program—Ed.)
15682: Lincolnshire Poacher lady, w/5FG's in USB start at 1200, also noted on 16084/14487 kHz. (TY)
15873: Unid stn at 1238 in FEC-A 192/400 idling, no tfc noted. (AWH)
16084: Lincolnshire Poacher lady, w/5FG's in USB start at 1200, also noted on 15682/14487 kHz. (TY)

16193.2: RFQP, French Forces Jibuti, Djibouti heard at 0645 in ARQ-M2 200/425 idling. (EW)
16243: PWX33, Brazilian Navy at 1410 in RTTY 75/850, CTV DE PWX33 INT ZBK ZBZ & quick brown fox rryryr stuff repeated. (AWH)
16311.5: Mossad, ISR at 0810 in CW w/3LG's, ends w/+ + CMG CMG U1 333, then off. (EW)
16331.8: Navy Kaliningrad, RUS "P" beacon at 1158 in CW; "C" beacon also audible on 16332 same time. (AWH)
16342: CLP4, EMBACUBA Bisseau, Benin RTTY 50/425 heard at 1810, SS/L msgs to MFA Havana. (JR)
16454.5: SPW: Warsaw Radio, POL 13.34 CW Marker (AB)
17155: UFZ, Vladivostok Radio, RUS at 0533 in RTTY 50/170 w/DE UFZ UFZ RYRY, then msg in RR. (EW)
17410: YL/EE, Mossad, sending EZI at 1130 in USB. (TY)
17422: CLP27, EMBACUBA Lagos, Nigeria in RTTY 75/425 at 2003 relaying encrypted texts after ZZZZ's. (JR)
17427: CLP23, EMBACUBA Lagos, Nigeria in CW at 1620, SS p/l chat. (JR)
17904: Honolulu aeradio contacts various aircraft in USB at 0630. (TY)
18008: CLP1, MFA Havana in RTTY 50/425 at 1840 wkg CLP8 Conakry. (JR)
18040: TCY4: AA Ankara, TUR at 1310 in RTTY 50bd w/Turkish nx. (AB)
18053: CLP18, EMBACUBA Dar-es-Salaam, Tanzania, RTTY 50/425 at 1730, SS p/l msgs to MFA Havana, this is a first time logging for me. (JR)
18388.6: 5AF, Tripoli Air, LBY at 1307 in RTTY 50bd w/HLLTYF RYRY. (AB)
18417.8: CLP1, MFA Havana in RTTY 50/425 heard at 1800, sending circulars in SS & FF. (JR)
18461.5: PCW1, MFA Den Haag, HOL at 1306 w/CW Marker. (AB)
18636.3: CLP44, EMBACUBA Harare, Zimbabwe in RTTY 50/425 at 1500, passed SS p/l fm EMBACUBA Baghdad, a short encrypted msg after ZZZZ's, a 5FG msg from Phnom Pehn, Cambodia; SS p/l msgs from Pyongyang, N. Korea. Found MFA Havana on 17519.5 // (JR)
18801.7: MFA Jakarta, Indonesia at 0610 in RTTY 50/425 passport info, etc. in Indonesian. (EW)
19101.7: "RFLI", French Forces, Martinique at 0035 in ARQ-E3 192 Bd with Controle de Voie. (IJ)
19131: ATLAS, U.S. Customs/DEA Comm Ctr, Rockwell-Collins, Cedar Rapids, Iowa at 2055 in USB wkg "275" w/radio cks. (Ed.)
19517.5: CLP1, MFA Havana in RTTY 50/425 at 1630 passing SS p/l msgs. (JR)
19923: Cuba? SVR msg at 2258 in RTTY 75/500, end of 5FG tfc, no link noted. (AWH)

This months contributors: (AB) Ary Boender, The Netherlands; (AG) Alan Gale, UK; (AN) Anonymous (Midwest U.S.); (AWH) Albert W. Hussein, FL; (CB) Chuck Bernth, NY; (CH) Chris Haliner, Germany; (DW) Dave Wright, TX; (EW) Eddy Waters, Australia; (GS) Gary Seven, NY; (IJ) Ian Julian, New Zealand; (JR) Joe Richards, FL; (MF) Mike Fink, FL; (MT) Matt Thompson, PA; (RF) Robert M Felton, NC; (RK) Richard Klingman, NY; (SP) Scott Pasture, MI; (SW) Sue Wilden, IN; (TO) Tony Orr, Va; (WP) Walt Petersen, FL; (TY) Takashi Yamaguchi, Japan; and (Ed.) ye editor in Ohio. Thanks to all.

Ordinary people monitored our agencies with scanners, turned out to help evacuate the stricken people—without being asked . . . there have been many other times fugitives have been caught, stolen vehicles found, and lives saved due to ordinary people and their scanners.” Don’s well written message must be shared with those that would take our rights away!

Over the course of the past couple of weeks, we’ve contacted REACT International, Inc., the Louisiana Sports Association, National Sheriff’s Association, Small Business Survival Committee, National Press Photographers Association, The Louisiana Sports Marketing Company, Shadow Broadcast Services, and The National Association of Broadcasters, all of which seem interested in this legislation. Then there are the several dozen mid-sized newspapers on the sponsors home turf that we’ve talked with about this issue. For the media it becomes important when you start talking about the scanners in the newsroom and in the news directors vehicle. News media reps also don’t like hearing about the erosion of rights, especially when it comes to *their* rights to monitor the public airwaves. And believe me, their rights to the public airwaves are, in the minds of the lawmakers, different than yours and mine. I find it interesting that one of the sponsors told me that it isn’t their intent to take away other frequencies, just the cellular frequencies. Of course Washington seems to have forgotten the ECPA they passed 11 years ago—the attempt at passing 2369 is proof again that the ECPA was ill-conceived and is unenforceable—something the radio community told them from the onset! After all, if one law works—the Communications Act of 1934—why does it need a re-write to prevent *listening* when preventing divulgence has worked for years? Seems to be a waste of taxpayer money.

That brings me to an interesting point. The last time I checked, our Congressional representatives worked for us. But in talk-

“ . . . I was able to brand his ‘it’s all in the name of cellular privacy’ reply a very large crock.”

ing to them and their staffers, I get the impression they think it’s the other way around; it’s like they know what’s best for us and they pull no punches in telling us so. Case in point: Ken Johnson is the Communications Director in Billy Tauzin’s office. We talked at length about the bill—or perhaps more accurately, I gave the monitoring publics’ side of the story and he gave the cellular industry position, which of course should come as no surprise to anyone. What I wouldn’t give to do a Vulcan mind meld with these folks! Do they really, truly believe what comes out of their mouth because in their heart they honestly feel it’s “the right thing to do,” or is it because it’s the *paid* thing to do? I think the latter. Talk with those responsible for giving their side of the 2369 story and you get the distinct impression that you work for them; it’s a lot like the privacy issue itself: the burden of privacy is on those nasty electronic stalkers, as Tauzin calls us, not on the industry where it belongs. What’s wrong with this picture? I didn’t elect *Tom Wheeler* of the CTIA or other wheeler-dealers from the cell industry to Congress, did you? We might as well have, because he’s calling the shots. I don’t know about you, but if I were an elected representative, having taken an oath before the American people, I’d be careful who composed my music; before long it’d be downright difficult to remember who paid for what and when.

“What I wouldn’t give to do a Vulcan mind meld with these folks!”

Let’s face it, most Americans are on the side of cellular privacy. Forget the fact that the cellular industry’s guru Thomas Wheeler continues to ignore the common sense way of providing cellular privacy by encrypting the communications—he’d rather create a false sense of privacy by buying legislation. Forget all the previous arguments we’ve talked about; the airwaves are public, the bill violates the spirit of the Constitution, it’s a bad law, and the arguments go on and on. The fact is that if this bill passes, it will indeed be an enforceable law because the FCC will be given authority to deny type acceptance to receivers that include Commercial Mobile Radio Service frequencies—those for-profit communications that Tauzin and company deem off limits. The problem

with this scenario is that the CMRS frequencies are scattered all over the radio spectrum, and in many areas of the country where the spectrum is crowded, include public safety, business/industrial and others that have nothing to do with for-profit comms. Additionally, with allocations changing all the time, what’s CMRS today, may not be tomorrow. But currently, about one-fifth of the entire radio spectrum would be eliminated from scanners; I would imagine an expensive programming job for radio manufacturers.

The bottom line is that we shouldn’t roll over and play dead, letting those that

ARTHUR CUSHEN: 1924–1997

The world of shortwave and shortwave listening lost one of its greatest heroes when Arthur Cushen passed away in New Zealand on September 19. His was a name known and respected throughout the SWL/DX hobby, as well as among the world’s shortwave broadcasters.

His listening career spanned more than six decades! He was an official monitor for many shortwave stations, wrote regular columns and articles on shortwave and was a regular, featured reporter on Radio Netherlands’ “Media Network” program. He was the author of two books: “The World in My Ears” and “Arthur Cushen’s Radio Listener’s Guide.” He had been blind since 1954, but that did not prevent him from continually finding new stations, locating frequencies or spotting schedule changes.

During World War II and the Korean War, Cushen spent hundreds of hours monitoring enemy broadcasts to pick up names of prisoners of war, then wrote to the parents to let them know that their son was alive. Very often that joyous news arrived well before any word from the government involved or the Red Cross. In 1970 Queen Elizabeth made Cushen a Member of the Most Excellent Order of the British Empire (MBE).

Arthur Cushen was the kind of DXer—and person—we should all aspire to be. He will be greatly missed.

work FOR US dictate to us right from wrong. So if H.R. 2369 passes and becomes law, I would imagine it'll be Party Time at the Potomac. Can't you picture Representatives Tauzin, Markey, Eshoo, Manton, Oxley, Gillmor, McCarthy, Wheeler and the others out in a rubber dingy for a self-congratulatory ride down the river each gripping their pagers and cell phones? It's a pretty picture until the dingy springs a leak and they're all plucking their cell phones out of the water, waving their hands like some cartoon in fast forward. But wait, Congressman Manton, the latest to sign on supporting H.R. 2369, brought along his handheld marine radio—just in case. He fumbles for a moment, and calls for help. The lingering question would remain, "Is anyone listening?"

Happy Holidays

The entire *Pop'Comm* staff wishes to take this opportunity to wish you a very happy and healthy holiday season. As we move ahead into 1998, let's count our blessings and make the next year the best ever. Happy Holidays! ■

Pirates Den (from page 40)

Radio Free Euphoria, 6955 USB at 0212 and 0115 with music and parodies. (Wilkins, MO)

Radio One, 6949.9 USB at 0120 with usual oldies music. (Wilkins, MO)

Free Hope Experience, 6956 USB heard at 0205. Major Spook with music and parodies. (Wilkins, MO) **6956.2** at 0220 with ID KFHX (Free Hope Experience) (Mc Clarren)

Up Your Radio, 6955 at 1925 with Blue Ridge address. (Mc Clarren)

Radio Azteca, 6955 USB at 1820 "Playing my music, another form of Montezuma's Revenge." (Pearce)

Radio Fusion Radio, 6955 at 0220. (Love, SC)

Radio Click (tentative ID) **6955 USB** with skit and school talk, Providence address. (Hickey)

6YBOS, 6955 USB with Grateful Dead marathon at 0110. (Hickey)

KAMP, 6955 with X-Files theme at 0050. (Hickey, MI)

Radio One, 6950 at 0000 with 50's and 60s music, IDs. (Hickey)

KOLD, 6955 USB at 0100 with big band tunes. (Silvi)

Voice of Anarchy, 6955 at 2022. Vote for new National Anthem. (Silvi)

WFMQ, 6955 USB with variety of music. (Silvi)

WRKO Shortwave, 6955 USB at 1925 with possible Van Morrison songs. Also at 0150. (Silvi, OH)

Radio Tellus, 6955 USB at 0112. Also 0228, 0042. (Silvi, OH)

Mystery Radio, tentative, 6955 USB at 0258 with music typical of them. No ID. Also 0236 with some flashback songs. (Silvi)

He Man Radio, 6955USB at 2328 with T-shirt offer. (Silvi)

Radio Free Beaver, tentative, 6955 USB at 0142. Also tentative at 0142 in QSO. (Silvi)

Radio USA, 6955 USB at 2310 with top 20. (Silvi)

Orson Wells Radio, 6955 USB at 2330. Says they won't QSL. (Silvi)

Jerry Rigged Radio, 6955 USB at 0206. (Silvi)

Jimmy the Weasel Live, 6955 USB at 2236, live in concert song. (Silvi)

World Parody Network, 6955 USB heard at 0103 with "Amazing Grace," others. (Silvi)

Radio Nonsense, 6955 USB at 0202. "Jo Mama" back with a new ID. (Silvi)

Great loggings, folks! We look forward to more next month. ■

Ham Column (from page 39)

Operating Manuals

The ARRL Operating Manual is the ultimate on-the-air companion. Entire chapters cover licensing, U.S. and international radio regulations, practical on-air techniques for voice, Morse code and other modes, HF and VHF operating, contesting, FM and repeaters, awards, local and DX communications, public service traffic handling, packet, satellites, radioteletype and AMTOR, amateur television and fax transmission, mobile and portable stations, DXpeditions and more. The revised sixth edition includes maps, tables, charts and lists of almost anything you'll need to know to get the most out of your amateur radio activities.

Buying the Right Rig

If you don't have a comprehensive collection of radio magazines, it's difficult to come up with detailed information on radios from three to 15 years old—the ones we can still afford! Enter the *Radio Buyer's Sourcebooks*, in three editions (two for HF rigs, one for VHF/UHF). The Sourcebooks explain what radios do, how well they do it, where to get them serviced and where to find articles about modifications. Handy comparative feature and performance charts cover equipment reviewed in the books. Don't go to a hamfest without them!

Just for Fun!

Although most hams enjoy reading almost any book about

amateur radio, there are some books that contain no reference material, training instruction or information listings—but are still fun to read! Adventure and mystery readers should check out the ham radio adventures of teen ham Kim Stafford, KA7SJP. Follow the exploits of Kim and her friends through four adventure titles penned by Cynthia Wall, KA7ITT. Look for *Night Signals*, *Hostage in the Woods*, *Firewatch* and *Easy Target*. All four are great for hams and nonhams alike.

The late Walker Tompkins, K6ATX, wrote a classic ham radio adventure series starring another teen superham, Tommy Rockford. Check out *SOS at Midnight*, *CQ Ghost Ship*, *DX Brings Danger*, *Death Valley QTH*, *Grand Canyon QSO* and *Murder by QRM*.

Your Collection

There are, of course, many more books of interest to hams, and new titles and technologies come out all the time. CD-ROM titles are amazingly useful and compact, and the ham radio resources on the Internet are indispensable. If you have Web access, the complete listing of ARRL ham radio publications can be found at <<http://www.arrl.org/catalog/>>. Advertisements in SWL and amateur radio magazines will keep you informed about what's available. Your local ham radio store or dealers at ham-fest and flea markets probably carry several interesting titles.

If you're like most hams, you'll eventually find yourself accumulating a well-stocked bookshelf. Aside from a transceiver, antenna and licensed operator, no ham station is complete without a ham radio library!

As usual, send your letters, questions and photos to me at ARRL, Department PCN, 225 Main Street, Newington, CT 06111. Happy holidays! ■

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The Loose Connection

BY BILL PRICE, N3AVY

RADIO COMMUNICATIONS HUMOR

A (Really Bad) History of Cats in Communication

Of course you're not aware of it, but cats have played an important role in communication since the first cave man used a cat to increase the distance over which he could be heard by carrying a cat with him when he strayed far from his cave. Instinctively, when the cat was set down on the ground, it would immediately position itself so that our club-carrying friend could not help stepping on its tail the very next time he moved his foot, resulting in that baleful wail which cat-owners often hear in their own homes—particularly in the kitchen, after dark.

I find it interesting that cats have never lost that instinctive ability to pick the most dangerous place to rest. Perhaps it's a sign that we will once again use cats to communicate during the inevitable great power outage predicted by so many emergency-generator manufacturers.

There are several cats around my own component storage shed and literary mecca—two inside, and up to six or seven outside at any given moment. While at least two of the outdoor cats have played see-saw on a rotatable dipole of mine, it's usually only the indoor cats who have a background in communication, so we'll concentrate those two—Patsy and Boomer. Since Patsy is the normal cat, and except for when she smashes something and aims all the evidence to point to her brother, she is a relatively uninteresting creature. Never does much beyond purring and eating. Oh—and that litter business.

No, Boomer is far and away the more interesting cat. It was Boomer (motto: "you drop it, I'll eat it") who turned on my computer and autodialed my internet service provider (he steps on the power-strip and bats the mouse around), and it was also the girthy one who has turned off my computer—while I was writing, dismissing into the ether several pages of the finest prose ever known to man—by stepping on that same switch.

He has spent the night in my laptop carrying case, and while that may sound cute, I must mention that he sheds more than any other living creature with the possible

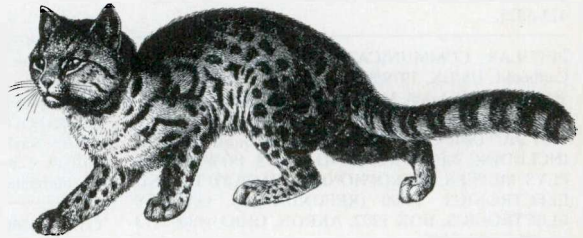
exception of an aging Yeti. In summer. In Ecuador. To that end, this black creature—who really looks like a small yak, has kept me vacuuming, brushing, picking, patting masking tape, and using every known static-cling pet-hair-removing device known to Harriet Carter, Ron Popeil, and mankind in general. His fur is both conductive and corrosive, yet when wet it can short-circuit the terminals of a nine-volt transistor radio battery, causing an acrid smoke reminiscent (I'm told) of a midnight execution in Texas, but with more chance for a resultant fire.

I know this doesn't sound like a communication story, and you may wonder if I have made radios using Boomer's whiskers. I can assure you that my son tried that with a thoughtfully clipped whisker from our previous cat, Helen, and then because of his embarrassment over the matter, never came to ask me why the radio didn't work until several weeks later.

No, even as early as this morning, our cats have played an active part in our household communication, when they knocked the receiver off the bedroom telephone, then repeatedly stepped on my face to tell me that some woman was saying, "If you'd like to make a call, please hang up and try again."

Boomer has read most of the product warranties—including the fine print of my expensive electronic gadgets, learning which of the more sensitive digital pieces are warranted against damage from casual static discharge and which are not. He then seeks out those unprotected devices with uncanny accuracy while dragging a long, satin ribbon across our only wool rug until he abruptly pulls back his head from the pain of having a spark jump from his nose to the antenna-terminal of our new stereo receiver.

I must now disconnect my key, my microphone, and place my transceiver in "standby" before taking even a momentary break from operating in my ham



shack, because I have consistently returned to find Boomer experimenting with my Vibroplex "Bug" or electronic keyer. With the bug, I merely figure he's annoyed people on or near the frequency; on those occasions he's found an unintended electronic keyer, I must wait the requisite number of days until I can be certain I'll *not* receive a notice of violation from the FCC for transmitting an SOS on amateur frequencies when no actual distress existed. There was also the episode of his standing on the push-to-talk switch and purring for a friend of mine who had left his receiver on the frequency after I'd signed off.

Because I can't open the window in my ham-shack/office/computer room, I am forced to operate with the door closed at all times, or risk the threat of cat-paws turning up virtually anywhere while I am operating. Boomer has even caused me to take his name in vain into a waiting microphone, and while such utterings are no longer a serious offense, it's something I'd rather not do.

I have brought my little laptop computer into bed with me tonight, so that through the magic of telecommuting, I can whisk this column off to Mr. Technology, Harold "Soup-Cans-and-String" Ort in time for his upcoming deadline. My internal modem hums and beeps while making connections via never-neverland, sending the printed word flawlessly through copper and fiber optics to its ultimate destination with digital precision and hi-rate error checking accuracy while Boomer is safely locked out in the living room. Hey! Who left that door open? Get him out of xsvdghgjo2poi939u89vmc;a3ejm%098kljmmm.qf wjri% opmoeijf,xopj <no carrier. ■

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"Over 19 hours* of use from the rechargeable lithium ion battery!"

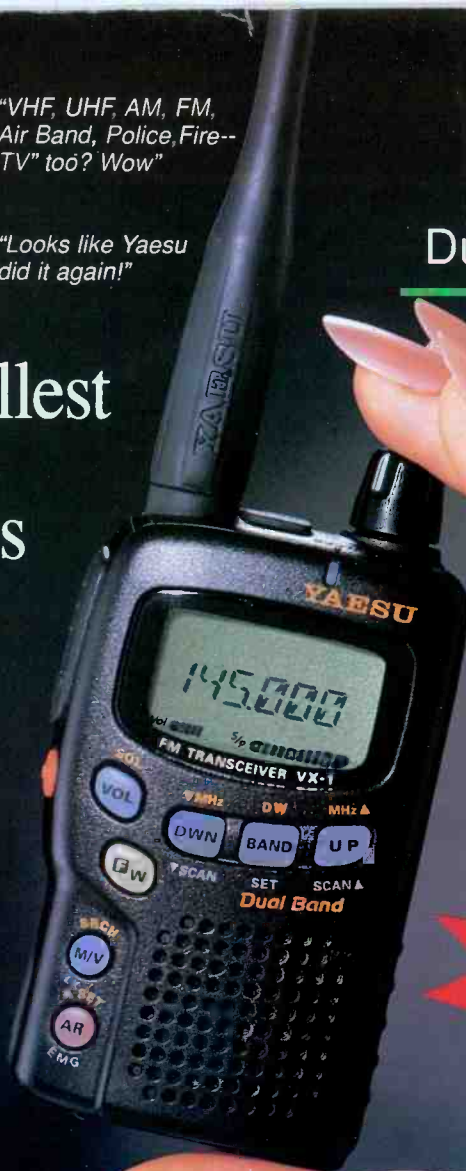


"VHF, UHF, AM, FM, Air Band, Police, Fire--TV" too? Wow"

"Looks like Yaesu did it again!"

The world's smallest HT with all the high-tech features you'd want in the world!

The ultra-compact size of the VX-1R Dual-Band is the first thing you notice as you cradle it in your palm. But the high-tech features make this radio one you must have now! Simple combinations, using seven buttons and one knob, control this marvel of engineering. One soft key touch, and wide receive VHF/UHF--76~999 MHz RX (except cellular); 144~148, 430~450 MHz TX, or AM/FM Broadcast, Aircraft, Police, Fire--even TV, spring to life! Touch again for Yaesu-exclusives, SmartSearch™ and ARTS™, or Priority Channel Alarm. Built-in CTCSS and DCS Encode/Decode for 2m/440 amateur bands, CTCSS/DCS Tone Search, and Dual Watch, are included along with 291 Memory Channels in 9 banks with 500 mW power output. Backlit LCD Display shows 6-character alphanumeric capability; backlit keypad makes operation easy in dim light. And, although the VX-1R is the world's smallest dual-band HT, you get over 19 hours* of use with just a 1 hour recharge from its long-lasting lithium ion battery! Big features, small size--the most satisfying combination in the world!



VX-1R

Ultra-Compact Dual-Band Handheld

Actual Size Shown
1 7/8" x 3 3/16" x 1 5/16"

Features

- Frequency Coverage
 - Wide Multi-Band Receive
 - RX: 76~999 MHz**
 - TX: 144~148, 430~450 MHz
- AM/FM/TV Broadcast Receive
- AM Aircraft/Public Safety Receive
- CTCSS Encode/Decode
- DCS Encode/Decode
- CTCSS/DCS Tone Search
- Dual Watch
- SmartSearch™
- Auto Range Transpond System™ (ARTS™)
- Priority Channel Alarm
- ADMS-1D Windows™ Programmable
- 1 Watt External Power Supply
- 80 Minute Rapid Charger
- Flexible Antenna, Belt Clip, Hand Strap

**Cellular blocked

*Battery Life: 5-5-90 duty cycle.

FT-50RD
Compact
Dual Band
Handheld



FT-51R
Dual Band
Handheld



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Boyz for Test

Optoelectronics Presents

Techtoyz™

\$99

Micro DTMF Decoder

Introducing the all new Techtoyz Micro DTMF Decoder. The Micro DTMF Decoder, housed in a pager style case, is ideal for portable, hands free operation. With its built-in microphone, DTMF tones are automatically decoded from the signal source of tape recorders, receivers, two-way radios, etc... Tones are displayed on the Micro Decoder's 12 digit LCD display and automatically stored in the 2000 character non-volatile memory for review.

The Micro Decoder has a built-in audio input allowing for easy connection to any receiver's speaker output. The all new Micro DTMF Decoder from Optoelectronics; The Best in Test.

Patent No. 5,471,408

FEATURES

- Pager Style Case with belt clip
- 12 Character LCD display
- Internal microphone for radio speaker or tape recorder
- Line audio input jack for direct connection
- 2000 character Non-Volatile memory
- 200 hour operation from single AA alkaline battery
- Auto blank insert function after 2 second delay
- Left and Right Scroll in recall data mode
- Auto low battery shutdown and data save

Optoelectronics pioneered the market of high quality and performance in a small size with our revolutionary Handi-counter® line of portable, handheld frequency counters. We are again ready to pioneer the market by proudly introducing the latest in technology for frequency counters, the Techtoyz Micro-Counter. The new Techtoyz Micro-Counter. The smallest frequency counter in the world, housed in a pager style case, yet still featuring the quality and performance you would expect from an Optoelectronics product.

Micro Counter

FEATURES

- Pager Style Case with belt clip
- 12 Character LCD display
- 10MHz - 1.2GHz range
- Auto hold
- 10 -12 Hr. operation from AA Alkaline battery
- Sensitivity! <25mV @ 150MHz
- 3 selectable gate times for increased resolution

Performs best when used with the TMC-100 rubber duck antenna (\$9.)

\$99



Patent No. 5,471,408

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