

# POPULAR COMMUNICATIONS

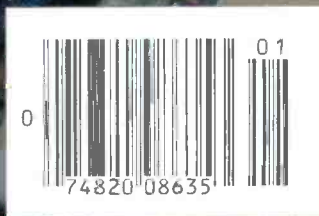
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JANUARY 1991

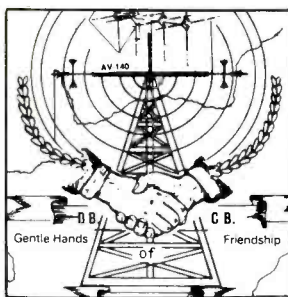
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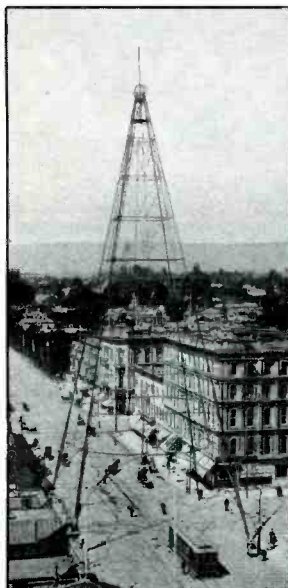
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**This month's cover:** USA—Houston, TX. Police radio dispatch and computer control system. Photo by Larry Mulvehill.

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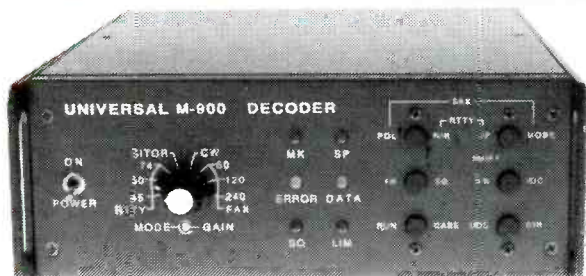


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- ◆ Sitor Mode A (ARQ)
- ◆ Sitor Mode B (FEC)
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## A Ring of Truth

Last New Year's Eve was spent at a house party where one of the guests had brought along a small pocket-sized cellular phone. Many times during the evening he had occasion to use the thing, right in the midst of the festivities. One time, he even waved his arm at the other party-goers and asked us to "please hold it down" so he could hear some information well enough to furiously copy it into a little notebook.

I didn't know this guy, but assumed that, at the very least, he was a physician on emergency call who was valiantly trying to grab a couple of hours of relaxation but found his dedication to duty getting in the way. Checking with the hostess, I was surprised to learn that the chap was an executive at an aerospace company.

At that point, I realized how recent developments in telecommunications technology have redefined socially acceptable behavior. The public is now faced with establishing and learning a whole new code of manners related to using and dealing with cellular phones, as well as beepers, call waiting, answering machines, voice mail, cordless phones, three-way calls, junk calls, telemarketing, 900-lines, 540-talk lines, computer networks, caller ID, BBS's, modems, call forwarding, FAX machines, and maybe even FAX waiting. Thusfar, they're pretty crude and awkward at using this stuff.

Maybe this aerospace guy felt that he needed to keep checking with the babysitter to see if Junior was asleep. He probably could have used the landline for that. Or he could have just stayed home and watched the little tyke himself if he was really so concerned.

Certainly, unless he was NASA's man in charge of hydrogen leaks or UFO sightings, it didn't seem to me that there could have been too many vital aerospace matters that required his constant personal attention on New Year's Eve. The opinion of the other partygoers was that he was just showing off by repeatedly dialing up the recorded weather information and pretending he was on important calls; the whole thing being nothing more than his way of saying, "Look at me and how busy and important I am. I'm Mr. Big. Even at a party I still have to conduct business." Everybody thought he was a total boob. It was unanimous. Other than when I accidentally dropped the plate of chicken cacciatore on the lady's new white carpeting, this character was easily the biggest laugh of the entire evening.

But when I got to thinking about it, I realized that while some of us in communications have been accused of eating peas with a knife and drinking hot coffee from a sau-

cer, when it comes to the etiquette of using high tech stuff, we still have it over most of the public. Civilians have a lot of catching up to do with us in this area.

Have you ever gone for a quiet dinner at a restaurant, only to find yourself seated near someone at another table incessantly chatting on a cellular? What's worse, they're usually speaking at a sound level sufficiently loud to disturb all diners within a radius of 15 feet. It's happened to me too many times. But you've never seen someone in a restaurant take out a 2 meter ham band handheld or a scanner and begin using it during a meal, have you? We comms folk are definitely too refined for such antics.

Don't get me wrong, I have no problem with people driving with or walking down the street yakking on a cellular, or using them at business meetings, or even at a business lunch. I once went to a business lunch at a jam-packed restaurant where the waiter was painfully slow throughout the entire meal, but had totally abandoned our table when it came time to bring the check. All efforts to catch his attention having failed miserably, one of our crew produced a cellular from an attache case. Dialing up the restaurant, he got the manager's office on the line and discreetly reported the poor service at our table. Within minutes, the manager personally delivered the check, minus the cost of the cellular call, along with profuse apologies and a small gift for each of those at our table. This usage seemed appropriate to all of us.

But, taking a cellular to a party or a wedding? Unless someone is a physician or a police or fire officer on call, it's really tacky to show up at a social event with a cellular, or even a beeper. Can you imagine taking a ham band walkie-talkie or a handheld scanner to such an event? How uncouth!

Personally, I can recall many weddings and family gatherings I've suffered through where I'd much rather have been listening to a scanner or chatting on the radio. But, sudden bursts of static that knock out shortwave station ID's have had a beneficial effect on hams and SWL's. There are some things that we radio folk have learned to endure with a certain amount of stoicism. It's practically an Element in most FCC operator exams. The public has yet to deal with such communications adversities. What do these people know? They buy a radio to talk; they talk how, where, when and as loud as they want. They use any gross words they feel appropriate, and discuss subjects that we'd never think suitable for on-the-air exposition.

However, times change. Maybe the rude-

ness that I perceive in the public's use of its new telecommunications toys will eventually become the national behavior norm. There are many more members of the public than there are of us, and they're the ones that set the behavior patterns for our society. Could easily be that, all too soon, everybody will be showing up with cellulars and routinely chatting on them at length at family gatherings, concerts, the movies, the theatre, sports arenas, golf courses, graduation ceremonies, the beach, parties, funerals, religious services, in quiet dinner restaurants, and nobody will be twisting around in annoyance to get a look at the weirdo talking on the radio.

But for now, most people who are so busy and important that they can't tear themselves away from the phone for a couple of hours should stay at the office, or in their car, along with their cellular and a bottle of *Maalox*. Sorry, but I'm not at all impressed, and I'm also not alone.

They're trying to get laws passed in both California and Florida that would ban cellulars in movie theatres. Wometco, which owns eighteen movie theatres in Florida, has already instituted their own ban on cellulars in their facilities. The Coconut Grove Playhouse in Florida, which features live theatre, openly requests patrons to check their cellulars along with their hats and coats. Florida now bars cellulars from the State Senate and House floors, as well as from the visitors galleries above. You really would have hoped that common sense and courtesy would have governed the public's use of these things without the need for actual bans, restrictive laws, and signs at the door.

Hey, I'm all for change. Should gabbing on cellulars at parties, theatres, restaurants, etc., become socially acceptable, I'll attend the next wedding and be sure to bring along my trusty handheld scanner or 2 meter walkie-talkie. I'd much rather listen to even a pizza delivery dispatcher on my scanner than sit one more time through my Aunt Harriet's obligatory singing of the *The Wedding Song* accompanied on the cello by her twelve year old granddaughter.

In the meantime, if Mr. Big from the aerospace company is in attendance at this year's welcoming festivities for 1991, I've vowed to casually get a look at his cellular early in the evening in order to find out its call-up number. Then we're all going to have some fun ringing . . . and ringing . . . and ringing in the new year.

Here's hoping you have the merriest of holidays, and our best wishes go out to you for a great 1991!

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## NEW

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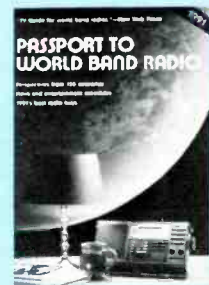


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# MAILBAG

## LETTERS TO THE EDITOR

Each month we select representative reader letters for our Mailbag column. We reserve the right to condense lengthy letters for space reasons. All letters submitted for consideration must be signed and show a return address. Upon request, we will withhold sender's name should the letter be used in Mailbag. Address letters to Tom Kneitel, Editor, Popular Communications Magazine, 76 North Broadway, Hicksville, NY 11801.

### California Dreamin'

A few words of thanks for the article in September on monitoring the California Highway Patrol. As one of the rare beings born and raised in California, I was pleased to see the CHP getting more exposure than reruns of "that" TV show. The CHP still uses "low band" frequencies because of the vast expanses of their patrol areas. All CHP units also have small repeaters that rebroadcast base and mobile transmissions to officers using handhelds. These operate on 154.905 MHz. If you pick one of these up on your mobile scanner, it's probably too late to slow down; if you look in your rear view mirror you may even see flashing lights. Good work on your story.

Tony Colonello,  
Adelanto, CA

I recently purchased my first copy of *Popular Communications* and was pleasantly surprised to find it of great interest and full of valuable resource information. I am an avid scanning fan, and I was delighted to see the cornucopia of information you presented. I read with interest your story on the California Highway Patrol, and would only add that it may also be of interest to monitor 154.905 MHz. This is a vehicle extender frequency.

Bill Burke,  
San Diego, CA

My monitoring specialty for ten years has been the CHP, and your September CHP article was spectacular. It offered the first look I have had at the new proposed assignments and changes going into effect. Note that the CHP system is going through changes and some of these assignments might not be implemented until a year from now. As usual, your coverage is great.

Bruce Lloyd,  
Los Angeles, CA

I am writing in regard to the article on CHP. I would have written sooner, but I

have been laughing so hard it was difficult to type. You should get a big towel for Rick Maslau, because he has egg on his face. The article is a farce, riddled with inaccurate information.

Gary Webbenhurst,  
RCMA Editor for Public Safety-California,  
Sacramento, CA

### Still On The Air

There's a happy ending to the sad note on coastal station KFS. In the August issue, it was reported that Western Union was taking this station off the air. A group of local investors in the San Francisco Bay area have now purchased the station and are continuing its operation, 24-hours a day, every day to serve maritime interests.

Gary R. North, President,  
KFS World Communicationhs,  
P.O. Box 56,  
Half Moon Bay, CA 94019

For those of our readers into ute monitoring, KFS presently runs CW on: 4274, 6365.5, 8444.5, 8558.4, 12695.5, 12844.5, 17026, 17184.8, and 22515 kHz. SITOR operations are on 4351, 6495.5, 8706, 13072.5, 17198.5, and 22562 kHz. Traffic lists go out half past odd numbered hours (UTC). This station has been on the air continuously since 1934. It's good to know that it will continue in operation. —Editor

### Mixed Signals

I monitor the Bronx (NY) FD dispatcher on 154.19, and the handhelds on 154.07. When the dispatchers say "mixer on," I can hear the complete conversations on 154.19. When they say "mixer off," I know that something confidential is taking place because all I can hear is the the dispatcher's side of the conversation. This is also true on the Fire Marshal's frequencies of 460.575 and 460.625. Do the handhelds switch to another frequency or use a voice scrambler?

Vernon Henninger,  
Bronx, NY

"Mixer on" means that the paired handheld and mobile frequency (which is 154.07 in the Bronx) is being repeated through the dispatcher's base station transmitter. Sometimes they want to achieve a degree of confidentiality, so they operate "mixer off," which means only that the base station stops rebroadcasting the transmissions from the input frequency. The dispatcher has numerous remote receivers that can pick up the

low powered portables. If you're within a mile or two of the action, you might also be able to pick up the missing conversation by just monitoring the input frequency (154.07). Actually, the NYFD uses this system on all of its VHF and UHF paired frequencies. They go to "mixer off" when they are discussing an injured firefighter, describing an arson suspect, or speaking about something especially gory such as fatalities. It's not done only to conceal the comms from scanner owners. The FD is aware that fire trucks at the scenes of fires tend to play their radios at a high volume, and they don't want the crowds in the street to hear everything via the truck radios. —Editor

### Listening To The Locals

Enjoyed the August *Beaming In* when you wrote about listening to local station as you drove around from one place to another while on vacation. This gave me the idea that maybe you would enjoy listening to some English stations. With this in mind, I compiled a tape cassette made up over several days from stations hereabouts. It includes the BBC's Radio 3, the new BBC Radio 5, Radio Leeds, Radio York, Radio Norfolk, Radio Humberside, Radio Lincolnshire, Classic Gold, and Viking Radio.

Simon J. Mason,  
England

It was a wonderful tape, Simon. Many thanks for sending it along. —Editor

### A Note From Desert Shield

SWL'ing has been my hobby for years, but I never thought I'd have to depend upon shortwave as my sole source of fresh news. The VOA is jammed by Iraq, but we would still like to express our appreciation to VOA for what does get through. While listening to RCI, I heard a program consisting of short messages from the folks at home to their loved ones overseas. Maybe you could get the VOA to adopt this idea as it's a big morale booster to those of us of Operation Desert Shield.

SSGT Mike Manning,  
222-44-6930,  
363rd Tactical Ftr. Wing, Transportation,  
Deployed (Desert Shield),  
APO New York 09853

Hey readers, how about dropping Mike a letter, card, or QSL to let him know that we're thinking about him? Would take you only a few minutes and mean a lot to him. We spoke to a contact of ours at the VOA and they requested that we send them a copy of Mike's letter. —Editor

PC





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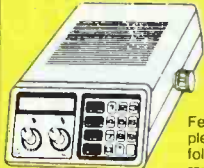
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# Scanning Overseas Drug Wars

***Around The World There's A War Taking Place:  
Monitor It On Your Scanner!***

BY CHUCK ROBERTSON

**Y**ou know about the war on drugs, it's in the headlines and on the TV news all of the time. You may regularly listen to the "good guys" on your scanner as they do battle on

the home front. But it's really a worldwide conflict.

Battles are being fought in secluded jungle laboratories just as much as in urban

crack houses. As much in distant coca plantations as in the mountains of northern California.

In this special *Popular Communications*

report, you learn some of the active frequencies and frequency ranges that will put you in on much of the action overseas. And, we'll even see a few little-known local frequencies that you'll want to try.

### **The Colombian Connection**

You can't get too much closer to this war than by monitoring for the activities in Colombia. News reports from this tropical nation mention it on a daily basis. Government officials and police fighting the powerful cocaine cartels are routinely assassinated along with countless bystanders who happened to be in the wrong place at the wrong time. The vast riches accrued from the sale of illicit drugs have permitted the drug lords to employ private armies that are large and deadly.

By monitoring VHF low band (30 to 50 MHz) skip, I've been able to listen in on these wars taking place in Colombia. Several aircraft frequencies have proven to be active over a lengthy period of time: 36.35, 36.85, and 46.85 MHz. Mentions of Medellin, a major drug center, aren't unusual. The language is mainly Spanish, although some English has also been heard.

I've heard the pilots on these frequencies on bombing runs to hit coca plantations and processing labs hidden deep in the Colombian mountains and jungles. Press reports have accused the military of avoiding the best targets.

Several VIP escorts have been carried out on 36.85 MHz. It could be a Colombian/US



*Security operations in Panama are popular fare on scanners.*

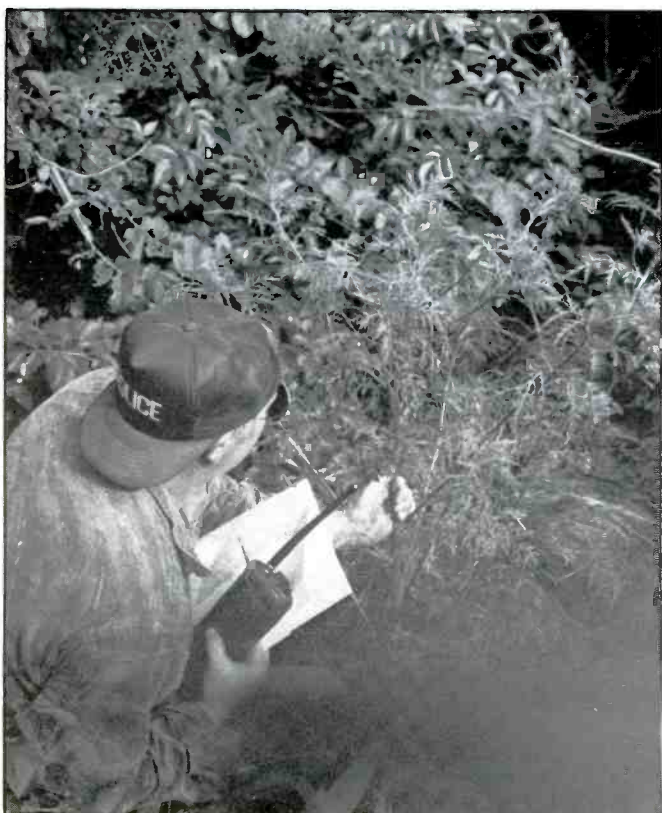
liaison channel. "Are you in contact with SAM-1 now?"

There are control tower comms on 36.50 MHz.

US military ops in Colombia and Panama are on 40.00 MHz. One base ID's as "San Andreas," possibly located on the Caribbean island of that same name. Another base, ID'ing as "Portobello, is at Portobello,

Panama. I'm not positive these comms activities are related to the drug wars, but there are lots of aircraft involved. One aircraft asked to switch to 300 MHz. The language is usually English.

There is, of course, a US presence in the Latin American drug wars. DEA agents, Army Special Forces, and other US personnel are there along with lots of high tech hard-



*Don't overlook your local police when monitoring the war on drugs.*



*Airports, especially small out-of-the-way ones along our southern borders, are often used for bringing in smuggled drugs.*

ware. Plans are for joint drug war military ops run by the US, Colombia, Peru, and Bolivia. That should bring about lots of communications to monitor. Keep watching the pages of *Popular Communications* for more information as active HF and low band scanner frequencies are reported.

## Panama or Bust

General Noreiga may have been hauled off to a jail cell in the US, but he left behind a well oiled drug operation, fully staffed, that looks to have remained very much in business. This Central American nation continues to be a convenient stepping stone for smugglers on their way north.

The Panamanian military was disbanded after the extraction of Noreiga. The responsibility for law enforcement is now in the hands of police, called the Panamanian Defense Force. Former Noreiga personnel are still being phased out of the PDF. American military personnel are also active in Panamanian security.

I regularly intercept the comms of US/Panama security patrols on the VHF low band. Toucunim Base, which is south of Panama City, has been heard on 37.90 MHz. Other bases on this frequency are Pakora Station and San Juakeen. Roving patrols have two-digit numerical ID's.

Every day at noon, though, they switch frequencies. You have to search the low band for that day's frequency.

A US base known as "Fort Apache" has been noted for several months on 44.15 MHz. It may still be there as you read this, so give it a try. Listen for other ID's also used here like "Panama Base" (Southern Command), "Sabre 1" through "Sabre 9" (these are MP's), PDF or FPD (Panama Defense Force), and "Rebel 25."

There are about 12,000 US troops permanently stationed in Panama. If you listen when skip conditions are right, plenty of security comms are there for the monitoring.

Skip conditions permitting, it's quite possible to monitor Central and South America most of the daylight hours from North America. Program your scanner to search 30 to 50 MHz and try your luck.

## War At The Home Front

Well, you don't have to look far or too hard to locate drug war communications in your own backyard. The new 7th Edition of Tom Kneitel's *Top Secret Registry* is the ultimate guide to the myriad of frequencies currently in use by the DEA, Customs Service, Coast Guard, and others engaged in this war. And, don't forget to also keep an ear peeled on frequencies used by your local, county, and state agencies, as they're also in this war.

A good frequency (nationwide) to watch is 166.4625 MHz, which is common to all branches of the Treasury Department. The local police in a community not far from me have regularly used this frequency for surveillance for more than ten years. Who

## Low Band Skip Log: Winter '91

- 30.00 US mil, Panama, clear & DES, "Banana," "Monkey Head." Also some SS mil, clear & time domain, "Puerto Norte."
- 30.05 US mil a/c on standby: "Proud Eagle" & "Y7S."
- 30.15 USN "USS Constellation to beach craft." Also FF mil w/some EE: "You are using the wrong frequency, over."
- 30.30 US a/c "Zero Romeo" 4 mi. N of Mexican border, alt. 4,000 ft.
- 30.475 Security Service, San Salvador, El Salvador.
- 30.55 USN "Red Catskill."
- 30.80 Repeater out keys up on noise.
- 31.25 FF from France, tone burts after transmissions.
- 31.375 USAF, Lakenheath, England. Transportation squad.
- 31.38 Canadian trawlers on pirate frequency. Nanaimo Harbor & Notch Narrows, both on coast of British Columbia.
- 31.45 USN, Pacific: "Texas Jake," "Tac 4," "Bubblemum." Also used 31.30 MHz.
- 31.85 Repeater out. Mexican State & Judicial Police.
- 32.10 USN FACSAC, Pacific Coast Fighter Squadron ID'ing as "Black Lion." Also tried UHF 250.2 MHz.
- 32.30 SS from Guatemala. Also Papiamento from NWI.
- 32.45 USN EOD ops in Pacific. Also on HF 5051 kHz USB. ID's include "Nav Control," & "Snare Drum Echo." See August '90 PC, p. 17. An SS mil here ID's as "Station 2."
- 32.60 Honduran comms. Talk about police investigating theft of "mucho pesos."
- 32.75 US/Mexican border: "Pyramid Base," "Sentry 112," "X-12." Border Patrol?
- 32.90 "USS Enterprise to Team 1."
- 32.95 US mil personnel training Panama Defense Force, clear & DES: "Echo 36," "Echo 42," "Victor 42," "Victor 55."
- 33.25 US MP's, Panama "Check Point 2, "Gold 1, "Blue 1," clear & DES.
- 33.35 US mil, Panama, "We have the graphics." ID's: "Kilo 19," "Kilo 55," "Victor 10."
- 33.875 Repeater out (39.875 in). A new Central American transmitter sometimes rebroadcasts US PD's on 39.88 MHz.
- 34.60 Colombian police, Medellin area. Base & mobiles.
- 34.80 SS mil, time domain scrambling & clear.
- 34.85 & 36.85 US mil security, Panama: "Pack 1," "Pack 2."
- 35.15 & 35.30 FF repeaters, probably police.
- 36.00 Joint war games, US & a Latin American nation. EE ops: "Team 13."
- 36.10 US a/c: "It's clear over St. Thomas."
- 36.30 US mil security patrols, Panama. Base is "Hammerhead," mobiles are "Hammerhead 1" through "10," also "Crocodile 76," "Brass 25," "Battalion 48," "Amador," "Panama Base." Could this have any connection with the USS Hammerhead?
- 36.50 Helos in Panama, US mil: "There might have been gunfire. We're not sure he's alright." Also SS from San Francisco, El Salvador.
- 36.70 SS mil, ID's as "Falcon."
- 37.00 SS mil, ID's as "Rojo" & "Guatemala 6."
- 37.18 Dominica security patrol: "Alpha Papa 14."
- 37.65 SS mil, clear & time domain: "Lucky."
- 37.85 & 38.40 SS mil, time domain.
- 37.90 SS "Central Control, San Juan." May be highway department in Puerto Rico.
- 38.10 FF mil, could be West Indies.
- 38.20 SS mil security patrol, "Campo Ortega" in Nicaragua.
- 38.30 EE, Hispanic mil: "Whisky 62" & "Mike 21."
- 40.04 Repeater out (37.26 in), in SS from Colombia. Picks up US skip.
- 40.25 US mil, Central America: "The ambush was good. Interrogate the prisoners. ID's were: "Lima 13," "Quebec 28," clear & DES.
- 40.45 SS police patrols.
- 40.50 SS from Catragena, Colombia. Also "Dispatch, this is Army Aircraft 453." Suspect it was Howard AFB, Panama.
- 41.00 SS mil, Palmerola AFB, Honduras. Base security. EE also spoken.
- 41.05 SS kil, some EE. ID as "Foxtrot 55 Romeo."

knows if they're supposed to be there? The same town also uses 154.54 MHz for the same purpose. This is a Business Radio Service low power channel, and this agency isn't licensed for its use.

A reader in a northern Illinois community reports monitoring police surveillance on the frequency 154.50 MHz, which isn't allocated for the use of any radio service. It's sandwiched between Special Industrial and Business Radio Service channels.

A South Florida resident reports federal surveillance between 72 and 76 MHz.

Monitor all listed frequencies, but also be

creative. Put your scanner into search/scan mode and see what you can find. There could be a narcotics stakeout right in your own neighborhood. You'll never know about it unless you're tuned in.

### **Seabrook Surveillance**

Not long ago, I located some exciting surveillance comms on 32.30 MHz. Three teams of security personnel kept a watchful eye on the activities of persons at an airport or helicopter pad. Anything suspicious was radioed to the base station, which used the ID of "Seabrook." "A black Mercedes just

pulled up to the LZ," was a typical observation. LZ usually stands for Landing Zone or Loading Zone.

During one incident, a blue compact sedan pulled up, the driver got out and tossed a package over the fence, then drove off in a hurry. The package was quickly picked up, carried into a waiting helicopter, and flown off in a northerly direction.

Communications were fast and furious as mobile security units chased the blue vehicle through a community that sounded to me like "Farmers Branch." If so, that would put the action in the Dallas-Fort Worth (TX) area. In fact, the big Dallas-Fort Worth Regional Airport is only four miles from Farmers Branch.

Clear voice and DES scrambling were used, and a reference to an HF channel was often made. Bases were "Seabrook Base," "Seabrook Forward," and "SOTG." Mobile ID's were all similar to "Papa Victor 91," "Papa Victor 92," etc.

Exactly where and what is this activity? It struck me as a federal anti-drug operation. And what was in the mysterious package tossed over the fence? Was it something smuggled across the US/Mexican border? This is now a major drug corridor into the US. Any ideas?

### **Look, Up In The Sky!**

Land mobile surveillance operations often utilize aircraft too. They are useful in spotting marijuana planting fields, following vehicles, checking out remote areas, etc. These aircraft can use standard VHF/UHF land mobile frequencies. In Illinois, surveillance aircraft are often heard on 154.95 MHz, which is used by the Department of Criminal Investigation.

Sometimes more than one aircraft is used in a surveillance, and they might be heard in contact with one another on a VHF aero band channel. Check frequencies between 120.0 and 123.575 MHz.

Some agencies, like the Customs Service, use the UHF aero band. As noted in the latest *Top Secret Registry*, Customs Service aircraft have also been reported on 165.7375 MHz.

The Air National Guard has been monitored participating in surveillance activities related to drug activities, especially when they relate to state and federal lands. Almost any frequency might be used. In Illinois, I've monitored the Air National Guard conducting marijuana eradication operations on 47.00 MHz.

Unicom and Multicom frequencies not in use by airfields in your area should be given special attention. For example, the Illinois State Police sometimes have their aircraft on lightly-used high-altitude Unicom channel 122.975 MHz. I monitored them there during tree-top level marijuana spotting operations.

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# Shortwave's Hottest Hotspot!

## Radio And The Gulf Crisis

BY GERRY DEXTER

Nothing succeeds in kicking the shortwave radio bands into hyperdrive like a good world crisis. And Iraq's Saddam Hussein created a doozy when he sent his forces into Kuwait last August 2. Tanks and transmitters are facing off in a duel of wills and wattage. Perhaps no other event since World War II has seen so many countries involved in a single effort, either through military, financial aid and/or other assistance. The same holds true for shortwave broadcast activity. The bands are hopping with activity.

This look at the current shortwave picture as it relates to the Gulf crisis is subject to the double whammy of an always changing shortwave picture and a dynamic situation relative to the Gulf, the mideast and all the players involved. By the time you read this new elements may have emerged, new broadcasts may be on the air or the times and frequencies of others may have been adjusted. Still, there should be much in this guide that will be of use to the shortwave listener who wants to monitor the international goings-on related to the Gulf. Here's our overview, country-by-country.

**Kuwait:** Radio Kuwait, long one of the area's friendliest and best heard broadcasters no longer exists. Soon after Iraqi forces crossed the border into Kuwait the station began to suffer from Iraqi jamming. The situation called for help from other Arab countries and those who are members of the Gulf Cooperation Council. The Iraqis soon had control of the studio facilities in Kuwait City, but some Radio Kuwait staff members managed to get a makeshift studio on the air from a transmitter site, probably at Kabd, southwest of the city. Most of Radio Kuwait's shortwave frequencies were noted carrying these emergency transmissions, including 6055, 11990, 13610, 13620, 15245, 15490, 15505, 17895 and 21675. These further appeals for help, in between music and dead air, continued until 1111 UTC on 3 August when the frequencies went silent, according to BBC Monitoring. Some days later Radio Kuwait transmitters began to carry Radio Baghdad programming, initially just on local medium wave and later on some of Radio Kuwait's short-



Radio Kuwait went off the air on August 3, 1990.

wave frequencies, notably 13610, 13620 and 15495. One report indicates the Iraqis "cleaned out" Kuwait's international service, taking tape recorders and other equipment back to Baghdad.

According to a source in Bahrain, the Kuwaiti government in exile is on the air on about 657 kHz. The Saudi Arabian government had promised the exile government access to facilities and so this may be it. Egypt was also going to provide facilities but, as of early fall, it was unclear as to whether this was in place yet. So far as we have been able to tell the Kuwait government in exile is not using any shortwave frequencies, though it's an even bet that will happen sooner or later.

**Iraq:** Radio Baghdad can probably put the confiscated Kuwaiti broadcast equipment to good use. Baghdad radio isn't noted for its professionalism.

The special service to US troops in Saudi Arabia is on the air on 13660 from 1000-12000, 1600-1800 and 2000-2200. This frequency suffers from a great deal of QRM—mostly from Radio Moscow—so monitors here haven't been able to follow much of the "go home to your mother/wife/lover" broadcasts. Incidentally, a station identi-



One of the last frequency schedules published by Radio Kuwait.

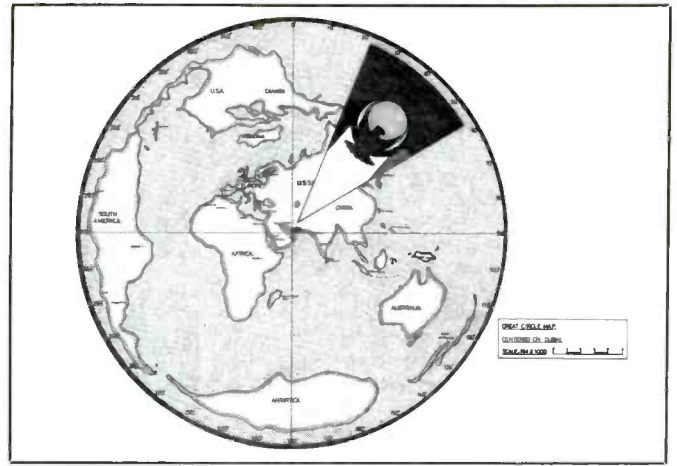
fying itself as "ARRF" has been observed by a couple of monitors transmitting morse code on top of the Baghdad broadcast. The message says "Sadamm(sic) Hussein is a butcher, Sadamm Hussein is a murderer, Sadamm Hussein is a rapist, Sadamm Hussein murders women and children, Sadamm Hussein will burn in hell. Nuke Baghdad, nuke Baghdad, nuke Baghdad." "ARRF" is apparently an unlicensed station.

Radio Baghdad's North American service is scheduled at 0130-0330 but, again, is seldom heard really well. Recently used frequencies are 11755, 11810 and 11830. Baghdad may be using music as another propaganda tool. According to some re-

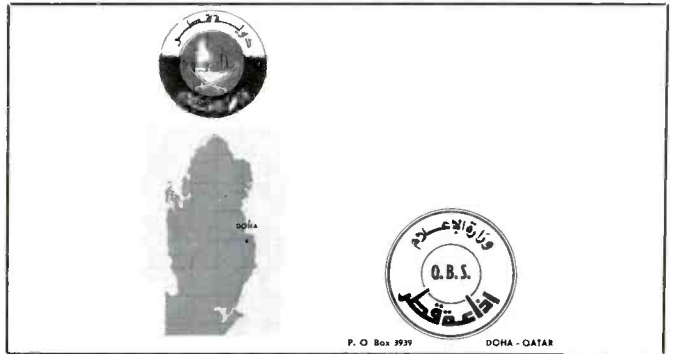




This 1982 QSL from Iran focuses on the Iran-Iraq war. Times change!



You can tune in on English broadcasts from UAE Radio in Dubai. (QSL thanks to Larry R. Zamora, ND)



Only Arabic language programs can be heard on the Qatar Broadcasting Service.

ports the station is playing songs like "Re-united" and "Ain't No Stoppin' Us Now."

Baghdad's broadcast facilities are also carrying an anti-Egypt program, the Voice of Egypt of Arabism (Sowt Misr al-Urubah), scheduled from 1830 to 2000, though, typical of Iraq on shortwave, the broadcasts often don't begin or end at the scheduled times. The programs urge Egyptian citizens to strike against what the station calls "imperialist" and "Zionist" elements inside Egypt and are also critical of Egyptian President Mubarak. Another program using this name aired via Baghdad from 1977-1982, broadcasting programs critical of Anwar Sadat.

What's believed to be still another Iraqi broadcast is Holy Mecca Radio which claims to be from Hejaz, a Saudi province which includes Mecca. The broadcasts, in Arabic, air from 0400-2200 on 9730, although receptions have also been made on 9718v and 9720v. US based monitors have noted it poorly at times around 1500 and 2100. It is an anti-Saudi station and is being jammed, presumably by the Saudis.

**Saudi Arabia** appears not to have added anything, radiowise, in response to the Iraqi threat. Despite its humongous bank account, the government's Broadcasting Service of the Kingdom of Saudi Arabia doesn't have much in the way of an English lan-

guage or North American service and is seldom heard well here. English is scheduled from 1600-2100 on 9705 and 0720. Other services include Arabic between 0300-1700 on such frequencies as 6000, 7220, 7275, 7280, 9570, 9720, 11935, 15140, 15435 and 21505, though none are active for the entire period. Arabic is also on at 1900-2100 on 9725 and 11935. The Holy Koran Service airs at 0800-2130 (except 1400-1500) on such frequencies as 6020, 7150, 9705, 9720, 9870, 9885, 15170, 21505 and 21655 at various hours.

**Egypt**, too, seems to have kept its broadcasting at normal levels, at least the official side, anyway. English from Radio Cairo can be heard (complete with its poor modulation) from 0200-0330 to North America on 9475 and 9675. English to other target areas airs at 1215-1330 on 17595, 1630-1830 on 15255, 2030-2200 on 15375 and 2115-2245 on 9900. The all-Arabic Holy Koran Service is on from 0200-1000 and 1200-2200 on 9755. Cairo also broadcasts in Arabic to North America—to the east coast at 0030-0330 on 9900 and to the west coast at 0330-0430 on 6195, in addition to an extensive schedule in Arabic and other languages for various parts of the world.

**Great Britain:** The BBC has added extra Arabic hours to the nine plus it was al-

ready carrying. Arabic now begins at 0330 on the additional frequencies of 12040, 13745 and 17695.

As it did during the Falklands War, the British Forces Broadcasting Service (BFBS) returned to shortwave via BBC transmitters in England and Cyprus. BFBS is airing a 30 minute program of DJ'd rock and pop and personal messages from family and friends at home. The broadcasts are at 0200 on 7125, 9640 and 13745; 0930 on 15205, 17695 and 21735 and 1330 on 15195, 17695 and 21500 or 21735.

**United States:** The Voice of America began suffering from Iraqi jamming early on (so are the BBC, Radio Cairo and Voice of Turkey). To counter this the VOA is switching its relay sites and changing frequencies. More hours of Arabic have been added: The morning Arabic service has been extended by an hour, now at 0330-0630 and evening Arabic now runs from 1600-2200. Arabic language newscasts have been added hourly between 1100-1500 on 11705, 15105, 15225 and 17810. The VOA is also carrying US State Department advisory messages intended for US citizens still in the area. Between the 13 hours of Arabic and 11 of English the VOA is now broadcasting to the middle east around the clock.

**Soviet Union:** So far as we can deter-

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Egypt has a large force in Saudi Arabia and is the target of Iraq clandestine broadcasts.

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mine, Soviet broadcasting has not reacted to the crisis with any additional activity. Radio Moscow did increase the number of Arabic hours to the middle east back in July, however. Arabic runs from 0400-0500 and 1400-2200 on a wide number of frequencies between 5905 and 21800. Radio Station Peace and Progress broadcasts Arabic to the middle east at 1430-1500 on over a dozen frequencies.

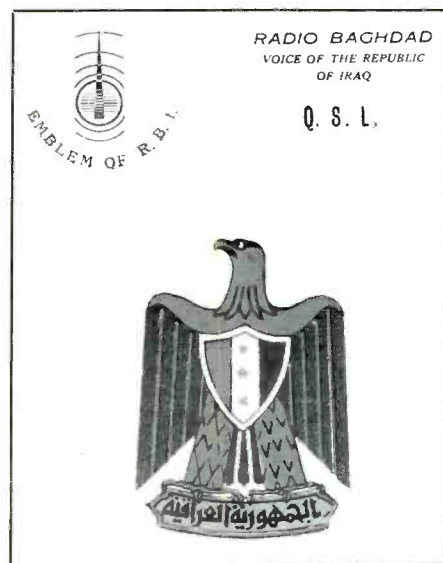
**Syria:** Radio Damascus is airing Sowt al-Iraq (Voice of Iraq), an anti-Saddam broadcast in Arabic at 1700-1800 and 0300-0400 on 12085. Radio Damascus can be heard with English to Europe at 2005-2105 on 12085 and 15095 and to North America on 15095 at 2110-2210.

**Jordan:** King Hussein finally got Radio Jordan going on shortwave again a couple of years ago. But, despite its 500 kw transmitters, it isn't well or consistently heard here. English is on from 1100-1315 on 13655 and 1320-1630 on 9560. Much of the broadcasts consist of relays of domestic English medium wave and FM outlets. New airs at 1100 and 1500. Jordan Radio also carries several BBC programs.

**Iran:** There's been little broadcast reaction noted from Iran, either, though, if the rapprochement with Iraq holds up, we may see the Iran-based, anti-Iraq clandestines shut down. The Voice of the Islamic Republic of Iran (VOIRI) seems to have recently added an additional English broadcast—at 2200-2230 on 6080 and 15084. Other English broadcasts are at 1130-1225 on 9575, 9705, 11715, 11790 and 11940. Also at 1930-2030 on 6035 and 9022. English from Iran has never provided a reliable North American signal.

**Israel:** A spectator in this affair (so far) Is-

raeli broadcasting hasn't made any moves either. Israel does not have an Arabic external service on shortwave, it merely relays the Arabic home service (Program D) from 0040-2215 on 5900. Kol Israel, the overseas service, has half hour programs in English for North America at 0000, 0100 and 0200 on 9435, 1605 and 12077. Other half hour English segments air at 1100 on 11585, 15650, 17575 and 21790; 2000 on 11605, 12077, 15640 and 17630 and 2230 on 9435, 11605, 12077 and 17575. 15 minute English newscasts go out at 0500 on 9435, 11605, 15640 and 17575 and at



Radio Baghdad has ignored QSL requests over the past few years and now, of course, mail service has been discontinued.

1800 on 11585 and 11655.

**United Arab Emirates:** UAE Radio in Dubai has English at 0330 11945, 13645, 13675, 15400 and 15435; 0530 on 15435, 17830, 17865 and 21700; 1030 and 1330 on 15320, 15435, 17865 and 21605, as well as a 40 minute broadcast at 1600 on 11795, 15320, 15435 and 21605.

We don't know if there's any connection, but shortly after the crisis began the Voice of the UAE in Abu Dhabi appeared to drop its English broadcast which had aired from 2200-0000 on 9600 and 11985. Arabic is now heard at those times.

**Turkey:** The Voice of Turkey is maintaining its schedule, in Arabic to the mideast at 0930-1000 and 1500-1600 on 11955. English to North America airs at 2200-2300 and 0300-0400 on 9445.

**Oman:** Radio Oman broadcasts only in Arabic. Scheduled on 6085 at 0200-0400 and 1900-2130, 7270 at 1600-1800, 9735 at 1400-1900, 11730 at 0400-1400, 11890 from 0400-2130, 17735 from 0800-1700 and 17770 at 0200-0800.

**Qatar:** The Qatar Broadcasting Service has no English on shortwave either. Check for its all Arabic broadcasts from 0245-0700 and 1700-2030 on 11820, 1300-1700 on 17705 and 0700-1300 on 21460.

Several other countries outside of the middle east have increased their broadcasts to the region:

**Japan:** Via Africa Number One in Gabon, Radio Japan is airing broadcasts to the

middle east in Japanese at 0200-0300 on 15325, 1000-1100 on 21530 and 1200-1400 on 21700. English is on the air at 1100-1200 on 21530, 1400-1500 and 1700-1800 on 21700. Radio Japan is carrying Arabic at 0930-1000 on 21530.

**Canada:** Radio Canada International has added some Arabic within its French/English transmissions to the middle east. These are on at 0330 on 11770 and 0430 on 15275, both via the facilities of Radio Austria International.

**Spain:** Several months before the invasion Spanish National Radio jumped the number of its Arabic hours to 28 per week. The increased hours are at 1700-1900 on 15395 and 21595 and 2100-2200 on 11790, 11890 and 15395.

**Holland:** Radio Netherlands increased its Dutch language broadcasts to the middle east, adding segments at 1330 on 17605 and 21530 and at 2230 on 9860. This is in addition to the standard offerings at 0330, 0530 and 0730. Arabic airs at 0530 and 1730.

**Australia:** Radio Australia has added a special broadcast to the mideast in English at 1300-1500 on 17630 and 21755.

**Denmark:** Radio Denmark has added two half hour broadcasts, at 1230 and 1430, in Danish on 25730, via Radio Norway.

**Sweden:** Radio Sweden has increased its broadcasts to the area. It airs in Swedish at 0400-0615 and at 1300, 1800 and 2200,

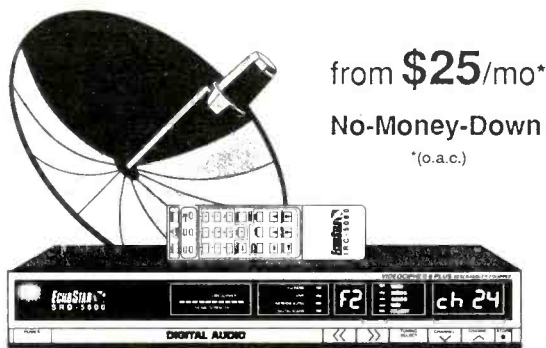
all on 21660.

**Thailand:** Before the crisis began Radio Thailand had place on its schedule the "Program For Thai Workers in the Middle East," which is scheduled Tuesday, Thursday and Saturday at 1500-1530 on 9655, in Thai. It's not one we're very likely to hear.

So, it doesn't take a genius to see there's a lot of gulf-related shortwave activity. And a careful tune through the international broadcasting bands any day or evening will turn up more. You can hear bubble jammers on many frequencies, perhaps not all of them operated by Iraq. One can't always tell, though, just what's being jammed. You are likely to find any number of Arabic broadcasts which don't fit the times and frequencies form any know transmissions of that kind. These unidentifieds could be new outlets on the air, clandestines or simply new frequencies being employed by one of the major broadcasters. The longer the crisis continues the more we are likely to see still more countries making extra moves. Germany, for instance, has now committed military personnel and by now Deutsche Welle has Radio Berlin International's ten short-wave transmitters to play with!

While most people monitor the moves and countermoves through CNN and the other networks, we have that extra advantage of shortwave radio to take us there. The bands are alive with activity so get the receiver turned on and help yourself to some of the most interesting listening! **PC**

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# Selected English Language Broadcasts

Winter 1990-91

BY GERRY DEXTER

**N**ote: There are hundreds of English language broadcasts aired every day on shortwave. This is a representative listing and not intended to be a complete guide. While the listing is as accurate as possible, stations often make changes in their broadcast hours and/or frequencies, often with little or no advance notice. Some broadcasters air only part of the transmission in English or may run the English segment into the next hour or more. Some stations have altered schedules on weekends. Numbers in parenthesis indicate a starting time for English that many minutes past the hour. All times are in UTC. *Special note:* At the time of compilation it was not known how much longer Radio Berlin International would continue as a separate entity. Also, Radio Norway International was expected to add a Saturday English broadcast to their former Sunday only schedule. It is not known if the Saturday broadcast will be aired on the same schedule as the Sunday English transmission.

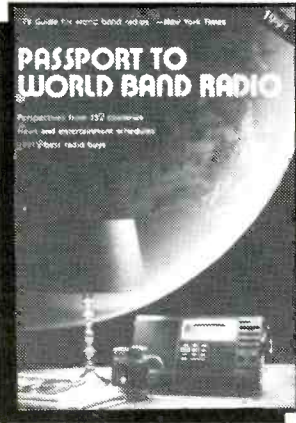
Time	Country/Station	Frequencies
0000	R. Moscow	9530, 9600, 11710, 11730, 11930, 11980, 12050
	Voice of America	5995, 9775, 9815, 11580, 11740, 15205
	R. Prague Int'l	7345, 11680, 11990
	R. Beijing	15100, 17705, 17855
	HCJB, Ecuador (30)	15155, 17855
	R. Budapest (30)	6110, 9520, 9585, 9835, 11910, 15160
	Kol Israel	9435, 11605, 12077
	R. Havana Cuba	11760, 11820
	R. Pyongyang	15115, 15160
	R. Korea	15575
	Christian Science Net	9410, 9850, 13670
	R. Netherlands (30)	6020, 6165, 15315
	R. Vatican (30)	9605, 11780, 15180
	R. Yugoslavia	7215, 11735, 15105
	KUSW	6175
0100	V of Germany	6040, 6145, 9565, 11865, 15105
	R. Berlin Int'l (45)	6080, 11690, 13610, 13670, 15240
	RAI, Italy	9575, 11800
	Spanish National Radio	9630, 11880
	Voice of Greece (30)	9395, 9420, 11645
	R. Prague Int'l	5930, 7345, 11680
	Kol Israel	9435, 11605, 12077

Time	Country/Station	Frequencies
0200	R. Canada Int'l	9535, 9755, 11845, 11940, 13720
	R. Japan	5960, 17765, 17810
	Swiss Radio Int'l (15)	6095, 6135, 9775, 9885, 12035, 17730
	R. Austria Int'l (30)	9870, 9875, 13760
	R. Romania Int'l	5990, 9510, 9570, 11830, 11940, 15380
	RAE, Argentina	11710
	V of Free China, Taiwan	5950, 9680, 9865, 11740, 11860, 15345
	R. Havana Cuba	11820
	Swiss R. Int'l	6095, 6135, 9725, 9885, 12035, 17730
	Radiobras, Brazil	11745
0300	Radio Tirana (30)	9500, 11825
	R. Yerevan, Armenia (50)	15180, 17665, 17690
	WWCR	7520
	R. Sweden (30)	11705, 15295
	R. Korea (30)	6165, 9640, 15575
	R. Portugal (30)	9600, 9680, 9705, 11840
	R. Cairo	9475, 9675
	V of Free China, Taiwan	5950, 9680, 9765, 11745, 15345
	R. Prague Int'l	5930, 7345, 11680
	R. Beijing	9690, 11715, 15100, 17555
0400	R. For Peace Int'l, Costa Rica	7376USB, 13630, 21566
	Swiss Radio Int'l (15)	6135, 9725, 9885, 12035
	R. Netherlands (30)	6165, 9590
	TIFC, Costa Rica	5055, 9645
	R. Tirana (30)	9500, 11825
	R. Botswana	3356, 4830, 7255
	V of Turkey	9445
	V of Germany	6085, 9545, 11800, 15205
	R. Berlin Int'l	6080, 9730
	R. Cultural, Guatemala	3300
	HRVC, Honduras	4820
	TWR, Bonaire	9535, 11930
	UAE Radio (30)	11940, 15400, 15435, 21675
	R. Sofia	11720, 11735, 11750, 15290, 17825, 17835
	V of Greece (40)	9395, 9420, 11645
R. France Int'l	7135, 9550, 9790, 9800, 11705, 11995, 15135, 15155, 15300	

Time	Country/Station	Frequencies	Time	Country/Station	Frequencies
0400	R. Romania Int'l	5990, 9510, 9570, 11830, 11940, 15380	1200	AWR, Costa Rica	9725, 11875
	R. Moscow (30)	12010, 12030, 12050, 13605, 13645, 15180, 15425, 15455, 17700		R. Ulan Bator, Mongolia	9755, 12035
	R. Prague Int'l	5930, 7345, 11680		R. Pyongyang	9600, 9977, 11735
0500	R. Beijing	11685	R. Tashkent, Uzbek	11850, 12025 (exc. Tu, Fri)	
	R. Havana Cuba	9710, 9750, 11760, 11820	R. RSA, S. Africa	5995, 6020, 6035, 6060, 6080, 7215, 9580, 9710, 11910, 15465, 21825	
	Swiss R. Int'l	6135, 9725, 9885, 12035	R. France Int'l (30)	7355, 9640, 11785, 15470, 17745	
	AWR, Italy (30)	7230	R. RSA, S. Africa	9555, 11805, 11900, 17835	
	R. New Zealand	17675	R. France Int'l (30)	9805, 11670, 15195, 15425, 17650, 21635, 21545	
	V of Germany	5960, 6120, 11705, 11845	R. Beijing	9530, 11660, 15450, 17855	
	Spanish National Radio	9630	R. Norway Int'l (Sun)	15165	
	UAE Radio (30)	15435, 17830, 21700	R. Canada Int'l	9635, 11820, 11855	
	R. Beijing	11840	BRT, Belgium	17555, 21810	
	HCJB, Ecuador	15155, 17875	R. Bangladesh (30)	15195, 17850	
0600	Kol Israel	9435, 11605, 15640, 17575	V of People of Cambodia	9695, 11938	
	R. Austria Int'l (30)	6015	V of Vietnam	9755, 12035	
	V of Nigeria	7255	R. Yugoslavia	17740, 25795	
	GBC, Ghana (30)	3366, 4915	R. Pyongyang	9325, 9345, 9640, 13650, 15230	
	R. Australia	6035, 11880, 13700, 15240, 15465, 17630, 21525, 21740, 21775	All India Radio (30)	9565, 11760, 15335	
	Voice of America	3990, 6035, 6080, 6125, 7280, 9530, 9540, 9575, 11915	UAE Radio (30)	15320, 15435, 17865, 21605	
	R. Sofia (30)	11720, 15160, 17825	R. Peace & Progress, USSR	11870, 15180, 15480, 15560, 17635, 17730, 17805, 17835, 21505	
	R. Havana Cuba	11835	R. Finland Int'l	15400, 21550	
	TWR, Monaco (40)	9480	R. Canada Int'l	11720, 11955, 17820	
	R. Norway Int'l (Sun)	15165	V of Vietnam	9840, 15010	
0700	HCJB, Ecuador	9745, 11775, 15155	V of Mediterranean, Malta	11925	
	KUSW	6175	R. Sweden	17740, 21610	
	R. New Zealand (10)	9855	R. Beijing	7405, 11815, 15165	
	V of Free China, Taiwan	5950	R. Japan	11815, 11865	
	HCJB, Ecuador	9610, 11835, 15270	R. RSA, S. Africa	9555, 11925, 17835	
	SIBC, Solomon Is	9545	R. Finland Int'l (05)	15185	
	R. Austria Int'l	6155, 13730, 15410, 21490	R. Polonia, Poland (30)	6135, 9540, 11815	
	R. Netherlands (30)	9630, 9715	KTWR, Guam	11785	
	0800	KNLS, Alaska	11715	KNLS, Alaska	11800
	AWR Europe, Portugal	9760	R. Pyongyang	9325, 9640, 9977, 11760	
R. Korea	7550, 13670	V of Greece (30)	11645, 15630, 17535		
KTWR, Guam (27)	11805	R. Beijing	7405, 11815, 15165		
R. Netherlands (30)	9630, 9715, 9770	R. Japan	11865, 21700		
Swiss Radio Int'l (30)	9560, 13685, 17670, 21695	R. Sweden (30)	17880, 21500, 21655		
0900	R. Australia	5995, 9580, 9655, 9760, 17715, 21775, 21825	BRT, Belgium	17550, 21810	
	R. Berlin Int'l	17875, 11890	V of Ethiopia	9560	
	NBC, Papua/New Guinea	4890	RTM, Morocco (30)	17595	
	R. Korea (15)	9570, 13670	UAE Radio	11790, 15320, 15435, 21605	
	1000	KHBN, Guam	9830	R. France Int'l	6175, 11705, 11845, 12015, 17620, 17795, 17845, 17850
	All India Radio	15050, 15335, 17387, 17865, 21735	R. Pakistan	13665, 15605, 17555, 17650, 21740	
	TWR, Bonaire (55)	11815, 15345	BSKSA, Saudi Arabia	9705, 9720	
	UAE Radio (30)	15320, 15435, 17865, 21605	R. Norway Int'l (Sun)	17765, 21705	
	V of Israel	11585, 15465, 15650, 17575, 17590, 21745, 21780	R. Norway Int'l (Sun)	17765, 25730	
	V of Vietnam	9755, 12035	WHRI, Indiana	13760, 15105	
1100	R. Korea (30)	11715	R. Japan	9695, 11865	
	R. Netherlands (30)	6020, 9505	WMLK	9465	
	R. Finland Int'l (50)	15400, 21550	BRT, Belgium (30)	5910, 13675	
	R. Beijing	17855	Christian Science Net	9455, 17555, 21640, 21780	
	R. Austria Int'l	6155, 13730, 15430, 21490	R. Surinam Int'l	17755	
	R. Thailand (30)	9655, 11905	R. Afghanistan	9635, 15510, 17745	
	VOIRI, Iran (30)	9575, 9705, 11715, 11790, 11940	Voice of America	6040, 9760, 11760, 15205	
	Voice of America	9585, 6110, 9760, 11720, 15155, 15425	R. RSA, S. Africa	7230, 15270, 17765	
	R. RSA, S. Africa	9555, 11805, 11900, 17835	R. Canada Int'l	13670, 15260, 17820	
	R. Beijing	17855	R. For Peace Int'l, Costa Rica	13630, 21566	
1200	HCJB, Ecuador (30)	11740	Radiobras, Brazil	15265	
	R. Jordan	9560	WINB, PA	15295	
	R. Pakistan	17555, 21575	KUSW, Utah	15590	
	Kol Israel	11585, 17575, 21790	VOIRI, Iran (30)	6035, 9022	
	1300	AWR, Costa Rica	9725, 11875	HCJB, Ecuador	15270, 17790, 21470
	V of Vietnam	9755, 12035	R. Portugal	11740	
	R. Pyongyang	9600, 9977, 11735			
	R. Ulan Bator, Mongolia	11850, 12025 (exc. Tu, Fri)			
	R. Australia	5995, 6020, 6035, 6060, 6080, 7215, 9580, 9710, 11910, 15465, 21825			
	R. Tashkent, Uzbek	7355, 9640, 11785, 15470, 17745			
R. RSA, S. Africa	9555, 11805, 11900, 17835				
R. France Int'l (30)	9805, 11670, 15195, 15425, 17650, 21635, 21545				
R. Beijing	9530, 11660, 15450, 17855				
R. Norway Int'l (Sun)	15165				
R. Canada Int'l	9635, 11820, 11855				
BRT, Belgium	17555, 21810				
R. Bangladesh (30)	15195, 17850				
V of People of Cambodia	9695, 11938				
V of Vietnam	9755, 12035				
R. Yugoslavia	17740, 25795				
R. Pyongyang	9325, 9345, 9640, 13650, 15230				
All India Radio (30)	9565, 11760, 15335				
UAE Radio (30)	15320, 15435, 17865, 21605				
R. Peace & Progress, USSR	11870, 15180, 15480, 15560, 17635, 17730, 17805, 17835, 21505				
R. Finland Int'l	15400, 21550				
R. Canada Int'l	11720, 11955, 17820				
V of Vietnam	9840, 15010				
V of Mediterranean, Malta	11925				
R. Sweden	17740, 21610				
R. Beijing	7405, 11815, 15165				
R. Japan	11815, 11865				
R. RSA, S. Africa	9555, 11925, 17835				
R. Finland Int'l (05)	15185				
R. Polonia, Poland (30)	6135, 9540, 11815				
KTWR, Guam	11785				
KNLS, Alaska	11800				
R. Pyongyang	9325, 9640, 9977, 11760				
V of Greece (30)	11645, 15630, 17535				
R. Beijing	7405, 11815, 15165				
R. Japan	11865, 21700				
R. Sweden (30)	17880, 21500, 21655				
BRT, Belgium	17550, 21810				
V of Ethiopia	9560				
RTM, Morocco (30)	17595				
UAE Radio	11790, 15320, 15435, 21605				
R. France Int'l	6175, 11705, 11845, 12015, 17620, 17795, 17845, 17850				
R. Pakistan	13665, 15605, 17555, 17650, 21740				
BSKSA, Saudi Arabia	9705, 9720				
R. Norway Int'l (Sun)	17765, 21705				
R. Norway Int'l (Sun)	17765, 25730				
WHRI, Indiana	13760, 15105				
R. Japan	9695, 11865				
WMLK	9465				
BRT, Belgium (30)	5910, 13675				
Christian Science Net	9455, 17555, 21640, 21780				
R. Surinam Int'l	17755				
R. Afghanistan	9635, 15510, 17745				
Voice of America	6040, 9760, 11760, 15205				
R. RSA, S. Africa	7230, 15270, 17765				
R. Canada Int'l	13670, 15260, 17820				
R. For Peace Int'l, Costa Rica	13630, 21566				
Radiobras, Brazil	15265				
WINB, PA	15295				
KUSW, Utah	15590				
VOIRI, Iran (30)	6035, 9022				
HCJB, Ecuador	15270, 17790, 21470				
R. Portugal	11740				

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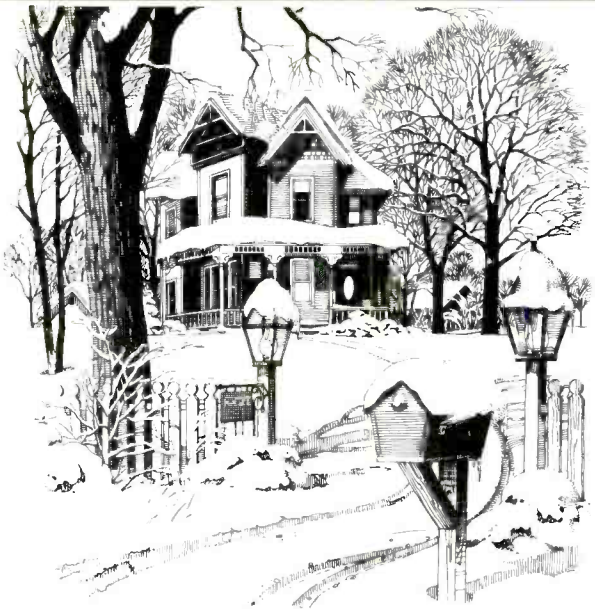
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Time	Country/Station	Frequencies
	R. Japan	11850, 11865, 15270
	RAE, Argentina	15345
	R. Moscow	7240, 9520, 9610, 11930, 12050
	R. Havana Cuba	11800
2000	R. Baghdad	13660
	R. Damascus (05)	12085, 15095
	Kol Israel	11605, 12077, 15640, 17630
	R. Netherlands	13700, 15560
	R. Havana Cuba	17860, 17875
	Radio Cairo (30)	15375
2100	R. Yugoslavia	7215, 9620, 11735, 15105
	R. Peace & Progress, USSR	9470, 9820, 11830, 11880, 11980, 15260
	R. Sweden	9655, 11705
	R. Vatican	17710, 17730, 21650
	R. Canada Int'l	15325, 17875
	HCJB, Ecuador (30)	17790, 21470
	Kol Israel	11605, 12077, 15640, 17575, 17630
	R. Damascus (10)	12085, 15095
2200	R. Moscow	9530, 11710, 11930, 12050, 15290, 15355, 15425, 17605, 17700, 17840
	V of Free China, Taiwan	17750, 21720
	V of Turkey	9445
	R. Berlin Int't	6080, 9730, 11890, 13610, 13670, 15240
	V of America	7120, 9770, 11760, 15185, 15290, 15305, 17735, 17820
	Kol Israel (30)	9435, 11605, 12077, 17575
	R. Vilnius, Lithuania	11790, 13645, 15180, 15455, 15485
2300	R. Sofia	11660, 15330
	V of Greece (35)	9425
	R. Budapest	6110, 9520, 9585, 9835, 11910, 15160
	R. Kiev, Ukraine	11790, 13645, 15180, 15455, 15485
	AWR, Costa Rica	9725, 11870
	R. Norway Int'l (Sun)	15165
	V of Vietnam	9840, 15010
	R. Tirana (30)	9760
	BRT, Belgium (30)	11695, 13675
	R. Canada Int'l	5960, 9755
	R. For Peace Int'l, Costa Rica (30)	7376USB, 13630, 21566

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# Radio: Remembering The Golden Era

## *Tracing Broadcasting & Wireless Through An Earlier Era*

BY ALICE BRANNIGAN

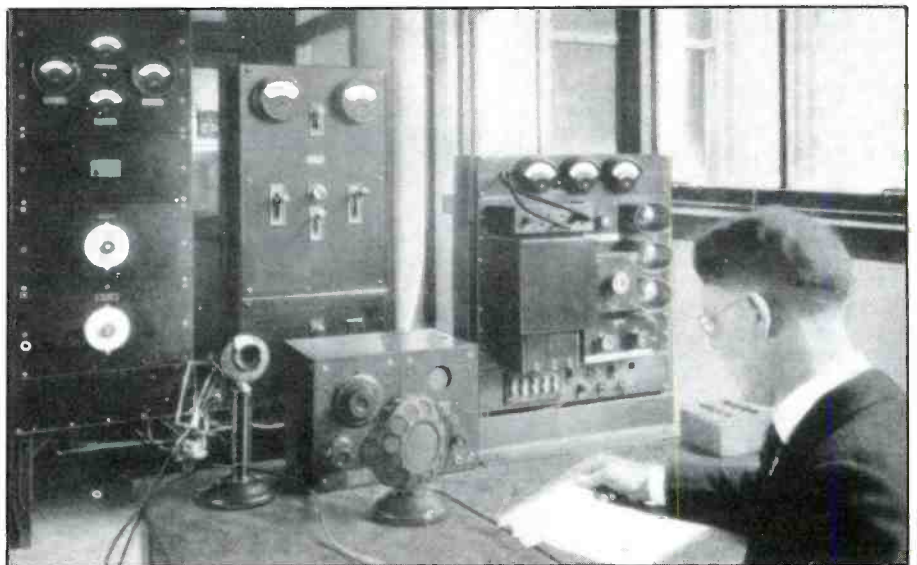
One of broadcasting's old reliables recently turned 70 years old, thus reminding us of yet another claimant to the title of the nation's, or world's (or whatever) first (or first commercial) broadcasting station. It's a no-win debate as to who was really first, with more than a dozen stations pointing to themselves. The confusion lies in what kind of license which station had, and when the license were issued. It's all so confusing and controversial that even the National Association of Broadcasters refuses to dub any single station with the title of "first."

The 70-year old is Detroit's WWJ, since March of 1989 owned by CBS, and running an all-news format with 5 kW on 950 kHz. Last August, the Detroit City Council cut a cake to mark WWJ's birthday, as the station's owners took the occasion to observe that it is the nation's first commercial radio station. They did acknowledge, however, that Pittsburgh's KDKA and others made similar claims. They cited WWJ's start as being August 20, 1920.

Our own research confirms this date as absolutely correct. Under the Experimental call letters 8MK, the station commenced daily programs on a regular schedule at that time. Licensed to *The Detroit News*, and begun as a public service, the station was located right in the newspaper office and was operated under the direction of Charles D. Kelley, who held the title of Department Editor and Supervisor.

The station's original transmitter was a DeForest OT-10 type, running 20 watts. On October 13, 1921, the operation went commercial under the newly assigned call letters, WBL and with a new 500 watt transmitter. Very soon after that, the callsign was changed from WBL to WWJ, with an Experimental authorization issued as 8XO. The station received reports from Panama to northern Canada. By 1936, WWJ had increased its power to 5 kW and was operating on its present 950 kHz frequency.

Recently, Edgar Willis, an early WWJ staff member, told how noisy the studios were in the newspaper building. He said that they used to hang potato sacks on the walls to help quiet the room. He recalled



*An early view of WWJ when it was located in The Detroit News Building. The one-room station had the control equipment mounted on the announcer's wooden desk. The transmitter and power supply are rack mounted and shown to the left, across the room.*

how, one time, the pages of his script got out of order and he was forced to narrate a live program completely from memory. Another time, he had to repeat the entire opening of a program when he realized that the first time he had spoken it all into an unplugged microphone!

In later years, WWJ was moved across the street from the newspaper building, and then (under different ownership) to Southfield, MI.

Our thanks to S.M. Yost, NM8R, of Kalkaska, MI for reminding us of WWJ's birthday and providing us with additional information on this pioneer station.

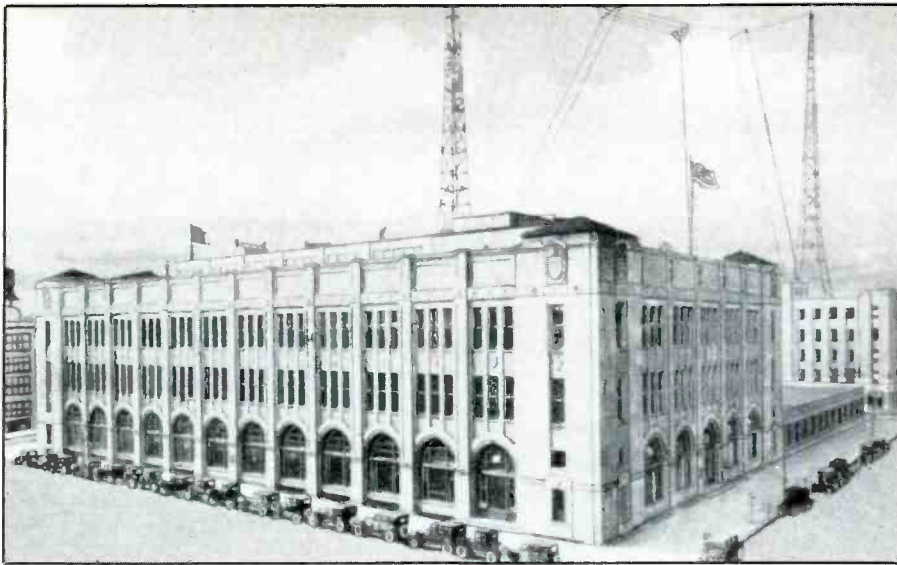
### **Old Business**

In our September issue, we showed you a mystery photo of a rather tall tower built in the early 1900's at a major intersection in San Jose, CA. A reader purchased the photo at a flea market from a vendor who suggested that it might have been an early wireless transmitting facility.

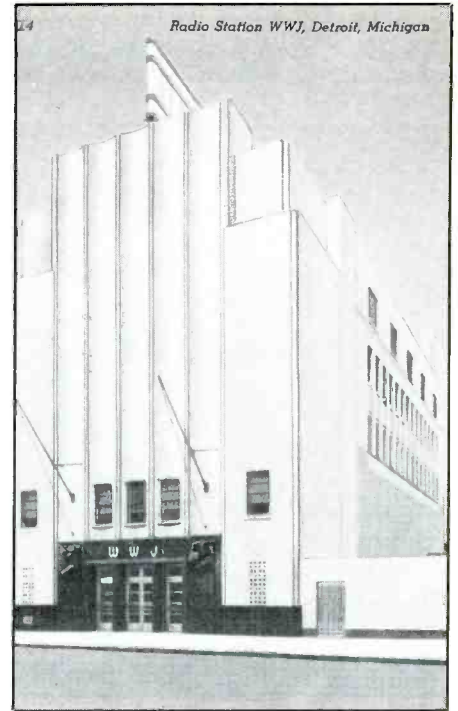
We doubted this usage and took a guess that it was most likely intended to be decorated with electric lights in order to sell the local populace on converting from gas to electric lighting. We asked if readers could provide any definite information on the structure and its use. We got letters, did we ever! At last count more than thirty readers wrote in.

One letter even came in from John H. Atkinson, Communications Director of the City of San Jose. Mr. Atkinson, and the others who were kind enough to write, advised that the tower was built by James Owens, who began publishing the *San Jose Mercury* newspaper in 1861. He eventually became fascinated with science and electricity, and put up the electric tower in 1881. The tower, which was more than 200 feet tall, stood at the intersection of Market and Santa Clara Streets for thirty four years. In 1915 it collapsed during a storm. A miniature of the tower still stands at the San Jose Historical Museum in Kelley Park. So, although we hadn't originally guessed the specifics, we





The Detroit News Building, Lafayette Boulevard at Second Street, was adorned for a time with WWJ's showy antenna system.



WWJ eventually moved into its own five-story art deco building.

*Dear Radio Friend:*

Station WWJ thanks you for your comments on its programs.

The entertainers who give these concerts have been told of your praise of their performances. They wish us to add that they are grateful to you for your interest in them.

May we hear from you again?

Very truly yours,  
The Detroit News

Jefferson B. Webb,  
Station Manager

The HOME newspaper

A 1930's QSL from WWJ was less of a veri than it was a "thank you" card for commenting on their concert programming. (Courtesy Joe Hueter, PA).

WBZ station 1XAE, the end of WBZA at Springfield, also any early Westinghouse shortwave or FM broadcasts, early U.S. shortwave broadcasters, and the Yankee FM Network.

Russ Hamnett, Station Manager of KNAU, Northern Arizona University, Box 5764, Flagstaff, AZ 86011, also seeks help. He tells us that when RCA built broadcasting equipment, they produced a monthly magazine called *Broadcast News*. Russ is very interested in acquiring copies of this publication dated 1955 and earlier. If anybody has copies, or can point Russ in the right direction to hook into some, he'd find it helpful. Russ hopes to use them in connection with his own research, also for courses he teaches in broadcasting history.

### Mid City Tower

In the July and November, 1989 issues we discussed the old WPCH (ex-WFBH),

did reasonably well on its general purpose.

Then, in the October issue, we had an early 1950's mystery photo showing an otherwise unidentified museum and broadcasting studio at Renfro Valley, KY. We wondered if anybody knew what broadcasting activities might have been connected with the place. Several readers did know.

Elbert Tewell, of Carey, OH tells us it was operated by his friend John Lair, of Mt. Vernon, KY. The building is located on the Lair farm in Renfro Valley, and was built so that he could record the *Renfro Barn Dance* held every Saturday night, also Sunday morning church services. He sold the recordings at low prices. Elbert notes that there is a motel, restaurant, and gift shops there. And, when WRVK, in Mt. Vernon, went on the air, they put their studios in the building.

Calvin G. Borders, of North Las Vegas, NV remembers that in the 1940's and 1950's his dad used to listen to Sunday morning services from Renfro Valley, also the Barn Dance program.

Billy Cartwright, Charleston, SC recalls hearing the Barn Dance and religious programs over WHAS/840 kHz in Louisville, KY.

A lengthy letter arrived from Sam Grider, KJ8K, of Cincinnati, OH. He thinks that the barn in Renfro Valley was converted to a broadcasting facility in the late 1930's or early 1940's. John Lair, a Renfro Valley native, returned to the community after some years as a successful broadcaster in Chicago and began putting on his Barn Dance program from the building.

Several stations carried the Barn Dance over the years, including Cincinnati's famous WLW. The program originally featured mostly local talent, but soon attracted hopefuls from many areas. Several went on to successful careers, including Red Foley, and the novelty music team of Homer and Jethro.

Renfro Valley, being located on U.S. Highway 25, is along the main route from Ohio and Michigan to Florida. Eventually Lair put up the motel, general store, and mountain craft complex that became a favorite for travelers. Mr. Lair is deceased, but Renfro Valley is still going strong with live shows every Saturday night. It stands as one of the earliest and most successful permanent remote broadcast studios.

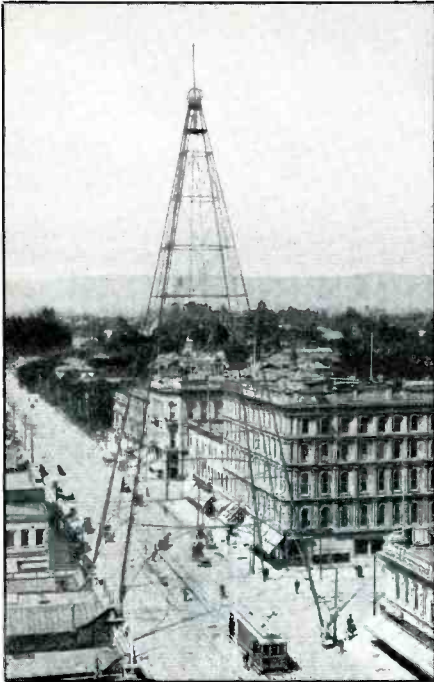
Michael Warren, Springfield, VA sent in a current folder from Renfro Valley, explaining that the broadcasts started in 1939 and outlining the many live country and gospel music performances that continue to take place there. There's a large country music museum there now, along with a picturesque old fashioned Main Street dotted with stores, restaurants, and exhibits. Quite beautiful in every respect.

These and many others who supplied their expertise to identifying these two mystery photos are telegraphed our sincere appreciation for their help.

### Help Ended; Help Wanted

John S. Carson, of Norman, OK sent in a clipping advising that the UCLA Film and Television Archives has shut down its radio archives due to lack of funds and interest. They will continue to store fifty years worth of disks and tapes dating back to 1933, but they won't accept any additional material, nor further preserve existing items. The action was deplored by many radio historians, some of whom feel that the material will eventually deteriorate to the point of being useless, or will be dumped.

G. West, 120 Philips St., Weymouth, MA 02188 is a researcher who would like to hear from readers who have any information or items relating to Westinghouse broadcasting activities (histories, frequencies, etc.). Specific areas of interest are pre-



The big electric tower in San Jose, CA stood at a major intersection until a storm blew it down in 1915. As we had suspected, it wasn't used for any wireless purposes.



The radio tower in the middle of this photo was used by old time station WPCH, which existed in New York City in the 1920's. The tower hasn't been used for more than sixty years, and is probably the last existing AM broadcast tower in Manhattan. (Courtesy Chris Edwards, N.J.)

which was located at New York City's Park Central Hotel briefly, beginning in 1927. We mentioned that WPCH was long extinct (eventually having been merged into WMCA), and that the Park Central Hotel has undergone numerous name changes over the decades (presently it's the Omni Park Central Hotel) but one of the two ancient WPCH broadcast towers still exists in rusting glory atop the building. So far as we are aware, it's the only remaining AM broadcast tower left standing in Manhattan,

although it hasn't been used as such in more than sixty years.

That intrigued Chris Edwards, of Basking Ridge, N.J. So, Chris took his camera and headed into New York City to get a look at this relic. It was still there, whereupon he snapped a photo and sent it along to share with our readers. The WPCH tower stands in the center of the shot.

Chris says the scene in the photo has several broadcasting points of interest. The modern building seen directly behind the

WPCH tower is the home of WINS/1010 kHz, and was also the location of the WMCA/570 kHz studios until the station was sold last May. The building at the extreme right is where WEVD was located when it was on 1330 kHz and 97.9 MHz. When WEVD moved to 1050 kHz not long ago (replacing WHN on that frequency), they relocated their studios to Greenwich Village.

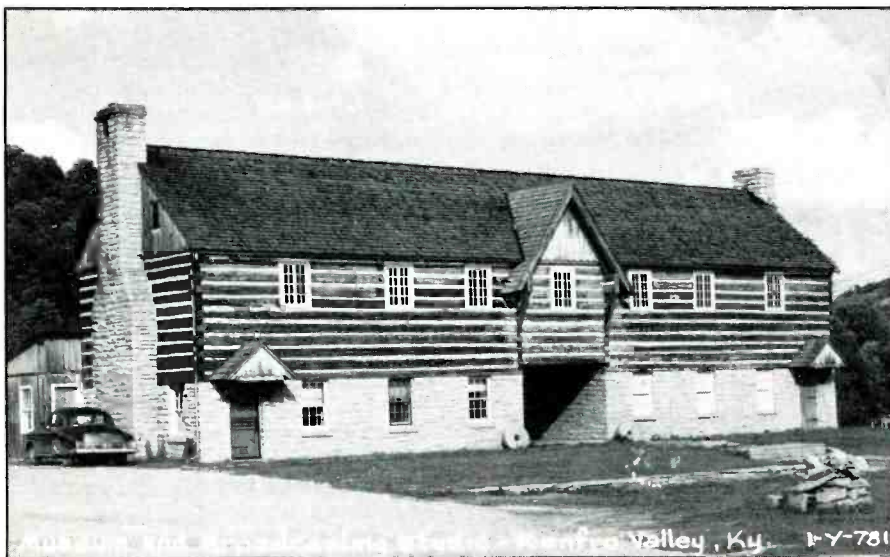
Just for the record, WHN had become all-sports WFAN, and took over the 660 kHz spot on New York City dials when WNBC called it quits a year or so ago. WEVD's old FM slot, 97.9, MHz is now used by Spanish language WSKQ-FM.

### Another Reader Photo

Getting back a little further into history, Ed Ketcham, Jr., of Kihei, Maui, HI sent along a photo he took while visiting his hometown of Babylon, NY. This is only 13 miles to the southeast of the POP'COMM offices, and happens to be the site of Marconi's first American wireless station. The exact site of the station (built in 1899) was two blocks from where Ed lived (he was born in 1913).

Ed snapped a photo of the metal sign that presently exists on the site where Marconi's first American station once stood on Fire Island Avenue in Babylon Village. He recalls Marconi's small wooden building that had housed the station as being about the size of a two-car garage, and set in a sparsely populated area. The village of Babylon, however, is now wall-to-wall houses. Marconi's radio shack is long gone.

Made curious by Ed's letter and photo,



This barn that became a broadcasting studio at Renfro Valley, KY was our October issue mystery photo. That mystery has now been solved, thanks to information provided by our readers.



Existing historical marker at the Marconi site in Babylon, NY. (Courtesy Edward V. Ketcham, Jr., HI.)

we checked further and found that Marconi had built his station in a 12 by 14 ft. shed located in a field belonging to a Mr. Chew. Next to the shed, he put up a 170-ft. wooden mast with a zinc ring (40-ft. in diameter) buried around its base. A wire sloped down from the top of the mast and disappeared into the shed.

Although Marconi had established coastal wireless stations in England, at that time he was known in the U.S. mainly for his on-

the-scene wireless reports of the 1899 America's Cup Races. After the sensation his race reports had created in the press, the Army Signal Corps told Marconi that they wanted him to establish a wireless circuit between the Fire Island Light House and the Fire Island Lightship, which was positioned twelve miles offshore.

Marconi surveyed the situation and realized that Fire Island, where the lighthouse was located, had no landline contact with the shore. He suggested that the station (callsign "BA") be established in nearby Babylon Village, near the shore, so that communications could be handled with the lighthouse (callsign "PR") as well as the lightship.

The original CW equipment used a ten inch spark coil that Marconi had designed for his first permanent station in Britain. The antenna and ground ring were also modeled after his English Channel installation. The receiver had an improved and relatively sensitive transformer utilizing the principle of the Faraday induction coil and a redesigned Branly coherer which fed the signal to a telegraph printer. During the approximate ten year life of the Babylon station, the equipment was modified often.

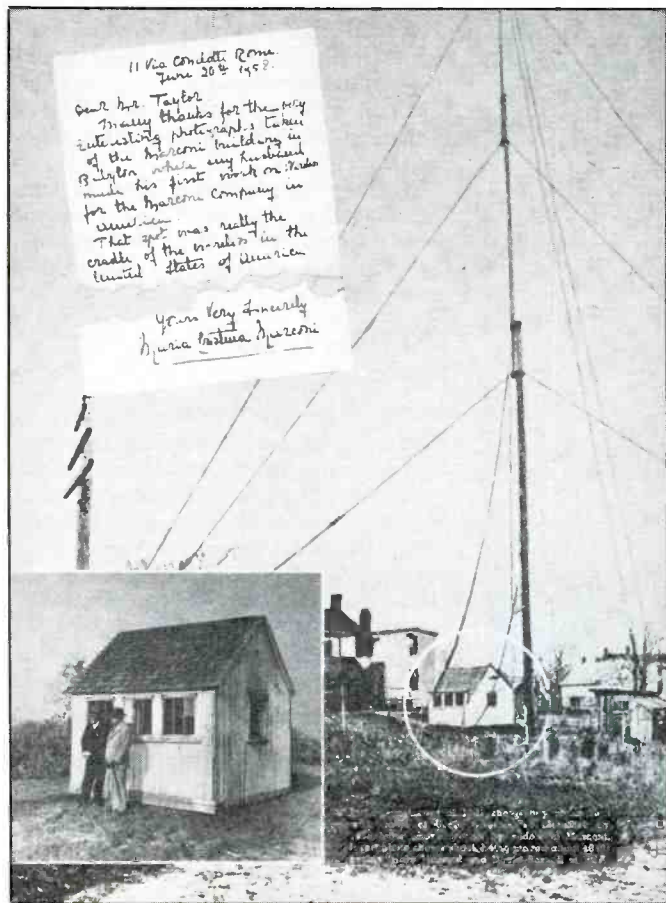
Residents of Babylon regarded the well-dressed Marconi and his strange little wireless shack with bemused curiosity. Still, the station did not welcome visitors and the equipment was guarded closely. The radio

operator Marconi hired was an Englishman who lived in the Chew house with his wife and daughter. He and his family took turns keeping a watchful eye on the shed in order to repel all uninvited visitors.

The Babylon station had been built in 1899, and the following year all it did was engage in testing, experimenting, and sending Signal Corps traffic. Marconi, himself, had gone back to England in 1900 for some experimental work and also to establish the station in Cornwall that (in 1901) would send the first transatlantic signal to Newfoundland.

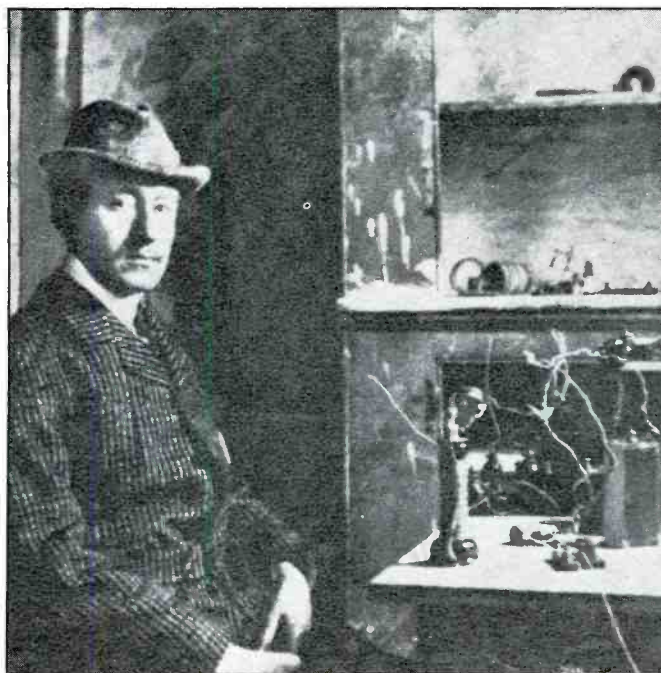
The year 1901 was also when Station BA in Babylon became the first American station to begin communication with ships at sea. When Marconi set up his Wireless Telegraph and Signal Company, Ltd., in England in 1898 he was interested only in wireless communications between lighthouses and lightships. He had no thought then of generating revenue by transmitting commercial messages. It was only after Lord Kelvin insisted on paying commercial telegraph rates that Marconi realized the commercial possibilities of his facilities.

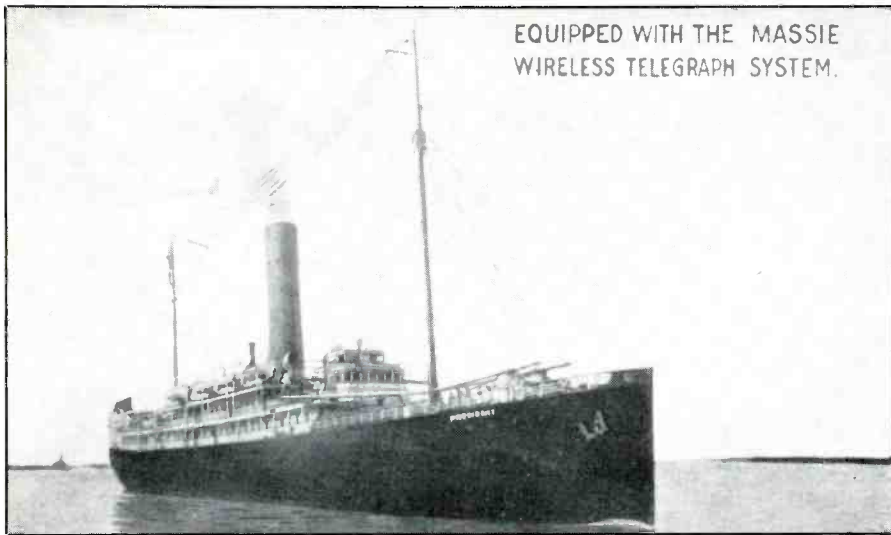
The Babylon station was ideal for these purposes since it was close to the major shipping lanes approaching the port of New York from Europe and Africa. A rapid increase in the number of ships equipped with wireless equipment offered an opportunity for ship-to-shore communication that the



The building in the circle is the Marconi station at Babylon as it looked in 1901, identified as the "cradle of U.S. wireless" in a letter written in 1958 by Marconi's widow. The small inset at the left shows the shed in 1930. Standing in front of it are Marconi and RCA's General David Sarnoff.

Guglielmo Marconi shown at the Babylon station in 1901.





EQUIPPED WITH THE MASSIE WIRELESS TELEGRAPH SYSTEM.

It didn't take long for Marconi to have several competitors setting up coastal telegraph systems. This postcard for the S/S President notes that it belonged to the Massie Wireless Telegraph System. Massie was a Marconi rival with coastal stations in Cape May, NJ, also Block Island and Point Judith, RI.

shipping industry found invaluable, and which Marconi found profitable. It wasn't long before Marconi's success brought about the creation of several competing coastal telegraph companies with nearby stations, notably DeForest, Clark, Massie, and Fessenden. One DeForest station (call-sign "QQ") was put up at Quogue, forty miles due east of Babylon, where it might get an earlier shot at arriving ships.

Marconi wasn't quietly sitting by and watching as others moved in on this market. He built additional shore stations, such as "CC" in Cape Cod, MA, also "SK" in Sagaponack, NY, which was twenty miles further east than the DeForest station in

Quogue. The greater range of newer and more powerful Marconi stations led to the eventual abandonment of the Babylon facility. It became idle and forgotten. The newly organized Radio Corporation of America bought out Marconi's American interests soon after World War I without realizing the significance of the shed in Babylon.

In about 1930, Major Edwin Armstrong (who invented FM and many other radio technologies) heard about the existence of the building from one of Marconi's early associates. He purchased the shack and presented it to RCA as a historic relic. It was transported to RCA's gigantic "Radio Central" overseas shortwave transmitting facility



This historical marker once stood at the Marconi station site in the village of Babylon. When it was stolen, it was replaced by the present marker.

that stood at Rocky Point, NY. When that installation was discontinued and demolished many years ago, the shed became the property of the Rocky Point School District, which still owns the structure.

In 1958, the village of Babylon placed a stone marker at Fire Island Avenue and Virginia Road to commemorate the historical events that had taken place there. The old Chew house has been moved across the road, but is still occupied. Sadly, the bronze historical plaque was stolen from the stone marker a few years ago; the present sign mounted on metal posts at the site is a more economical and relatively recent replacement. Unlike the bronze bust of Marconi that was stolen last year from the old Cape Cod station site, and then mysteriously returned, the Babylon plaque hasn't been seen since its theft.

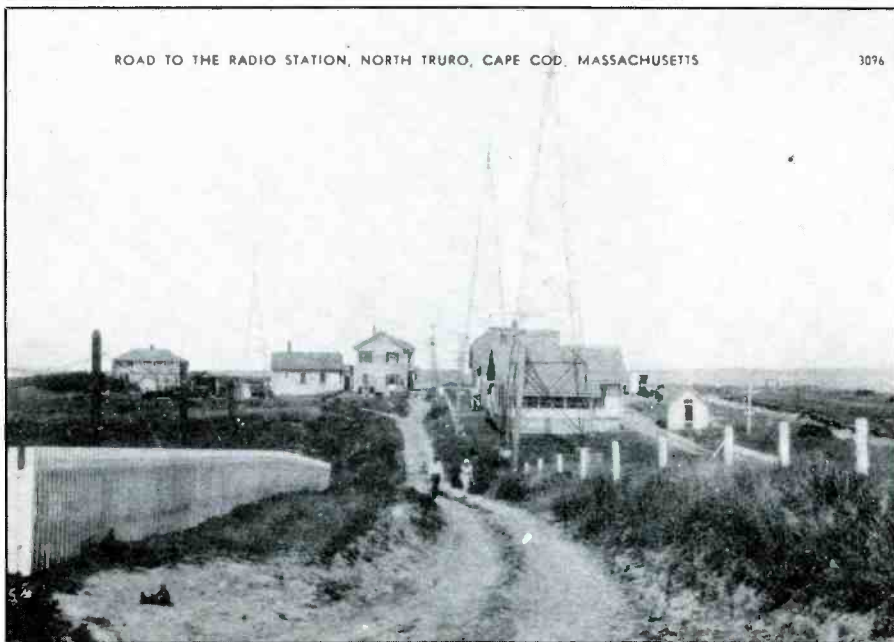
In 1958, Maria Cristina Marconi, who was Guglielmo Marconi's widow, wrote about the shed in Babylon: "That spot was really the cradle of wireless . . . in the United States of America."

## We'll Be On Our Way For Now

That's a wrap for January, but you're invited to stop by and visit with us next issue as we dust off more of our archives. In the mean time, have a safe and sane New Year's Eve, and please don't drink and drive. We always appreciate hearing from our readers with old QSL's (originals if they can be spared, or else good quality copies), old station rosters (originals or copies), old timey photos, comments, information, news clippings, questions, and any thoughts you might have on old broadcasting or wireless in days gone by.

To the folks at *Radio Newyork International*, heard Sunday nights over shortwave WWCR/7520 kHz, thank you for the nice things you've said on the air about this feature in *POP'COMM*. The good words are sincerely appreciated!

PC



Marconi's powerful station "CC" on Cape Cod, MA eventually took over the company's North Atlantic communications, thus eliminating the need for the little Babylon station.



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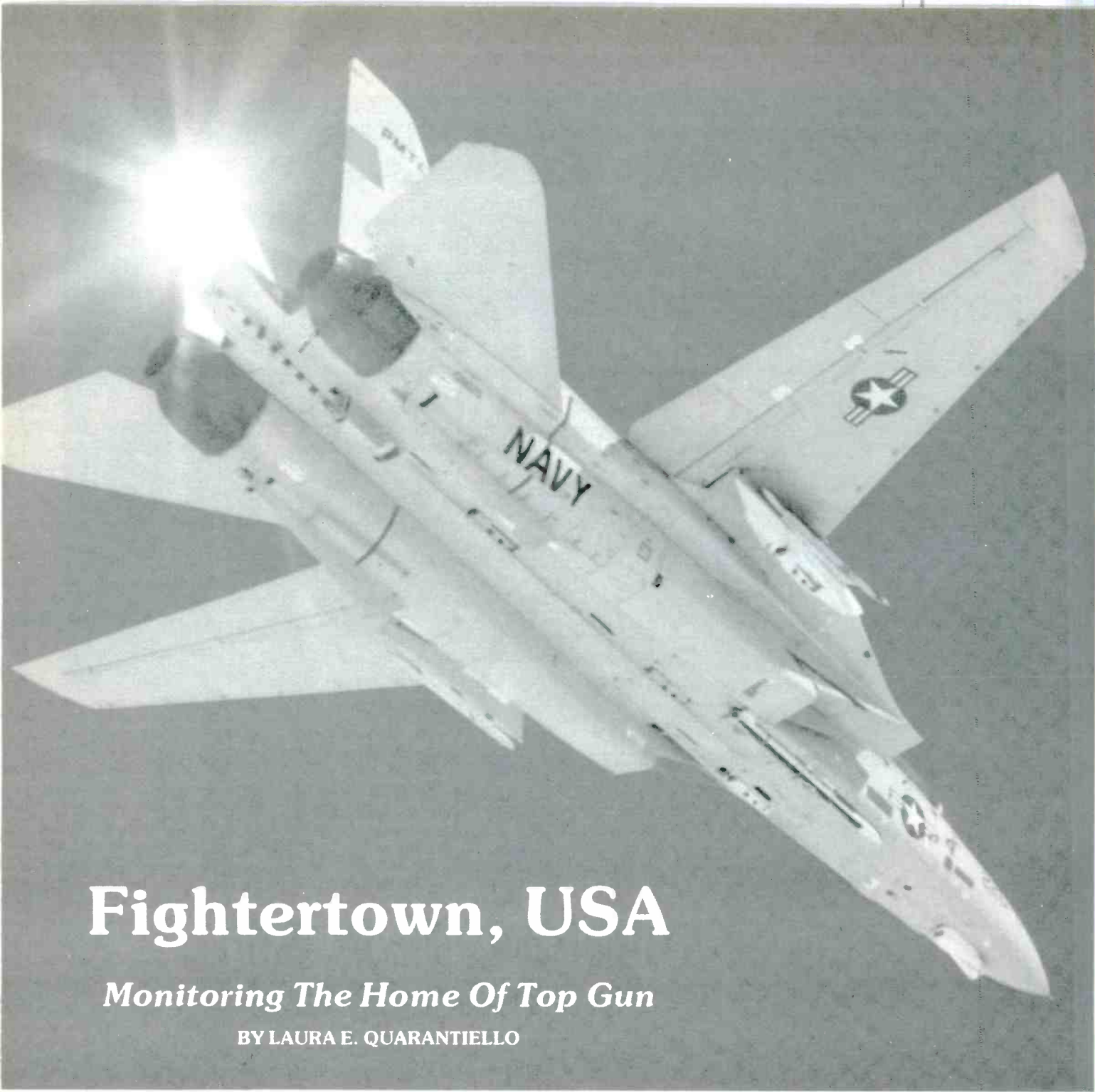
Take the next big step in communications excitement—check out the Realistic PRO-2006, available at Radio Shack.

### CREATING NEW STANDARDS

**RELIABLE QUALITY**—Over 1500 engineers and technicians develop, evaluate and test to our exacting standards—*NOBODY COMPARES*  
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CIRCLE 15 ON READER SERVICE CARD



# Fightertown, USA

## Monitoring The Home Of Top Gun

BY LAURA E. QUARANTIELLO

**I**t begins with a whisper just before dawn, and grows into a howling wail that drives away the early morning silence, as jet engines are engaged. Soon, the entire base reverberates with the roar of Navy aircraft, F-14's, F-5's, A-4's, E-2's, A-6's. Naval aviators have affectionately named this place Fightertown, USA for the mix of powerful jet traffic that continually employs the base. The flight operations that begin this morning will continue throughout the day until long after dark, as the Best of the Best train for war.

NAS Miramar, the Home of Top Gun, the Navy Fighter Weapons School, is the place to be if you are a Naval Aviator. If you are not, then it is *the* place to catch the action on your scanner radio. Over 300 aircraft a day operate from here, training with the Fighter Weapons School, the Airborne Early Warning Weapons School, the Adversary Instructor's Course, or flying with one of the twenty-three squadrons located aboard the station.

The aviation terminal area chart for the San Diego region carries a permanent warn-

ing at latitude 33° North, longitude 117° West, "Caution: Intensive Military Jet Traffic." Weekend flyer beware, flight operations here are fierce. You don't ever want your Cessna 152 to end up in front of a supersonic F-14 Tomcat.

### **NAS Miramar**

NAS Miramar encompasses nearly 24,000 acres of land in the northern suburbs of San Diego and boasts 10,000 military personnel and 2,000 civilians currently



working at the station. On average, 265,000 takeoffs and landings per year are supported by the base, which has two parallel runways, 24L/06R and 24R/06L. One runway carries the painted outline of an aircraft carrier's deck, and the related arresting gear and pilot lighting aids to accommodate Field Carrier Landing Practice. FCLP's train students before their first actual carrier landing at sea and keep fleet pilots on shore duty current.

NAS Miramar is Headquarters for the Commander, Fighter Airborne Early Warning Wing, US Pacific Fleet (COMFITAEW-WINGPAC) and is the senior command based here. The Wing's mission consists of training fleet replacement pilots, naval flight officers (NFO's) and maintenance personnel in the finer points of fighter and airborne early warning aircraft maintenance and operations.

The Wing's subordinate units include two Fleet Readiness Squadrons, four Carrier Air Wing staffs, one Instrument Training Adversary Squadron, six Airborne Early Warning Squadrons, 12 Fighter Squadrons, one Fleet Composite Squadron, one Air Test and Evaluation Squadron, and the Navy Fighter Weapons School (Top Gun).

### **Carrier Airborne Early Warning Weapons School**

The Carrier Airborne Early Warning Weapons School, (CAEWWS) is a little known entity to civilians. Overshadowed by the Fighter Weapons School, it is the early warning community's equivalent to Top Gun. Here E-2C Hawkeye flight crews receive their training in tactical information dissemination and airborne intercept direction. Flying the E-2C Hawkeye, a twin-engine radar plane, the Early Warning Squadrons are the eyes and ears of the fleet, tracking over 600 targets and controlling fighter intercepts.

### **Top Gun**

Probably the best known tactical military school in the world is the US Navy's Fighter

Weapons School, located at NAS Miramar.

In 1968, it was realized that our Navy fighter pilots were in need of a syllabus to train them in the use of weapons employment and air combat maneuvering. Captain Frank W. Ault, of Naval Air Systems Command, encouraged the formation of a graduate level school to train a core of pilot-radar intercept officer teams that would learn these tactics and take their highly specialized training back to their individual units. VF-121, the F-4 squadron charged with establishing this course, created TOPSCOPE, which consisted of 60 hours of academics and 10 hours with an instructor in a simulator.

In 1981, TOPGUN as we know it today, was born. Currently, the school trains Navy and Marine Corps aircrews in five classes yearly plus a twice yearly course for adversary instructors. It is from this base that our understanding fighter crews originates from, trained and ready to protect our country from hostile airborne threats. It is intense and extremely specialized training found nowhere else in the free world.

### **NAS Miramar Operational Squadrons**

*VF-124 Gunfighters:* Flying the F-14 Tomcat, Fighter Squadron 124 is the Pacific Fleet West Coast training unit for F-14 aircrews and maintenance personnel. When their training is finished here crews are assigned to one of ten operational units based at Miramar.

*VF-126 Bandits:* Flying the TA-4 Skyhawk and F-16N Eagle, Fighter Squadron 125 serves as air combat maneuvering adversaries for all of the United States military services. Their aircraft are the Bandits, camouflaged in Warsaw Pact colors and markings for added realism, and they are the jets Top Gunners most want to see in their gunsights.

*VF-1 WolfPack:* Fighter Squadron 1, dating back to 1922, flies the F-14 Tomcat as a deployed fighter squadron. They have the honor in the fighter community as one of the finest squadrons in the Navy.

*VF-2 Bounty Hunters:* Another old line unit, Fighter Squadron 2 is the second established F-14 squadron of the US Navy.

*VF-21 Freelancers:* Fighter Squadron 21, formed in 1944, originally flew the F-6F Hellcat and now flies the F-14 Tomcat.

*VF-24 Renegades:* The Renegades of Fighter Squadron 24 were awarded the Battle Efficiency Award in 1979 as the best F-14 fleet squadron.

*VF-51 Screaming Eagles:* The Pacific Fleet's oldest continuous service fighter squadron, beginning in 1927, and the first unit to operate jets from an aircraft carrier, VF-51 now flies the F-14.

*VF-111 Sundowners:* A veteran fighter squadron since 1942, VF-111 flew the husky F-4 Phantom before transitioning to the Tomcat in 1975.

*VF-114 Aardvarks:* The first West Coast unit to receive the F-4 in 1961, VF-114 flies the F-14A currently.

*VF-154 Black Knights:* The Black Knights have served in every major conflict of the last forty years and participated in the last Navy combat mission of the Vietnam War. They now fly the F-14 Tomcat.

*VF-213 Blacklions:* The Blacklions have used the Tactical Air Reconnaissance Pod System aboard their F-14 Tomcats since 1982.

### **NAS Miramar Early Warning Squadrons**

*VAW-110 Firebirds:* Flying the E-2C Hawkeye, Carrier Airborne Early Warning Squadron 110 equips the Pacific Fleet with pilots, NFO's, and maintenance personnel trained in airborne early warning.

*VAW-112 Golden Hawks:* The Golden Hawks, commissioned in 1967, served in Vietnam, providing combat support and now flies the latest E-2 Hawkeye model, the E-2C.

*VAW-113 Black Eagles:* VAW-113 originated as a research project at the close of World War II and now serves as an all-weather early warning unit flying the E-2C.

*VAW-116 Sun Kings:* This unit served with distinction in Vietnam, being awarded a Presidential Unit Citation and was the first squadron to utilize the E-2C Hawkeye.

*VAW-117 Nighthawks:* The Nighthawks are the newest E-2C squadron at NAS Miramar, flying the venerable E-2C.

### **NAS Miramar Reserve Units**

Four squadrons of reserve units are based here: VF-301 the Devil's Disciples, and VF-302 flying F-14's; VFC-13 Saints providing Dissimilar Air Combat Training, and the VAW-88 Cottonpickers flying the E-2B Hawkeye.

### **Navy Aircraft**

Of the myriad of different aircraft types that might utilize NAS Miramar on any given day, the following are the most common aircraft based there:

*F-14 Tomcat:* The Tomcat serves with excellence in the fleet, as a variable-wing, twin-engine fighter manned by a crew of two: the pilot, who is in command of flying the aircraft and works the weapons systems, and the RIO (Radar Intercept Officer) who handled the AWG-9 radar system and is responsible for the conduct of an intercept. The F-14 carries an M61 multi-barrel cannon in addition to Phoenix, Sidewinder and Sparrow missiles for self-defense.

*E-2C Hawkeye:* This radar processing aircraft can track over 600 targets simultaneously and direct fighter aircraft to airborne intercepts, while simultaneously detecting and jamming hostile radar emissions. The Hawkeye can remain airborne for up to nine hours and is manned by a five person crew.

# HAM RADIO IS FUN!

It's even more fun for beginners now that they can operate voice and link computers just as soon as they obtain their Novice class license. You can talk to hams all over the world when conditions permit, then switch to a repeater for local coverage, perhaps using a transceiver in your car or handheld unit.



Your passport to ham radio adventure is TUNE-IN THE WORLD WITH HAM RADIO. The book tells what you need to know in order to pass your Novice exam. Two cassettes teach the code quickly and easily.

Enclosed is my check or money order for \$19.00 plus \$3.50 for shipping and handling or charge my

( ) VISA ( ) MasterCard ( ) Am. Express

Signature \_\_\_\_\_

Acct. No. \_\_\_\_\_

Good from \_\_\_\_\_ Expires \_\_\_\_\_

Name \_\_\_\_\_

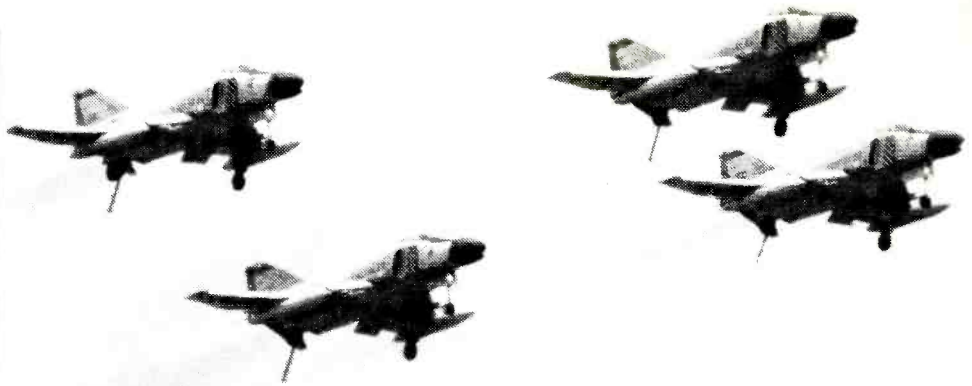
Address \_\_\_\_\_

\_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ PC

THE AMERICAN RADIO RELAY LEAGUE  
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NEWINGTON, CT 06111

CIRCLE 19 ON READER SERVICE CARD



**A-4 Skyhawk:** Also in a training version, the TA-4, the Skyhawk dates from the Korean War, where it flew from aircraft carriers and short airstrips. Today, it serves as an aggressor adversary, playing the "Bad Guy" for air combat maneuvering training.

**F-16 Fighting Falcon:** The Falcon came to Miramar in 1988 to serve as an adversary aircraft, simulating closely the MiG-29 and SU-27. A modified US Air Force F-16C now serving with VF-126, the Navy has ordered twenty-six of these aircraft.

## Aircraft Operations

Tactical aircraft from NAS Miramar utilize three warning areas off of the Southern California coast to train in. Whiskey 289, 290 and 291 are part of the Fleet Area Control and Surveillance Facility overseen by the radar controllers at Point Loma. Here Navy aircraft work in conjunction with vessels at sea and shore units on San Clemente Island, a Naval Auxiliary Landing Field, in high-tech war games. Control for the area is "Beaver" on VHF frequencies of 120.85 or 118.65 MHz and UHF on 285.7, 289.9, 272.6, 266.9 or 314.7 MHz.

Inland, Navy jets from the base use the Kane and Abel Military Operating Areas (MOA's) located over the Salton Sea, and restricted areas R-2510, R-2512, R-2507 South and R-2507 North also known as the Chocolate Mountains Aerial Gunnery Range. Here they join with units from NWS China Lake, NAS North Island, NAS Point Mugu and Nellis Air Force Base for air combat maneuvering training.

NAS Miramar came into its own in 1952, developed into a master jet air station for the West Coast. Today, F-14's sail over highway I-15, hook down, wheels down, causing motorists to duck involuntarily behind the wheel. The former Army Infantry Training Center now operates as the hub of Pacific Fleet fighter and airborne early warning squadrons, hosting over 20,000 aircraft per month. NAS Miramar and the men and women who serve aboard are The Best of the Best.

\*\* Author's Note: Facts used in this article are from "NAS Miramar Airshow '89 Program" courtesy US Navy. **PC**

### NAS Miramar Base Frequencies

Tower:	126.2 315.6 240.2
Ground:	380.8
Atis:	280.4
Approach/Departure:	120.05 128.0 132.2 135.2 269.1 281.1
Weather	362.1
Ordnance	301.3
Crash/Rescue	141.1 140.22
Medics	143.535
Security	150.105 ("Bravo") 150.15 ("Charlie")
Public Works:	141.0 ("Alpha")
US Navy:	38.4 138.855 139.545 140.25 140.895 142.515 300.2 300.4 301.3 304.1
Pacific Fighter Wing:	150.55 ("Echo")

### Squadron And Tactical Frequencies

Top Gun Base:	262.7
Hassle Base:	311.9
Top Gun Tactical:	333.25
Happy Hunter:	255.3
Beaver Atis:	282.0
Beaver Check-in:	289.8
Beaver Check-out:	285.7
ACM Range "War Wag":	279.2
ACM Range Chocolate Mtns:	272.9
VF-1	263.7
VF-2	291.3
VX-4	265.3
VC-12	354.7
VF-24	322.1
VF-51	254.5
VF-111	250.2
VF-114	299.7
VF-124	253.1
VF-126	275.5
VF-213	250.2
VF-301	344.4
VF-302	323.5
VF-211	361.9



# NEW PRODUCTS

## REVIEW OF NEW AND INTERESTING PRODUCTS

### New 1.2 GHz Radios

The introduction of two new 1.2 GHz amateur radios was announced by YAESU U.S.A.

The FT-911 is the latest addition to the popular FT-411/811 handheld series. This compact and lightweight 1 watt radio has the same basic features as the other handheld radios in the series.

Such as, 49 memories, 2 independent VFOs, built-in CTCSS and DTMF, APO



(automatic power off). As well as programmable channel steps, backlit keypad and display, 10 memory auto-dialer, one-touch instant recall of favorite channel, 10 battery saving sampling rates and PTT/keypad lock. CSC-35 vinyl case, NC-28B 117 VAC



wall charger, belt clip and FNB-17 battery are included.

A suggested retail price of \$505.00 has been established and now available at all Yaesu dealer locations.

The FT-912RH is the mobile 1.2 GHz version that has been added to the FT-

212/712 series. This mobile delivers 10 watts of power output and has the same basic features as the other mobiles in the series.

These features include, 18 general purpose memories, one-touch call channel memory, two scanning range memories and CTCSS encode on any of the 37 standard tone frequencies may be programmed into any memory channel. Also ARS (automatic repeater shift), programmable scanning selectable tuning steps, CAT system control, amber backlit LCD display and optional digital voice system (DVS-1) are included. Microphone with DTMF is standard.

This mobile will be available at all Yaesu dealer stores with a suggested retail price of \$581.00

For more information contact Yaesu U.S.A., 17210 Edwards Road, Cerritos, CA 90701, or circle 101 on our Readers' Service.

### Gordon West Seminars For Instructors And Elmers

Thinking of teaching an amateur radio Novice class? Is your club ready to start up some upgrade courses? Looking for inside information on where to buy textbooks at 50 percent off?

Gordon West, WB6NOA, is now offering a free weekend of instructor and elmer training for some valuable classroom experience



on the latest techniques of teaching ham radio. Instruct a weekend or evening beginner or upgrade class. The on-the-job training is absolutely free and open to all ARRL-registered instructors. Those that teach certain sections will even be PAID. "We will take up to 4 interested candidates for our weekend courses offered throughout the country," comments Gordon West, a former ARRL "Instructor of the Year" award recipient. In addition, Rosalie White at the League, has done an excellent job of presenting instructors the latest in teaching techniques.

There are also many perks to being an instructor of this ham radio seminar including:

buying code tapes/keys in quantity at a substantial discount, learn how to build pre-study techniques, and a pre-study notebook for each student, learn how to arrange for a hotel weekend meeting room, and much more.

For more information about becoming an ARRL-registered instructor, write the American Radio Relay League, 225 Main Street, Newington, CT 06111. ATT: Rosalie White.

For more information on Gordon West weekend classes throughout the country, phone 714/434/0666 for recorded information. Leave your name and address, and if you are one of the 4 ARRL-registered instructors, Gordon West will look forward to working with you throughout the 3-day weekend class.

### Voice Announce System

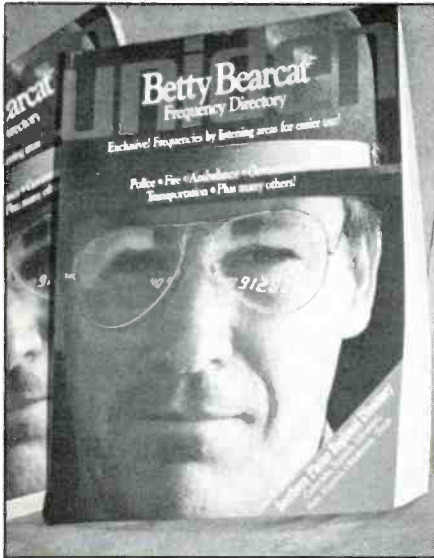
Corby Industries, Inc. announced production of the Programmable Voice Announcer (PVA). The PVA is designed to replace/enhance traditional announcement devices such as bells or buzzers, used with telephone systems, security systems, sound



and communication systems, broadcast systems, or anywhere automated voice messages are required.

The PVA is a high quality audio digital recorder with no moving parts. It contains four megabytes of high-speed memory which can store on 128 second message, two 64 second messages, four 32 second messages, or eight user created messages. Any message can be programmed to be played by selecting a combination of four inputs. Message playback is controlled by the system's programmable scheduling system which allows certain selected messages to be played at particular times of the day and/or on particular days of the week.

For more information contact Corby Industries, Inc., 1501 E. Pennsylvania St., Allentown, PA 18103.



## Regional Scanner Guides

Seven information-packed scanner frequency directories are now available spotlighting specific regions of the USA. Compiled by Uniden (Bearcat/Regency scanners), the information covers police (state/county/municipal), fire, ambulance, local government, transportation, rescue squads, forestry, etc., and many of the editions include selected communications codes.

Listings show licensee name, base and any paired mobile frequencies, and the location. The data is sorted by radio service and by location. There is an enormous amount of communications data included in each of these hefty books.

We found the data well-prepared, easy to use (and read), current, and very helpful in all respects. In general, we'd say that these are easily the best regional public safety frequency guides we have yet reviewed. To some extent, this is because other guides we have seen appear to take the quick and easy approach. They are apparently made up taking FCC licensee data pretty much at full face value. Unfortunately, as all serious monitors know, FCC data is (all too often) error-ridden and may otherwise also widely vary from actual usage. This new series was prepared by tempering FCC data with actual on-site monitoring information, and by matching FCC data against information input from many active local monitors. This provides a much fuller and more realistic picture than might have otherwise been possible by relying solely on FCC data as gospel and copying it practically verbatim.

The regional directories are New England (covering CT, MA, ME, NH, RI, VT); Mid-Atlantic (DC, DE, MD, NJ, NY, PA, VA,

WV); Southeastern (AL, AR, FL, GA, LA, MS, NC, SC, TN, PR, VI); Great Lakes (IL, IN, KY, MI, OH, WI); Northwestern/Northern Plains (AK, WA, OR, ID, MT, WY, ND, SD, NE, IA, MN); Southwestern (CA, NV, UT, AZ, HI, GU); Southern Plains (CO, KS, MO, OK, TX, NM).

Each of these regional directories is \$12.85, plus \$2 postage. Specify which one(s) wanted. Residents of New York State, please add \$.98 sales tax per directory. Order from CRB Research Books, Inc., P.O. Box 56, Commack, NY 11725.



## Computer SWL Helper

A publication intended to teach the shortwave monitor how to effectively employ a computer in the pursuit of the monitoring hobby has been brought out by POP'COMM reader Frank Vacanti. Called *Radio Log-Master Resource and Computer Tool-Kit*, this 30-page publication is a collection of resources, tools, programs, and other items to help monitors increase their listening potential.

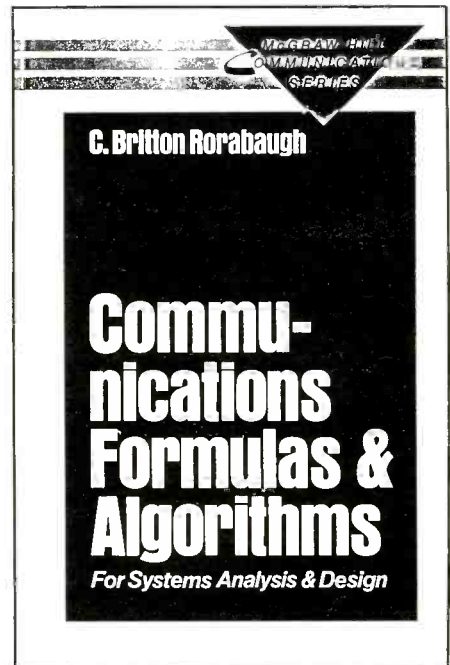
The central theme is the art of logging, which the author has subdivided into related close-ups, making the information useful to persons specializing in monitoring hams, utes, scanner band stations, international shortwave broadcasting, etc.

Frank has assembled a lot of information in his book. Main topic headings include: Database/Logging/Statistical Computer Programs; Methods for using any computer's word processor for logging; Data on powerful "sort" programs included with most computers; Miscellaneous programming-related benefits; Customized logging maps; Tape-recorded logging; Log-sheets and log-books; and miscellaneous tips, graphs, templates, forms, charts, that will come in handy.

Frank's programs are written in BASIC,

so they can be used on virtually any computer, even older or non-standard computers. The information presented is rather straightforward, so even a person who is a bit of a computer novice should be able to easily make use of the information being presented. Of course, those who have some computer experience will also find the information useful, and will be able to modify and customize the programs to tailor them to any specialized needs they might have.

The book is \$12.50 (plus \$2.50 for First Class Mailing in USA; \$7.50 postage outside USA). Colorado residents please add 3.6% state sales tax. Mastercard and Visa accepted. Order from Frank-Art Radio Products, Dept. P, Box 12282, Boulder, CO 80303-2697.



## Numbers, Formulas, & Data Galore

A new one-volume reference source for communications technicians and designers focuses on the essential definitions, formulas, algorithms, and design data used in these fields. This is a 254-page illustrated hardcover book entitled *Communications Formulas & Algorithms*, by C. Britton Rorabaugh.

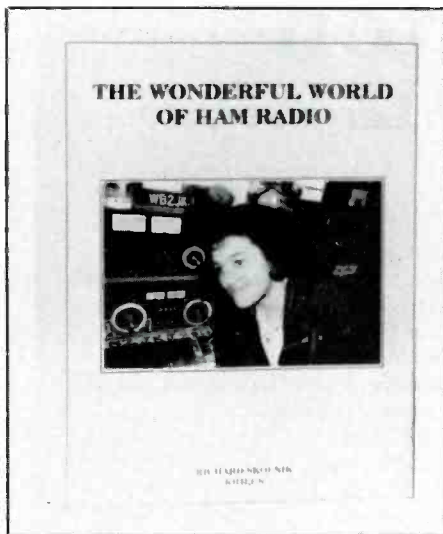
Subtitled *For Systems Analysis and Design*, this comprehensive guide is filled with significant information intended to speed up the design process, presenting the most useful techniques and methods for analyzing, simulating, designing, and testing communications systems. It provides important practical material for each procedure, method, and algorithm; a clear, concise descrip-

tion, including the relevant mathematical notation and pseudocode; guidelines for selection and use; function plots, graphs, and diagrams, plus practical examples.

Emphasizing the key details and pertinent mathematical background needed to solve everyday problems, the book enables communications professionals to locate, understand, and employ the appropriate techniques, properties, and theories. Most of the mathematical presentations are distillations and clarifications of material that is often difficult to find.

Full explanations are devoted to a wide range of important topics, from probability distributions in communications to pulse modulation and transmission, from random processes to signals and spectra, and from communications channels to phase shift keying. Also examined are such subjects as systems, noise, simulation, signal processing, and optimal direction.

*Communications Formulas & Algorithms* is a \$39.95 book. It's from McGraw-Hill Publishing Company, 11 West 19th Street, New York, NY 10011.



### In Addition . . .

The Wonderful World of Ham Radio, by Richard Skolnik, KB4LCS, is a new book designed to introduce young people to ham radio. We haven't seen a review copy, only a press release, but it is intended to describe what ham radio is all about and how it can be a valuable part of peoples lives. It shows how hams learn about computers, electronics, geography, and more via their hobby. It describes the role of ham radio during emergencies. There are photos of ham stations, field-day set-ups, and more. Ultimately, it tells the steps to getting a license and joining in the excitement of this great hobby. If

there's a youngster in your family, neighborhood, or class, who reminds you of yourself as a kid, this might be a good gift. It's \$7.95 from MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762.

The 8th Edition of the *D/FW Frequency List*, by Ken Winters, N5AUX, is available. This is an all-band, multi-mode, directory of

what's going out over the airwaves between 7 Hz and 10 GHz in the Dallas/Fort Worth (TX) areas. It takes in all types of services from broadcasting to two-way, police to aerospace. It's about 140 pages in length, and \$19.95 from Basic Computer Services, P.O. Box 171473, Arlington, TX 76003-1473.

PC

## Upgrade Your Scanner!

Nearly all Police, Fire & Rescue broadcasts will be moving to the 800MHz band during the next few years. Don't risk losing your ability to scan these exciting channels due to equipment frequency limitations.

GRE America, Inc. has the answer! GRE has two new frequency converters that work with your existing scanner and allows you to receive 810MHz to 912MHz on your 410MHz to 512MHz equipment. Two models are available:

◆ **SUPER CONVERTER 8001™**: The 8001 is a portable base model with Motorola antenna leads and will not interfere with reception quality. This model uses 9 volt battery or AC/DC adapter.



◆ **SUPER CONVERTER II™**: This model is perfect for handheld scanners. Has BNC connectors for fast installation, and can be returned to original frequencies at the flick of a switch. Very small and lightweight and uses a 9 volt battery or AC/DC adapter.

### Need Handheld Amplification?

◆ **SUPER AMPLIFIER™**: Adjustable 20db amplification of VHF/UHF frequencies (from 100MHz to 1GHz). Complete with BNC connectors and uses a 9 volt battery or AC/DC adapter.

◆ **GRE ALL-BAND ANTENNA™**: Attractive black with red antennna cap. BNC connector increases gain in 25MHz to 1GHz frequencies.

### Become a GRE Dealer or Distributor!

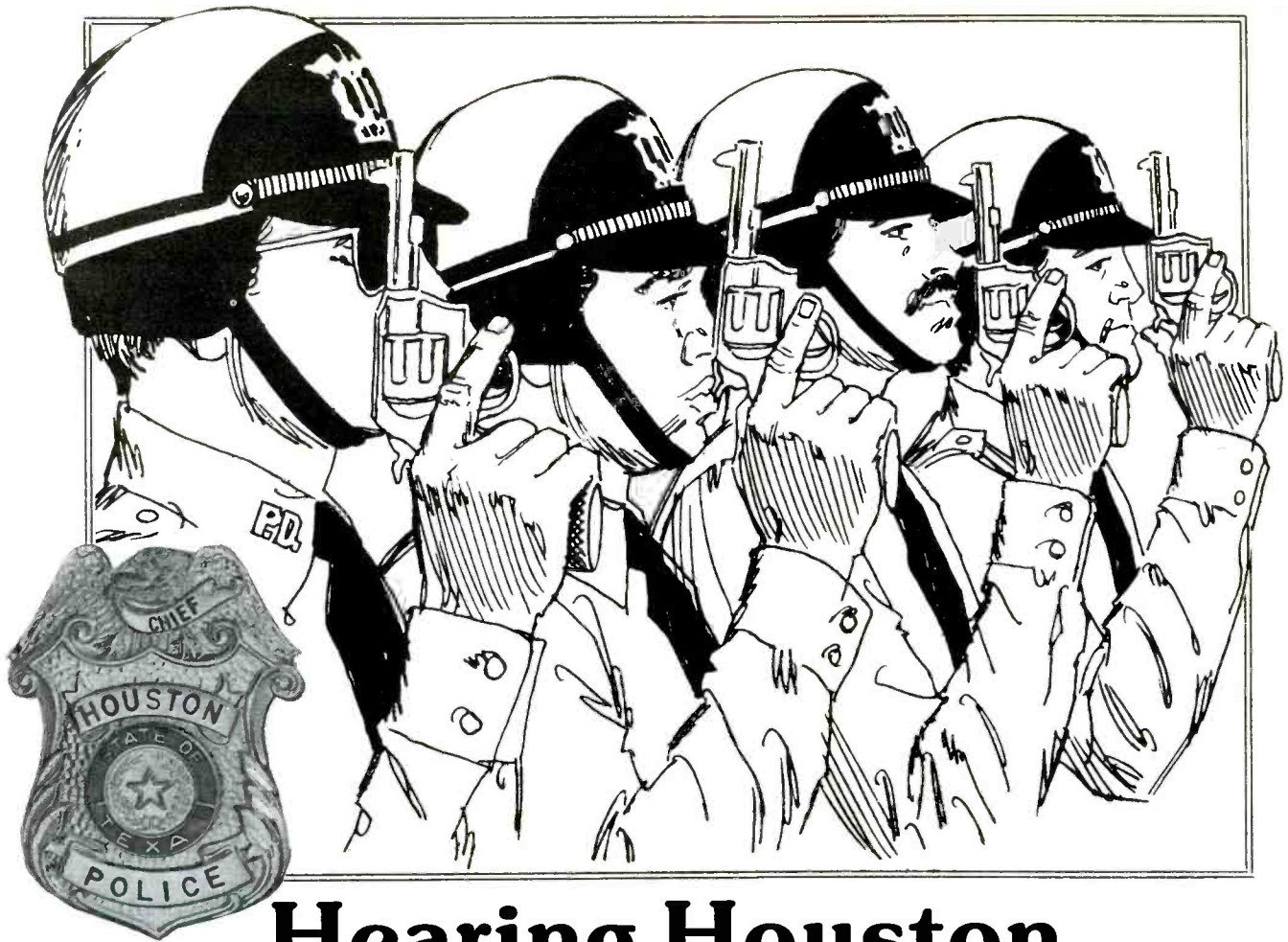
GRE America is seeking new dealers and distributors to retail a growing product line. We offer excellent profit potential at the distributor and retail levels, complete national advertising support and responsive customer service. **For more information**, please call or write GRE as shown below:

**GRE**

GRE America, Inc.  
425 Harbor Blvd.  
Belmont, California 94002

Telephone (415) 591-1400  
Outside CA: (800) 233-5973  
Fax: (415) 591-2001

CIRCLE 38 ON READER SERVICE CARD



# Hearing Houston

*Scan In On The Police In Our Fourth Largest City*

BY RICK MASLAU, KNY2GL

**W**ith 4,000 police officers patrolling an area of 556 sq. miles, the Houston Police Department, needs a bit more communications spectrum than the average public safety agency. After all, Houston (population 1,729,000) ranks number four in size, as American cities go.

Under the leadership of Chief Elizabeth Watson, the Houston Police Department operates a large communications center that uses a bank of computers to help keep track of its dispatching responsibilities.

Based upon information furnished to us by several readers, the following frequencies are used by the police in Houston:

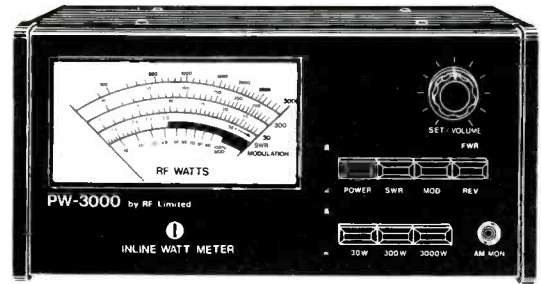
122.75 MHz	Aircraft
154.86	Organized Crime
155.37	Intersystem
155.55	Organized Crime (paired 154.83)
155.67	Pager, Motorcycles, Astrodome
453.65	Communications Technicians
453.70	Data
453.85	
460.025	F-3 South East Dispatch
460.05	F-4 South Central/South West Dispatch
460.075	SWAT
460.10	F-6 Central/Downtown Dispatch
460.125	F-2 North East Dispatch
460.15	F-12 South West Dispatch
460.225	F-8 Car to Car

460.325	F-1 North Central/North West Dispatch
460.35	F-7 Special Operations, Traffic, Motorcycles
460.375	F-5 Special Operations, Animal Control
460.40	F-9 Special Operations, CID, Narco, Vice
460.425	Citywide, Warrants/Plate Checks
460.45	F-10 Detective, Special Operations, SWAT
460.475	F-11 Northwest Dispatch
460.55	Ambulance Dispatch
462.95	Ambulance Dispatch

**Other Houston Law Enforcement & Emergency Activities**

37.06 MHz	Constable (4th Pct.)
37.08	Sheriff
37.10	Constable (Supervisors)
37.18	Constable (Car/Car)
37.24	Sheriff
150.815	Houston Wrecker Association
153.74	District Attorney
153.80	Hobby Airport Police
153.92	Sheriff Dispatch F-2
153.95	Sheriff Car/Car F-3
153.995	Sheriff Medical Examiner F-5
154.16	Fire Dept. Dispatch/Pager F-3
154.28	Fire Dept. Mutual Aid Car/Car
154.665	State DPS (paired 159.09)
154.755	Intercontinental Airport Police

154.77	State DPS mobiles
154.89	Sheriff Dispatch F-1
154.905	State ABC (paired 156.06)
155.07	Sheriff Supervisors F-6
155.13	City Marshal (paired 156.03)
155.34	Houston Area Hospitals
155.37	Public Safety Intersystem
155.415	San Jacinto College Police Dept.
155.445	Texas DPS
155.475	Texas DPS
155.505	Texas DPS
155.595	Sheriff
155.61	Texas Women's University
155.70	U. of Houston Police (paired 159.15)
155.73	Houston Baptist Univ. Police
155.775	Port Authority
156.015	Constable (5th Pct.)
156.09	San Jacinto College Police
156.21	Texas DPS
158.73	U. of Houston Police
161.64	Public Information Emergency System
169.30	FAA Crash Crews
450.10	Houston Light & Power
450.15	Houston Light & Power
453.05	Housing Authority
453.375	Port Authority
453.525	Fire Dept. Dispatch
453.775	Port Authority
453.825	Port Authority
453.90	City Marshal
460.50	Texas Southern U. Police
460.525	EMS & Fire Dept. Ambulances F-6
460.55	Fire Dept. Ambulances F-7
460.575	Fire Dept. Ambulances F-8
460.625	Fire Dept. Major Fires F-9
462.975	Life Flight Dispatch
488.6375	Intercontinental Airport Police
488.6625	Hobby Airport Police



## PW-3000/PW-3000 B/L INLINE WATTMETER

- 1.5 MHz Frequency Range
- Extra Large Meter Movement
- Extremely High Resolution scales, highest resolution in its price class
- Three selectable scales: 0-30, 0-300, 0-3000 watts
- Peak-reading, measures the peak envelope power (PEP) of an HF SSB or AM transmitter
- Check 4 transmission functions to ensure your station is operating properly RF output, antenna VSWR, percent modulation, and AM audio quality
- Designed for continuous use inline operation
- Optional meter back lighting (PW-3000/BL)

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- VSWR: 1.3 MHz with a standing wave of 1.5 to or less
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- Mounting: 3/8 x 24 standard "stud" type
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CIRCLE 89 ON READER SERVICE CARD

## Phono-Cable Indoor Antennas For Midsize Portables

**S**tandard phono-cable with phono-plugs attached at one end can be purchased at low cost from Radio Shack and record/tape shops. Two standard sizes from Radio Shack are 12 foot (42-2449) and 24 foot (42-2450) lengths. There is a phono-plug attached to one end of the cable. Lugs are attached at the other end of each phono cable and these can be snapped off because they are not needed to assemble an antenna. However, before doing so you can use them to grasp the two-wire ends to form a dipole made from the two wires of the cable. Grasp the lugs and slowly separate the wires. Pull them apart down to the phono-plug. Each wire can serve as one leg of a dipole antenna. By so doing, you have made a half wavelength dipole that can be plugged directly into the phono antenna connector of the portable receiver as shown in Fig. 1.

Stretch the legs out as best you can, one on each side of the receiver. The 24-foot phono-cable is the right dimension for operation as a dipole on the 31 meter band (Fig. 2) because each leg is 24 feet long. The shorter 12-foot phono-cable when formed into a dipole resonates up at the high-frequency section of the shortwave broadcast bands.

The long 24-foot phono-cable does a fine job on the DX bands from 12 through 31 meters and also provides good prime-time signals on 41, 49 and 60 meters. It is easy to stretch out in opposite directions along the baseboard as far as you can and then run along the opposite wall as much as you need to do so. Try to get the opposite edges of the dipole separated as much as possible.

The shorter, 12-foot phono-cable does give you better pick-up than the usual telescoping rod antenna if you are cramped for space and can't use the longer antenna. A help with a short 12-foot phono-cable is to mount it in a V-shape arrangement with the ends fastened to curtain rods, taped to the top of a door frame, etc. The little antenna works well and is easy to erect. It does well on the high frequencies and is often quite acceptable for prime-time band listening. Another trick is to use the longer antenna and zigzag the legs or form a large coil at one or both ends which you can hide under a carpet, sofa, bed, desk or even in a closet.

An audio cable antenna of this type is easy to roll-up and take with you when you travel with your portable. You can visit some high locations in your area to do some DXing by using batteries to power your portable.

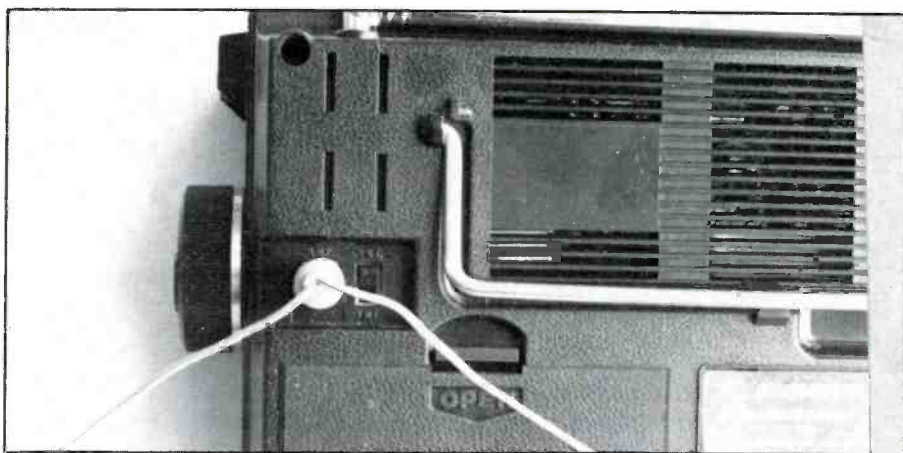


Fig. 1. Phono-plug inserted into antenna connector. The two dipole legs are the split-down leads of the audio line already attached to phono-plug.

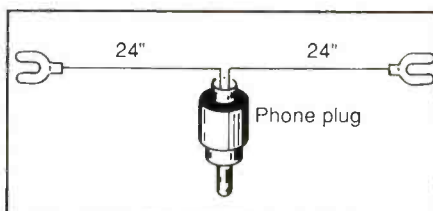


Fig. 2. 31M dipole made from phono-plug to lug cable. Radio Shack 42-2450.

### Untuned Pre-Amplifier

The shorter 12-foot audio cable antenna can be used with an untuned pre-amplifier such as the Electronic Processing, Inc., battery powered signal intensifier (Fig. 3A). Write for an advertising folder from Electronic Processing, Inc., Maple city, MI 49664.

The bottom plate of the amplifier can be removed as in Fig. 3B to mount two 9-volt batteries in parallel. The batteries will last a longer time than if only one is installed. The sealer-protected amplifier can be seen mounted in the other half of the case.

Indoors, this antenna, with amplifier, did better than my baseboard 80-foot wire loop on the higher frequency SWB bands. On the tropical bands it was not quite as good as the loop. In fact, during the evening maximum signal hours I had to lower the RF gain control of the portable receiver to reduce overload. If that doesn't cure the problem the antenna ends can be rolled up to obtain a shorter overall length. You can easily build up a similar but shorter antenna for use when overload problems arise.

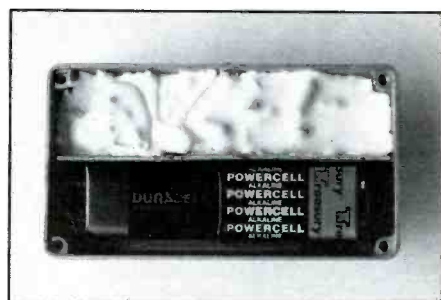
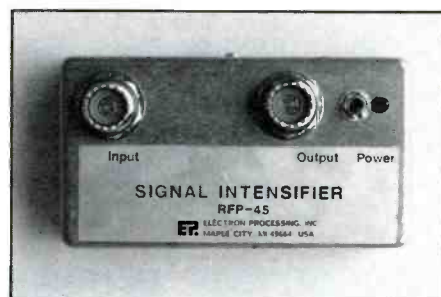


Fig. 3. (A) Electronic Processing, Inc. battery-powered untuned pre-amplifier and (B) sealed amplifier battery compartment.

This battery operated model with its short antenna, along with the battery operated portable gives you a "hot" combination you can take anywhere for SWL listening where there is no power available. The ECI Model uses UHF connectors so you must make up a short length of cable with appropriate plugs to connect to the antenna connector of the receiver to amplifier (Fig. 4). Mount a phono-plug at one end and a PL-259 at the other. On the amplifier input at one end and



Fig. 4. Short jumper assembly to connect output of amplifier to receiver phono input connector of portable.

a PL-259 plug (Fig. 5) plus a Radio Shack 274-1553 phono-plug to phono-plug adapter. The phono-plug of your dipole made from a 12-foot length of audio cable connects to the other side of this adapter.

Many portable receivers are subject to overload, intermodulation distortion components and images. When present on one or more bands, you must cut back on signal pick-up by lowering RF gain or shortening the antenna. You can also set up a switching bypass plan to take the amplifier out of the

circuit when need be. I disconnect the amplifier on the 11-meter band. I don't mind because it is the least active band and I don't do too much listening there.

In addition, I cannot use the amplifier with the dipole made from the 24-foot length of audio cable because of overload conditions on a number of bands because of its better signal pick-up.

The pre-amplifier, of course, is of top priority when you must use a short antenna in a location where signals are weak. Often you can use the amplifier with a longer antenna to good advantage during the day when signals are substantially weaker. Arrange to take it out of the circuit at night.

### Other Antenna Ideas

When I am not experimenting with antennas or accessories and wish to spend time program listening, my favorite two antennas are the 80-foot wire loop connected directly to the receiver input with an attached phono-plug, or the short audio cable dipole fed into the pre-amplifier. I can set up the latter in a small area, so I can do my listening to the portable anywhere in the apartment. The loop is a fixed loop installation and pretty much hidden if I don't mention it to visitors.

Two other helpful short gimmicks for adapting an antenna arrangement to your needs are shown in Fig. 6. Both are used for single wire application either to connect a

single wire directly to the receiver or a set up where a single wire signal is first passed through the amplifier. The top one would be useful for clipping onto a single wire antenna or a metal surface as a metal door, window, etc. The banana plug at the end of the gimmick wire plugs directly into the inner

(Continued on page 42)

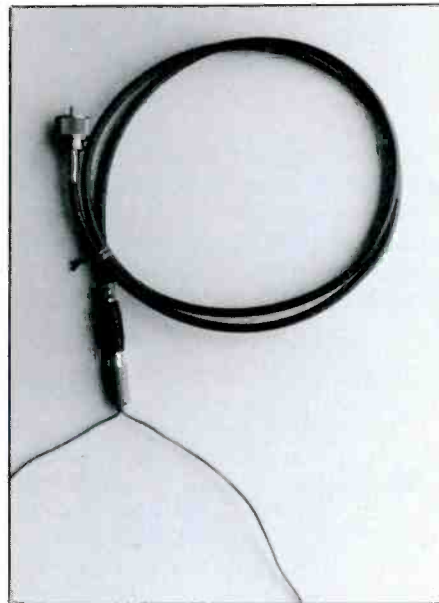


Fig. 5. Assembly used to connect a dipole made from phono line to input of amplifier.

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# POP'COMM's World Band Tuning Tips

January, 1991

This Pop'Comm feature is designed to help you hear more shortwave stations. Each month this handy, pull-out guide will show you when and where to tune to hear a wide variety of local and international broadcasters currently active on the shortwave radio bands.

Note that the languages used will not always be in English and that broadcasts may not be beamed to North America. Keep in mind that stations frequently make changes in broadcast times and frequencies. Changes in propagation conditions may also make certain broadcasts difficult or impossible to receive at times.

All times are UTC.

Freq.	Station/Country	Time	Remarks	Freq.	Station/Country	Time	Remarks
2310	ABC Alice Springs, Australia	1100		4985	R. Brazil Central, Brazil	0230	PP
2390	LV de Atitlan, Guatemala	0000	SS, indian	5010	R. Garou, Cameroon	0430	FF, sign on
2490	R. 8 Setembro, Brazil	D100	PP	5020	ORTV Niger	0530	FF, sign on
3200	TWR, Swaziland	0300	sign on	5020	SIBC, Solomon Is	0830	EE
3215	R. Oranje, S. Africa	0300	Afrikaans	5025	R. Rebelde, Cuba	0330	SS
3220	R. Morobe, Papua New Guinea	1200		5030	R. Catolica Nac., Ecuador	0200	SS
3220	El Sol de los Andes, Peru	0400	SS	5045	R. Cult. do Para, Brazil	0800	PP
3240	Antena Libre, Ecuador	0230	SS	5055	RFO, Fr. Guina	0830	FF
3255	BBC	0300	Lesotho	5275	WYFR	1130	CC, via Taiwan
3300	R. Cultural, Guatemala	0300	SS	5661	LV de Cutervo, Peru	0230	SS
3310	R. Bagua, Peru	0930	SS	5875	BBC	0440	
3316	SLBS, Sierra Leone	0600	sign on	5930	R. Prague	0200	EE
3335	R. E. Sepik, Papua New Guinea	1200		5950	V of Free China	0000	via WYFR
3360	R. Federacion, Ecuador	0000	SS	5954	R. Casino, Costa Rica	1100	
3380	R. Chortis, Guatemala	0100	SS	5960	R. Japan	0200	via Canada
3395	R. Zaracay, Ecuador	0100	SS	5975	BBC	eves	via Antigua
3480	V of Nations Saving	1200	N. Korean clandestine	5990	R. Romania Int'l	0100	
3535	V of the Strait, China	1000	CC	6005	CFCX, Canada	0800	
3925	NSB, Japan	1000	JJ	6011v	R. Mil, Mexico	0100	irregular
3927	Capital Radio, Transkei, S. Af.	2245	EE	6015	R. Austria Int'l	0500	via Canada
3935	BBC	0300		6020	R. Australia	0900	via Brandon
3960	R. Liberty, Germany	0400	RR	6040	Deutsche Welle, Germany	0100	via Antigua
3985	Swiss R. Int'l	0600		6070	CFRX, Canada	24hrs	
4000	R. Bafoussam, Cameroon	0430	FF	6075	Caracol, Colombia	24hrs	SS
4010	R. Moscow	0930	via Vladivostok	6090	R. Luxembourg	2300	
4118	Radiodifusora, Brazil	0100	PP	6106v	R Panamericana, Bolivia	1030	SS
4300	R. Moderna, Peru	0300	SS	6115	LV Llano, Colombia	0400	SS
4461	R. Nor Andina, Peru	0400	SS	6135	R. Santa Cruz, Bolivia	0900	SS
4600v	Perla de Acre, Bolivia	0300	SS	6150	Caracol, Colombia	24hrs	
4610	Khabarovsk, USSR	1200	RR	6165	R. Netherlands	eves	
4680	R. Nacional Espejo, Ecuador	0200	SS	6185	R. Educacion, Mexico	1200	SS
4719	RRI Ujung Pandang, Indonesia	1230	II	6248	Vatican Radio	0500	
4725	V of Myanmar	1200	(Burma)	6315v	Patria Libre	0030	Colombian clandestine
4755	Sani Radio, Honduras	0100		6500	PBS, Qinghai, China	1230	
4765	R. Moscow	24hr	RR, via Cuba	6540	R. Pyongyang, N. Korea	1100	KK
4770	R. Nigeria, Kaduna	0430	sign on	6550	V of Lebanon	0500	
4785	Baku Radio	1100	RR	6691	R. Cutervo, Peru	0200	SS
4790	R. Atlantida, Peru	0300	SS	6840	CPBS, China	1100	CC
4795v	R. Nueva America, Bolivia	1000	SS	7105	BBC	0400	via Ascension Is.
4800v	R. Buenos Nuevas, Guatemala	0100	SS	7117	R. National, Laos	1130	various
4800	R. Lesotho	0300	sign on	7145	R. Polonia	0100	Polish
4810	Voz Galapagos, Ecuador	0130	SS (Galapagos Is)	7165	R. Free Europe	0200	various
4820	Voz Evangelica, Ecuador	0200	SS	7170	RFO, New Caledonia	0800	FF
4825	R. Mam, Guatemala	0130	SS, Mam	7190	Yemen Radio, Aden	0300	AA, sign on
4830	R. Tachira, Venezuela	0200	SS	7198	R. Africa, Eq. Guinea	2230	EE religion
4832	R. Reloj, Costa Rica	0200	SS	7200	R. Mogadishu, Somalia	0300	sign on
4845	R. Fides, Bolivia	0930	SS	7230	AWR Europe, Italy	0700	
4865	Voz del Cinaruco, Colombia	24hr	SS	7255	V of Nigeria	0500	sign on
4870	ORTB, Benin	0500	FF, sign on	7265	Sudwestfunk, Germany	0700	GG
4880	R. Five, S. Africa	0300	EE	7300	R. Tirana, Albania	0100	
4895	R. Bare, Brazil	0830	PP	7315	WHRI	0000	sign on
4900	RN Guinea	0600	FF, sign on	7325	BBC	eves	
4915	R. Cora, Peru	1000	SS	7335	CHU, China	24hr	time signals
4920	ABC, Australia	1100		7340	Voz del CID	eves	clandestine to Cuba
4934	R. Tropical, Peru	0300	SS	7345	R. Prague	0000	EE
4945	Caracol, Colombia	24hrs	SS	7370	Turkish Police Radio	0400	TT
4980	Ecos del Torbes, Venezuela	0300	SS	7375v	R. For Peace Int'l, C. Cuba	eves	EE, SSB

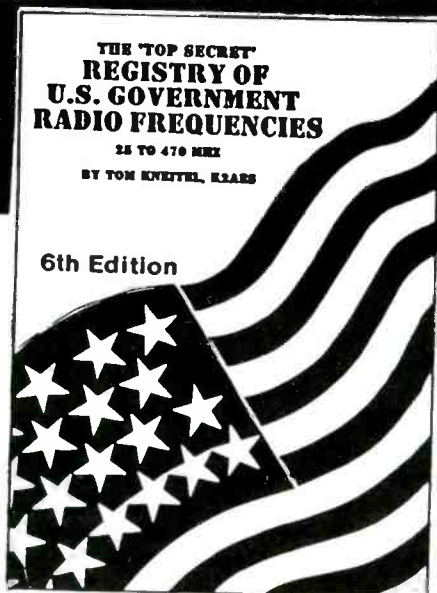


Freq.	Station/Country	Time	Remarks	Freq.	Station/Country	Time	Remarks
7400	R. Moscow	2300	RR	12015	R. Ulan Bator, Mongolia	1300	
7440	CPBS, China	1100	CC	13605	V of UAE	1600	AA
7520	WWCR	eves		13630	R. For Peace Int'l, C. Rica	0100	
9022	VOIRI, Iran	0100	various	13660	R. Baghdad, Iraq	2100	EE
9045	Iran's Flag of Freedom	0330	Farsi, etc. cland.	13675	BRT, Belgium	1230	German
9280	WYFR	1215	CC, via Taiwan	13715	R. Prague	1400	Czech
9325	R. Pyongyang, N. Korea	1300	EE	13730	R. Austria Int'l	0000	various
9360	Spanish National Radio	eves	SS	13855	ICBS, Iceland	1855	Icelandic
9395	V of Greece	eves	Greek, EE	15010	V of Vietnam	1100	SS
9420	V of Greece	eves	Greek, EE	15020	All India Radio	1300	Sinhala
9435	V of Israel	0400	EE	15060	BSKSA, Saudi Arabia	1800	AA
9445	V of Turkey	2300	EE	15070	BBC	1600	
9475	R. Cairo, Egypt	eves	SS, EE	15084	VOIRI, Iran	1700	Farsi
9480	TWR, Monaco	0645	EE	15095	R. Damascus	2110	EE
9515	TWR, Bonaire	0955	sign on, PP	15100	R. Beijing	2300	SS
9535	R. Nacional, Angola	1900	various	15105	R. Yugoslavia	0000	
9535	Swiss R. Int'l	0500	various	15115	HCJB, Ecuador	1200	EE
9540	R. Nacional, Venezuela	1100	SS	15140	R. Nacional, Chile	2200	SS
9550	R. Havana Cuba	0000	SS	15150	R. Peace & Progress, USSR	0000	Creole
9560	R. Jordan	1320	sign on	15165	R. Denmark	1230	Danish, via Norway
9565	R. Denmark	0330	Danish, via Norway	15165	R. Norway	1200	NN, except EE Suns
9570	R. Korea, S. Korea	1130	Indonesian	15185	WINB, PA	2130	
9575	RAI, Italy	0100	EE	15190	R. Nacional Laos	1100	FF, via USSR
9580	Africa No. 1, Gabon	0500	FF	15190	RTVC Congo	1500	FF
9585	R. Excelsior, Brazil	0900	PP	15195	R. Bangladesh	1230	
9590	R. Netherlands	0330	via Bonaire	15215	R. Algiers, Algeria	2200	
9600	R. Portugal	0130	PP	15235	LJB, Libya	0300	AA
9605	AWR Europe, via Portugal	0500	various	15250	R. Portugal	2000	
9610	ABC, Australia	0900		15260	R. Canada Int'l	1900	
9615	KGEI, California	0315	sign on	15270	R. RSA, S. Africa	1900	
9630	Spanish National Radio	eves	FF, SS, EE	15280	KGEI, CA	2200	sign on, SS
9645	Vatican RAdio	0215	SS	15300	R. Japan	1200	various
9660	R. Rumbos, Venezuela	1100	SS	15315	R. Netherlands	0030	via Bonaire
9675	R. Cancao Nova, Brazil	0800	PP	15325	FEBA, Seychelles	1230	Nepali
9695	R. Rio Mar, Brazil	0900	PP	15335	All India Radio	1330	EE
9725	AWR, Costa Rica	eves	EE, SS	15345	RAE, Argentina	1200	various
9735	R. Oman	0300	AA	15400	BBC	2100	via Ascension
9745	HCJB, Ecuador	eves	EE, JJ	15400	R. Finland Int'l	1300	
9779	Yemen Radio, San'a	0300	sign on, AA	15420	WRNO, LA.	1700	
9790	R. France Int'l	eves	FF, EE	15445	R. Liberty, Germany	0300	RR
9800	R. France Int'l	eves	FF, EE	15475	Africa No. 1, Gabon	2030	FF
9805	R. Cairo	0400	AA	15476	RN Sao Gabriel, Argentina	2300	SS, Antarctica
9815	IRRS, Italy	0500		15485	R. New Zealand	0500	
9820	TWR, Guam	1200	CC	15500	CPBS, China	1130	CC
9835	R. Budapest	0130		15507	RT Tunisia	2300	AA
9850	R. Cairo	0200	AA	15510	R. Afghanistan	1700	via USSR
9870	R. Austria Int'l	eves	various	15560	R. Netherlands	2330	Dutch
9925	BRT, Belgium	2100		15575	R. Korea, S. Korea	1400	
9935	RS Macedonias, Greece	0500	Greek	15580	KUSW, UT	2230	
9941	Voz del CID	eves	clandestine to Cuba	15600	Voice of America	2100	via Liberia
9950	All India Radio	2230		15615	Voice of Israel	2200	Hebrew
9977	R. Pyongyang, N. Korea	1200	various	15630	V of Greece	1500	Greek
10010	V of Vietnam	1100	various	15685	V of Unity	0130	Pashto/Dari, anti-Afghan
10330	All India Radio	1330	Hindi	15790	ICBS, Iceland	1215	Icelandic
11445	R. Beijing	1130	various	15880	CPBS, China	1200	to Taiwan
11550	RTV Tunisia	0430	AA	17387	All India Radio	1200	
11580	V of America	0200		17535	V of Greece	1500	Greek
11585	V of Israel	0200	various	17550	BRT, Belgium	1530	various
11620	All India Radio	1300	Sinhala	17595	R. National Laos	1100	FF, via USSR
11660	R. Sofia, Bulgaria	0200		17595	RTM Morocco	1500	FF, EE
11700	TWR, Guam	1200	CC	17605	R. Netherlands	2130	Dutch
11705	R. Sweden	0230	EE	17612.5	WYFR	1600	various
11711	R. SPLA	1300	EE	17615	R. Peace & Progress, USSR	1630	EE
11734	RT Zanzibar	1830	sign off	17620	R. France Int'l	1600	EE
11735	R. Pyongyang, N. Korea	1100		17630	Africa No. 1, Gabon	1500	FF
11735	R. Yugoslavia	0000	EE	17670	R. Cairo	1700	AA
11745	Radiobras, Brazil	0200	EE	17675	RTBF, Belgium	1800	FF
11760	R. Cook Is.	0700	EE, Maori	17710	Vatican Radio	1700	various
11780	R. Nacional, Brazil	0800	PP	17715	R. Beijing	0000	via Mali
11785	R. Tashkent, Uzbek SSR	1200	EE	17730	Spanish National Radio	1900	SS
11800	RAI, Italy	0100	EE	17735	R. Oman	1400	AA
11805	R. Globo, Brazil	0200	PP	17740	R. Sweden	1400	EE
11810	All India Radio	1215	CC	17755	R. Surinam Int'l	1700	various, via Brazil
11815	TWR, Bonaire	1100	EE	17800	Deutsche Welle, Germany	1300	via Rwanda
11830	LV de OEA	2345	SS, via VOA	17815	R. Cultura, Brazil	2200	PP
11836v	R. El Espectador, Uruguay	0100	SS	17835	R. Japan	0100	EE
11870	AWR, Costa Rica	1300	various	17850	R. Moscow	2300	
11890	R. Peace & Progress, USSR	eves	SS, PP	17870	Vatican Radio	1400	SS
11900	R. RSA, S. Africa	1100	EE	21450	R. Moscow	1300	world service
11905	R. Universo, Brazil	0100	PP	21470	HCJB, Ecuador	2000	various
11920	R. Abidjan, Iv. Coast	2230	FF	21500	R. Sweden	1430	various
11925	V of Mediterranean, Malta	0600		21515	V of UAE	1500	AA
11938	V of Cambodian People	1200		21555	R. Yugoslavia	1200	EE
11955	R. Canada Int'l	1300		21565	R. For Peace Int'l, C. Rica	2000	sign on
11965	V of UAE	1600	AA	21595	Spanish National Radio	1800	SS
11980	AWR, Guam	1300	CC, JJ	21605	UAE Radio	1530	AA, EE
12005	RT Tunisia	2300	AA				

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CIRCLE 18 ON READER SERVICE CARD

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## You Should Know (from page 39)

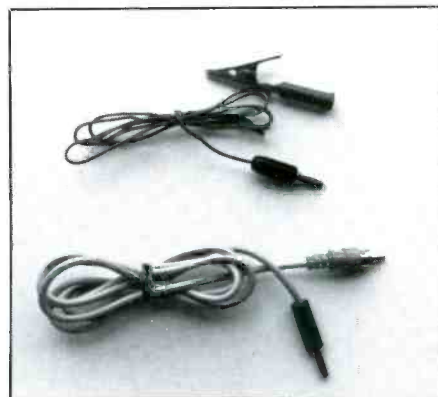


Fig. 6. Two helpful connector assemblies: Top - short single wire lead from metal rail of metal door to input of amplifier. Bottom - connects single wire antenna to antenna input of receiver.

conductor of the UHF input connector of the pre-amplifier. This arrangement permits you to try various single wire antenna lengths.

We used it in association with the sliding door assembly that opens to the balcony which has a frame dimension of 6'8" by 6'. The alligator clip is clipped to an end of the bottom aluminum slide track, along which the door moves. Surprising results are obtained, serving as a good SWB installation.

The lower gimmick permits a single wire antenna to be connected directly to the receiver. Phono-cable is used with a phono-plug connected to one end. At the opposite end the inner conductor only of the audio cable is connected to a banana plug. It can be attached to a single wire antenna using an alligator clip that can be slipped over the banana plug.

Audio and speaker wires are obtainable with phono-plugs attached to each end. Others have phono-plug at one end with lug or bare wires at the other. In the latter arrangement, you can attach the type of connector you need for your particular application. Two-conductor speaker wire with no hardware attached is low cost and can be purchased with lengths up to 100 feet or more. To double your antenna wire length you need only split the entire length of wire and connect a pair of the wires together and tape.

A speaker wire that is 60 feet in length permits you to make up a 75 meter dipole. A phone or different plug type can be attached to one end before you split the two conductors apart. Various phono-adapters can be found at Radio Shack and record/tape shops, too, if your portable uses other than a phono-antenna input receptacle. You can put together an effective indoor antenna at low cost for your location by looking over the variety of plugs and assemblies. Remember, these are indoor antennas and not the type you would use permanently for an outdoor installation.

## GETTING STARTED AS A RADIO AMATEUR

### Log It Or Lose It (Information, That Is!)

**B**ack in the old days (not all *that* long ago!), the FCC required every amateur to keep a detailed station log. (In addition to regular QSOs, hams even had to log unfruitful CQ calls.) And although we're not required to keep a log nowadays, an accurate station log is useful not only today, but tomorrow, too.

#### Keeping Score

We all have things we like to keep track of: states and countries worked and confirmed; information for awards; or the names and addresses of our on-the-air friends. A well-kept station log is invaluable in your quest for the Worked All States or The DX Century Club (DXCC) awards. In addition to keeping a running list of states and countries, your logbook is the perfect place to keep detailed information on a wide range of subjects.

Your logbook is also a good place to keep notes on modifications and changes to your equipment. Not only will the information be easy to find for future reference, it will be easier to note the effects of such changes by referencing contacts before and after.

How does your new loop antenna compare with your old trap vertical? Check out the signal reports in your logbook and you'll have a good idea!

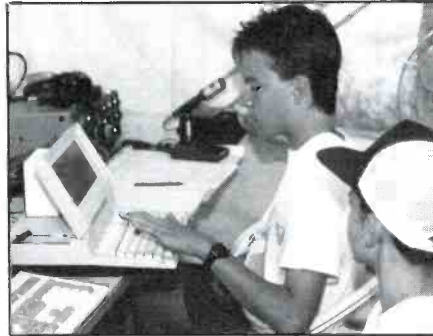
DX'ers often refer to their logs when trying to work into specific parts of the worlds. When is the best time to work Africa in the winter? A quick check of last year's log entries will probably turn up the required information.

While you're at it, why not keep other changes in your log? When you upgrade, note it in your log. When you get a new rig or put up that long-awaited tribander, write it down. Ten years down the road, your log entries will bring back a flood of memories!

Speaking of memories, poring through your old logbooks can be a lot of fun. You'll come across your first QSO and remember how nervous you were, or you'll come across rare DX stations you've worked, pileups you've busted or the first time you worked someone special. Reliving those events is almost as much fun as the real thing!

#### Computerized Logging

Computers are becoming quite popular in ham shacks across the country—especially those belonging to contesters and



14-year-old Dan Armet, KA1UFG, pounds the packet keys at a local Field Day setup in Haddam Neck, Connecticut. Having a broken arm slowed him down a bit, but Dan and 40-or-so fellow operators had a great time at the June outing.

DX'ers. If you have a PC in your shack, you might want to consider keeping your station log on your computer. A number of suitable programs are available. Check the ads in

QST and other Amateur Radio magazines. Logging programs may also be available through your local club or computer user's group. If you're into programming, consider writing your own logging software.

If you do go the computer route, remember to keep regular backups and a hard copy of your log information—otherwise, the benefits of having instant access may be lost if your data disks are lost or damaged.

If computerized logging isn't your thing, *The ARRL Logbook* is just what you've been looking for. Used by thousands (millions?) of hams over the years, the latest version is available from the ARRL for \$3.50. It has room for nearly 1,000 QSOs and includes useful information such as Q signals, a time-conversion chart, the ITU phonetic alphabet, an RST chart, international call-sign prefixes and more.

That's all for this month. And, by the way, Happy New Year!

Send your photos, letters and suggestions to me at ARRL, Department PCN, 225 Main Street, Newington, CT 06111.

DATE	FREQ	MODE	POWER	TIME	STATION WORKED	REPORT SENT	REPORT REC'D	TIME OFF	QTH	COMMENTS	QSL VIA	QSL S	QSL R
5/8/90	21.015	CW	KW	1639	YU2CAH	535	535	1643	ZG	Gagi OP NARL			
	014			48	G2BRR	545	545	54	NR Bristol	Dick			
				55	UA3QUO	545	545	1700	NR Voronezh	Serge			
9	14.010			0509	DJ3TY	535	535	0516	Eutin	Otto			
				16	G3AID	535	535	22	Farnborough	John			
				23	DJ5QU	535	535	27	Nuernberg	Jurg			
				27	LZ2ZP	569	569	30	Tulunkh	Prefar			
				31	UV1AV	535	535	33	Len.ograd	Victor			
				34	SP6AND	569	569	41	Boleslawiec	Andy			
				42	IN3CKK	579	579	46	Trento	Bruno			
				47	OM7IF	535	535	52	Bratslava	Ivo			
				52	RA3GW	545	545	57	Lipeisk	Eugeniy			
				58	OK3KJP	569	569	0603	BRATSLAVA	JARO			
				0604	YU5KXY	569	569	10	kavadarci	Djoko			
				11	LZ1KCR	535	535	17	Kotel	RAF			
				17	SP2AVE	545	545	23	Gdynia	Zbysz			
				24	F2QJ	535	535	32	Reims	Guy			
				33	DL1HARX	569	569	40	NE Bonn	Lali			
	013			0700	G4GPB	435	535	0708	Claegate	Roger			
	014			1916	UA1ZO	585	535	1921	Marmarck	Vlad			
				22	UA1ADQ	545	535	26	Len.ograd	Vlad			
				27	DJ6TZ	535	535	37	Glinckenburg	Kurt			
				34	DJ1KJ	569	535	38	Frankfurt	Hans			
				39	OM6KZ	535	535	43	Praha	Pavel			
10	21.011			1709	OM1DOZ	545	535	1712	Pardubice	Peda			

A page from the latest ARRL Logbook.

### Navtex May Quietly Save Your Life

**T**he new silent and smart receivers print out Coast Guard messages, and a little slip of paper could very well keep you from making a very big mistake.

Within 60 minutes, Captain Bill Alber, skipper of the party boat "Sasoon," would read a tiny slip of paper that very well saved the lives of 3 sailors stranded on a dismantled small sailboat. The weather was clear, but windy, and the trip from Cedros to San Diego was expected to be bumpy, but uneventful.

Then the NAVTEX receiver went beep, and out came a little message scarcely larger than the receipt slip at your local grocery store:

ZCZC BE26  
242151 UTC OCT 89  
Overdue vessel broadcast  
U.S. Coast Guard, San Diego, CA  
  
7:30 p.m. PST SAT OCT 24 89  
Overdue 28' sailboat, 3 POB, last reported  
in route Turtle Bay, Mex to San Diego. Advise any sightings.

Bill knew this area of the waters well, and guessed the sailboat would jog out to avoid nearby onshore reefs, and pick up additional wind. Bill told himself he would keep an extra vigil for any little dot on the horizon.

Fifty-four minutes later, he spotted what appeared to be a power boat, and would normally have dismissed this passing as rou-



A little strip of paper could save a life. Photo courtesy Raytheon.



Furono NAVTEX receiver. Photo courtesy Furono.

time, but grabbed the binocs for a second look. Sure enough, the white hull looked like a power boat—and after a few minutes of course change, it was clearly evident that a dismantled sailboat was in view. A little slip of paper, plus a very alert skipper, just saved 3 lives at sea.

The NAVTEX system has been around for sometime in Europe, then adopted on the East Coast, and is now coming up to speed on the West Coast. NAVTEX is an automated system for instantly distributing maritime safety information to all types of ships with coastal coverage approximately 200 nautical miles off shore.

The equipment to receive NAVTEX is small, low-cost, and completely self-contained except for an antenna similar to a Lorán whip. The NAVTEX receiver is so

smart, it checks each incoming message to see if it has been received during an earlier transmission, or if it is of a predetermined category of no interest to the ship's captain. If it is a new and wanted message, such as this emergency broadcast, it is displayed on an LCD screen, or printed out on adding-machine-size paper.

NAVTEX can also, at your convenience, read the latest notice to mariners, and scroll through older messages that may have been sent several days ago. Best of all, no one needs to be present during a broadcast to receive vital information. This eliminates the problem of missed emergency broadcasts on VHF Channel 16, or 2182, when the roar of channel abuse finally gets to you and you snap off your emergency watch on 156.800 MHz.



NAVTEX message being prepared at a Coast Guard Station, ready for transmittal on 518 kHz. Photo courtesy Gordon West.



Author West prepares a low frequency loop for shipboard NAVTEX reception.

Three different types of messages are coordinated by a NAVTEX control operator in following regions:

- BOSTON, MA (NMF):**  
 Identification (B1): F  
 Schedule (UTC): 0445, 1045, 1645, 2245
- MIAMI, FL (NMA):**  
 Identification (B1): A  
 Schedule (UTC): 0415, 1015, 1615, 2215
- SAN JUAN, PR (NMR):**  
 Identification (B1): R  
 Schedule (UTC): 0415, 1015, 1615, 2215
- GUAM (NRV):**  
 Identification (B1): V  
 Schedule (UTC): 0100, 0700, 1300, 1900
- ADAK, AK (NOJ):**  
 Identification (B1): X  
 Schedule (UTC): 0000, 0500, 1200, 1745
- LONG BEACH (NMC):**  
 Identification (B1): Q  
 Schedule (UTC): 0445, 1045, 1645, 2245
- PORTSMOUTH, VA (NMN):**  
 Identification (B1): N  
 Schedule (UTC): 0130, 0730, 1330, 1930
- NEW ORLEANS, LA (NMG):**  
 Identification (B1): G  
 Schedule (UTC): 0040, 0640, 1240, 1840
- Honolulu, HI (NMO):**  
 Identification (B1): O  
 Schedule (UTC): 0040, 0640, 1240, 1840
- KODIAK, AK (NOJ):**  
 Identification (B1): J  
 Schedule (UTC): 0300, 0900, 1500, 2115
- SAN FRANCISCO, CA (NMC):**  
 Identification (B1): C  
 Schedule (UTC): 0400, 1000, 1600, 2200
- ASTORIA, OR (NMC):**  
 Identification (B1): W  
 Schedule (UTC): 0130, 0730, 1330, 1930

The NAVTEX coordinator decides which messages will be broadcast silently on the air which includes: Navigational and warning broadcasts; Search and rescue broadcasts; Meteorological and weather warnings.

The NAVTEX transmitter and receiver frequencies are precisely set at 518 kHz. This frequency channel is located just below 550 kHz on your AM radio dial, and reception range is about the same—100 to 200

miles during the day, and twice that range at night from skywaves. The digital signaling is at 100 baud SITOR, easily decoded to a printer using digital signal recovery systems within the NAVTEX receiver. You could also pick up NAVTEX broadcasts on a radio weather FAX receiver with a built-in NAVTEX (optional) decoder. You could also tie in a simple ham radio code reader (PK-232 from AEA, 206-775-7373, Lynnwood, Washington) and any shortwave receiver capable of tuning just below the AM broadcast band.

"The NAVTEX broadcasts are received, free of charge to the mariner. NAVTEX is part of the new marine safety system, and since it will become compulsory after 1990, a continued expansion of coverage is guaranteed," comments a U.S. Coast Guard official. On recreational vessels, NAVTEX equipment will not be compulsory—but aboard commercial boats, NAVTEX will be a vital part of their navigation station.

"I wouldn't leave the harbor without first monitoring several NAVTEX broadcasts," comments Jackie Hillier, a Sausalito sailing enthusiast who regularly takes to the open water outside the Golden Gate. "Just the other day, I learned of extremely rough weather conditions at the Potato Patch, and I knew to steer clear of this area," adds Hillier. While the NAVTEX system will not broadcast regular weather reports, it will send out alerts when small craft advisories are hoisted.

"NAVTEX transmission coverage is rapidly increasing in the United States," said Carsten Peters, Marketing Manager, Raytheon Marine Company. "In addition to its low cost and compact size, the NAVTEX receiver's report form is easy to read—there is no need to interpret charts or graphs. And, these units have a much longer range than VHF radiotelephones. We think NAVTEX receivers will soon be part of the safety equipment on all vessels of all sizes," says Peters.

At Furono, Bill Dupre comments to Western Boatman, "Our new NX-500 NAVTEX

### NAVTEX Message Preamble

NAVTEX is broadcast in Mode B SITOR, on a frequency of 518 kHz. NAVTEX may be selectively monitored, so the vessel would see only the information of interest, and never see the same message twice.

All NAVTEX messages are prefaced by the four characters "ZCZC," and then a four character preamble below:

ZCZC AA99

The first character of the preamble is a letter that identifies the NAVTEX transmitter. Transmitter Identification letters can be any of the characters A through Z. This limits the number of NAVTEX stations in an area to 26. The NAVSTN Command can be used to selectively monitor or reject certain NAVTEX

transmitters. The second character of the preamble is the NAVTEX Message Classification. Currently, the letters A through J define a message class, while the letters K through Z are reserved for future use. The NAVMSG command may be used to selectively monitor or reject certain NAVTEX message classes. The last two numbers form a serial number from 00 to 99 that is different from each NAVTEX message. An amateur radio PK-232 decoder remembers the preamble of the 200 most recent messages, and will not re-print a message that has the same preamble if it has already been received without many errors. This is a unique feature of NAVTEX that the PK-232 uses along with the commands to allow the user to monitor only those messages of importance.

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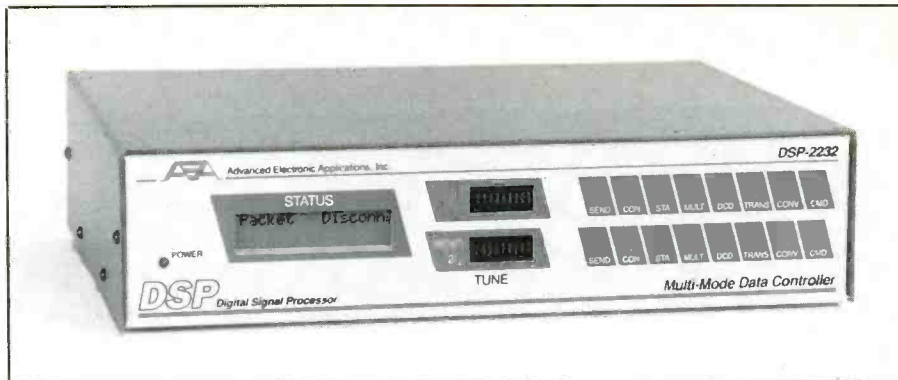
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receiver will store 66 message ID's for 66 hours and also provides a 6-hour memory back-up in case of shipboard power failure. The pleasure craft operator along the West Coast may choose any station desired, but emergency messages, with both audible and visual alarms, receive priority attention without any special set-up."

You can tell which station is doing the transmitting by the station designator printed out on your NAVTEX slip of paper:

Honolulu, Hawaii	"O"
Kodiak, Alaska	"J"
San Francisco, CA	"C"
Boston, MA	"F"
Miami, FL	"A"
San Juan, PR	"R"
Portsmouth, VA	"N"
Astoria, Oregon	"W"
Long Beach, CA	"Q"
Adak, Alaska	"X"
Guam	"V"
New Orleans, LA	"G"

The NAVTEX system is constantly getting "fine-tuned" along the West Coast to insure that all broadcasts are relevant, brief, and understandable. "We are attempting to reduce the overall length of the message broadcast on NAVTEX," comments J.R. White, Commander, U.S. Coast Guard



The AEA series of "PK" and "DSP" data controllers may easily receive NAVTEX broadcasts with your shortwave receiver.

Chief, Short Range Aids to Navigation Division, in a memo to the National Weather Service. "Reducing the length of the weather messages will assist us in our effort to conform with the internationally mandated broadcast limit of 30 minutes," adds White. And it's this brevity that pays off for NAVTEX viewers—a quick review of the strip of paper, and just the important information is printed out. But, of course, if you are feeling lonely, you can go to the "all information" mode and constantly receive a stream of data that will keep you up to date on what's happening in your local waters.

NAVTEX will never replace a prudent watch on VHF Channel 16, nor the careful notation of Channel 16 emergency broad-

casts by the Coast Guard. However, the NAVTEX receiver could very well save the day when you are ashore picking up supplies for that weekend cruise, and a NAVTEX broadcast warns of impending severe weather bearing down on you from the west. That little strip of paper could very well mean pleasant cruising knowing that Coast Guard emergency bulletins are just seconds away from automatic reception and automatic printing.

Currently, Europe has a lead on the United States in the number of NAVTEX stations. There are, however, active NAVTEX stations on the East Coast for several years, and fine-tuning of the West Coast NAVTEX stations is taking place right now.

PC

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## FOCUS ON FREE RADIO BROADCASTING

**R**adio Newyork International is back on the air, as you may know. The station, which created such a media sensation with its shipboard broadcast off New York's coast a couple of years ago, is legit this time. Radio Newyork International has a live, four hour show Sunday evenings at 0200 UTC on WWCR in Nashville. They even have an 800 number to take phone calls, (800) 736-9764. The frequency is 7520.

A new pirate station is **XERK**, which operates on 7435. The station tells me they're running about 50 watts with a Drake transmitter and a half wave dipole antenna. Broadcasts normally occur between 0000-0600. The station says it is located on the US-Mexican border and can be contacted by calling (512) 464-5870. They're interested in getting in touch with other broadcasters.

I've received a couple of reports on XERK. Don ("The Doctor") Vandervort in Louisiana heard them on 7434.9 at 0220. The DJ was Michael Kennedy. Dan also had them a few days later at 0300. Mike Schulsinger in Ohio found them on 7435.2 at 0300-0430 with a one minute tape loop giving their phone number.

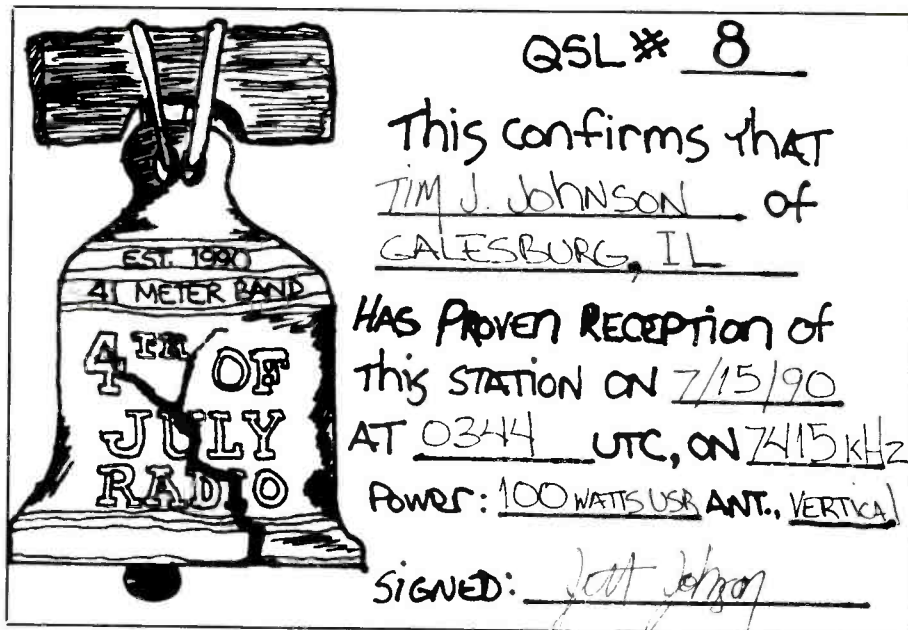
**One Voice Radio** was found by Tim Johnson in Illinois at 0050 on 7412LSB with announcer Joe and a program of music and medical information. Robert Ross also logged this one, at 0258-0307 closing on 7415 with an ID and mention of the Blue Ridge, PA address and thanks to listeners before signing off.

Tim also had **WLAR** at 0635 (what frequency, Tim?) with a program from "F.S.N. Enterprises" about homosexuals and using excerpts from comedy albums as "remote reports." Ross also had this one at 0004 on 7412.

**Hope Radio International** continues to be busy. Jim Kalach in Connecticut found them on 7400 at 0226-0302 with a program that included pirate radio news with "The Radio Animal." Joshua D. Wilkes in Kentucky had the station at 0230 on 7400 with a feature call "Stupid Laws," a Cajun Chef parody, fake movie commercials and mentions of the Blue Ridge Summitt address. Ross logged them on 7386.85 at 0315-0328 close with an ID and talks about the FCC.

Andrew Steinberg of New York State spotted **Pirate Radio International** at 0013 on 7398. Included was a feature call "Newsflash—Commandante John Lives" and an critical editorial of Oliver North.

Andrew Barton of California logged **Radio Anarchy** on 7417 between 0420 and 0525. The program was mostly "indus-



The black on red QSL of 4th of July Radio. (Thanks to Tim Johnson, Illinois).

trial" music, apparently, and the signal was quite strong at Andrew's shack.

As usual, Robert Ross of Ontario has been very active and has enjoyed a great deal of success in logging pirates. Here are some more of his recent catches:

**Radio Freddie's Nightmare** on 7407.1 at 0525-0542, first in a QSO with **Radio Texaco** and, apparently on its own later—with mention of the Blue Ridge Summitt address, eerie sounds and then an announcement about moving to 1620 kHz, though Bob says he didn't find them there.

**CFBN** - Fly By Night Radio, was heard at 0111 on 7415 and Bob notes this was their first broadcast. Featured a loon sound effect as an interval signal, noted it was the "North American Service of CFBN - Fly By Night Radio." DJs were the "Fly Brothers." The station aired comedy bits.

**WKZP** was heard from 0014-0022 on 7414.8 with talks about the Addams Family. The Radio Animal (of WKZP, WKND and WZAP) was the guest disc jockey.

**WFCK** on 7415 at 2357 sign on to 0051 close, using the slogan "Ohio's alternate rock" and said they were using a solid state transmitter running 100 watts and a 40 foot dipole. Aired 60's rock. No QSL address was announced.

**Jingle Bell** noted at 0052 on 7415 AM and USB calling WFCK several times with no reply but then got a call from someone else.

**Action Radio** was noted by Bob on 7414.8 at 0142 to 0156 sign off with a test transmission. ID as "Action Radio, from high in the Allegheny Mountains" and gave the Wellsville, New York address. Frequency given as 7415.

**Radio EXP** heard on variable 76415 at 0336-0357 with rock music, ID and Wellsville address.

**4th of July Radio** showed on 7415 USB from 0345 to 0348 sign off, just to announce they were now using the Blue Ridge Summitt address. IS was "Born in the USA" whistled several times. The station was right on top of Radio EXP.

Bob also continues his success in the QSL department, recently getting a reply from CFBN (QSL #1, in fact!). Incidentally, they're now using the Wellsville address. Another reply came from the Revolutionary Voice of Plainsville signed by "Henrick Jorgenson" who, Bob notes, is (or was) the verie signer for Greenland radio which is now off shortwave. If I remember correctly, the station claims to be in Greenland. Nice going, Bob. You sure have the right touch. Keep it up!

That's it for this time. Keep those loggings coming my way, as well as other notes about the pirate scene. I always welcome information direct from you guys behind the microphones, too, so I can tell readers about your stations, programs and future plans.

PC

### Deep Space Probes

**W**ith the launch of the Magellan and Galileo space probes last year, America's Deep Space Program received a long needed boost. Unlike the Voyager fly-by missions, the Galileo, which is headed for Jupiter, and Magellan, which has already arrived at Venus, will be placed in permanent orbit around their respective planets.

The Magellan will map 90% of the surface of Venus. It will use a high resolution Synthetic Aperture Radar (SAR). The SAR looks directly below and to either side of the spacecrafts flight path. Precise tracking of Magellan's radio signals will give scientists some idea of the gravity field around Venus.

The spacecraft did not have enough launch energy to propel it all the way to Venus. It will circle the Sun 1½ times to gain sufficient speed to reach the planet, which it did after a 450 day flight.

Magellan's orbit of Venus will be elliptical. At its closest point it will be 155 miles above the planet. It is at this low altitude that the mapping will take place. The highest point in the orbit will place the spacecraft 5,000 miles above the surface. Each orbit will take three hours and nine minutes. The radar mapping will be done during 37 minutes when the spacecraft is at its closest point. This mapping data will be stored onboard until the Magellan reaches the high point of the orbit at which time the data will be trans-

mitted back to earth.

The mapping data will be transmitted at 268.8 kilobits per second. Three ground stations in the Deep Space Network will be listening to Magellan: Gladstone, California; Madrid, Spain; and Canberra, Australia. Before Magellan starts transmitting it will make star calibrations to confirm its altitude

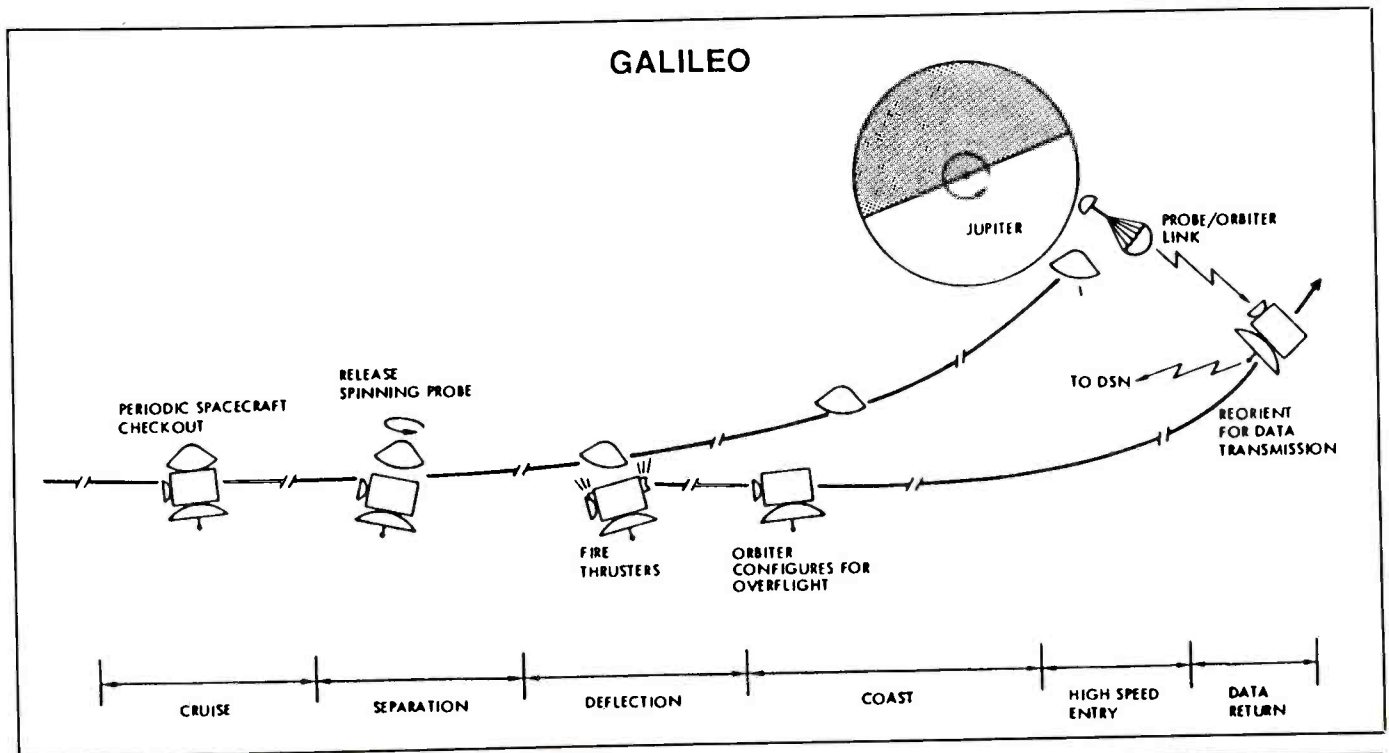
(the direction it is pointing). The spacecraft will compare its view with a star map stored in the onboard computer. After deciding it is pointing its antenna in the right direction the transmission is made and the antenna is again pointed toward Venus.

The Magellan spacecraft is 21 feet high and 15 feet in diameter. Its 11 foot diameter

#### GALILEO MISSION EVENTS

Launch Window (Atlantis and IUS)	Oct. 12 to Nov. 21, 1989
(Note: for both asteroids, closes in mid-October)	
Venus flyby ( 9,300 mi)	*Feb. 9, 1990
Venus data playback	Oct. 1990
Earth 1 flyby ( about 600 mi)	*Dec. 8, 1990
Asteroid Gaspra flyby (600 mi)	*Oct. 29, 1991
Earth 2 flyby (200 mi)	*Dec. 8, 1992
Asteroid Ida flyby (600 mi)	*Aug. 28, 1993
Probe release	July 1995
Jupiter arrival	Dec. 7, 1995
(includes Io flyby, probe entry and relay, Jupiter orbit insertion)	
Orbital tour of Galilean satellites	Dec '95-Oct '97

\*Exact dates may vary according to actual launch date

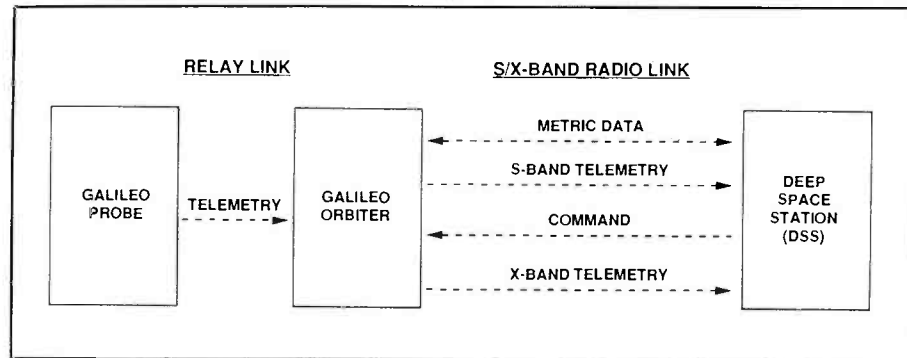




dish is used for both the Synthetic Aperture Radar and the telecommunication. The SAR will create high resolution images by using computer enhancement at the ground-stations. This will simulate the equivalent of a 100 meter diameter antenna, which of course would be impractical on such a spacecraft. It also carries a low gain cone shaped antenna used for sending and receiving engineering commands. It also serves as a backup antenna should the main antenna fail. An altimeter antenna is mounted on the side of the main dish and remains pointed toward the surface of Venus. This antenna can also be used in a passive mode to take measurements of any radio emissions from the planet's surface.

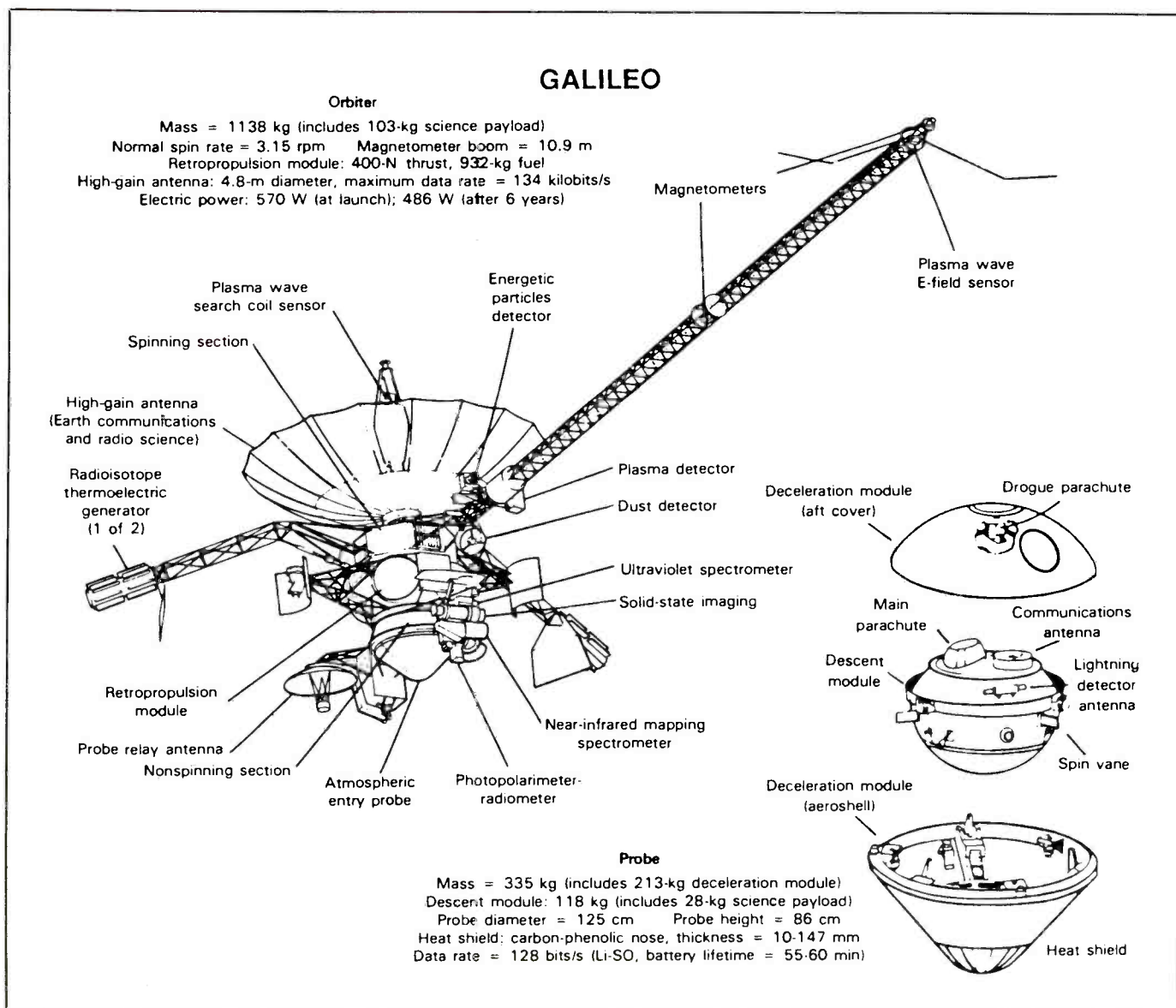
At ground stations digital computers take the data sent to each station and compare time delays, phase or frequency of the radar signal and the magnitude of the returning radar echo, to determine contour of the planet's surface.

The Galileo mission will be two fold. It will



be placed in orbit around Jupiter to make observations of the planet. The second phase consists of a probe which will be launched from Galileo to descend to the surface. If successful this probe will give us our first look at the atmosphere on Jupiter. Then in 1995, Galileo will make a flight around Jupiter's moons which will last 22

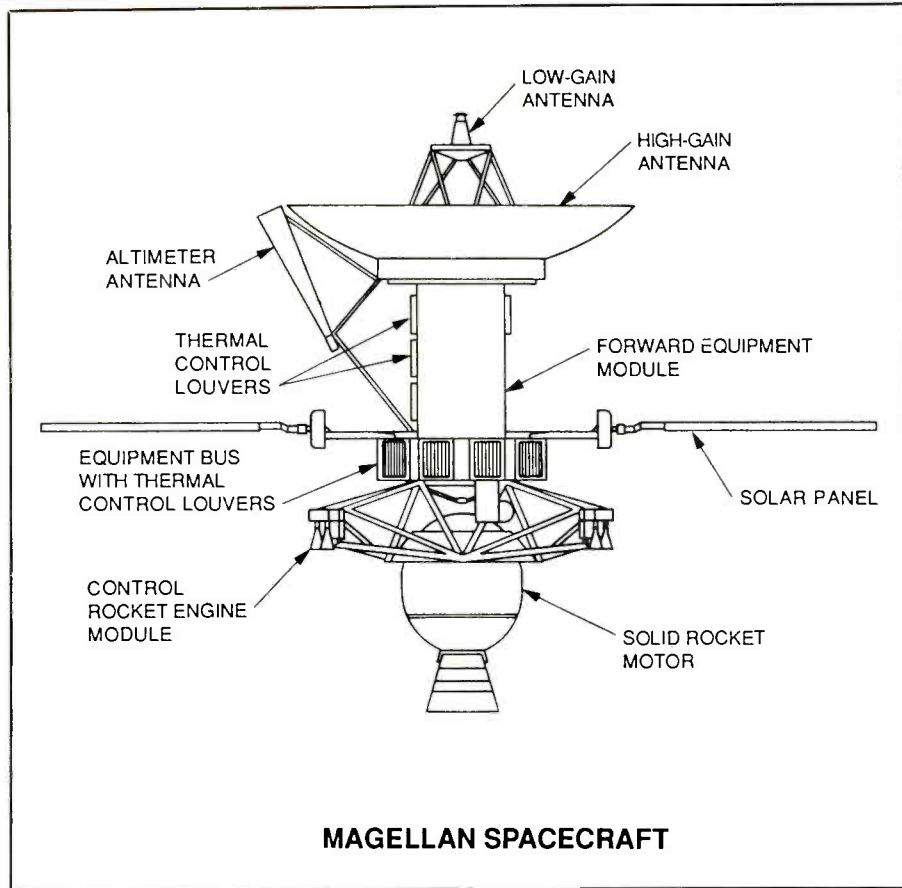
months. The spacecraft will require three gravity assist planetary encounters to reach Jupiter. The spacecraft was launched in November of 89 and made its first encounter in February of 90 around Venus. During this fly-by Galileo made infrared and ultra-violet spectral observations of Venus. The second gravity assist planetary encounter was in



December of 90, at which time the Venus data was transmitted to ground stations as Galileo curved around the earth at an altitude of 180 miles. During this earth fly-by, the spacecraft conducted studies of the earth and moon and their positions to each other. It then visits the Gaspra asteroid before making a second earth encounter during which the spacecraft will pick up an additional 8,000 mph. Now traveling at a speed of 28,000 mph the spacecraft will still need two additional years to reach Jupiter.

Five months before reaching the planet, Galileo will release a space probe which will fly in formation with Galileo. The probe's 10 rpm spin will stabilize and the systems will be checked by ground stations at this time. Six hours before entering Jupiter's atmosphere the probe will be turned on and it will begin sending data 133,000 miles back to Galileo which will in turn relay the data over a half billion miles back to earth. The probe is expected to enter the 28,000 degree (Fahrenheit) atmosphere at 115,000 mph. It is hoped that the probe will survive these temperatures for up to 75 minutes.

Galileo will transmit data at 134 kilobits per second on an S-band frequency of 2,295 MHz and an x-band frequency of 8,415 MHz. The spacecraft carries a 16 foot dish and two low gain antennas that are used during the gravity assists of earth to downland data. It will take over an hour for the signals to reach earth from Jupiter.



Ground stations transmit to Galileo in the L-band (1,500 to 1,600 MHz). The Deep Space Network keeps an eye on Galileo with ranging and doppler radar. It's no simple matter keeping the spacecraft on track. It's navigation requires estimating its position from radio and doppler measurements. Monitoring its position and velocity and predicting its flight path and making the

necessary corrections. The software consists of 1,615,000 lines of telemetry code and 550,000 lines of navigational code. Corrections are transmitted to the spacecraft as needed.

The launch of Magellan and Galileo put America back in the business of space exploration.

See you next month.

**PC**

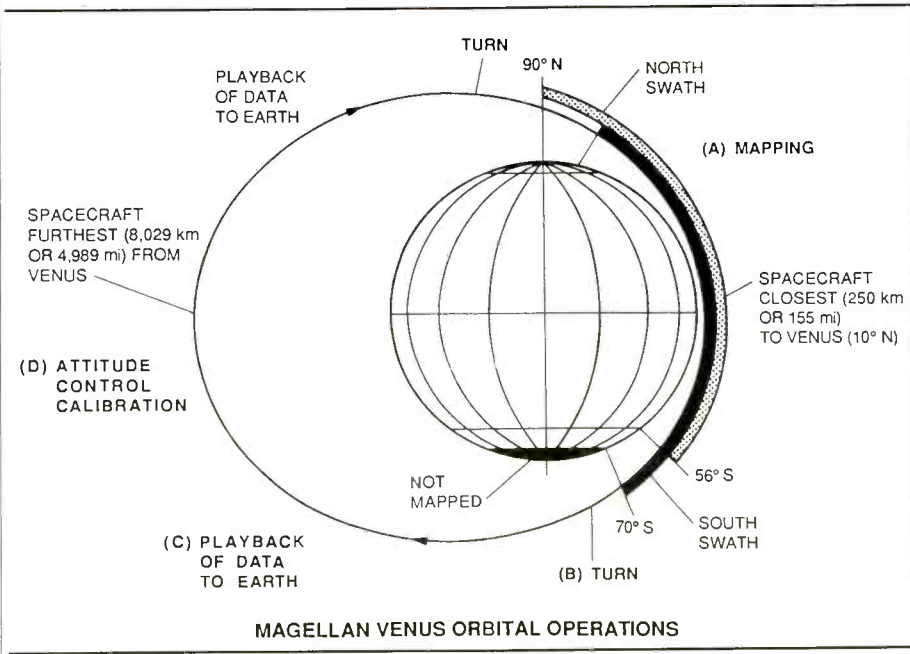
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# HOW I GOT STARTED

**P**opular Communications invites readers to submit, in not more than about 150 words (give or take), about how they got started in communications. We'll accept them (preferably) typed, or otherwise easily legible. If you have a photo of yourself taken recently, or when you got started, please include it with your story. We can't acknowledge or return material, whether we use it or not. You need submit your story only once, we'll keep it on file to consider it for future issues. All submissions become the property of POP'COMM.

Entries will be judged taking into consideration if they tell a story that is interesting, unusual, or even amusing. We reserve the right to make minor editing changes.

Each month we will select one to use here. The winner will receive a 1-year gift subscription (or 1-year subscription extension) to Popular Communications.

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

## First Winner For 1991

Our January winner is Lee Shoblom, K6ADA, of Lake Havasu City, AZ. Lee wrote:

"People find it hard to believe when I tell them that I got started in radio when I was seven years old, but in a way it's true. That's when my family lived in Minnesota. The doctors said I had a lung problem and probably wouldn't last more than six months unless I was moved to Arizona.

"My family moved, and I improved. Still, I was a sickly, shrimpy little kid not well suited to sports. I gravitated to another kid who had health problems. A few years older than I, his interest was building crystal radio re-

ceivers. I picked up on this hobby and soon moved up to simple shortwave receivers. That introduced me to the world of the VOA, Radio Moscow, and the ever present HCJB. By the time I was twelve, I had a Novice ham ticket, KN6ADA.

"I then built a little 6L6 transmitter for 80/40 meters, and I modified a WWII surplus ARC-5 receiver for hamming. A General Class ticket followed, then an Advanced Class ham license. At age seventeen, I got my radiotelephone First Class engineering license which enabled me to land my first radio job. That was in 1957, and I was working at San Diego rocker KSON.

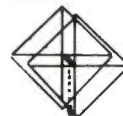
"Other radio and TV jobs followed, each one a challenging new experience. In 1967, at age thirty, I applied for a broadcasting station license in Lake Havasu City, Arizona (the American home for the London Bridge). The AM station, KFWJ, went on in 1970. In 1974 it was joined by FM station KBBC. In 1984, I added an LPTV station on Channel 45.

"In an effort to give what I could back to the best business in the world, I served two terms as a Radio Director of the National Association of Broadcasters. I was President of the Arizona Broadcasters Association, and the first President of the Community Broadcasters Association (an LPTV trade association).

"I started as a scrawny little kid melting lead on the kitchen stove to use as a base iron pyrite detectors in crystal sets. Picking up KOY and KOOL in Phoenix in the wee hours was a thrill I've never forgotten. It was a bug that bit so hard that I'm still still enjoying it as a career and a hobby. I'm an active SWL, I operate 20 meters SSB, and 2 meter FM. Radio rules!"

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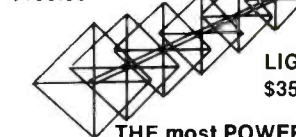


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## K6ADA



**Lee Shoblom**  
KFWJ - KBBC - TV 45  
2001 Industrial Blvd.  
Lake Havasu City, Arizona 86403

Home of  
the LONDON BRIDGE

The QSL from Lee's K6ADA shows London Bridge, and mentions KFWJ, KBBC, and TV 45.

CIRCLE 84 ON READER SERVICE CARD

## THE EXCITING WORLD OF RADIOTELETYPE MONITORING

From the mailbox . . . Khalid Yousef of Saudi Arabia writes, "I am a communications hobbyist and am interested in most forms of communication. I have two scanners, two SW receivers, a PC (personal computer—Ed.), and a satellite receiver, which is still under construction. I also have a simple RTTY box which receives normal baudot and ASCII modes.

"At the moment, I'm only receiving two RTTY stations, VOA and Iraqi News Agency . . . I also get other signals but can't seem to decode them, maybe because of the difference in RTTY modes.

"I would like for you to give me some info on the way of receiving Arabic RTTY. And what is the best multi-mode converter on the market today in your experience?"

"By Arabic RTTY, I suppose you mean in Arabic script, and not using the Latin alphabet version you see on your video monitor.

The easiest solution is to find a chart comparing a Latin character teleprinter alphabet with an Arabic one. Then, get a printout of the Latin-lettered text from your decoder and make a direct translation into Arabic using the conversion chart. This method is time consuming, however, and will take time away from your RTTY monitoring.

You could try locating a used Teletype machine with an Arabic keyboard. Maybe a news agency or an amateur radio operator in your area can help you find one. Connect it to your computer, and operate from the Teletype machine after loading the CTTY command, found on your MS-DOS disk, into your computer. Refer to your DOS user's manual for more information about the CTTY mode. The command is leftover from the days when output from computers was sent not to video screens but to Teletypewriters. I have no experience in using the CTTY mode and only mention it as a suggestion.

Using CTTY mode would prevent you from changing speeds or transmission modes on the teletype machine. It also would be costly just to be able to monitor one RTTY mode. Furthermore, there are now two Arabic teleprinter alphabets to contend with. One is the standard Arabic alphabet, the other is the newer fourshift, ATU-80 alphabet, which is used to send international telexes.

If you would prefer using just your computer and not a Teletype machine, a visit to a local news agency might give you some ideas, if they use PC's as text input devices. Inquire about the communications software program the agency uses, and how its computers are programmed to read Arabic script, if it's done at all. I have a feeling this is a more complicated situation because your output device, if it's a printer, would have to

be set up to handle Arabic text. More than likely it would mean using graphics program software rather than a text-based one to create Arabic characters. Again I must state that I have no expertise in this area and suggest you seek someone who has.

As to which is the "best" multi-mode converter, I cannot say, I have several of them, both American and European commercial models. Each has functions that I like, and each has characteristics I don't like. None satisfies me 100 percent. You would have to get the spec sheets for the various units on the markets and make comparisons for yourself.

If you are relatively new to the hobby, I would suggest you refrain from buying a sophisticated multi-mode decoder until the time you become proficient in using your "simple RTTY box." Numerous stations still transmit using normal baudot RTTY and their frequencies can be found monthly in our RTTY Intercepts section. Try to get reasonably good copies from them consistently. Going after the exotic RTTY modes at an early stage, when you haven't been able to monitor more than the OVA and INA stations, would only exasperate you, because they are more difficult to tune correctly.

Those of you who monitor RTTY weather stations, either for enjoyment or as part of your job, may be interested in reading a U.S. Government publication called Mariners Weather Log. It is published quarterly by NOAA's National Oceanographic Data Center, and is sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

This publication, for which I see no subscription price listed, has a regular "Radio Officer Tips" department, and occasionally publishes frequency lists of use to readers of this column. For instance, the 80 page Spring 1990 issue provided times and frequencies for stations in North America and Europe that provide International Ice Patrol broadcasts. The Radio Officer Tips section was devoted to the radio facsimile transmissions of KVM70, NOAA, Honolulu, HI. Other pages are devoted to weather-related feature stories and reviews of recent marine weather observations.

Thanks to Ed Fuhrman for information about Mariners Weather Log. Ed says he's, "a long-time POP'COMM reader, an avid SWL'er ham (N4VJE), and an electronics technician serving with Oceanographic Unit Three aboard the USNS H. H. Hess (T-AGS 38)."

Ed says, "Oceanographic Unit Three is one of three deep-ocean units conducting detailed geophysical survey operations in all oceans of the world. It is a military unit comprised of 3 officers and 24 enlisted person-

nel . . . the USNS H. H. Hess (is) manned by a civilian contract-crew under the cognizance of Military Sealift Command. Working with us are five or six civilian hydrographics and scientists from the Naval Oceanographic Office (our base). There are several hams onboard (our MARS call is NNNOCYX), and twice as many SWL'ers, who take full advantage of being on a globe-trotting mobile platform."

### RTTY Intercepts

**5115.8:** TYE, ASECNA, Cotonou, Benin, w/RYRY, 425/50 at 0028. (Don Schimmel, WV)

**5170:** Un-ID idling 0100-0300. ARQ-E3 850/100. Mayotte (RFVITT) in TDM2 mode is last sta. I logged here on this freq., but this fellow is very strong and probably closer. (Fred Hetherington, FL) My database shows FUB, Paris Navrad, France, on this freq. as a strong possibility—Ed.

**6498:** KLB, Seattle R., WA w/ARQ t/c & CW ID at 0945. (Hetherington, FL)

**7407:** GVC, or GVVO, w/RYRY & foxes w"brown" spelled "bgown." Was 425/50 at 2343. (Harold Manthey, NY) You intercepted CML5, PTT, Havana, Cuba—Ed.

**7442.5:** NKW, USN, Diego Garcia, Brit. Indian Ocean Terr., w/"CQ Meteo Mauritius. Here is Meteo Diego Garcia. QSL and let us know how you are receiving. Duty observer sends." Was 850/50 at 0140 & foll by meteo msg fm Meteo FJDC. (Hetherington, FL)

**7594.5:** 6VY41, Dakar Meteo, Senegal, w/CQ & RYRY, 50 baud at 0930. (John Kleinow, WI)

**7793:** Un-ID, but possibly Mexican, cuz Cancun was ment'd in sev short msgs in SS. Was 170/100 & ended at 0106. (Hetherington, FL)

**8015.7:** Un-ID idling 2335 to past 0200, TDM2 170/96. I suspect it's a Chilean "Todos Bucaneros" net sta. (Hetherington, FL) Another possibility is VER, Canadian Forces, Ottawa, ON, which I've logged in FDM mode on this freq—Ed.

**8051.5:** WOO, Ocean Gate R., NJ, w/MAFOR for N. Atlantic, FEC at 1223. (Manthey, NY)

**8122:** TNL48, ASECNA, Brazzaville, Congo, w/RYRY, 50 baud at 0515. (Kleinow, WI)

**9827.5:** SPK10, SPK, Phnom Penh, Cambodia, w/RYRY & nx in FF at 1125, 500/50. At 1130, w/RYRY again + saying "8930 kHz". (Hetherington, FL)

**9983.5:** RFFC, French Mil., Paris, w/a 5,427 grp 5F msg to RFVI at 2345. ARQ-E3 425/100. (Hetherington, FL)

**10090:** Un-ID w/a 5F msg ending at 0030, 240/50. Went to USB fone w/15-minute rehash of number grps in SS. (Hetherington, FL)

**10283:** RFLIRT, French Navy, French Guiana, w/a svc msg to RFLI, ARQ-E3 400/48 at 0000. (Hetherington, FL)

**10495:** Un-ID w ARQ t/c in EE ending at 2345. (Hetherington, FL)

**10579.8:** HMF, or HMK, KCNA, Pyongyang, North Korea, w/nx in EE at 1020. Did not tune in early enough to determine c/s. Sometimes uses one, sometimes the other. Misprinting 60%. Poor. Ended 1100. (Hetherington, FL) My database shows the c/s here as HMF46—Ed.

**10613:** CLP1, MFA, Havana, Cuba, w/circulars in SS, 50 baud at 1825. (Kleinow, WI)

**10800:** FUF, French Navy, Fort de France, Martinique, relaying Reuters nx in FF from Paris, ARQ-E3 850/72 at 0915. (Hetherington, FL)

**11117.6:** AFS, Offutt AFB, Omaha, NE, w/wx data at 1825, 275/74. (Dallas Williams, CO)

**11175:** 5HD, Dar-es-Salaam Aero, Tanzania, w/RYRY, 217/50 at 0417. (Hal Bilodeau, IL)

**11486.2:** AFS, Offutt AFB, Omaha, NE, w/plain-

**Abbreviations Used in The RTTY Column**

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

text wx for the U.S. coastline, FDM 85/75 at 0453. (Bilodeau, IL)

**11486.5:** Un-ID U.S. Military running AP's baseball scores at 0456, FDM 85/75. (Bilodeau, IL)

**11494:** SOL249, PAP, Warsaw, Poland, w/RURY foll by nx in EE at 2100, 425/50. (Hetherington, FL)

**12183.5:** SPW, Warsaw R., Poland, w/ARQ msg ending at 2140, then "QXS 16702" in CW. (Hetherington, FL)

**12307.6:** Un-ID w/foxes & crypto at 0059, 240/75. (Bilodeau, IL)

**12492:** Soviet vessel BMRT 253 w/tfc to UAH, 425/50 at 0133. (Michael Regan, MD)

**12500:** Soviet vessel MB 0378 w/tfc to UMV at 0055, 425/50. UJJZ, BATM 6119, Kapitän Edemskij, w/tfc to UHK at 0115. UYEH, MB0019, w/tfc at 0121. LYER, RTMS 7575, w/tfc to UHK at 0128. (Regan, MD)

**12513:** BAKT Mariya Polyvanova, w/tfc to URL, 425/50 at 0124. (Regan, MD)

**12514:** BMRT 592 w/tfc to URD at 0516, 425/50. (Regan, MD)

**12526:** Soviet vessel AB2423 w/tfc to UXN at 0513, 425/50. (Regan, MD)

**12835:** GYU, Royal Navy, Gibraltar, w/foxes & 10 count, 75 baud at 1810. (Kleinow, WI)

**13075:** KLB, Seattle R., WA, w/ARQ tfc to a ship at 1225. (Hetherington, FL)

**13080:** HEC, Berne R., Switzerland, w/ARQ phasing sig & CW ID at 0448. (Bilodeau, IL)

**13323.5:** CSY, Santa Maria Aero, Azores, w/aero wx at 0501, 805/50. (Bilodeau, IL)

**13490:** RCG77, Tass, Moscow, w/nx in FF, 425/50 at 1912. (Williams, CO)

**13685:** CFH, Canadian Military, Halifax, NS, w/wx data at 1100, 850/75. (Hetherington, FL)

**13737:** 5YD7, Nairobi Aero, Kenya, w/RURY, 50 baud at 0900. (Kleinow, WI)

**13988:** Un-ID w 5F/5L msgs, "11177" intro, 500/75, 0313-0319. (Williams, CO)

**14362:** SOO236, PAP, Warsaw, Poland, w/nx in EE, 425/50 at 1718. (Williams, CO)

**14387.2:** AFS, Offut AFB, Omaha, NE, w/coded & plaintext wx, FDM 85/75 at 1458. (Bilodeau, IL)

**14387.6:** Un-ID U.S. Military w/AP nx at 1454, FDM 85/50. (Bilodeau, IL)

**14490:** RNK36, Bakhtar, Moscow, USSR, w/nx in EE at 0457, 425/50. (Williams, CO)

**14497.5:** CSY66, Santa Maria Aero, Azores, w/aero wx, 850/50 at 1840. (Manthey, NY)

**14567:** HMF32, KCNA, Bosong, North Korea, w/nx in EE, 50 baud at 0545. (Kleinow, WI)

**14595:** JAL54, Kyodo, Tokyo, Japan, w/nx in EE at 0519, 850/50. (Williams, CO)

**14597:** Un-ID w/nx in Polish, FEC at 1429. Had very heavy QRM from adjacent military Packet radio xmsns. (Bilodeau, IL) SPW, Warsaw R., Poland—Ed.

**14609.3:** JAM33, Gaimu, Tokyo, Japan, w/RURY & foxes, 370/50. (Hetherington, FL) Time?—Ed.

**14699:** Un-ID w Arabic telexes, incl. what appeared to be a schedule of freqs/times, etc. Was 393/50 at 0501. (Bilodeau, IL) Not telexes, but nx in AA from YIX70, INA, Baghdad, Iraq—Ed.

**14700:** REB24, Tass, Moscow, USSR, w/RURY, 425/50 at 0453. (Williams, CO)

**14773:** Possibly the GDR Embassy, Havana, Cuba, w/5L grps at 0436, 500/75. (Williams, CO)

**14787:** 9PL, Kinshasa Aero, Zaire, w/RURY, 50

baud at 2115. (Kleinow, WI)

**14812.5:** HGX32, Hungarian Embassy, QTH unknown. sending to HGX21, MFA, Budapest, 425/100 at 1450. (Hetherington, FL)

**14890:** PL, Havana, Cuba, w/foxes, 10 count, & RURY, 50 baud at 2120. (Kleinow, WI) This either could be CLN483, actually listed at 14891.4, or a spur of CLN451 on 14901—Ed.

**14915:** NBA, USN, Balboa, Panama, w/unclas tfc to 5KM at 2100, 850/75. (Hetherington, FL)

**14932:** APS, Algiers, Algeria, w/nx in EE at 1020, 850/50. (Hetherington, FL)

**14960:** FUF, French Navy, Fort de France, Martinique, w/"controle de voie," ARQ-E3 408/192 at 0325. (Bilodeau, IL)

**15717.3:** GXQ, British Army, London, England, w/RYI's & foxes, 170/50 at 0431. (Williams, CO) This freq also has been used by MKK, RAF, London, to send RYI's & foxes—Ed.

**15752.5:** CNM66, MAP, Rabat, Morocco, w/nx in FF, 425/50 at 1637. (Manthey, NY)

**15934:** PWX w/"cinta de prueba de PWX" and "5KM de PWX" at 2325, 425/75. Began sending telexes to 5KM at 2330. (Bill Koechig, MI) Same sta on 15935 kHz w RURY/SGSG to YWMI at 0230. (Kleinow, WI) PWX is Brasilia Navrad, Brazil—Ed.

**15947.8:** GXQ, British Army, London, w/RYI's & foxes, FDM 325/50 at 0425. (Williams, CO)

**16086:** Un-ID Cuban diplo post w crypto after ZZZZ, 500/50 at 0417. Appeared to be a relay and not CLP1. (Williams, CO)

**16117:** 6VK317, PANA, Dakar, Senegal, w/nx in EE, 425/50 at 1648. (Manthey, NY)

**16125:** RFQP, French Military, Djibouti, w/"controle de voie," TDM2 354/200 at 0236. (Bilodeau, IL) Channel A or B?—Ed.

**16282.8:** MKD, RAF, Akrotiri, Cyprus, w/RYI's & foxes at 0405, FDM 325/50. (Williams, CO)

**16334.5:** FZS63, St. Denis Meteo, Reunion, w/wx data for Antananarivo, Madagascar, at 0410, 425/75. (Williams, CO)

**16885.5:** UJY, Kalingrad R., USSR, w/tfc in RR, 170/50 at 1826. (Manthey, NY)

**17550:** RKK, Tass, Moscow, USSR, w/nx in EE, 425/50 at 1728. (Williams, CO)

**17610:** YZJ8, Tanjung, Belgrade, Yugoslavia, w/nx in SS at 1845, 500/50. (Williams, CO)

**18040:** Un-ID Hungarian Embassy in DUP-ARQ at 1350. (Takashi, Kuroda, Japan)

**18050:** RED30/REM57/RBI78, Tass, Moscow, USSR, w/RURY & c/s's at 1544, 425/50. (Manthey, NY) The correct c/s for this freq., which was not on the Tass list, is RQV70—Ed.

**18055:** DFZG, MFA, Belgrade, Yugoslavia, w/plaintext tfc at 1456, 425/75. (Williams, CO)

**18154.5:** STK, Khartoum Aero, Sudan, w/coded

wx, 425/50 at 0400. (Williams, CO)

**18195:** RCI73, Tass, Moscow, w/nx in FF, 425/50 at 1453. (Williams, CO)

**18215:** WFG93, USIA, Greenville, NC, w/nx at 1925, 75 baud. (Kuroda, Japan)

**18295:** SDU9, STA, Stockholm, Sweden, w/a msg to Ho Chi Minh Ville, Vietnam, TDM2 96 baud at 1943. (Kuroda, Japan)

**18310:** RDT57, Tass, Krasnoirsark, USSR, w/nx in FF, 425/50 at 1450. (Williams, CO)

**18363.5:** 9PL, Kinshasa Aero, Zaire, w/msgs in EE, 50 baud at 1936. (Kuroda, Japan)

**18385:** RRQ20, Tass, Alma Ata, USSR, w/nx in EE, 425/50 at 1400. (Manthey, NY)

**18413.2:** MFA, Jakarta, Indonesia, w/cables & nx in EE at 1421, 170/50. (Williams, CO)

**18654.5:** CLP1, MFA, Havana, Cuba, w/prensaminrex nx in SS at 1845, 500/50. (Manthey, NY)

**18835:** RWN74, APN, Moscow, USSR, w/nx in RR, 407/100 at 0432. (Bilodeau, IL)

**18870:** CLP1, MFA, Havana, Cuba, w/a circular in SS, 500/50N at 0349. (Williams, CO)

**19498.5:** Un-ID French mil., w/a msg in FF, ARQ-E3 100 baud at 1515. (Kuroda, Japan) My database shows FUM, French Navy, Papeete, Tahiti, using this freq.—Ed.

**19675:** RFQP, French Military, Djibouti, w/"controle de voie," TDM2 379/200, channel B, at 0348. (Bilodeau, IL)

**19747:** 6VU79, Dakar Meteo, Senegal, w/wx at 1910, 425/50. (Manthey, NY)

**20078:** FTU8B, DIPLO, Paris, France, w/nx in FF, 425/75 at 0250. (Koechig, MI) Not FTU8B, but FZN8, DIPLO, Noumea, New Caledonia in a relay from France—Ed.

**20471:** CXR, Montevideo Navrad, Uruguay, calling PWX at 1923, 850/75. (Manthey, NY)

**20531.5:** HDN, Quito Navrad, Ecuador, w/RURY & SGSG, 850/75 at 1542. (Manthey, NY)

**220754.2:** TTR88, ICRC, N'djamena, Chad, w/tfc in FF, ARQ at 1425. (Manthey, NY)

**23152:** OBC, Callao, Navrad, Peru, w/RURY & SGSG at 1601, 850/75. (Williams, CO) Same sta., same tfc at 1950. (Manthey, NY)

**23520:** FUX, French Navy, Le Port, Reunion, w/coded wx, ARQ-E3 100 baud at 1310. (Kuroda, Japan)

**24300:** Y7A90, MFA, Nauen, GDR, w/5L grps at 1550, RURY at 1555, 325/50. (Williams, CO)

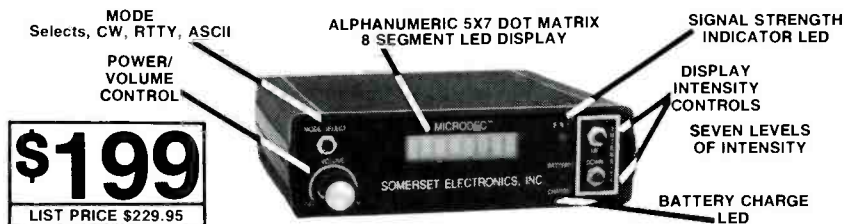
**26450:** Y7A92, MFA, Nauen, GDR, w/ADN nx in GG at 1414, 425/50. (Hetherington, FL)

**26207:** DFZG, MFA, Belgrade, Yugoslavia, w/nx in SC, 400/75 at 1515. (Hetherington, FL)

**26241.5:** FUX, French Navy, Le Port, Reunion, w/tfc to Paris at 1210, ARQ-E3 390/200. (Hetherington, FL)

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# BROADCAST DX'ING

BY ROGER STERCKX, KVT1JH

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

**Down East Doings:** Don Hallenbeck, of Pittsfield, Maine, fills us in on some of the more unusual local broadcast-related doings.

For instance, Maine Public Radio Stations used to be on the air only from dawn to dusk, but last September they began operating on a 24-hour daily schedule. This wasn't prompted so much by dedication as much as the fact that most of the transmitters are in unheated buildings. The constant cooling down and heating up of the transmitters in such an environment was raising havoc with the equipment during the frigid Maine winters!

WDME, of Dover-Foxcroft, operates from a former AmTrak railroad car and could well be the only American station with this type of facility. The AM outlet is on 1340 kHz, with FM on 103.1 MHz. Don reports that area listeners have recently been experiencing problems receiving the FM, although not through any fault of WDME.

The problem apparently arose a few months ago when Skowhegan's WTOS-FM, and Lewiston's WBLM-FM exchanged frequencies (WTOS was 102 and WBLM was 106). Of the three stations, WBLM has the best signal, and Don tells us that when they moved near the WDME channel, it caused some listeners to have difficulty in picking up that station. Inasmuch as WDME has heavy sports coverage, some folks are quite upset. Don understands that WDME is taking steps to remedy the situation.

College station WMHB/90.5 MHz, in Waterville was temporarily shut down by a Colby College security guard after a call from the Maine State Police. Seems that at about 4 a.m. they got a phone call from a listener complaining about obscene language and a bogus call for ambulance and rescue. The school backed the actions of the security guard, and reportedly wouldn't let the two deejays back on the air until they signed a pledge to adhere to FCC regulations and station standards.

*A Wrinkle In The Sale:* Gary K. Hamilton, of Utica, NY advises that not long ago Utica stations WUTQ and affiliate WOUR-FM were sold for \$11.5-million. It didn't take long for the new owner to bring suit against the former owner, charging that certain important business records and files were not turned over when the stations changed hands.

The former owners claimed that records relating to the operation of the stations were all turned over, as specified in the sales agreement. Corporate records, which the former owners claim were not covered in the sales agreement, were not turned over.

Also in contention were accounts receivable money that the two stations rang up before the sale was completed.

*Time Ran Out:* In April of 1980, the FCC authorized the licensee of San Francisco's KIQI/1010 kHz to modify its then existing daytime-only facility. That authorization expired a year later. Then, in June of 1982, the FCC granted an application to modify that authorization to allow the station to be moved to Sunnyvale, CA, reduce the daytime power from 50 kW to 25 kW, and add night operation with 10 kW. The expiration for the move to Sunnyvale was set at June 1, 1983.

The station later asked for an extension to December 15th, 1983. Then, in September of 1985, the FCC modified the licenses of Class II stations on Canadian clear channels (including KIQI) to expand hours of operation from daytime to unlimited time and to limit nighttime power to 500 watts.

On Mar 30, 1987, KIQI's owners applied to the FCC to modify its San Francisco facility to waive the 500 watt limit for nighttime operation and, instead, run 2 kW. The application noted that KIQI had "earlier held" a permit to move to Sunnyvale and operate at night with 10 kW.

At that point, the FCC checked back through its records and found that the Sunnyvale authorization had long since expired without action having been taken on the part of the station. The FCC then canceled the 1980 modification authorization, along with the 1982 Sunnyvale modification, citing failure to ever apply for a license to cover the changes, or apply for further extensions to make the changes.

In May of 1987, KIQI asked the FCC to reconsider the cancellation, citing zoning problems in Sunnyvale having held up the move and asserting that the permission to make the change had remained in force until it had been canceled by the FCC in April of 1987. The FCC replied in October that it found no basis to justify night operation at 2 kW based upon this contention.

In November of 1987, KIQI's owners petitioned for partial reconsideration. In April of 1988, the FCC denied the petition. This was followed, in May of 1988, of KIQI filing for a review by the FCC.

### New FM Call Letters Assigned

KCLU	Thousand Oaks, CA
KSOH	Wapato, WA
WRTL	Tomah, WA

### Changed FM Callsigns

New	Former	
KATG	KAPT	Luling, TX
KDLX	KVIB	Maui, HI
KKCY	KKLU	Colusa, CA
KLFX	KIXS	Harker Hills, TX
KLKK	KZEV	Clear Lake, IA
KLSQ	KAEZ	Gilmer, TX
KMXA	KHAT-FM	Lincoln, NE
KQLL-FM	KVLT-FM	Owasso, OK
WEZQ	WBMW	Weathersfield, NY
WFNN	WEIR-FM	Cadiz, OH
WLVF-FM	WHGS	Haines City, FL
WTZR	WOFM	Moyock, NC
WWEM	WKOS-FM	Rochester, NH

### AM Callsign Changes

#### Requested

Present	Seeking	
KLSS	KRNI	Mason City, IA
KRSS	KSBN	Spokane, WA
WHOG	WQAI	Fernandina Beach, FL

### Requests Withdrawn For New/Changed CallSigns

Present (new)	Wanted	
WRCN-FM	WXJA	Emporia, VA
	WRHD	Riverhead, NY

### Changed AM Callsigns

Present	Seeking	
KBLX	KBFN	Berkeley, CA
KCBN	KRNO	Reno, NV
KKIS	KIXA	Pittsburg, CA
KQLL	KSKS	Tulsa, OK
WOOO	WSVL	Shelbyville, IN
WRHD	WRHZ	Riverhead, NY
WSPB	WSRZ	Sarasota, FL
WTKS	WRTH	Brewer, ME
WXLN	WKXF	Eminence, KY
WXBX	WGKT	Buffalo, NY
WXTH	WASY	Alexander City, AL
WYRS	WXLF	Rock Hill, SC
WZNN	WKOS	Rochester, NH

**KSZL** 1230  
Country sizzle **AM**

If you're within earshot of Barstow, CA you know KSZL/1230 kHz playing country music. Their bumper sticker was sent to us by Tom Martin, Yucaipa, CA.

### Applications For AM Facility Changes

KBOE	Oskaloosa, IA	740 kHz Drop to 229 watts.
WAMN	Green Valley, WV	1040 kHz Move to 1050 kHz, 1.43 kW/250 watts.

### Applications For FM Facility Changes

(new)	Bethel, AK	107.9 MHz Move to 98.3 MHz.
KAWZ	Twin Falls, ID	89.5 MHz Move to 89.9 MHz.
KDYC	Grants, NM	97.9 MHz Move to 100.9 MHz.
KTJC	Rayville, LA	92.1 MHz Move to 92.3 MHz.
KURO	Huron, SD	92.1 MHz Move to 99.1 MHz.
WCNG	Murphy, NC	104.3 MHz Move to 102.7 MHz.
WELK	Elkins, WV	95.3 MHz Move to 94.7 MHz.
WHMX	Lincoln, ME	99.3 MHz Move to 105.7 MHz.
WLXQ	Hinesville, GA	92.1 MHz Move to 92.3 MHz.

### FM Facility Changes Approved

KRGK	Carthage, MO	104.9 MHz Move to 95.1 MHz, 50 kW.
------	--------------	------------------------------------

### AM Facility Changes Approved

KBOP	Pleasanton, TX	1380 kHz Increase days to 4 kW.
KDFT	Ferris, TX	540 kHz Move to DeSoto, TX.
KELG	Elgin, TX	1440 kHz Move to Manor, TX, 800 watts days.
KHDL	Opportunity, WA	630 kHz Move to 840 kHz, 50 kW/250 watts.
KOKC	Guthrie, OK	1490 kHz Increase to 1 kW.
WAUR	Sandwich, IL	930 kHz Increase nites to 4.2 kW.
WCHM	Clarkesville, GA	1500 kHz Move to 1490 kHz, 1 kW.
WPGC	Morningside, MD	1580 kHz Drop nites to 400 watts.
WRSJ	Bayamon, PR	1560 kHz Increase nites to 750 watts.

### Permits Granted For New AM Stations

AK	Fort Yukon	900 kHz
TX	Hawley	1060 kHz

### Permits Granted For New FM Stations

AK	Anchorage	92.9 MHz	100 kW
AZ	Sierra Vista	101.7 MHz	3 kW
CA	Burney	89.7 MHz	2.3 kW
CA	Ft. Bragg	96.7 MHz	1.7 kW
CA	San Luis Obispo	97.1 MHz	25 kW
CA	Shafter	104.3 MHz	3 kW
GA	Dock Junction	105.9 MHz	3 kW
IN	South Bend	106.3 MHz	3 kW
LA	Alexandria	93.9 MHz	3 kW
LA	Arcadia	92.5 MHz	3 kW
LA	Vivian	95.7 MHz	3 kW
MI	Michigan	94.9 MHz	3 kW
NM	Albuquerque	101.3 MHz	2 kW
NY	Avon	93.3 MHz	1.7 kW
NY	Lake Luzerne	94.7 MHz	1.35 kW
NY	Warrensburg	100.5 MHz	185 kW
OH	McArthur	98.7 MHz	3 kW
OH	Upper Sandusky	90.1 MHz	3 kW
PA	Jackson Twp.	91.1 MHz	3.5 kW
PA	Mt. Carmel	99.7 MHz	1 kW
SC	Conway	93.9 MHz	3 kW
TN	Henderson	107.7 MHz	3 kW
TN	Seymour	96.3 MHz	1.2 kW
TX	Claude	106.5 MHz	6 kW
VT	Derby Center	92.1 MHz	750 watts
VT	Sunderland	95.1 MHz	45 kW
WA	Camas	94.7 MHz	3 kW
WA	Dishman	106.5 MHz	3 kW
WI	Spooner	106.3 MHz	3 kW
WI	Waunakee	105.1 MHz	3 kW



WMAGIC looks like an exceptionally long callsign, but they're more formally known as WMAG/99.5 FM, in High Point, NC. Thanks to Harley Drew, North Augusta, SC for this bumper sticker.



This "POWER 104 KRBE" bumper sticker came in from Steve Smith, who is a Producer at the Houston Top-40 CHR outlet.

In review, the FCC said that it found that KIQI's "attempt to circumvent the current 500 watt limit by belatedly styling its March 30, 1987 application as a 'modification' of the Sunnyvale Construction Permit should be denied." The FCC defended its staff's cancellation letter of April 30, 1987, and saw no merit in KIQI's argument for reconsideration.

Furthermore, the FCC denied KIQI reconsideration of the \$8,000 forfeiture levied last February for repeated violations of regulations requiring the illumination of the tower lights.

*Wither HDTV?* A question from Joe Di-Noto, of Michigan, who asks for our predictions regarding High Definition Television

(HDTV). From a theoretical engineering standpoint, the U.S. has several systems that show lots of promise. Unfortunately, this does not appear to be a direct path to actual broadcasting or the production of receiving equipment.

From a practical point of view, while we are tinkering in our labs, the Japanese already have HDTV systems and receivers ready to go and pour out onto world markets. As with many other big bucks areas of consumer electronics, it looks like Uncle Sam may have missed his chance to catch the brass ring with HDTV.

However, UHF TV Channels 38 through 69 (614 to 806 MHz) are presently being considered for possible cancellation and the

frequency space given over for HDTV broadcasting, if not for digital audio broadcasting (DAB). Another possibility is to establish frequencies that will allow existing standard TV stations to simulcast HDTV, at least on a temporary basis.

Frequencies being considered for HDTV simulcasting are those between 500 and 608 MHz (UHF TV Channels 19 to 36) not allocated to TV licensees. Some frequencies would have to be shared with two-way communications users. Still, even these frequencies are also being mulled over for DAB use instead of HDTV.

*The DAB Scene:* In addition to the two bands mentioned above, DAB allocations are being tossed around for other frequency



**98.1 F.M. FAIRBANKS, ALASKA**

Alaska's KWLF/98.1 FM, in Fairbanks, is known as "K-Wolf," hence the wolf's paw print on their bumper sticker. They play contemporary rock. Sent to us by Bruce M. Rossi, Delta Junction, AK.

bands, including 1460 to 1530 MHz; 1710 to 1850 MHz; 1850 to 1990 MHz; 2200 to 2290 MHz; 2500 to 2655 MHz. It should be noted that all of these bands are presently allocated and used for other purposes, and several are coveted by yet more emerging services. None could be reallocated without controversy, especially since the feds have operations going on several of them and they (for one) are unlikely to take the prospect of eviction very quietly.

This is especially true of three bands, in particular. The band 1710 to 1850 MHz is used for fixed and mobile activities of the Dept. of Justice, the Treasury Dept., the Army, the FAA, and the Dept. of Agriculture. In addition, 1460 to 1530 MHz is used by the Dept. of Defense and NASA for telemetry purposes in missiles, aircraft, and

space vehicles. Lastly, 2200 to 2290 MHz is used for the USAF's Space Ground Link Subsystem, also by NASA for its Tracking Data Relay Satellite System, and by the U.S. Treasury Dept. for NFM mobile satellite uplinks and downlinks.

*Lost In The Shuffle:* Little has thusfar been heard about what's going to be happening with the 1605 to 1705 kHz expansion portion of the mediumwave AM broadcast band. Like, don't hold your breath until you see bustling activity here, or new AM receivers touting their coverage of these frequencies.

For the immediate future, and perhaps for longer than that, this whole concept is running on a very long, slow-burning fuse. Some think that, if and when the fuse ever finally burns down, it's going to lead to a fiz-



WYNY/103.5 MHz is the Big Apple's country music outlet. Thanks to Marlow Saady, Briarwood, NY for sending in their bumper sticker.

zle rather than the big bang everybody was once hoping for.

Stand-alone daytimers and other AM'ers who harbor the belief that these frequencies are the key to solving all of the many problems facing their ilk are going to be sadly disappointed. Whatever the solutions are to rejuvenating this venerable aspect of broadcasting, they are going to primarily lie in areas other than a reliance upon this band. It's taking too long, there's too much foot dragging. Moreover, the public is spellbound by too many dazzling technologies (M-TV, HDTV, DAB, DAT, etc.) here or on the horizon to be swept off its feet by a couple of extra kHz tacked onto the high frequency end of the AM band. AM stereo didn't do much, neither will this.

The answers are out there somewhere, perhaps in the area of programming innovation as much as technology. And I don't mean to say that the ultimate goal of an AM station is to cut expenses by dumping its staff and then rebroadcasting the programming of an FM outlet. If that's the best a station can come up with, then maybe it should be forced to relinquish its license and let someone else have a go at broadcasting on that frequency from their location.

This column would like to hear from you with AM and FM station photos, news clippings, bumper stickers, current QSL's, comments, questions, and opinions relating to AM and FM broadcasting.

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# CLANDESTINE COMMUNIQUE

## WHAT'S NEW WITH THE CLANDESTINES

A considerable amount of clandestine and related broadcast activity has developed over the Gulf crisis. And the longer the situation continues unresolved, the more likely there are to be even more such goings-on.

The Iraqi invasion soon shut down Radio Kuwait, of course. Even so, once Iraqi troops entered Kuwait City, the Kuwaitis managed to set up a paper clip studio at one of their desert transmitter sites and continue to broadcast for another 36 hours or so, appealing for help from fellow Arab states. Then, those signals also ceased, ending broadcasts from Kuwait.

The Kuwait government-in-exile was supposed to be given access to transmitters owned by the Saudi government in order to put a "Radio Free Kuwait" type situation on the air. But, as of this writing, we have no information indicating that this has taken place. It's possible that such broadcasts may be medium wave only, though we'd think using shortwave would be very important.

The British Forces Broadcasting Service is airing special programs for British troops in Saudi Arabia, via BBC facilities. See this month's *Listening Post* column for the schedule. The US's AFRTS, having given up on shortwave a couple of years ago, hasn't a similar move with the VOA.

Radio Baghdad is airing special English language propaganda broadcasts directed to US troops in the region. The *Listening Post* column also has a schedule for these broadcasts.

There is other activity, too. Iraqi radio has reinstated an anti-Egyptian broadcast it aired a number of years ago. *The Voice of Egypt of Arabism* urges Egyptians to strike out against "imperialist" and "Zionist" interests within Egypt and speaks against Egyptian president Mubarak, as well. The broadcast is reported to be on the air between 1830-2000 on one or more of these frequencies: 12025, 15150, 15170 and 17720 (not necessarily the same each day).

A program or station named *Holy Mecca Radio* is reported on the air (perhaps 24 hours a day) on 9730. It is jammed and said to be coming from Iraq.

The anti-Iraq program *Sowt al-Iraq*, carried over Radio Damascus, is scheduled at 1700-1800 and 0300-0400 on 12085. This may not be on a daily basis, however. And the morning start time may be 0400 rather than 0300, or it may switch back and forth. Robert Ross in Canada heard this tentatively at 0401 with music and talk in Arabic, patriotic type march, gongs, chimes and mentions of Iraq.

The Bush administration says it will use covert activities to try to bring down Hussein. As of about five weeks into the crisis,

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21st August 1990

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Our ref  
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Ref: BH/RA/20

*Dee Chris*

Thank you for your letter.

We were interested to know that our signal has been heard in your area and extremely grateful for the information.

We began broadcasting to the Gulf and Saudi Arabia at 0200 on Monday, 13th August, including requests and music for the British Forces.

Best wishes and happy listening !!

*Richard Astbury*  
D R G ASTBURY  
Station Manager

*This is the form letter British Forces Broadcasting is sending out in response to reception reports. (Thanks to Chris London, MN)*

however, these covert techniques had not yet included clandestine radio, at least as far as we have seen (or heard).

Interesting sidelight: Thomas Tetzleff (WL7AEC) of Minnesota copied a CW transmission over Baghdad Radio's 13660 frequency and sent repeatedly during Baghdad's broadcast (he monitored it from 2123-2127). The sending station identified itself as "ARRF" and the text contained such comments as "Saddam Hussein is a butcher . . . Saddam Hussein is a murderer . . . and closed with "Nuke Baghdad."

Obviously, the Gulf situation is very fluid, at least at the moment. Readers interested in staying abreast of the clandestine radio scene there should tune in such DX programs as "SWL Digest" on Radio Canada International and "Media Network" on Radio Netherlands for the latest developments.

In other clandestine activity (or non-activity) more and more it appears that the contra's *Radio Quince de Septiembre* has, in-

deed, gone off the air. Ditto for the FMLN's *Radio Venceremos*, although the sister station, *Radio Farabundo Marti*, continues to be active.

*The Voice of the Broad Masses of Eritrea* is now announcing an address in the Sudan —PO Box 891, Port Sudan, Sudan.

A new clandestine (though perhaps just an old transmitter with a new name) is the *Voice of the Struggling Chadian People*, being reported on 11850 between approximately 1600-1800, in French and Arabic. Two former anti-Chadian stations have been active in the past—Radio Bardai and the *Voice of the Chadian Popular Revolution*, both of which used 6009. Both were Libyan operations and there is no reason to think this new one is anything else.

Chris London in Minnesota, reports reception of *Radio SPLA* on 11710 from 1300-1359. He copied the following sign

*(Continued on page 75)*

## WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

There's nothing like a good world crisis to add even more interest in listening to shortwave, and more things to listen for! The Gulf crisis is certainly a prime example. A number of the more clandestine-like activities will be covered in the *Clandestine Communiqué* column. But there are a couple of things also of interest to the non-clandestine fan:

Radio Kuwait left the air about a day after the invasion began and, of course, there's no telling if we will ever see its return. Radio Baghdad is broadcasting an English language propaganda program to U.S. troops in Saudi Arabia. You can listen for this on 11860 between 1000-1200, 1600-1800 and 2000-2200. Reception at our midwest listening post isn't very good but maybe you'll have better luck. Incidentally, we'd be very interested in getting a good quality recording of this.

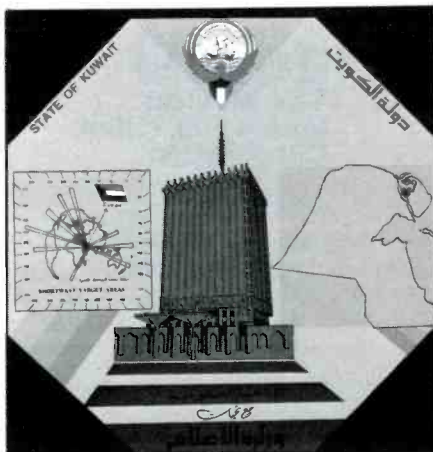
As they did in the Falklands war, the British Forces Broadcasting Service is airing a special service on shortwave, directed to British troops in Saudi Arabia and the Gulf. BFBS is broadcasting a half hour program of rock and personal messages, with a few sports notes tossed in. This is currently scheduled at 0200 on 7125, 9640 and 13745; 0930 on 15205, 17695 and 21735 and 1330 on 15195, 17695 and 21500. Reception reports can be sent to BFBS, PO Box 1234, London W2, England.

There's still been no definite news as to the future of Radio Berlin International, even though by the time you read this the German Democratic Republic will have history for two or three months. It would appear, though, that Deutsche Welle will simply absorb RBI and add RBI's transmitting facilities to the DW stable. RBI employees are said to be guaranteed jobs until the end of the year. After that, who knows?

RTBF, Belgium's French language network, is said to be having money problems and there's beginning to be some questions about the future of the RTBF shortwave service.

Radio Norway has now added English on Saturday to their longtime Sunday only English schedule. The Saturday broadcasts are aired as follows: 1200 on 21735 and 25730, 1300 on 9585 and 9590, 1600 on 15220 and 25730, 1700 on 9655, 1800 on 17755, 1900 on 15220, 15235, 21705 and 25730, 2100 on 15165, 2200 on 15195 and 17730, 0100 on 9615 and 11925 and 0200 on 9615 and 17735.

As we noted a month or two back, the Congo has returned to shortwave. Here's the current schedule for the Voice of the Congolese Revolution, reportedly active on weekends only" 0700-1100 on 7175 and



The Iraqi invasion took Radio Kuwait off the air, hopefully not for all time.

9715, 1100-1700 on 9715 and 15190 and 1700-2000 (reported to 2100) on 4765 and 5985. Reports are requested to: Management Department, Congolese Radio and TV, PO Box 2241, Brazzaville, People's Republic of the Congo.

If you want some really challenging DX try for 2XA—Radio for the Print Handi capped, now broadcasting on shortwave from New Zealand. The station is scheduled from 0600-1000 on 3935 with 1 kilowatt.

The FCC has received an application for another US shortwave station. This one would be called Radio Miami International and would focus its attention on the Caribbean area, providing Caribbean news and coverage of Caribbean events, promote

tourism and so on. The station would be financed through the sale of commercial time. Radio Miami International's General Manager is Jeff White, a broadcast journalist and international radio consultant. White was the man behind the creation of the Radio Earth program which ran on several stations throughout much of the 1980's. He also put the now silent Radio Discovery on the air from the Dominican Republic.


If you're thinking about buying a new receiver you may want to write for a copy of the Radio Netherlands *Receiver Shopping List*. This new 12th edition reviews some 50 different receivers and includes tips on how to buy, other receiver information sources and so on. The booklet is free from Radio Netherlands, PO Box 222, 1200JG Hilversum, The Netherlands. Mark your envelope: Attn: Receiver Shopping List.

MAILBAG: Ron Gillis of Hillsboro, NH says he's just gotten back into shortwave after 40 years away and says, "haven't times changed." That's putting it mildly, Ron! Ron is using a Sangean 803A and has already logged 50 countries.

What to do if your post office doesn't sell IRC's is the quandary facing Isaac Carillo. Talk to your postmaster, Isaac. He should be able to supply them for you. If not, you'll have to go somewhere else. Not all stations need IRCs but many do. Isaac would like to correspond with other young DXers (he's 16) in his area and you can write him at 13933 SW 102W, Miami, Florida 33186.

Jason E. Moore of Corbin, KY, wonders about sending cassette recordings to stations. You needn't enclose a detailed pro-

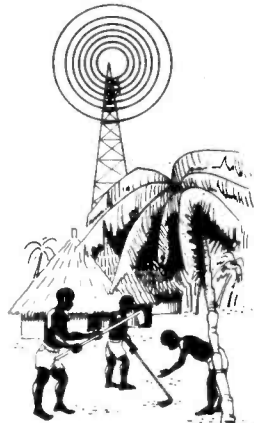
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QSL on 11.825 mcs, at 0100 GMT  
on April 5, 1961

Remarks Thanks for your report.

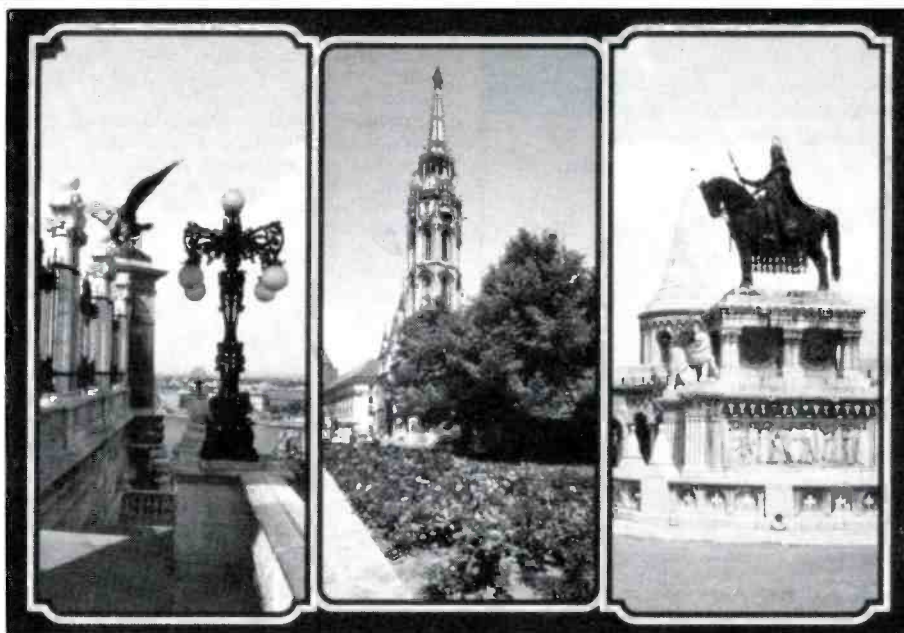
**BOX 192 • MONROVIA LIBERIA • SUDAN INTERIOR MISSION**



Longtime religious broadcaster ELWA was destroyed in Liberia's civil war.



It's possible that Deutsche Welle, already a giant, has grown even bigger now, if it absorbed Radio Berlin International.



One of the current QSL cards being issued by Radio Budapest. (Thanks to Ron Gillis, NH)

gram log with a cassette, Jason, but it's a good idea to include a letter noting the time, date and length of the recording. Using a padded envelope (mark it "tape recording") is a good idea, too. As for getting a cassette of a particular Radio Austria International broadcast, all you can do is write and ask.

Mike Perry of Beeville, Texas says that he and fellow Texan Kevin Story have gotten together through this column. Sorry for not crediting you with a couple of items, Mike. 'T wasn't intentional, that's for sure.

Bill Moser in New Cumberland, PA says that Italy's RAI has again been featuring a more lively lady announcer on its English broadcast to North America. Let's hope that continues! And yes, we'll continue to consider West Berlin as a separate radio country. We hold that once a "radio country, always a radio country."

David Olson of Watford City, ND wants to locate a service manual for a Hallicrafters S40B receiver. If you can help, write David at HCO2, Box 6 there. The zip is 58854.

Your letters are always welcome here! Of course we need your log reports, too. Please list them by country, leave space between each item and add your last name and state abbreviation after each item. We're also in need of shack photos and spare QSL cards we can use as illustrations.

Here are the loggings. All times are UTC and language English unless indicated otherwise.

**Alaska:** KNLS, 9840 in CC at 1330. (London, MN)  
**Albania:** Radio Tirana, 9500 at 0330 IS and s/on. (Johnson, IL) 9760 at 2329 with IS and sign on (Moser, PA) 1825 at 0242. (Carson, OK)  
**Antigua:** Deutsche Welle relay, 6040 at 0123. (Johnson, IL) 6085 at 0349 with Antigua ID. (Moser, PA)

Abbreviation 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

BBC relay, 5975 at 0055. (Moser, PA) 11775 at 1300. (Walbesser, NY)

**Ascension Island:** BBC relay, 6005//9600 at 0319. (Moser, PA) 11750 at 2340. (Babin, MA) 17790 at 1350. (Giannarelis, Greece) 17860//21660 at 1721. (Walbesser, NY)

**Australia:** Radio Australia, 9580 at 1013. (Young, MA) 9770 at 1325 in EE and VV (Carson, OK) 11720 at 1310. (Neff, FL) 11800 at 1451. (Giannarelis, Greece) 15140//15160//15320 at 0500. (Walbesser, NY) 17795 at 0533. (Carson, OK) 21740 at 0140. (London, MN)

**Austria:** Radio Austria International, 13730 at 1648, 21490 at 1430. (Carson, OK) 11780//13730 at 1430. (Giannarelis, Greece)

**Belgium:** BRT, 9925 at 2257 with IS, sign on in SS. (Moser, PA) 13675 at 1733. (Giannarelis, Greece) 21810 at 1251 closing. (Zamora, ND)

**Botswana:** Radio Botswana, 4830 at 0305 in Swahili. (Babin, MA) 7255 at 0355 sign on. (Moser, PA) (Now reported to sign on at 0300. ed.)

**Brazil:** Radio Universo, Curitiba, 9565 in PP at 0045 with music, IDs until covered by DW at 0056. (Zamora, ND)

Radiobras, 11745 at 0248 with Brazilian pops, request for reports and IDs as both Radiobras and Radio Nacional do Brazil. Abrupt off at 0252. (Moser, PA)

Swiss Radio International via Brasilia, 17730 at 0201. (Moser, PA) Radio Aperecida, 5035 in PP at 0030. (Walbesser, NY)

**Bulgaria:** Radio Sofia, 11720//115290//17835 at 0326. 15330 at 1855. (Walbesser, NY) 15290 at 0300. (Carson, OK) 15350 at 2138. (Young, MA) 17825 at 0310. (Johnson, IL)

**Burkina Faso:** Radio Burkina, 4815 with national anthem and sign on at 0532. (Johnson, IL) 0619 in FF. (Moser, PA)

**Cameroun:** CRTV Yaounde, 4850 with soft jazz at 2330, sign off 0000 with ID in FF and EE, anthem. (Johnson, IL)

**Canada:** CBC, 9625 at 1628 with Northern Quebec Service. (Walbesser, NY)

CFRX, Toronto, relay CFRB on 6070 at 0857. (Moser, PA)

Radio Canada International, 5960 at 0058, FF. (Moser, PA) 9535 at 0118. (Zamora, ND) 9755 at 0000. (Perry, TX) 15315 at 1454. (Giannarelis, Greece) 15325 at 2145, 17820 at 2146, 21545 in EE/GG at 1621. (Carson, OK) 17875 at 2132. (Neff, FL)

**Chad:** Rdf. TV Tchadienne, 4904.5 in FF at 0512. African folk music. (Johnson, IL)

**China:** Radio Beijing, 9690 at 0326. (Carson, OK) 11685 at 0010. (Neff, FL) 11840 at 0415. (Ross, WA) 11855 at 1310. (Johnson, IL) 15165 at 1400 (Giannarelis, Greece) 17705 at 0009i. (Walbesser, NY) 17855 at 1230. (Northrup, MO)

**Colombia:** Radio Nueva Vida, 5567 at 1020 in SS and seemingly inspirational music. (Johnson, IL)

Caracol Bogota, 5075 in SS at 0411, 0428. (Walbesser, NY; Moser, PA)

**Costa Rica:** Adventist World Radio, 9725 at 1105, 1135. (Johnson, IL; Moser, PA)

Radio Reloj, 6006 in SS at 0643 with music, ID. (Moser, PA)

Radio For Peace International, 7375USB, at 0416. (Ross, WA) 0628 with UN Radio. (Carson, OK) 0509 with t-shirt offer. (Neff, FL) (It's a nice shirt, too! ed.) Also 21566 with UN at 2230. (Neff, FL)

**Cuba:** Radio Rebelde, 5025 at 0349 in SS. (Zamora, ND)

Radio Havana Cuba, 11705//11760//11820 in SS at 1215. 15230 at 0825 in PP. (Walbesser, NY) 11820 at 0209 in EE. (Bailey, AR) 17875 via USSR at 1944. (Giannarelis, Greece)

**Czechoslovakia:** Radio Prague, 5930//7345/

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LENGTH: 8 Ft.  
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SEPARATION: 20-25 DB  
WIND SURVIVAL: 100 MPH  
POWER MULTIPLICATION:  
65X  
AUDIO GAIN: 18 DB  
WIND LOAD: 2.8

### JG 5 + 5 Star

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TYPE: Horz. & Vert.  
Polarization Twin Feed  
GAIN: 16.5 DB  
FRONT to BACK RATIO:  
48 DB True  
SIDE REJECTION:  
50-55 DB True  
BACK REJECTION:  
40 DB True  
WEIGHT: 37 Lbs.  
LENGTH: 17 Ft., 8 In.  
SWR: 1:1  
HORZ. to VERT.  
SEPARATION: 25-30 DB  
WIND SURVIVAL: 100 MPH  
POWER MULTIPLICATION:  
65X  
AUDIO GAIN: 22 DB  
WIND LOAD: 5.2



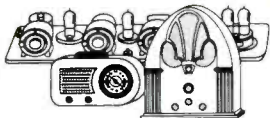
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/11680 at 0120. (Walbesser, NY) 7345 at 0300. (Johnson, IL) 11680 at 0300 s/on. (Zamora, ND)

**Denmark:** Radio Denmark, 15165//21705 in DD at 2030. Only EE is ID. (Vaage, CA) 17795 at 1225 with ID, IS in Danish. (Northrup, MO)

**Ecuador:** HCJB, 21470 with songs at 1940. (Giannarelis, Greece) 25950 USB at 2045 with FF DX program and various languages every half hour. 24 hour schedule on this frequency. (Provencher, ME) Heard in SS at 1651 and 2219. (Carson, OK)

**Egypt:** Radio Cairo, 0200 sign on at 9475. (Zamora, ND) 9900 at 2123. (Moser, PA)

**England:** British Forces Broadcasting Service, via BBC transmitters, 13745 at 0200 with greetings and messages form family and friends to forces in Saudi Arabia. Plenty rock. Address is PO Box 1234, London, W2 (Provencher, ME)

BBC, 3995 at 0430. (Walbesser, NY) 5975 at 0153 (Bailey, AR) 7325 at 2320. (Moser, PA) 15070 at 1849. (Walbesser, NY)

**Finland:** Radio Finland International, 11820//15185//21550 at 1420. (Carson, OK) 21550 at 1302. (Olson, ND)

**France:** Radio France International, 7280 at 0322 with EE news. (Moser, PA) 15195 at 1232. (Johnson, PA) 17722//17860 (Fr. Guiana, ed) in FF at 1548. (Walbesser, NY) 21610 in FF at 1700. (Yohnicki, ONT) 21635 at 1230. (Zamora, ND) 21770 at 1410. (Giannarelis, Greece)

**French Guiana:** RFO Cayenne, 5055 at 0600 with news. (Johnson, IL) (FF, ed)  
RFI relay, 9800 at 0325 with sports in EE. (Moser, PA)

**Gabon:** Radio Japan via Gabon, 11835 at 2320. (Johnson, IL)

Africa No. One, 9580 at 2050 in FF. (Moser, PA) 17630 in FF at 1536. (Walbesser, NY)

**Germany:** Deutsche Welle, 6145//9565//11865//15105 at 0100 (various sites). (Walbesser, NY) 11795 at 0500 in GG. 11845 at 0510 in EE. (Carson, OK) 15105 in EE at 0139. (Bailey, AR) 25740 at 1342. (Giannarelis, Greece)

Radio Berlin International, 9730 at 1423. (Giannarelis, Greece) 13610 at 0010. (Walbesser, NY) 15240 at 0149. (Carson, OK)

**Guam:** AWR/KSDA, 13720 at 1058. (Moser, PA) 1330 in unidentified language. (Perry, TX)

Trans World Radio/KTWR on 11805 at 1040 in unidentified language. EE ID at 1100. (Perry, TX)

**Greece:** Voice of Greece, 9420 at 0130 EE news. (Gillis, NH) 11645 at 0133 with news. (Perry, TX)  
VOA Kavala relay, 17800 at 1719 with Nighttime Africa. (Walbesser, NY)

**Guatemala:** Radio Tezulan, 4835 at 0108 in an indian language. (Johnson, IL) 0242. (Neff, FL)

**Hawaii:** WVVH time signals, 15000 at 1114 with YL. (Moser, PA)

**Honduras:** HRVC, 4820 at 0312 YL and music, SS. (Moser, PA)

**Hong Kong:** BBC relay on 21715 at 0353. (Babin, MA)

**Hungary:** Radio Budapest, 9520 at 0130. (Walbesser, NY) 9835 at 0130. (Perry, TX) 11910//15160 at 0115. (Johnson, IL)

**Iceland:** ISBS, 17441 at 2329 close in Icelandic. (Johnson, IL)

**India:** All India Radio, 11620 at 2205, news. (Babin, MA) 15020 at 1258 with IS, and Sinhala. (Johnson, IL) 15305 at 0355 with EE ID. (Ross, WA)

**Iran:** VOIRI, 15084, at in Persian at 1941; Arabic at 0410. (Walbesser, NY; Babin, MA)

**Iraq:** Radio Baghdad, 11830 to North America at 0230. (Walbesser, NY) 13660 to Europe at 2000, 2005, 2120, 2126. (London, MN; Johnson, IL; Neff, FL; Moser, PA; Young, MA) 17880 in AA at 2335. (Babin, MA)

**Israel:** Kol Israel, 9435//11605 with news at 0004. (Perry, TX) 11655 at 1710 with news. (Giannarelis, Greece) 15640 at 2140; 0400. (Young, MA; Ross, WA)

**Italy:** RAI, 9575 at 0100 with news. Different, much faster speaking YL announcer. (Moser, PA) 9575//11800 at 0110 with Italian music. (Johnson, IL)

**Ivory Coast:** RTV Ivoirienne, 11920 at 2102 in FF. (Moser, PA)

**Japan:** Radio Japan, 5960, via Canada, 0140. (Gillis, NH) 11685 at 1455 and 1555. (Perry, TX) 11840 at 2358 and 11865//17825 at 1555 and 1959. (Vaage, CA)

**Jordan:** Radio Jordan, 9560 at 2048 with exotic music, man in AA. (Johnson, IL)

**Liberia:** VOA relay, 0623 tho no ID for Liberia. (Moser, PA) 15445 at 1821. (Giannarelis, Greece) 15445//15600//17870 at 2020. (Walbesser, NY)

VOA SSB feeder on 18515 at 0100 with easy listening and modern African music. (RNMN says used by some refugees at the VOA site. Others say is being used for comms with VOA Greenville. ed.)

**Libya:** LJB, 15235 at 2225 with Arabic music. (Babin, MA) 15415 at 2322 in AA. Presumed LJB, no ID heard. (Johnson, IL)

**Lithuania:** Radio Vilnius, 11790 at 2202 and 15180 at 2214. Off 2228. (Carson, OK) 15485 at 2206. (Walbesser, NY)

**Luxembourg:** Radio Luxembourg, 6090 with pop/rock at 0120. (Johnson, IL)

**Madagascar:** Radio Netherlands relay, 15560 at 1850. (Moser, PA)

**Mali:** RTM, Bamako, 4835 at 0020 in FF. (Babin, MA)

Radio Beijing relay, 11715 at 0310. (Moser, PA) 15100 at 0000. (Walbesser, NY)

**Malta:** Voice of the Mediterranean, 9765 at 0605, 0620, 0625. (Neff, FL; Johnson, IL; Carson, OK) 11925 at 1405. (Giannarelis, Greece)

**Mauritania:** ORTM, 4845 at 2327 with chants in AA. (Moser, PA) 0700 in AA. (Johnson, IL)

**Monaco:** Trans World Radio, 9480 at 0649 with religious music. (Moser, PA)

**Mongolia:** Radio Ulan Bator, 12025 in EE with music, talk. (Carson, OK)

**Morocco:** VOA relay, Tangier, 15205 at 2025. (Johnson, IL)

RTVM 15335 at 2326 with AA and mideast mx. (Moser, PA)

**Namibia:** Radio Namibia, 3290 at 0300 in EE, FF. (Babin, MA)

**Netherlands:** Radio Netherlands, 6020 at 0030 with sign on. (Moser, PA) 13770 at 1437. (Giannarelis, Greece) 15560 at 0110. (Young, MA)

**Netherlands Antilles:** Radio Netherlands relay, 6165 at 0330. (Carson, OK) 9715 at 0810. (Walbesser, NY) 21685 at 1832. (Giannarelis, Greece)

Trans World Radio, 11815 at 1156. (Moser, PA) 11930 at 0302. (Neff, FL) 15335 at 2329 with IS and sign on in GG. (Johnson, IL)

**New Zealand:** Radio New Zealand International, 9855 at 1046 with pop music. (Young, MA) 17675 at 0400 in Pacific Service. (Provencher, ME)

**Niger:** La Voix du Sahel, 5020 with African music at 0520. (Johnson, IL) (FF, editor)

**Nigeria:** Voice of Nigeria, 7255 at 0524, 0540, 0556. (Neff, FL; Carson, OK; Ross, WA)

**North Korea:** Radio Pyongyang, 9325 at 1709. (Giannarelis, Greece) 9645//9977//11735 at 1107. (Perry, TX) 11735 at 1100 with sign on. (Moser, PA)

**Northern Marianas:** KHBI, 15115 at 1117. (Moser, PA) 17555 at 1935. (Giannarelis, Greece) 17780 at 0558. (Carson, OK)

**Norway:** Radio Norway International, 11840 at 0505. (Carson, OK) 11865 at 0308. (Young, MA) 15165//21705 at 2000. (Vaage, CA) 25730 at 1703. (Giannarelis, Greece) (In Norwegian except weekends, editor)

**Oman:** BBC relay, 6065 at 1708. (Giannarelis, Greece)

**Pakistan:** Radio Pakistan, 11570 at 1723. 21530 at 1615. (Giannarelis, Greece) 21475 at 0120. (Babin, MA)

**Peru:** Radio Ancash, 4991 at 1015 in SS. (Johnson, IL)

Radio Andina, 4996 at 1005 with Peruvian music, SS. (Johnson, IL)

**Philippines:** FEBC, 9800 at 0953 with EE ID 0958. (Moser, PA) 11850 at 1358. (Perry, TX)

VOA relay, 21585 at 0350. (Babin, MA)

**Poland:** Radio Polonia, 5995//7145 at 2315 with comment. (Johnson, IL) 7270 at 2331. (Moser, PA) (Language? editor)

**Portugal:** Radio Portugal, 21530 at 1610 with news. (Giannarelis, Greece)

**Romania:** Radio Romania International, 9510 at 0400. (Gillis, NH) 11940 at 2003; 0202. (Young, MA; Perry, TX) 15250 in SS at 2030. (Walbesser, NY)

**Rwanda:** Deutsche Welle relay, 7224 at 0400 EE ID. Also 17860 at 0330 in EE. (Babin, MA) 17800 at 1130. (Moser, PA)

CIRCLE 29 ON READER SERVICE CARD

**Saudi Arabia:** BSKSA, 15060 at 0407, AA, morning prayers. (Babin, MA)

**Seychelles:** BBC relay, 11860 1410 English by Radio. (Giannarelis, Greece)

**Singapore:** BBC relay, 9605 at 1705. (Giannarelis, Greece)

**Solomon Islands:** SIBC, 9595 at 0643, 0705 with local events, 0720 with commercial. (Ross, WA; Johnson, IL; Moser, PA)

**South Africa:** Radio Five, 11880 at 0525. (Giannarelis, Greece)

Radio Orion, 3320 at 0058 ID. (Johnson, IL)

Radio RSA, 0430 sign on on 5960//7270. Also 1400 on 11925. (London, MN) 11925 at 1355 with IS. (Giannarelis, Greece)

**South Korea:** Radio Korea, 9750 at 1234, "Seoul Calling." (Carson, OK) 15575 at 1805. 0003. (Giannarelis, Greece; Ross, WA)

**Spain:** Spanish National Radio, 9360 in SS 0347. (Ross, WA) 9630 at 0000. (Johnson, IL) 15375 to Africa at 1942. (Walbesser, NY)

**Swaziland:** Trans World Radio, 7215 at 0435 with Bible lesson. (London, MN)

**Sweden:** Radio Sweden, 9655 at 2108. (Moser, PA) 15295 at 0233. (Carson, OK) 1774 at 1406. (Giannarelis, Greece) 17880 at 1551. (Walbesser, NY) 21500 at 1548. (Neff, FL)

**Switzerland:** Swiss Radio International, 6095 in EE and Esperanto at 011 4. (Carson, OK) Here and 6135//9885//12035 at 0210. (Walbesser, NY) 9880 at 0413. (Ross, WA) 9885 at 0205. (Bailey, AR) 9885//13635 at 2110. (Moser, PA) 25680 with IS at 13954. (Giannarelis, Greece)

Red Cross Broadcasting Service, 21770 at 1719. (Giannarelis, Greece)

**Syria:** Radio Damascus, 12085 in AA at 0416. (Ross, WA) 15095 at 2020, 2133, 2139. (Babin, MA; Young, MA; Moser, PA)

**Tahiti:** Radio Tahiti, 15171 at 0433 with island music, FF. (Moser, PA)

**Taiwan:** Voice of Free China, (all via WYFR) 5950 at 0230. (Gillis, NH) 0209 on 968. (Young, MA) 11740 at 0204. (Perry, TX) 17845 at 2250. WYFR IS at 2300. (Olson, ND) 21720 at 2236. (Giannarelis, Greece)

**Togo:** RTT Lome, 5047v 0524 with IS, anthem, sign on in FF, hymns. (Johnson, IL; Moser, PA)

**Tunisia:** RTT Tunis, 11550 in AA at 0352, 0520, 0709, 1416. (Ross, WA; Babin, MA; Moser, PA; Giannarelis, Greece)

**Turkey:** Voice of Turkey, 9445 at 0330. (Gillis, NH) 9795 at 2015 in TT. (Babin, MA) 17880 at 2245. (Johnson, IL)

**Ukraine SSR:** Radio Kiev, 11780 at 2314. (Neff, FL) 15485 at 2317. (Moser, ) 15485//15525 at 2325. (Walbesser, NY)

**Unidentified:** 15015, SS with Andean type music at 0154. (Johnson, IL)

**United Arab Emirates:** UAE Radio, Dubai, 11945//13675//15400//15435 in AA at 0230, 13765//15400//15435 at 0330 with relay of 92 MHz domestic service in EE. (Walbesser, NY) 13675 at 0330. (London, MN) 21605 at 1340. (Giannarelis, Greece) 1620 in EE to 1640 when back to AA. (Yohnicki, ONT)

Voice of the UAE, Abu Dhabi, 21735 at 0228 in AA. (Carson, OK) 1145 with BBC program, back to AA at 1200. (Zamora, ND)

**United States:** WRNO, 7355 at 0030 but off 0112 for technical adjustments. Also 15420 at 1525. (Carson, OK)

WWCR, 7520 with "Radio Free America" program at 0217. (Carson, OK) 115695 at 1910. (Neff, FL)

WMLK, 9465 at 0642 address and request for reports. (Carson, OK)

Voice of the OAS in SS, with EE ID at 0128 on 9665. (London, MN)

WINB, 15275 at 1920 with religious program, ID, sign off. (Neff, FL)

**USSR:** Radio Moscow, 9655 at 1628, 11850 at 0017, 15315 at 2200. (Carson, OK) 11710 at 0056. (Moser, PA) 11730 at 0212. (Bailey, AR) 11900 at 0358. (Vaage, CA) 12040 at 2240. (Neff, FL) 15315//15355 at 2140, 17670 at 1743. (Walbesser, NY) 17670 at 1430, 17735 at 2305. (Olson, ND)

Radio Peace and Progress, 21505 at 1313. (Olson, ND) 25780 at 0700. (Giannarelis, Greece)

**Vanuatu:** Radio Vanuatu, 7260, tentative on a great night for the South Pacific. Man and woman in unidentified language at 0742. (Moser, PA)

**Vatican:** Vatican Radio, 9605 at 0059. (Moser, PA) 11740 at 1348 (Giannarelis, Greece) 11780 at 0055. (Neff, FL) 17710//17730 at 1830 in Esperanto. (Walbesser, NY) 17730 at 0525. (Carson, OK) 21650 at 1733 to Africa. (Walbesser, NY)

**Venezuela:** Radio Tachira, San Cristobal, 4830 in SS at 0352. (Walbesser, NY)

**Ecos del Torbes, 4980 at 0255 in SS. (Neff, FL)**

**Vietnam:** Voice of Vietnam, 15010, 1007, 11819, 2038. (Young, MA; Giannarelis, Greece; Johnson, IL)

**Yugoslavia:** Radio Yugoslavia, 11735 at 0000, 0001, 0005. (Johnson, IL; Moser, PA; Carson, OK) 15105 at 2100. (Walbesser, NY)

And many thanks to the following reporters: William Walbesser, Revena, NY; Ron Gillis, Hillsboro, NH; Larry R. Zamora,

Grand Forks, ND; Edouard S. Provencher, Biddleford, ME; George Neff, Lutz, FL; Chris London, Princeton, MN; Kelly Bailey, Midland, AR; John Carson, Norman, OK; Mike Yohnicki, London, ONT; Aris Giannarelis, Athens, Greece; Mike Perry, Beeville, TX; Tim Johnson, Galesburg, IL; Mark A. Northrup; Gladstone, MO; Jim Ross, Vancouver, WA; Bjorn F. Vaage, Granada Hills, CA; Robert A. Babin, Shrewsbury, MA; David Olson, Watford City, ND; Craig R. Young, Fort Devens, MA and William Moser, New Cumberland, PA.

'Til next month—good listening!

PC

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## 27 MHz COMMUNICATIONS ACTIVITIES

**M**idland International's Model 77-116 is a mobile CB rig with a handy built-in VHF weather monitor and some other interesting features.

Among its features are full ETR electronic frequency control for pinpoint channel selection, instant Channel 9 selection, switchable noise limiter, and something Midland calls *Mic-ro-tune II* tuning. What this does is provide the convenience and safety of permitting the operator to change channels either from the front panel or remotely from buttons mounted on the microphone.

The 77-116 has high-intensity LED read-outs, an S/RF meter that displays incoming signal strength and power output, and a heavy-duty heat sink for extended life of the RF output transistor. There's a front panel control to permit selection of the four primary VHF weather channels; reception is provided by the unit's CB antenna.

For easy installation and in/out flexibility, the 77-116 features a quick-disconnect bracket and power cord.

More information on this unit is available from Midland International Corp., Consumer Communications Division, 1690 N. Topping, Kansas City, MO 64120, or circle 103 on our Readers' Service.

### Helpful Hint

Didja ever yak on your CB while someone in the next room was using a VCR to tape something from the TV? Then, when you played back the tape a few weeks later, you heard your voice superimposed right on top of Madonna's. She was dancing around in her corset, but the voice-over consisted mainly of you calling a station in Puerto Rico.

This type of problem isn't at all uncommon. A solution was sent in by Lyle, On-

tario 847, of Thornhill, Ontario. He tells us that he used an artificial ground consisting of 10 ft. of RG-58 coaxial cable. One end was left "open." The other end was adorned with a lug that joined the center conductor and the braided shield. The lug was then attached to a screw on the chassis of the VCR. Once attached, the coax was run down to the floor and thence along a baseboard. It seemed to clear up his problem.

### Wha Hoppen?

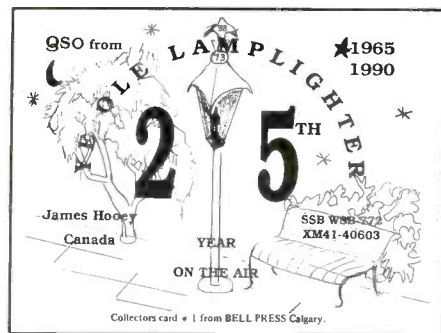
Ken McCall, HHC 2AD (F), Box 15, APO New York 09355, is serving with the U.S. Army overseas. He dropped us a card to ask if anybody has any current information on an organization called the *CB Operators of America* such as, for instance, if it is still in existence. He tells us he joined it a while back but hasn't heard anything about it in many a moon.

If anybody has an update on the group, Ken would be obliged to get the word. Ken is in Germany, by the way.

Another GI who was in Germany when he wrote to us is Tom Jones, SSB Network member SSB-86C, although he'll be back home in New Mexico by the time you read this. Tom tells us that while in Germany, he wasn't allowed to use SSB mode. His equipment includes a Cobra 19-XS, GE 3-5810-A, CPI 2500, SBE Console IV, Browning Eagle Mark IV-A, and a President Jackson. (He writes, "Not that I'm bragging!")

### Quarter Century CB'ers

James "Lamplighter" Hooley and Irene "Pussycat" Aubin started out in CB radio in 1965. James was in eastern Canada, Irene was in western Canada. In the early 1970's,



James Hooley, of Calgary, Alberta, had this special 25th Anniversary QSL made up.

the two operators were introduced at a CB jamboree and a friendship formed that has remained to the present.

The two operators, in celebration of a quarter century on the air, embarked upon their *Hello America* project. The idea is to log as many stations as they had done in the earlier years of CB.

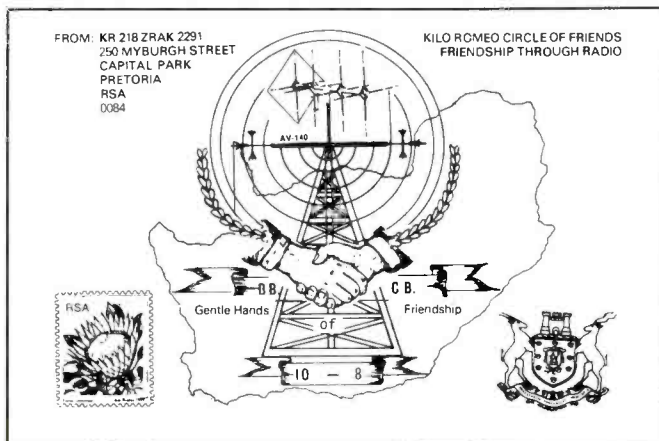
Each operator is issuing special commemorative QSL's to mark the auspicious occasion. Here's our congratulations, and a hope for another 25 years of QSO's.

We also extend our best wishes to Ron McCracken, new president of *REACT International, Inc.* The 10,000 member non-profit, volunteer group has been in existence for thirty years, but this is the first time someone from outside the USA has had an opportunity to take the helm. Ron is a Canadian.

REACT has been the leader in the establishment of Channel 9 monitoring teams to assist motorists. Further information on REACT—what it is, how to use it, how to join, etc., is available by sending a stamped, self-addressed business envelope and spec-



Midland's 77-116 is a CB rig with built-in VHF weather band reception.



A QSL from ZRAK-2291 in the RSA. (Courtesy Lyle, Ontario.)

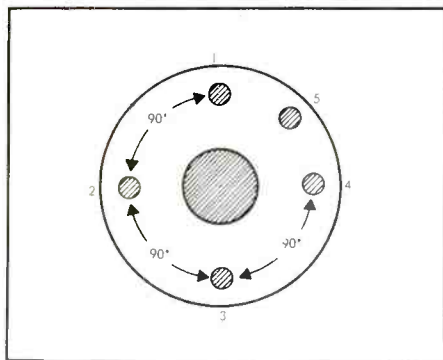


Figure 1. Where to drill the coffee can lid.

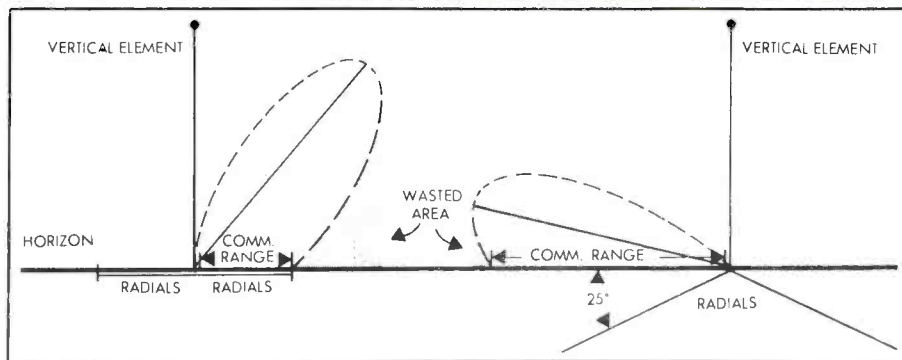


Figure 2. Showing what the signal pattern looks like when the radials are drooped.

ifying what information you want. Write to: REACT International, Box 998, Wichita, KS 67201. Hey, tell 'em you read it here!

## Roll Yer Own Easy Ground Plane

An unobtrusive ground plane base station antenna is easy to build, works well, and doesn't make the roof of your home look too high tech (if you don't care for that look). It's a good back-up, temporary or emergency antenna in case your main sky hook has a problem, and the main ingredient you use to make it is a mobile whip. And, it's inexpensive.

For the vertical (radiating) element, you can use just about any mobile whip intended for mounting on a car roof. Don't use the kind intended for trunk-lip or other mounting, or one with a magnetic mount. I used a base loaded type.

Next, take the lid from a coffee can and cut a hole in the center according to the

mounting instructions for the antenna. Attach the mount to the lid. Discard the short length of coaxial cable supplied with the antenna and substitute enough RG-58/U to reach your shack from the antenna's planned mounting position.

Then, punch or drill four 3/16" holes around the outside edge of the lid 90 degrees from each other, and then a fifth hole anywhere on the lid (Fig. 1). Into the four 90 degree holes, place four bolts and secure each with a nut, plus another nut (that is, two on each bolt). These bolts will become binding posts to attach the ground plane radials. Paint the lid for rustproofing.

Measure four pieces of wire to 8 ft. 5 inches if you are going to be able to use 3-inch (10 penny) spikes to fasten the ends of the wire-radials to the roof. If you are uneasy about pounding spikes into your roof (and can dream up some more acceptable way of fastening the radials), then make the radials 8 ft. 8 inches in length. At any rate, the total length for each radial (including all conducting mounting gear) should be 8 ft. 8 inches long.

Attach the mounted antenna to a painted board having had a hole drilled to accommodate the feed-through of the coaxial cable. Use a heavy wood screw through hole #5 to secure the lid to the board. Then attach the board to the roof of your house. It

should be at the highest safe point you can access on the roof. To avoid shock hazards, do not mount it in any location where it could come into contact with electric power lines during its installation or use, even if it should fall. Also, try to keep it as distant as possible from TV, scanner, and other antennas on the roof.

Next, lower the radials so that they droop to 25 degrees below horizontal. This makes for a lower angle of radiation than radials perpendicular to the vertical element, thus the range is extended (Fig. 2). This is especially beneficial if you're in a high area surrounded by lower lands. The closer you can get your radiation to the horizontal, the farther you'll transmit. The maximum angle you go below horizontal is 5 degrees, but I found that 25 degrees worked best for me. You might get best results at a different angle.

Attach the four wire radials to the binding posts on the lid, then stretch them tight. Go straight out from the lid so that each radial is maintained at 90 degrees from the adjacent ones. Use an SWR bridge as you peak tune the length of the whip for maximum resonance.

This column is interested in your questions, QSL's, suggestions, shack photos, and other relevant materials relating to CB radio. **PC**

IRENE AUBIN  
P.O. BOX 941  
BANFF, ALBERTA  
CANADA  
T0L 0C0

SSB #  
R.M. - 125

MONITORS  
19 AM - SSB  
37

25<sup>TH</sup>  
YEAR  
ON  
THE  
AIR

73  
88

1965-1990  
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The 25th Year CB card sent out by Irene Aubin, Alberta.

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# COMMUNICATIONS CONFIDENTIAL

## YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

**P**reston O. Sewell Jr., NJ forwarded a most interesting letter and here is what he had to say in part. "In the July loggings a reader reported hearing CG 1709 is actually a C130 out of CG and AF Rescue aircraft involved in the SAR operation for the Greek Freighter CORAZON which went down. 21 of the 27 crewmen were rescued in poor visibility, 35-40' waves, and winds gusting to 65-70 knots. Atlantic Rescue had a C130 on station at all times to provide immediate information on the weather and condition of the ship (which had a broken keel, was down at the bow, had lost one hatch cover, and was taking waves over the port quarter, with no steering, and just enough power to keep the bow into the wind). Conditions were so bad that the crew stayed with their ship till daylight because they would all have perished under such conditions. The aircraft couldn't drop equipment because the wind would blow it away from the people being rescued. Civilian vessels were recruited to assist because they were closest and it still took hours for them to get there." Preston added that he monitored the activity on 5696 kHz from 2201 to 0500 and he said this hat was off to all those who risked their lives to save the crew of the CORAZON.

Dave Sabo, CA advised us regarding a correction of a vessel name. The loggings reported the vessel to be Lady Shallette and this should actually be M/V Laney Chouest, WTD6931. This is a civilian vessel leased by the U.S. Navy and carries the deep-diving TURTLE (DSV-8) once that is operational. Dave had an opportunity to see the Laney Chouest up close when it was docked at the Monterey CG Pier. This was shortly after the SEA CLIFF, operating out of the Laney Chouest, discovered the wreckage of the Navy dirigible MACON which crashed in



*In the May 1990 column the NOAA vessel "Raw Umbrage" is really the Malcom Baldrige (ex-Researcher) with callsign WTER. This information from Dennis Sweeney, FL who serves aboard the NOAA vessel.*

1935 in 1,450 feet of water north of Big Sur. The Laney Chouest carries a mixed crew of 15 civilians and Navy personnel and operates mainly in Pacific waters out of San Diego. Dave said he has heard this ship on 4143.6 kHz USB in contact with stations NATIVE-ECHO and 12-OSCAR.

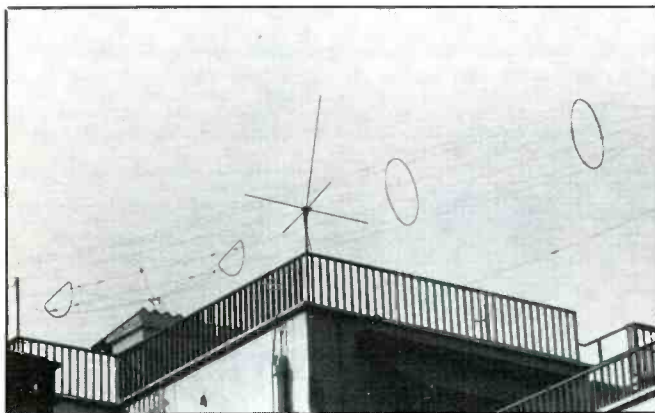
From Simon Mason, England we learned that Radio Netherlands 'Media Network' program had a feature on number stations in Eastern Germany and covered which ones had been discontinued and which ones were continuing operations. Program host, Jonathan Marks, invited listeners to contribute. Simon wrote, "I phoned the answerline and Jonathan rang me back to discuss the subject. I was very surprised to hear

my voice on the program, although my Yorkshire accent is not exactly BBC quality!"

Simon also advised that the 6785 kHz logging in the July 1990 column indicated a warbler jammer on the WCC frequency, and Simon suspected it was probably aimed at a YL/EE station (type that counts 1-0) that had gone off the air. "6785 kHz is used in parallel with 5413 kHz and they are regularly used by these 'counting stations.'

Rosalyn A. Howsare uses a Kenwood R-5000 which she says enables her to hear signals 1000% better than ever in her 17 off-and-on again years of monitoring.

First time contributor Stuart, DE has supplied some information on the Navigation Aids Support Units. These units operate



*Antennas on roof of Soviet Embassy at Madrid, Spain. Photo courtesy of Desmond Ball, Australia.*



*Coast Guard Group, Monterey, CA. Photo by David Palmer, CA.*





TO

CARD NO. 511 □ □ □ □ □ □

Ur Reception Report

DATE	TIME	RST	MHZ	2 WAY
19 <u>87</u>	JJST / GMT <input checked="" type="checkbox"/>			
DAY	MONTH			
<u>22</u>	<u>AUG</u>	<u>0325-0333</u>	<u>24333</u>	<u>17081.6</u>
				/

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-9-

Mr. Robert Landis

U.S.A.

Dear Sir,

Thank you for your nice signal report. I received it with such pleasure. I regret very much that I could not return a QSL card to you much sooner, because the new transmitting station had not been open yet then.

Please be informed that the "Matsudo" transmitting station has already been closed, and the new transmitting station "Kazusa", located on the top of Mt. Kinada—about 260 meters above sea level—in the western part of the Boso peninsula, has been in operation since 1987.

There are various antennas, for example, 3-directions (true bearing 51, 110, 242 degrees) vertical log-period antenna (6-26MHz), two horizontal log-period antenna (fixed true bearing 10, 180 degrees, 12-26MHz), two conical-monopole antenna (2-8MHz, 6-26MHz) and vertical antenna (4MHz). The geographic position of station is 139-55-32E, 35-14-44N.

Nine transmitters are controlled by 2GHz multi-flex radio from "Funabashi" station. In these short-wave transmitters, only one vacuum tube, 7F64R or 8F75R, is in use for final. "Funabashi" is a communication and receiving station. There are 12 all-wave digital frequency display receivers. The main antenna is 3-ele Z-bander rotary Yagi antenna (12MHz 16-MHz, 30 meters high). It is very effective to work with Japanese fishing boats in the north Atlantic and the south Pacific. Another antenna is double-doulet, faced on NE-SW and NW-SE.

"JFA" is offering various services, not only working with the fishing boats by CW, but also communicating the map of sea surface temperature and fishery report by FAX. "JFA" is the first station working with ship's station by "NBDP" (Narrow Band Direct Printing) in Japan. There are staff members of 25 male and 2 female, and most of them are first-class radio operators.

Your frequency and time are correct, so I've enclosed the verification card and station's working schedule.

Again, with my deepest apologies for this belated reply.

Sincerely Yours,

Hasato Amano   
Retired JFA Chief radio operator

P.S.: I have been retired from JFA station since 31st March 1988 after 25 years' service. Therefore, the date of official station stamp shows the same date of my retirement.



Central Fishery Coast Station  
21-20-3, Futawahigashi,  
Funabashi-City, Chiba-Pref.,  
Japan.

*"I wonder how close to a record this is?" This from Bob Landis, MD who sent a reception to JFA on 8/24/87 and finally, after almost 3 years, received their QSL on 7/9/90. An interesting letter accompanied the QSL.*

from remote areas while deployed from the USNS Chauvenet and the USNS Harkness. The three man teams are deployed by helo, of VP (landing craft) and occupy remote navigation positioning sites to supply the survey vessel with precise navigation information. When deployed the team is able to operate for 30 days between resupplies. They have 1 Electronic Technician, 1 Mess Specialist, and 1 Engineman assigned. A team is responsible for maintaining a wide range of equipment, including power generating devices, communications equipment, and life support equipment. These 3 man NAV-AIDS teams were only recently permitted to use MARS. A Kenwood TS-440S with an elevated ground plane antenna is used for MARS contacts.

MARS callsigns NNNONNA, NNB, NND are used for teams operating off of the USNS Chauvenet, T-AGS-29 and MARS callsigns NNNONNE, NNF, and NNG are used for teams operating off of the USNS Harkness, T-AGS-32.

Mark Warrington, OH tells us that he recently moved and his new location allowed him to extend his longwire antenna to 100 feet with much better reception resulting.

R. C. Watts, KY has provided the QSL address for Houston Radio. 8787 Tallyho, Houston, TX 77601. R. C. reports Houston

is now 6637, 10075, 13330, 17940 and 21964 kHz USB.

Ron Tagg, FL is interested in monitoring beacons. He said his ICOM R71A is presently connected to just a short length of wire so he thinks most beacons he is hearing are within 200-300 miles of south Florida.

Alan Tobias, NC pointed out he has been a SWL'er for many years and uses 2010 with a VLF converter circuit he constructed.

The FCC has published notices regarding upcoming frequency changes to be effective 1 July 1991. For the next several months we will list some of these revisions. Readers will note that certain frequencies within a particular list have not been changed but they will be included so as to present the complete valid list.

Frequency changes for Maritime Mobile Stations conducting Private Communications—Distress and Safety frequencies for radiotelephony: 2182, 4125, 6215, 8291, 12290, and 16420 kHz.

Alaska Private Communications Carrier Frequencies for radiotelephony: 4366, 4369, 4396, 4402, 4420, 4423 kHz.

Frequency changes for Maritime Mobile Stations operating Public Correspondence—Distress and Safety frequencies: NBDP (narrow-band direct printing) 4177.5, 6268, 8376.5, 12520, 16695 kHz. DSC

(digital selective calling) 4207.5, 6312, 8414.5, 12577, 16804.5 kHz. Radiotelephony: 4125, 6225, 8291, 12290, 16420 kHz.

Public Correspondence on the Mississippi River—Working Carrier frequencies: 4065, 4089, 4116, 4408, 6209, 6212, 6510, 6513, 8201, 8213, 8725, 8737, 12233, 13080, 16417, 17299 kHz.

And now let's move on to the great loggings for this month.

- 20: U/i in CW at 2145 w/5L msg and plaintext msg. (Tobias, NC) This is probably NAM, USN Norfolk, VA.
- 203: Beacon NSI, San Nicholas Island, CA 1742. (Vaage, CA)
- 236: Beacon OAR, Fort Ord, Monterey, CA at 0437. (Vaage, CA)
- 257: Beacon SQT, Melbourne, FL at 0140. (Tagg, FL)
- 264: Beacon SZT, Sandpoint, ID at 0554. (Vaage, CA)
- 275: Beacon FPR, Ft. Pierce, FL at 0130. (Tagg, FL)
- 292: Beacon DP, Dana Point Breakwater, CA at 1722. (Vaage, CA)
- 294: Beacon J, Jupiter Inlet Lightship, FL at 0120. (Tagg, FL)
- 302: Beacon L, Point Loma LS, CA at 1015; Beacon V, Point Vicente Light, CA at 1015. (Vaage, CA)
- 351: Beacon NO, Reno, NV at 1040. (Vaage, CA)
- 356: Beacon PB, West Palm Beach, FL at 0150. (Tagg, FL)
- 383: Beacon PI, Pocatello, ID at 1050. (Vaage, CA)
- 396: Beacon ZBB, South Bimini, Bahamas at 0011. (Tagg, FL)

**Abbreviations Used For Intercepts**

AM	Amplitude Modulation mode
BC	Broadcast
CW	Morse Code mode
EE	English
GG	German
ID	Identifier/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)

**404:** Beacon OUC, Ocracoke Island, NC in AM at 1545, OM w/wx. (Tobias, NC)

**407:** Beacon CO, Colorado Springs, CO at 1111. (Vaage, CA)

**530:** Washington County, MD TIS w/County tourist info. (Hollis, WV)

**2716:** USS Albany SSN753 using callsign Yankee 7 Kilo wkg Canaveral Control who using callsign Foxtrot 4 Mike at 0900. Albany giving eta to buoys 3 & 4. (Stuart, DE)

**2716:** HMCS Mackenzie DD261 wkg Esquimaux Control w/msgs in USB mode at 0352. (Sabo, CA)

**2716:** USNS Mohawk T-ATF-170 clg Charleston Harbor Control at 0930; NOHW, USS Dewey DDG45, making R/C w/NSWU, USS MacDonough DDG39 at 0855; NSEM, USS Samuel Eliot Morrison FFG13 clg Charleston Tug Control at 0900; NJPX, USS Nassau LHA4 clg Norfolk Port Control at 1020; NAWF, USS Aubrey Fitch FFG34 clg Newport Port Control at 0955 to pass eta Brenton Reef light and eta pierside. (Gordon, CT)

**4023:** AAT5ZE in USB running informal MARS net. Closed net at 0049. (Warrington, OH)

**4063:** NNN02MH in USB running MARS net 0146. (Warrington, OH)

**4066.1:** NVFP, USS Valley Forge CG50 w/pp thru San Diego CSS-1 from 0103-0108; NRCD, USS Jarrett FFG33 wkg San Diego CSS-1 at 0452. Both were USB and duplex w/4360.5 kHz. (Sabo, CA)

**4125:** USCG Group Woods Hole, MA wkg fishing vessel ACT 4 re relaying distress comms fm fishing vessel Vega, which was making slight headway and no longer req USCG assistance but they requested they be monitored/tracked for next several days till back at port in case future help needed. Hrd at 0405. (Fernandez, MA)

**4360.5:** NPL, San Diego CSS-1 wkg NNUL, USS Constellation CV64 in USB mode at 1610. Ship was not hrd on duplex freq 4066.1 kHz. (Sabo, CA)

**4374:** Giant Killer net. 2AL, 4BI, V3Q in LSB w/comms at 0210. (Warrington, OH)

**4388:** High Seas opr (WLO?) in LSB w/pp to Queen Elizabeth II at 0153. (Warrington, OH)

**4416.3:** Sierra 8 Victor & other similar calls in USB USN training net. some scrambled comms. Hrd 0427. (Fernandez, MA) Believe this Pacific Fleet (HICOM). (Ed.)

**4504.5:** California CAP stns Eagle-484 and Eagle-234 in USB at 0333. Moved down here from 4585 kHz and called this "Channel Four." (Sabo, CA)

**4585:** Virginia CAP in USB. Blue flight searching for missing airplane. Hrd 0030. (Hollis, WV)

**4627:** Thunderbird-252 & others, Arizona CAP net in USB at 0232. (Sabo, CA)

**4637.5:** U/i oil rig passed operations report to KGH821, Carson Base. USB at 1615. (Sabo, CA)

**4739:** A/C Portrait w/gnd stn Mechanic in USB at 0900. Comms re tracks. British accents. (Sabo, CA)

**5015:** WB45 Net Control Baltimore MD District Army Corps of Engineers, opr Linda w/WB4, opr Bill at Hq, other check-ins. Was reserve-air hydrological info net. Gave lake & river levels, temps and wx. LSB at 1218-1226. (no name)

**5080:** Plead Control (USN PMFR, Point Mugu, CA) wkg u/i stn re making landline call to the weapons station. USB at 0612. (Sabo, CA)

**5315:** YL/GG with 938 938 938 85971 119 rptng in USB 1900-05. Then five tones and into 5F grps, simul-

cast on 7830 kHz. This bcst is every Wednesday. (Mason, England)

**5320:** USCGC Point Estero (NZON, WPB-823544) wkg USCG Group Galveston (NOY) in USB at 0534. (Sabo, CA)

**5340:** YL/GG every Saturday w/Swedish Rhapsody sign on between 2000-2005. At 2005 YL rpts 05538, 35144 and 85546 and into 5F grps for these three addresses. Also on 4778 and 6707 kHz. (Mason, England)

**5603.8:** Canadian 104 (DC-10) to Rainbow radio w/position report and fuel readings. USB at 0609. (Scalzo, PQ, Canada)

**5696:** USCG Rescue helo 1476 dropped data marker buoy (on 240.6 MHz) on scene of downed US Customs Omaha A/C. QSY'd to 7773.6 kHz for report. USB at 0735. (no name)

**5696:** USCGC Alert (WMEX-630), USCG Rescue 1709, and USCG Rescue 1501 in USB from 0345-0505 w/comms ref rescue ops of crew of 593 foot Maltese-registered Freighter Corazon. Ship later sank 350 miles off Cape Cod. Twenty-one crew members saved, six lost at sea. (McAtee, WV)

**6200:** NJJT, USS Taylor FFG50 clg USCG Comsta Miami at 1000. Taylor requesting freq for RTTY tfc; USS Philippine Sea CG58 wkg USCG Comsta Miami at 1100. CG58 departing Mayport in escort of USS Saratoga CV60. (Stuart, DE)

**6491.5:** PJC, Curacao, Netherlands Antilles w/CQ mkr at 0251. (Scalzo, PQ, Canada)

**6506.4/6200:** NMA, USCG Comsta Miami in comms w/Cuban ship, callsign CLAN re sailor needing medivac. Hrd 2258. (Deardorff, OH) Cuban vessel is the Alegria De Pio. (Ed.)

**6525:** WMB7990, u/i, in LSB in comms w/other u/i stn re boats breaking down and going to Cincinnati. Hrd at 0245. (Warrington, OH)

**6685:** YL/EE w/10381 in AM between 1900-05. Then Ready Ready 22 22 and into 5F grps. Finished with 'End.' (Mason, England)

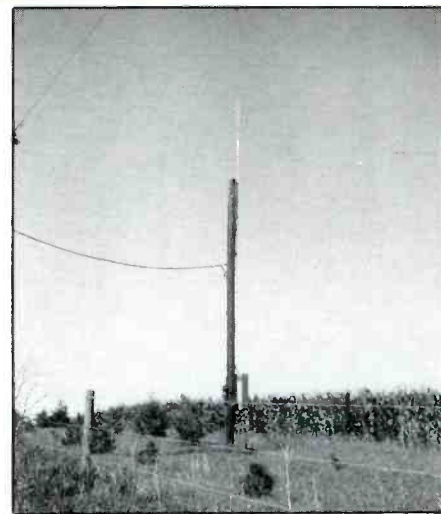
**6697:** USN Y4B to O8N in USB. Also on 11267 kHz USB interchangeable w/5WX and M2Q, much coded info. Hrd 0000. (Hollis, WV)

**6756:** Andrews wkg SAM-682 w/pp in USB mode at 1935. (Sabo, CA)

**6787.5:** U/i stn w/5L grps in CW. Prob cut nbrs call-up of WAM AT AWI, then into 5L grps. Hrd 0200. (Scalzo, PQ, Canada)

**6989.5:** AAT6EM, AAA6OK and others in US Army MARS net in LSB mode at 0243. (Sabo, CA)

**7348:** KGD34, SHARES Hqs, Arlington, VA wkg KPA535, u/i passing msgs for WGY912, FEMA Special Facility, Berryville, VA. Sounded like an exercise. KPA535 opr goofed up msg handling. Was too late—"passed the window." ID'd as ch. GOLD. USB at 1555/ (Sabo, CA)



This photo of the antenna/transmitter site for the Lincoln, NE tourist information bureau was sent in by Patrick M. Griffith, CO. Patrick said, "The unusual thing about this station is that it uses a standard 4 letter call-sign such as a regular broadcast station would use. I have never seen this before in a TIS station." The callsign is WNQF and the station slogan is "WNQF Radio, tourist information for Lincoln and Lancaster County." The transmitter is located about 1/4 mile north of I-80 on 70th Street Northeast of Lincoln. The station operates on 1610 kHz.

**7404:** YL/GG in AM with 3/2F text, ending at 0011 and foll by several more short texts. (Fernandez, MA)

**7520:** U/i w5L grps in CW. Cut nbr system ADGIM-NRTUW, hrd 1311-1320. (Margolis, IL)

**7535:** The foll ships wkd Norfolk SESEF for tests of the ships emitters: NCBG, USS Portland LSD37 at 1530; NQUB, USS Donald B. Beary FF1085 at 1225; NBIO, USS Shenandoah AD44 at 1600; NODF, USNS Vindicator T-AGOS-3 at 1700; USS Tortuga LSD46 at 1300, also wkd on 12315 kHz. (Gordon, CT)

**7541:** YL/GG in AM w/4F text, long pause (4 secs) between grps. Hrd at 0035. (Fernandez, MA)



Here is a MARS QSL card which Jim Deardorff, Ohio received from his monitoring of a NNNONIM and NNNONRD contact. NRD is a Navy Seabee Unit in Roosevelt Roads, Puerto Rico. This contact took place during Hurricane Hugo.

**7630:** Alpha 01 wkg Alpha 02 on USB at 1733. A01 was 40 mi. fm Knoxville, TN. A02 told A01 to send range and location on AMD. A02 replied "167 nautical miles" (from A01 location), bearing 11 degrees. A01 later gave UTN coordinates of GQ 509646. A01 and A02 then switch to "modern ch 6" on this freq and were no longer in voice mode. (Margolis, IL)

**7773.6:** USCG Cutter Escape w/USCG Rescue helo 1476 w/comms to USCG Cutter Petrel re downed Omaha unit. Petrel was on-scene coordinator. USB at 0741. (Sabo, CA)

**7783.5:** NNN0MPA leading USN MARS net on USB at 1329. (Margolis, IL)

**8000:** Little Dog and Big Dog in USB at 0115. Little Dog said "Objective about 250 yards from motel. . . still observing trailer truck from my position in the parking lot." Yankee Clipper broke in and advised Little Dog to "contact Big Dog on FM on the C-Squared (?) satellite once on board the helo." (no name)

**8140:** YL/SS w/5F msg in AM at 0409. (Margolis, IL)

**9719.9:** USS Impervious MSO449 wkg USCG Comsta Portsmouth, VA at 0130 w/request for pp to COMDESRON-12, COMNAVSURFLANT and NAVEASTOCEANCENTER requesting permission to head into Mayport instead of Charleston to avoid hurricane. (Gordon, CT)

**8764.4:** WOO, Ocean Gate, NJ in USB changing antennas for FNE4 at 1238. (Watts, KY)

**8790.2:** WLO, Mobile, AL w/wx at 1110 in USB foll by tfc list. (Watts, KY)

**8891:** Clipper-84 wkg Gander Aeradio w/position report in USB at 0229. (Sabo, CA)

**8912:** Kingfish-07 to Victor-5, ref'd stns Hershey and Slingshot, and heading back to Homeplate. Victor-5 also at 0808 on Customs Service YC channel. (Sabo, CA)

**8972:** Two male oprs in USB w/tactical USN IDs in comms at 0231 about freqs or skeds (in coded form). (Fernandez, MA)

**9010:** Halifax Military (RCAF) in USB w/terminal wx conditions at locations across Canada. ending at 0026. (Fernandez, MA)

**9057:** Lady Luck w/coded msg for SAC bombers on USB at 1603. (Margolis, IL)

**9060:** YL/EE in AM w/5F grps (x2). Off w/273 99 00000 at 0252. (Warrington, OH)

**9417.5:** Acrobat (Andrew AFB, MD) to Pioneer (not hrd) for signal check in LSB at 0630. (Sabo, CA)

**10135:** YL/GG w/1 to 0 count and 945 rptng 2000-2010. At 2010 ten tones and into 4F grps. Simulcast on 8120 kHz. (Mason, England)

**10255:** YL/GG w/669 669 26035 48. After 5 tones at 1005 into 5F grps. Rptd at 1100. On air every Sunday. (Mason, England)

**10265.5:** OM/SS w/what sounded like A/C position report. Lots of nbrs and mentioned Washington. Beep at end of each transmission. LSB at 0557. (Scalzo, PQ, Canada)

**10322.7:** U/i stn w/5F grps. Vy good sig. Several military stns registered to this freq. CW at 0630. (Scalzo, PQ, Canada)

**10361:** Seven musical notes rptd several times. Then at 0310 another musical selected rptd then off air w/o any texts or callups. AM at 0309. (Fernandez, MA)

**10400:** YL/GG in AM w/callup ("1-0, 3F x 3") foll by 3/2F grps. Hrd 0300. (Fernandez, MA)

**10740:** YL rptng Tango Papa w/tones 1400-05. Then YL/GG w/5F messages for 004 and 975. (Mason, England)

**10780:** Cape Radio getting ready to run pp for MAC-40823 in USB at 0108. Both stns strong but not very clear. (Sabo, CA)

**11108:** YL/GG at 0605 w/Papa November callup and into 3/2F grps each x2. (Cafferky, MA)

**11108:** YL rptng Papa November w/tones 0600-05. Then 5F GG msgs for 853, 307, 923, 321, 243 and 997. Simulcast on 2707/5015 and 7404 kHz. (Mason, England)

**11191:** M0B, R5W, Cornstalk Charlie, Auxiliary Alpha and Hershey in USB at 0652 w/Alligator, Green, and Xray code tfc. Rain Cell Charlie, Q5W, Y0A, Goal Post 01 wkg a/c Rattlesnake 43 in chase of suspected smuggler a/c. They lost comms w/Rattlesnake 43 on HF, got him on 282.425 MHz UHF. Meanwhile, Rattlesnake 43 was up on 8912 (Ch. YC) advising Slingshot he lost suspects. Q5W then gave Rattlesnake 43 new radar tracks to check out. US Navy's contribution to the interdiction effort. USB at 2130. (no name)

**11176:** MAC466SK w/msg. Incirlik, Turkey mentioned. Phantom on flight to Cairo. MAC803SK, Ascension relaying info. Crown w/all freq best (rptd several times) USB 0126-0230 (Hollis, WV)

**11217.5:** A/Cs Orange Team and Green Team in USB swapping hourly coded wx obs. Reports 5 mins before hour. Hrd 0115 disputing grid coordinates. At 0200 Orange Team passed obs uncoded—format was UTC, wind, visibility, cloud type and height, temp, dew point, altimeter, then "Grid ICET" data—was admonished to use coded form next report. At 0455, both went off-air to refuel. Back on at 0518. Off at 0521, poor comms. (no name)

**11328.7:** U/i stn w/5L grps. Off at 0555 w/AR. (Scalzo, PQ, Canada)

**11396:** ICAO Caribbean freq, USB at 1952, u/i stn in discussion w/American Airline flight re Hurricanes Caesar and Diane. (Hollis, WV)

**11401:** NNN0NRY, USN MARS wkg NNN0NVX on USB at 1302. Truck 990 wkg Truck Stop on USB at 1309. (Margolis, IL)

**11485:** Banjo Player w/Frosty Green and Phoenix in USB at 1153. Wanted status report on eta of supplies. (no name)

**12342.4:** USCGC Polar Star (NBTM, WAGB-10) wkg USCG Comsta Honolulu (NMO) in USB at 0604. Duplex w/13113.2 kHz. (Sabo, CA)

**12662.3:** CW stn w/CQ DE TTF (Chad allocation) then into coded tfc. Hrd 0634. (Scalzo, PQ, Canada)

**12740:** ZLB2, Awarua, New Zealand w/mkr in CW at 0703. (Scalzo, PQ, Canada)

**12747:** YL rptd MIW2 in USB at 0619. Mossad. (Sabo, CA)

**12859:** Athens. Greece w/SVD mkr in CW at 0027. (Scalzo, PQ, Canada)

**13181.3:** U/i Coast stn (Polish?) in USB w/YL voice ID tape at 0500. Securite at 0520 and tfc list about 0638. Some QRM during phone tfc from P2J clg J7U at 0550 and probable pirate (weak) playing music. (Watt, KY)

**13197:** LSA8. Boca, Argentina w/mkr in CW at 2309. (Scalzo, PQ, Canada)

**13201:** YL/EE in USB at 0216 w/phonetics. USAF freq. (Hollis, WV)

**13241:** SAC Sierra freq. USB, brief phonetics. (Hollis, WV)

**13244:** Decoy 77 (167th Tactical Airlift Group. WV Air Nat Guard) wkg MacDill AFB in USB at 1503 w/pp to Minute Man (Andrew AFB ANG) re load picked up at McGuire AFB and down-load at Pope AFB. (McAtee, WV)

**13247:** Landmine wkg WAR46 (Ft Richie, MD) in USB at 2110 w/HF rdo check. (McAtee, WV)

**13301:** Thule in USB wkg a/c MAC 38084 at 0949. (Watts, KY)

**13312:** A/C 07 and Slingshot trying establish comms in USB at 2204 on Customs Service YE channel. (Sabo, CA)

**13483.5:** NNN0CSK, USS Barnstable County LST-1197 (NUCU) wkg NNN0KRQ at 0233. (Howsare, PA)

**13556:** LCR9T in CW at 0233 clg in order—QD9V, HQG8, WQZ8, W18T, and 7BM4. Used Q-codes w/each one. Off at 0255. (Margolis, IL)

**13826:** NNN0COU, USS Saratoga CV60 (NJRS) wkg NNN0NUW at 2101. Also hrd Saratoga on 14463.5 kHz wkg NNN0FLH at 2004 and on 14383.5 kHz wkg NNN0WHT at 2119. (Howsare, PA)

**13922.5:** YL/SS in AM at 0435 w/5F grps. (Scalzo, PQ, Canada)

**14441.5:** USS Bronstein FF1037, NNN0CPC wkg NNN0XEN at 0050; USS Arkansas CGN41, NNN0CZJ w/rdo check w/USS David R. Ray DD971, NNN0CTF at 0100. Both ships in WestPac area and seeking West Coast MARS stns for pp's. NNN0NRJ, Naval Training Center, San Diego, CA came up on freq at 0115 offering their services. (Stuart, DE)

**14477:** NNN0CSW, USS Saipan LHA2 (NHOV) wkg NNN0MQU at 001. (Howsare, PA)

**14487/15682:** At 1945 warble jammers affecting these two freqs but YL/EE stn using Lincolnshire Poacher callup had moved to its evening freqs of 7887/9251 kHz. At 2014 warblers moved to new freqs. YL had 200 EE grps for 65415. (Mason, England)

**14824.5:** YL/SS in AM w/5F grps. So distorted that unable copy most nbrs. After Final at 0346, carrier stayed on w/lots of audio clicking noises (which also on during text) Hrd 0342. (Fernandez, MA)

**15115:** MacDill, Mainsail. 4V2 Mission hrd. Airvac Situation diverted to Andrews. Ascension and Charleston Command Post mentioned in conversation. Re-

quest made for relief crew at Andrews. USB at 0147. Alternated between this freq and 8993 kHz. (Hollis, WV)

**15610:** YL rptng Delta Oscar w/electronic tones 0700-05. At 0705 YL/EE says Message for 167 167 167 87 groups, Attention, and into 5F grps. Rare EE version of GG stations. (Mason, England)

**15867:** Storm Cloud w/answered calls to Lady Di in USB at 2007 on Customs Service ZE channel. (Sabo, CA)

**16348:** KCP63 (FAA Longmont, CO) at 1555-1559 wkg NORAD sta Bandsaw-Gulf, many ref's to contacting Northwest; KGH23 (FAA Albuquerque, NM) at 2048 wkg KMU31 (FAA ARTCC Houston, TX) w/comm checks, then QSY 20852 kHz at 2053 Both USB. Customs Service SELCALL tones hrd during latter logging. (Sabo, CA)

**16458:** KRH50, US Embassy London, England w/QSX info in CW at 1940. (Scalzo, PQ, Canada)

**16928.4:** LGW, Rogaland, Norway w/mkr in CW at 2115. (Scalzo, PQ, Canada)

**17952:** Slingshot wkg Ambush (YL opr) in USB mode at 0148, then old to Coffee Table and Almighty. Ambush ref'd moving to YB (5571 kHz). 17592 is Customs Service YF channel. (Sabo, CA)

**18001:** YL/EE in USB w/phonetics. USAF freq. (Hollis, WV)

**18019:** Aussie 251 (a/c) and MacDill re pp to Berkstrom (via Autoconv #) re flight/landing data. The a/c was Australian C-130 out of McClellan and on way back to Berkstrom and requested gnd svc and MPs upon landing. Pilot had strong Australian accent. Had 2252. (Fernandez, MA)

**18030:** OMZ, MinFornAffairs, Prague. Czechoslovakia w/CW msgs in Czech at 1157 to its Embassy in Havana. Cuba. (Margolis, IL)

**18584:** Burst transmissions but not in synchrony w/those on 19875 and 19340 kHz. (Hollis, WV)

**18824:** U/i w/coded msgs in CW at 1520. Msgs were ZPS UAUHUUAUHUAUH ZDP: ZPS GHGHHGHHGHHH ZDP: ZPS HNAHNAHNAHNAH ZDP: SPS AHHAHHHAHHH ZDP Ended at 1540. (Margolis, IL)

**188993.5:** SPW, Warsaw, Poland in CW at 1801 w/QSX 16697.5. (Scalzo, PQ, Canada)

**19070:** RRG25, PTT, Moscow, USSR, YL/EE vox mirror for circuit adjustments, hrd on LSB at 1213. (Margolis, IL)

**19090.5:** CLP1, MFA, Havana. Cuba w/5F grps. zero cut as T, CW at 2343 sending to CLP4, EmbaCuba Bissau, Guinea Bissau. (Margolis, IL)

**19153:** 12-note music mkr, in phrases of 7 + 5 notes, hrd on AM at 1110. (Margolis, IL)

**19426.5:** U/i w/5L grps in CW 1306-1316. (Margolis, IL)

**19875:** 5-second bursts of woodpecker-like noises foll by 13 secs silence. Pattern rptd nmerous times. On 19340 kHz also. When pattern stopped on 19875, 19840 would start. 19840 would be silent until after 19875 would commence. The patterns would rpt. (Hollis, WV)

**19881:** Various USN/USMC MARS stns hrd in USB 0022-0027 incl NNN0MSD (Camp Pendleton, CA), NNN0MET (MCAS El Toro, CA), and NNN0NWF (Subic Bay, RP). (Sabo, CA)

**19955:** Various USMC MARS stns in USB 0040-0105 incl NNN0MSD wkg Okinawa based stns NNN0MOA (Camp Kinser), NNN0MOB (Camp Scjwab), and NNN0MOP (Camp Foster). PFC w/letter and MARS sticker recd from MOA for this reception. (Sabo, CA)

**20735:** YL/SS w/5F grps, each x2, in AM at 0006. (Sabo, CA)

**20852:** Ref 16348 kHz logging. KGH23 in USB at 2053 w/calls to KMU31, latter answered w/varying degrees of strength and readability at 2057. (Sabo, CA)

**21754:** Timekeeper to Race Car w/tfc in USB at 2335 on PACAF "Uniform" channel. Same two stns hrd couple mins later on 10452, PACAF "Oscar" channel. (Sabo, CA)

**22608.4:** PCG71, Scheveningen, Holland w/tfc list in EE. YL opr on USB at 1705. (Margolis, IL)

**22897:** Condor w/pp's via Angry-Warrior on USB at 1735. (Margolis, IL)

**22900:** GPA7, Portishead, England w/id mkr in CW at 1734. (Margolis, IL)

**23214:** Billfish w/BOLO (Be on the look out) msg for Kingfish re drug smugglers boats. USB at 2013. Also hrd Oceanside 300, Lady Di, Almighty, and Highball 33. Anti-smuggling task-force freq. (no name)

**23200:** RAF, Upavon, England in USB at 2000 w/aviation wx. (Hollis, WV)

# SCANNING VHF/UHF

BY CHUCK GYSI, N2DUP

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

**I**t's a new year and time to set in motion your scanning resolutions for 1991. Will you resolve to get your notes on frequencies in order? How about spending more time with the family and less time at the monitoring post? How about getting that coax and antenna farm in order this spring? Whatever you decide to do with your hobby this year, now's the time to set your plans and resolve to carry them out. Here's this month's queries:

From Dalhousie, New Brunswick, Eddy Methot passes along some Canadian frequencies for his area of interest. Eddy uses a Realistic PRO-2011 scanner and a couple of shortwave receivers. Here's Eddy's list: 48.22, 48.18, 47.84, Forestry woodlands division; 167.325, Sugarloaf Provincial Park entrance; 172.860, New Brunswick Coast Guard (ship to shore); 155.370, Royal Canadian Mounted Police city detachment; 154.920, Royal Canadian Mounted Police county detachment; 149.770, New Brunswick Telephone pagers; 161.205, Canadian National Railroad trains; 161.025, Canadian National Railroad yard; 155.970, Dalhousie Police Department; 169.230, Dalhousie Fire Department; 162.550, weather broadcasts; 162.915, Day-Night Taxi Co.; 157.530, Central Taxi Co.; 173.970, DNR mobile phone; 159.510, Mundel's Towing Co. It's interesting to note how frequency allocations differ between the United States and Canada and how some can be similar.

Mike Dieckmann, KA0IAR, of Webster Groves, Missouri, sends in an extensive list of frequencies for those planning on attending the VP Fair in St. Louis from Aug. 31 to Sept. 2 this year (it's normally held around July 4, but was switched for 1991 because of a scheduling conflict). The VP Fair is a three-day party for American Independence held on the grounds of the Gateway Arch in St. Louis, as well as various other sites in the city. Big-name entertainment is featured as well as food booths, air shows and fireworks. Here's a good look at what to monitor at the VP Fair this year: 469.5875, entertainment; 469.0625, construction; 469.550, service control; 464.0625, food; 469.475, food; 469.000, fairgrounds; 469.375, security; 464.5875, communications and fireworks; 464.600, alternated frequency; 171.625 and 172.475, National Park Service, arch grounds. Here's a look at some frequencies to monitor for the air shows: 128.200, show feeder; 123.700, show control (riverfront); 120.300, show control (Spirit Airport); 123.400, St. Louis Parachute Club; 123.475, Pitts Special Holiday Inn Team; 123.150, Bud Light Laser 200; 121.700, 123.500 and 134.840, alternates.



Here's the great-looking station of Hugh Murrin, VE3LFI, of Essex, Ontario. His receiving equipment includes an ICOM R7000, Realistic PRO-2020, PRO-2008, PRO-2001 and PRO-30 handheld.

Nile D. Kelly, Registered Monitor, KCA-6WB, of Santee, California, adds to our report in last August's issue of POP'COMM where we noted the use of 154.570 and 154.600 by McDonald's drive-through windows on a nationwide basis. We'll let Nile tell this story:

"I'm a security officer at a four-block radius hotel in downtown San Diego. We carry Motorola Radio P10 handheld radios on our beat; I myself also brandish a Realistic PRO-38 scanner. The Motorolas are as-

signed to, what else but, 154.600 MHz. Talk about luck . . . and I just read about those "happy meal networks" not even a week ago. Sure enough, a couple of days later, the transmission of: "This is McDonald's. Welcome. May I take your order?" broke my squelch. I remembered reading that only one side of the fast-food conversation can be heard until I heard, "I want two Big Macs, two large fries and an order of six-piece Chicken McNuggets. . ." Well, I knew where the McDonald's is and I go there reg-

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ularly. Talk about convenience! It got to the point that I could order food blocks away with my Motorola (when the drive-through wasn't occupied) and it would be ready for pickup on my arrival. By the way, there's no constant carrier. The employee's radios are equipped with push-to-talk switches.

"In addition, 154.600 also is used by Holiday Inn security just eight blocks away and a construction crew building a high-rise two blocks away. All this traffic can be a real pain when I need to transmit in an emergency. I've had to tell everybody else to stop transmitting in emergencies. Can't the FCC do some reallocations?"

I'm not sure whether too many others who are licensed or authorized to use McDonald's low-power frequencies have had the chance to place their orders by their own radios, but it sure sounds like an interesting application. We don't advocate operating a radio like this, but if all parties agree, what the heck. Maybe we'll start selling radios equipped with 154.570 and 154.600 MHz crystals so you can place your order to the fast-food joints while you're still on the interstate and breeze on in and pick it up while that guy in line is waiting for his McChicken to finish grilling.

From Wheeling, West Virginia, Kevin L. Angus writes in to say that he loves reading Scanning VHF/UHF each month and would like to contact other scanner enthusiasts in the Ohio Valley who would like to exchange frequency lists. You can write to Kevin at: 216 Eagle Court, Apartment 216, Wheeling, W. VA 26003.

Skip Tillinghast of Holland, New York, passes along frequencies used by Holland Speedway, a NASCAR track in western New York: 152.300, starters; 151.280, officials; 152.420, video; 151.625, scorers.

David J. Zoro, Registered Monitor, KNY-22W, of New York City, sends in some frequencies of interest in the Big Apple: United Nations, 165.6125, 165.7125, 166.100; Statue of Liberty, 34.79, 166.325; and transit police, 160.305, 160.500, 160.695, 160.905, 160.965.

Richard Sprau, Registered Monitor, KFL4DN, of Lake City, Florida, says that one way to keep an excellent watch on approaching storms in North Central Florida is to listen to the forestry tower. Every day, the temperature, humidity, wind speed and other details can be heard as it changes. He says that some of the information is 30 minutes more up to date than NOAA weather broadcasts. Here are some of the forestry tower frequencies that Richard can hear: White Springs, 159.240, 159.300, 159.360 and 159.315; Lake City, 159.330, 159.600, 159.225, 159.270 and 159.285; Gainesville, 159.405 and 159.375; South Georgia, 159.390.

Richard Holbrook of Putnam, Connecticut, says he's been subscribing to POP-COMM for a while and enjoys the many articles. He holds a novice ham license and became interested in scanners about 20 years ago when he became a volunteer firefighter.

He works for Northeast Utilities in Connecticut and here are some of their frequencies used throughout Connecticut: 37.48, 37.56, 37.60, 37.74, 37.78 and 37.80. Richard notes that the frequencies can become very active during storms. Richard also notes that Connecticut State Police seem to have moved their troop frequencies around, so if you don't receive them on the old frequencies, you might want to try one of the following: 42.04, 42.36, 42.48, 42.52; also, 42.64 for planes and helicopters, and 42.22 for radar traps.

Also, Richard says he has a Uniden Bearcat 600XLT that has a mark on the PC board for 800 MHz and was wondering whether there was any way of installing something in his radio so that he could receive the band. It's probably there because the radio is similar to the Bearcat 760/950-XLT and it allows some of the same components to be used in the manufacturing process. However, to receive 800 MHz on your radio, many components would have to be retuned, so if that's what you want, the other version of the radio would prove much cheaper, or get a GRE America Super Converter II.

We're interested in what you're listening to here at Scanning VHF/UHF. Send along your frequency lists, questions or photos of your listening posts to: Chuck Gysi, Scanning VHF/UHF, Popular Communications, 76 North Broadway, Hicksville, NY 11801-2909. **PC**

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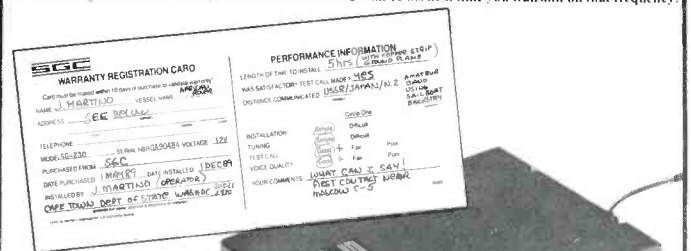
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# TELEPHONES ENROUTE

BY TOM KNEITEL, K2AES

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

**W**e have made mention many times that the most prevalent billing format for cellulars requires the car phone user to pick up the tab for all calls, incoming as well as outgoing. Now a question comes in to the column from L. Jensen, of Wisconsin, who wants to know two things. First, if a call may be placed from one car phone to another car phone. Next, if so, which one pays?

Thought you had me, huh? But, yes, calls may be placed from one car phone to another. It's not as uncommon a practice as you might imagine. This is not the most economical method of car-to-car communication, inasmuch as both car phone subscribers are required to shell out money at the prevailing airtime rates.

### **In The Matter of Mobile Antennas**

Many cellular users don't fully comprehend the importance of the antenna their system uses. It's the most critical element of mobile service, so I thought we'd kick it around a little this month.

As noted by Tony Marcou, manager for product development for Ameritech Mobile Communications, "It doesn't matter how much the phone cost or how much is invested in the system if the antenna doesn't work properly."

All car phones are manufactured to certain standards so that they have the basic ability to place and receive calls. Once the connection is made, however, the quality of the call depends to a great degree on how suited the mobile antenna is to the task at hand.

The car phone's antenna works much like an FM radio tuner. If the station isn't properly tuned in, the listener still hears music, except it sounds distorted and raspy. With the UHF frequencies used in the cellular service, it's vital that the antenna be properly tuned and placed.

An improperly selected or installed antenna will increase the number of hand-offs from one cell site to another, increase the amount of static and noise, and decrease the efficiency of the mobile telephone.

Here are several suggestions for the selection and installation of car phone antennas:

1. Those who use their car phones mainly in an urban (city) environment will obtain the best results using an antenna with 3 dB gain. Antennas with 5 dB gain decrease system performance in densely populated areas.

2. Question the seller/installer of your antenna regarding its ability to work properly over the expanded cellular band (824 to 890 MHz).



*Julie Seager, of Cellular One/GTC, shows Andy Wadsworth some cellular phone techniques at the air show. Wadsworth is the founder of the National Warplane Museum, Geneseo, NY. (Photo by Laurie Mercer.)*

3. The location of the antenna on the vehicle is very important. The best placement to receive optimum coverage is the center of the vehicle's roof. Customers who need or wish to have the antenna installed at a different location should realize that they may be decreasing the quality of their service. An antenna that does not extend above the vehicle's roofline will produce substantially diminished service.

4. If economy is a factor in your cellular installation, don't think that buying a cheapie antenna is going to do you any great favors. A better grade antenna will pay off in service quality.

5. Mobile antennas should be inspected every year to ensure that all components have retained their integrity. The whip, mount, and cable should be undamaged. The connector should be tightly screwed into place on the car phone.

6. Any sudden or unexplained degradation in service quality should raise suspicions that there is an antenna system problem. If the specific problem isn't obvious to you, get a communications technician to check the antenna system.

### **Cellulars In The News**

Cellulars are an odd mix with relics of World War II. That's the way it was, though, at the recent *10th Annual Wings of Eagles 1941 Air Show* held near Rochester, NY. Cellular One/Geneseo Telephone Company made it happen.

Cellular One/GTC provides cellular phones and service for numerous non-profit and charitable causes via their "Good Neighbor" program. When the air show was announced, cellulars were provided for enhanced ground and safety communications. As the photo shows, a Curtiss P-40 Warhawk, in tigershark warpaint was one of the vintage aircraft in attendance.

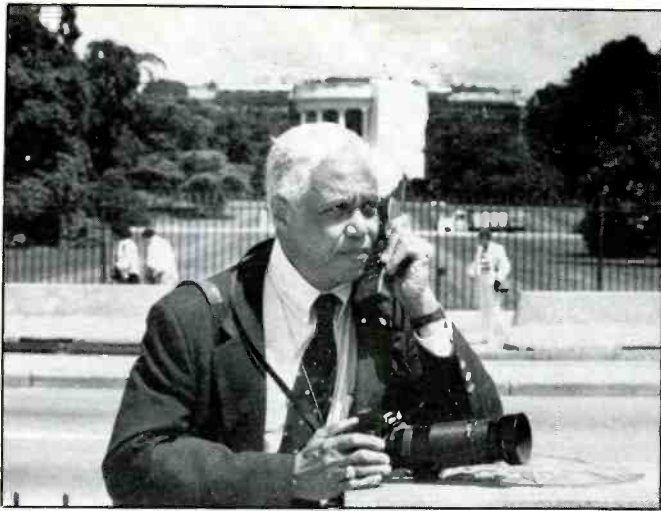
NEC America, Inc., which produces a nifty line of cellular phones, loaned out several of their cellulars to assist the Washington DC bureaus of several news organizations during the Bush-Gorbachev Summit last summer.

When asked which of NEC's cellular phones they wanted available for their use, the call went out from the media people for the NEC Model P300. This is a 14 oz. unit that fits in a pocket or briefcase.

News photographers and reporters staked out at various strategic locations were able to stay in touch with their offices via cellular, and could switch locations at a moment's notice when newsworthy events turned up at unexpected places.

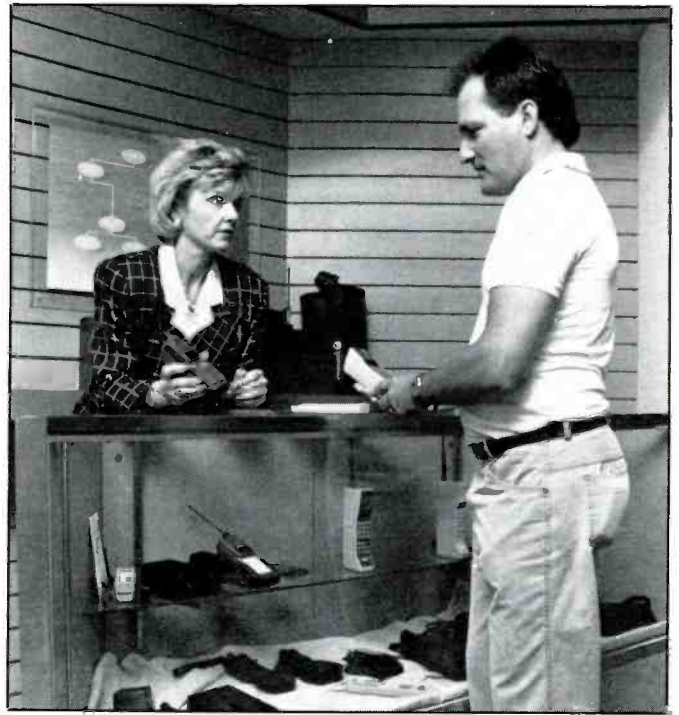
It was such a success that, after the Summit ended, cellulars remained one of the standard working tools of the busy Washington press corps.

US WEST Cellular opened its first Customer Service Center. This is in Phoenix, AZ at 10011 N. Metro Parkway East. This facility is marketing a full line of cellular phones and accessories to the public. It



Bernie Boston, staff photographer for the Washington bureau of the Los Angeles Times, uses an NEC P300 cellular to keep in touch with his home office. Says it saves him a lot of time.

Dawn Berman (left), manager of the new US WEST Cellular Customer Service Center in Phoenix, shows a customer one of the wide variety of phones they offer.



Mitsubishi's new DiamondTel 95 mobile/transportable offers two hours of talk time from its internal power supply.

takes up 5,300 square feet, and includes a showroom, a VIP lounge, a conference room, private offices, repair area, and three installation bays. A person can drive in, select a phone, and drive out in a matter of hours with the unit installed and operating.

### In Other Mobile Phone News

A few issues back we told you how the FCC had approved the establishment of regular air/ground phone service in the 800 MHz band. GTE Airfone Inc. had already been providing this service for several years under experimental authority. At the time we brought you the information on the recent FCC action, and outlined how the new service was going to be structured, we spec-

ulated that it struck us that there probably weren't going to be very many companies competing with GTE Airfone in this market.

Not long after that issue appeared, an Illinois state court prohibited John D. Goeken, former CEO of GTE Airfone, Inc., from competing in the air/ground business in accordance with the terms of Goeken's commitment to GTE Corp.

The Conway Bus Service, of RI, installed cellars in their fleet of buses. The company's buses travel throughout New England, far beyond the possible range of a standard two-way VHF communications system. With cellars, communications can be maintained no matter where the vehicles are located, and there is also the ability to place standard landline calls for safety purposes.

Conway often transports senior citizens on long trips, and the company feels that the cellars would come in handy in the event one of these passengers should become ill while enroute.

One time, while a Conway bus was dropping off passengers at the airport in Boston, a call came into headquarters that a bus was needed in Worcester. Within minutes, the bus was rerouted; something that would have been virtually impossible without a cellular.

Siemens won its first order to install a digital mobile communications system in Sweden. The company was selected by Stockholm's Comvik GSM AB to install a complete digital cellular network. The system, to be installed this year, is the Siemens D-900 (Digital 900 MHz) pan-European network. Siemens digital cellular systems are already in use in Belgium, Finland, Italy, Austria, Portugal, and Germany.

### New Hardware

The DiamondTel 95 mobile/transportable cellular offers 100% more talk time than previous models, yet it is Mitsubishi's smallest, lightest transportable.

It weighs a sliver over 4 lbs., and is about the size of a box of tissues. The user gets two hours of talk time or 28 hours of standby while running on the unit's internal battery. It will continue charging even while it is in use from DC or optional AC power sources. It's got a pop-up handle as well as a retractable antenna, plus a speaker phone for hands-free conversation.

If you dial a number and the call doesn't go through, the DiamondTel 95 will automatically keep trying until you get your number. You can speed dial up to 100 memorized numbers, each containing as many as 40 digits. DTMF transmits standard tone signals commonly used for alternative long distance carrier access, pager calling, electronic banking, etc. And the phone can be registered on two different cellular systems.

Other features include on-hook dialing; signal strength display and four volume level displays; electronic lock; call restriction; programmable area code; and built-in battery charger.

For more information on the DiamondTel 95, contact Mitsubishi Electronic Sales America, Inc., 800 Biermann Court, Mt. Prospect, IL 60056, or circle 102 on our Readers' Service.

This column is looking for your thoughts, comments, anecdotes, and questions regarding cellular and other mobile phones, also pagers. We're anxious to receive information from service suppliers, as well as product information from manufacturers.

# WASHINGTON PULSE

## FCC ACTIONS AFFECTING COMMUNICATIONS

### **Illegal CB Equipment Seized In Hanford, California**

U.S. Marshals with the assistance of Engineers from the FCC's San Francisco Office, executed a civil in rem seizure of illegal radio equipment valued at approximately \$6,000 from Tabb CB Radio. The store is in Hanford, and the owner is Ronald D. Woodhouse.

Twenty-nine pieces of illegal radio equipment were seized including twenty-seven CB linear amplifiers and two CB transceivers. The equipment was capable of operating on unauthorized frequencies or at power levels in excess of the limits set by the Commission's Rule. The use of such illegal radio equipment can cause harmful interference to safety-of-life services (including law enforcement, aviation and marine), other CB users and home electronic entertainment equipment.

The marketing, manufacture and use of illegal radio equipment violates Section 302(b) of the Communications Act of 1934, as amended. Violators face potential criminal penalties of up to \$100,000 in fines and/or up to one year in prison. This action was part of a continuing enforcement effort to assure that the FCC's ban on manufacturing and selling CB linear amplifiers and other non-type accepted equipment is observed.

### **Panhandle Eastern Pipeline Company Eligible In The Power Radio Service**

The Commission affirmed a decision by the Private Radio Bureau which denied a request by the Utilities Telecommunications Council (UTC) for reconsideration of a ruling that found Panhandle Eastern Pipeline Company to be eligible in the Power Radio Service for 14 multiple address system frequency pairs.

Commission rules confer Power Radio Service eligibility to entities primarily engaged in the distribution of natural gas. The Bureau found Panhandle eligible in the Power Radio Service because its distribution of natural gas to members of the public or cooperatives was a regular or integral part of Panhandle's business activity. Seeking review, UTC restated earlier arguments that Panhandle was not primarily engaged in the distribution of natural gas, but rather in the long-haul transmission of natural gas.

Affirming the Bureau's order, the Commission found Panhandle to be engaged in a substantial *bona fide* way in the distribution of natural gas for use by the general public and to cooperative organizations along with its gas transmission operations. The Com-

mission stated that UTC had offered no evidence that Panhandle had undertaken these distribution activities merely as pretext to circumvent the eligibility rules. The Commission also stated that the Bureau would have had difficulty in concluding that one of Panhandle's regular or integrated or substantial business activities was not the distribution of natural gas to the public and others as contemplated by FCC rules.

### **FCC Fines Three Amateurs For Violations On Twenty Meters**

The Following enforcement actions have been taken by the Commission's Field Operations Bureau:

—William N. Terrill, K2BFI, of New Hartford, New York, was issued a Notice of Apparent Liability to Monetary Forfeiture (NAL) in the amount of \$1,000 citing violation of Section 97.101(d) of the Commission's Rules for willful interference.

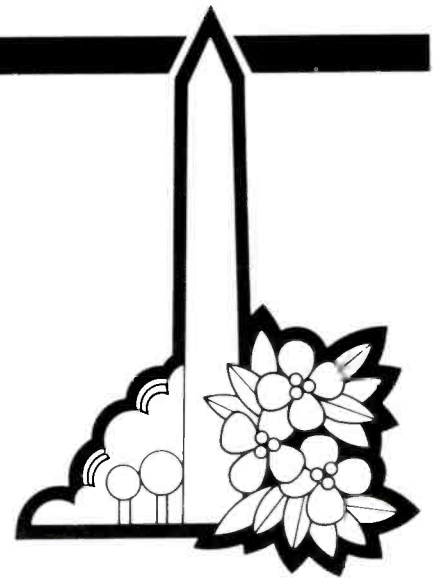
—Herbert Schoenbohm, KV4F, of Christiansted, Virgin Islands, was issued an NAL in the amount of \$1,000 citing violation of Section 97.101(d) of the Commission's Rules for willful interference.

—Richard K. Eastman, N5FX, of Springdale, Arkansas, was issued an NAL in the amount of \$1,000 citing violation of Section 97.101(d) of the Commission's Rules for willful interference.

### **Order To Modify KNIA 877 In The Public Safety Radio Service, Licensed To Baltimore County, MD**

The Commission affirmed an Order by the Private Radio Bureau that granted the application of Baltimore County, MD, to modify its Public Safety Radio Service license, KNIA 877, by relocating one of eight antenna sites nearer Arcadia, MD, over the objections of Elizabeth Glascock. Glascock sought review of the decision arguing that the environmental effect of the tower near Arcadia would be significant.

In 1984, the County was granted a license for an 800 MHz trunked land mobile radio system to provide countywide emergency communications services. In 1988, the County requested modification of its license to relocate one of the eight towers in the system to Arcadia. Before granting the application and based on information provided by Glascock, the Bureau required the County to prepare an environmental assessment of its proposal for the Arcadia site. Although no significant environmental impact was found, a Memorandum of Agreement



was reached by the Bureau, the Maryland Historic Trust, and the Advisory Council for Historical Preservation that attached certain conditions to the County's license in order to lessen the tower's impact on the surrounding area.

Affirming the Bureau's action, the Commission said that all of Glascock's concerns had been completely considered by the Bureau and that the tower, as mitigated, would not significantly affect the environment under the National Environmental Policy Act.

### **FCC Amends Rules Concerning Narrow-Band Direct-Printing Frequencies In The Maritime Service**

The FCC amended the Maritime Services Rules to require applicants to submit a showing of need to obtain new or additional narrow-band direct-printing (NB-DP) frequencies.

Applicants for new or additional NB-DP frequencies will be required to show the schedule of service of each currently licensed or proposed NB-DP frequencies based upon at least 40 percent usage of existing NB-DP frequencies during the three busiest hours of a specified time.

The Commission first provided for the use of NB-DP techniques, a world-wide high-seas radioteletype service, in the Maritime Services. Each licensed public coast station providing high-seas radiotelegraph service was assigned, by rule, a particular series of NB-DP frequencies. However, by 1983 many of the coast stations which were assigned NB-DP frequencies by rule had closed. As a result, the Commission amended the rules, abolishing the method of assigning these frequencies to specific public coast station by rule, "pooling" all of the unused frequencies and making them available on a first-come, first-served basis.



The Commission, in order to prevent hoarding, required applicants requesting additional NB-DP frequencies to make a showing of need based on traffic usage of existing frequencies. When the Commission combined Parts 81 and 83 of the rules into Part 80, the NB-DP need showing was removed to simplify the licensing of public coast stations using these frequencies. As a result new or additional NB-DP frequencies make a showing of need.

The Commission, based on the Petition for Rulemaking filed by Mobile Marine Radio, Inc., proposed to reinstate a need showing for new and additional NB-DP frequencies. The FCC pointed out that a need showing would prevent granting NB-DP frequencies to public coast stations that do not need or will not use them efficiently, thereby keeping them available for public coast stations that will.

The FCC concluded that reinstating a need showing for applicants wanting to obtain new or additional NB-DP frequencies would serve the public interest. Public coast stations are common carriers, and therefore, already maintain traffic records for billing purposes. Further, they must file tariffs with the Commission for the communication service provided. Thus, requiring a showing based on the schedule of service, and the amount of traffic on existing frequencies should not constitute a significant burden.

PC

## Clandestine Communique

(from page 59)

off announcement: "You are listening to a transmission from Radio SPLA, the Voice of the Sudanese Revolutionary Armed Struggle. We shall be on the air again in the 31 meter band at 3PM and again tomorrow at 1300 with programs in English and Arabic. Thank you for listening." Thanks, Chris. And no, still no news about an address for this one. We continue to work on it.

Bruce M. Rossi in Alaska reports a strange transmission on 18175USB he hears almost every night at either 0430, 0530 or 0630. A woman announcer repeats "This is the Central Violence Station broadcasting. . . (and then a word that sounds like "Estonia")."

William Walbesser in New York is, at various times, hearing both Spanish language broadcasts and numbers transmissions on two of the frequencies formerly occupied by Radio Impacto. 5030 and 5044 have both had Spanish broadcasts at various times and Bill has also noted English language numbers broadcasts on 5044. Wonder if these are the same or related to those others have noted 5046 over recent months.

That takes our space for this time. Remember that your loggings of clandestines or related broadcasts are always very welcome, along with information about addresses, stations and the groups which back them.

Until next month—good hunting!

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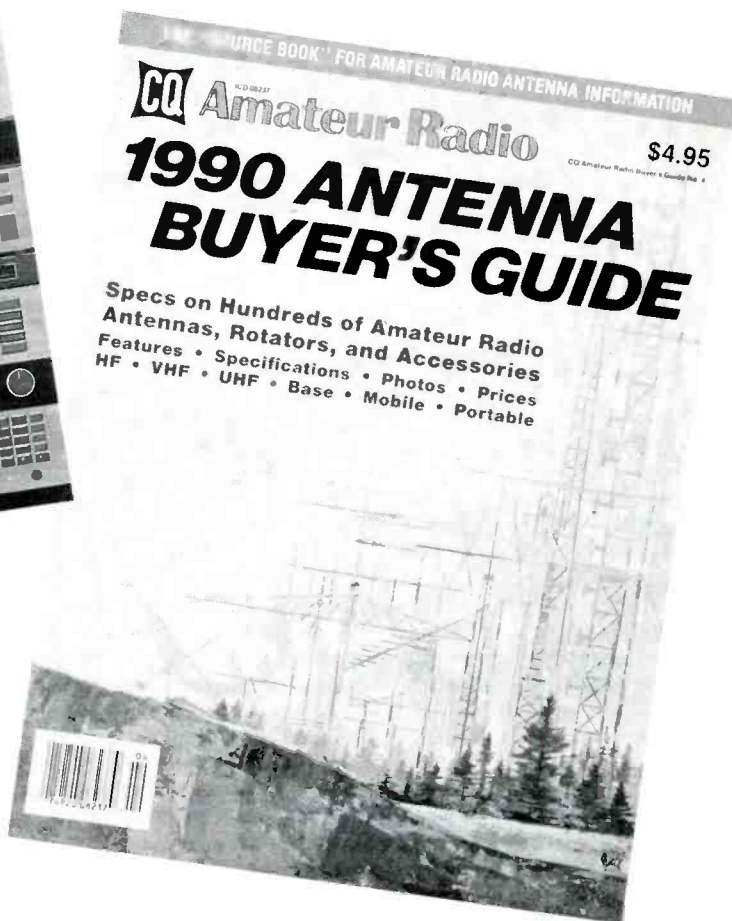
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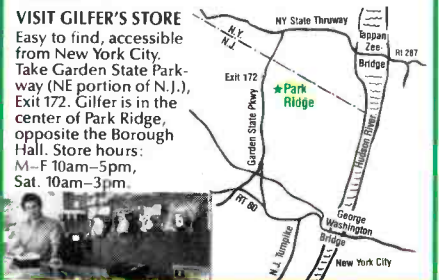
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**Options:**

- External Speaker. Mobile Mount. MS190 \$19.50
- Extended Warranty. 2/3 yrs \$45/\$55

**Specifications:**

- Coverage: 8-600, 805,1300MHz
- Sensitivity: .35uV NFM, 1.0uV WFM, 1.0AM
- Speed: 20 ch/sec. scan. 40 ch/sec. search
- IF: 561.225, 58.075, 455KHz or 10.7MHz
- Increments: 5 to 955KHz selectable/ 5 or 12.5 steps.
- Audio: .4 Watts
- Power: Input 9 - 13.8 V. DC
- Antenna: BNC
- Display: LCD
- Dimensions: 6 7/8H x 1 3/4D x 2 1/2W. 12oz wt.

**AR950** **\$239**



100 Channels. Low, Air, High, UHF & 800MHz.

**Standard Features:**

- Extremely compact size.
- Unrestricted 800MHz coverage.
- 100 channels permanent memory.
- Earphone Jack & Attenuator.
- Delay, Hold features.
- Channel 1 Priority.
- 5 Scan Banks, 5 Search Banks.
- Telescopic and Flexible Antennas w/ BNC connector.
- AC & DC Power cords w/ mtng hardware.
- One Year Limited Warranty.

**Options:**

- Base type antenna 25 to 1000MHz w 50'coax. AS300 \$59.95
- Mag Mnt Mobile Antenna. 15' coax. MA100 \$25.00
- Cigarette Lighter power adaptor. CP100 \$4.00
- External Speaker with mobile mount. MS100 \$19.50
- Extended Warranty. 2/3 yrs \$40/\$55

**Specifications:**

- Coverage: 27-54, 108-174, 406-512, 830-950MHz
- Sensitivity: .4uV Lo.Hi. .8uV Air. .5uV UHF. 1.0uV 800
- Scan Speed: 15 ch/sec.
- IF: 21.4MHz, 455KHz
- Increments: 10,12.5,25,30
- Audio: 1W
- Power: 12.8VDC, 200MA
- Antenna: BNC
- Display: LCD w/backlight
- Dimensions: 2 1/4H x 5 5/8W x 6 1/2D. 14oz wt.

**We offer 100's of communications products.**

**AR3000**

**\$995**



**400 Channels. 100KHz to 2036MHz.**

**Standard Features:**

- Extremely compact size.
- Continuous coverage
- Attenuation Programmable by Channel.
- Manual tuning knob.
- Tuning increments down to 50Hz.
- AM, FM, wide band FM, LSB, USB, CW modes.
- Backlighted LCD display.
- 4 Scan and Search Banks, Lockout in Search.
- 4 Priority Channels.
- RS232 control through DB25 connector.
- Delay, Hold Features.
- 15 band pass filters, GaAsFET RF amp.
- Sleep and Alarm Features.
- AC adaptor/charger. DC power cord.
- Telescopic Antenna.

**Options:**

Earphone.	EP200	\$2.00
External Speaker. Mobile Mount.	MS190	\$19.50
Extended Warranty. 2/3 yrs.		\$65/75
Mobile Mounting Bracket.	MM1	\$14.90
RS232 Control Package	SCS3	\$295.00

(software & cable) offers spectrum display and database.

**Specifications:**

Coverage:	100KHz - 2036MHz
Sensitivity:	.35uV NFM, 1.0uV WFM, 1.0AM/SSB/CW
Speed:	20 ch/sec. scan. 20ch/sec. search
IF:	736.23, (352.23) (198.63) 45.0275, 455KHz
Increments:	50Hz and greater
Selectivity:	2.4KHz/-6db (SSB) 12KHz/-6db (NFM/AM)
Audio:	1.2 Watts at 4 ohms
Power:	Input 13.8 V. DC 500mA
Antenna:	BNC
Display:	LCD
Dimensions:	3 1/7H x 5 2/5W x 7 7/8D Wt. 2lb 10oz.

**AR2500**

**\$499**



**2016 Channels. 1 MHz to 1500 MHz**

**Standard Features**

- Continuous coverage
- AM, FM, wide band FM, & BFO for SSB, CW.
- 64 Scan Banks.
- 16 Search Banks.
- RS232 port built in.
- Includes AC/DC pwr crd. Antenna, Mntng Brckt.
- One Year Limited Warranty.

**Options:**

Earphone.	EP200	\$2.00
External Speaker. Mobile Mount.	MS190	\$19.50
Extended Warranty. 2/3 yrs.		\$65/75
Mobile Mounting Bracket.	MM1	\$14.90
RS232 Control Package	SCS2	\$295.00

(software & cable) offers spectrum display and database.

**Specifications:**

Coverage:	1 MHz - 1500MHz
Sensitivity:	.35uV NFM, 1.0uV WFM, 1.0AM/SSB/CW
Speed:	38 ch/sec. scan. 38 ch/sec. search
IF:	750.00, 45.0275, 5.5MHz 455KHz
Increments:	5,12,5,25 KHz
Audio:	1.2 Watts at 4 ohms
Power:	Input 13.8 V. DC 300mA
Antenna:	BNC
Display:	LCD, backlighted.
Dimensions:	2 1/4H x 5 5/8W x 6 1/2D Wt. 1lb.

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# KENWOOD

## Hear it All!



### R-5000 R-2000 High performance receivers

Scan the world bands with Kenwood's R-5000, R-2000 and RZ-1. Listen in on foreign music, news, and commentary. Monitor local police, fire, and other public safety services, as well as the Marine channels, and the many other services.

(The VHF converter options must be used in the R-5000 and R-2000.)

### R-5000

The R-5000 is a high performance, top-of-the-line receiver, with 100 memory channels, and direct keyboard or main dial tuning—makes station selection

super easy! Other useful features include programmable scanning, large, built-in speaker, 110 volt AC or 12 volt DC operation (with optional DCK-2 cable), VHF capability (108-174 MHz) with the VC-20 option, dual 24-hour clocks with timer, and even voice frequency readout with the VS-1 option.

easier. One hundred memory channels with message and band marker, direct keyboard or VFO frequency entry, and versatile scanning functions, such as memory channel and band scan, with four types of scan stop. The RZ-1 is a 12 volt DC operated, compact unit, with built-in speaker, front-mounted phones jack, switchable AGC, squelch for narrow FM, illuminated keys, and a "beeper" to confirm keyboard operation.

**Optional Accessory**  
• PG-2N Extra DC cable

### R-2000

The R-2000 is an all band, all mode receiver with 10 memory channels and many deluxe features such as programmable scanning, dual 24-hour clocks with timer, all-mode squelch and noise blankers, a large, front-mounted speaker, 110 volt AC or 12 volt DC operation (with the DCK-1 cable kit), and 118-174 MHz VHF capability with VC-10 option.

### Optional Accessories R-2000:

- VC-10 VHF converter
- DCK-1 DC cable kit for 12 volt DC use.

### R-5000:

- VC-20 VHF converter
- VS-1 Voice module
- DCK-2 for 12 volt DC operation
- YK-88A-1 AM filter
- YK-88SN SSB filter
- YK-88C CW filter
- MB-430 Mounting bracket.

### Other Accessories:

- SP-430 External speaker
- SP-41 Compact mobile speaker
- SP-50B Mobile speaker
- HS-5 Deluxe headphones
- HS-6 Lightweight headphones

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### RZ-1 Wide-band scanning receiver



The RZ-1 wide-band, scanning receiver covers 500 kHz-905 MHz, in AM, and narrow or wideband FM. The automatic mode selection function makes listening

Specifications, features, and prices are subject to change without notice or obligation.