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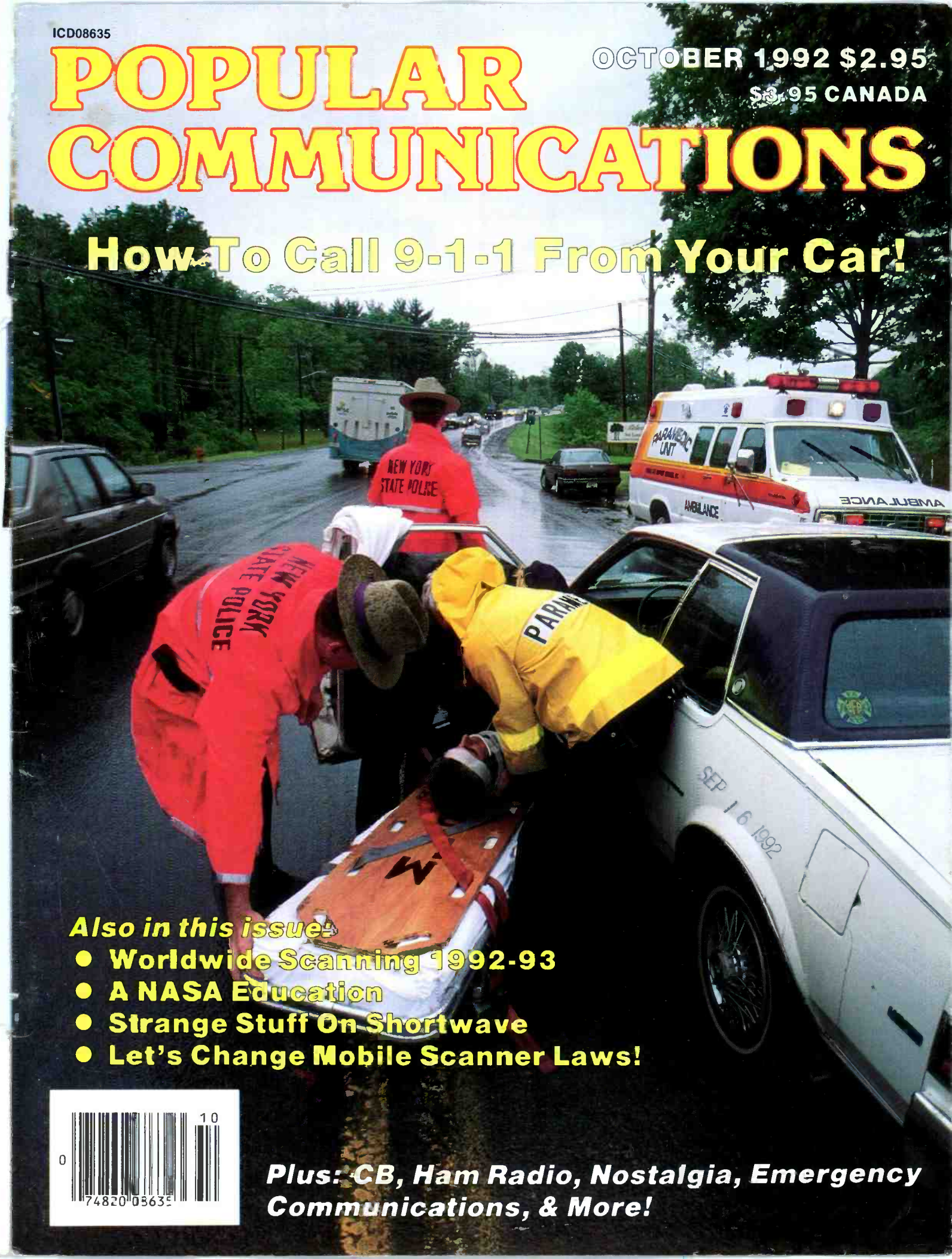

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OCTOBER 1992 **VOLUME 11, NUMBER 2**

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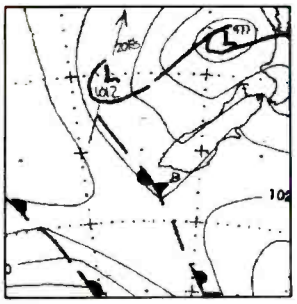

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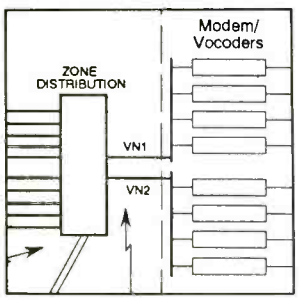

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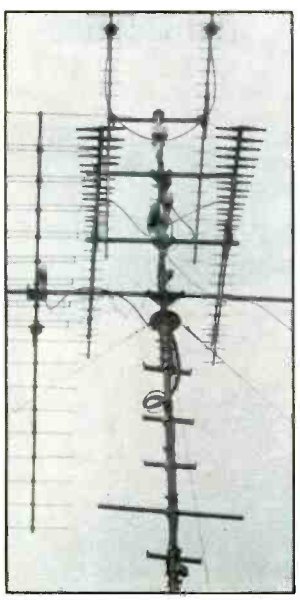

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FEATURES

COLUMNS

DEPARTMENTS

This month's cover: *USA, New York State police and medical personnel at accident scene. Photo by Larry Mulvehill.*

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BEAMING IN

BY TOM KNEITEL, K2AES

AN EDITORIAL

Scanners were invented in 1968. You'd think that in the ensuing twenty-four years they would have become better understood and less controversial. Congress has had to put off trying to solve the national debt crisis, as well as many of other dilemmas, so that it could decide if scanners should be required to have the cellular bands irrevocably locked out when they are manufactured.

Most state laws regarding mobile scanner use are a goofy patchwork quilt of loopholes, maybes, double-talk, and thou shalt nots. They're so confusing and idiotic they make little sense, but seem to sound impressive at first reading.

The national media has the same problem the legislators have when regarding scanner owners. As a general rule, they think that scanner owners and hams are, by definition, one and the same thing. They use the terms interchangeably, which is also what they do when discussing CB operators. Laws and news media coverage relating to scanner use often refer to hams, when neither the Amateur Radio Service, its operators, or its equipment are the topic. These practices are confusing to the public and serve only to complicate matters.

For the most part, and regardless of how badly they are worded, and not counting specific stipulations, state laws have tended to frown upon the use of scanners in motor vehicles. Going under the usual popular misconception that scanners and ham radios are the same thing, several states have generously exempted hams from such laws.

Note that there aren't any state laws against walking down the street carrying a scanner, or riding a bike, or riding a horse, or flying in an aircraft with a scanner, or using one in a boat. But the lawmakers don't want people with scanners riding around in cars. This practice has been perceived as denoting criminal intent. Some police officials have supported this concept, and therefore they like laws restricting mobile scanner usage.

They have pointed out that burglars and other criminal types could use mobile scanners to alert them to police responses, locations of patrols, roadblocks, etc. As such, some police officials consider the scanner as being a tool capable of being used for criminal purposes.

Other police objections to mobile scanners include their use by ambulance chasers, tow truck operators, reporters, and curious citizens who show up at fire, accident, and crime scenes to get in the way.

Although nobody has yet produced national arrest and conviction statistics to prove rampant abuse of scanners by the public, a generally bad press for the devices has taken its toll on us. Last year, a city council member in Jersey City, N.J. attempted to get a municipal law on the books requiring *all* purchasers of scanners to get them registered with the police, even scanners to be used in homes. In a scare story about scanners, *The New York Times* (March 1, 1992) quoted the officer in charge of the Trenton (N.J.) Police Dept. vice enforcement unit as claiming that scanners are commonly used as evidence in trials of drug dealers, stating, "It's like another piece of drug paraphernalia." Unfortunately, *The Times* reporter somehow neglected to ask this officer how scanners ranked in comparison with cars, aircraft, beepers, cellulars, computers, and landline telephones, and if he would also suggest removing these things from full public access.

Certainly scanners have been used by professional criminals. So have many different pieces of technology readily available to the public. Does the misuse of scanners by professional criminals represent the average scanner owner more than the use of a car by criminals represent the typical driver? Nobody wants to answer that question. Scanner owners are decent, law-abiding, citizens who aren't doing anything wrong and just wish to pursue their monitoring hobby without hassles.

It has never seemed logical to us to either denounce or punish all scanner users because of a few clunkers. We have mentioned this here before, too. In the normal course of their activities, criminals traditionally rely upon a wide assortment of tools ranging from beepers to cellulars, crowbars to flashlights, rope, binoculars, glass cutters, and tape, but nobody has suggested making any of these items illegal in cars. Then, why have scanners been singled out?

Anyone inclined to use a scanner to aid a criminal or other unsavory activity certainly hasn't been dissuaded because of restrictive laws. Few such laws have ever actually been invoked. That's simply because expressed fears about the general public's scanner misuse have never been justified after twenty-four years of the devices in use. The laws just sit there on the books looking impressive. Most of what such laws have accomplished has been in the area of continuing to cast an unfortunate and incorrect image of scanners and their owners. Also, they have gone a long way in restricting the mobile use of scanners by legitimate hobbyists who want to follow the motor vehicle laws. These are honest citizens who are interested in, and who wholeheartedly support, law-enforcement agency activities. The very same people whose taxes pay the salaries of law-enforcement personnel.

Several years ago, here in *Beaming In*, we thought that maybe a more intelligent ap-

(Continued on page 76)

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He Read His Trips

This is in regard to your article *Read My Trips* (June issue). When I worked for UPI Newspictures and covered the LBJ Ranch in '67, one of our photogs, Bob Thomas, was a radio nut. He spent nine bucks on a Radio Shack Patrolman tunable VHF handheld. After fooling around with it for a few minutes, damned if he didn't pick up the Secret Service. It was unexpected because we had just assumed that everything would be scrambled.

LBJ was called Volunteer, the ranch was Volcano, and his family had code names like Victoria and Venus. Needless to say, the entire press corps rushed right out and bought Patrolman receivers. I remember cruising up in front of Luci Nugent's house during the baby-watch and hearing her SS escort on the radio advising, "he's here." That prompted me to reach under my car seat and turn off the receiver so they wouldn't know we were listening.

The radios were useful because the SS liked to play little games with the press, sending us to places where nothing was really happening. Like, they'd act as if LBJ was coming down to the boathouse on Lake LBJ. But we would hear the SS on the radios advising that Volunteer was now having dinner. This left the SS wondering why we didn't all head for the lake. We couldn't understand why the SS never figured out that we had them figured out.

Another interesting transmission was hearing Lyndon and Ladybird talking to one another from their Lincolns, calling one another *Darlin'*.

Karl Kramer
Calipatria, Calif.

Cellular Privacy, What?

I have appreciated your editorials regarding the underlying dangers that the ECPA and follow-up laws represent to the basic fabric of freedom in the United States. You are quite correct. The potentials are horrifying and must be fought.

But does this ECPA get enforced on only a selective basis? On 8 April 1992, the national CNBC cable channel had its nightly *Steals and Deals* program. That program had their consumer reporter, David Horowitz, wilfully and blatantly violating the ECPA by monitoring a cellular call on a scanner (just to demonstrate how easy it was, of course). Why didn't the government swoop down and enforce its ECPA here? Did they refuse to enforce the law because a court test against someone other than an individual hobbyist would result in high powered TV network defense attorneys showing up and cutting the law to ribbons? It would be interesting to see what would happen if the ECPA was brought into force in this instance.

While the ECPA was being drafted, I thought it would have been more appropriate to call it the Drug Dealers Protection Act because it appeared custom designed to make monitoring their calls more difficult and less admissible as evidence. Since then, what little has been leaked to the media on major drug busts, it is apparent that the government itself doesn't comply with the ECPA or court orders for monitoring. So here's another possible way of squashing the ECPA. Let's enlist every scanner owner to monitor cellulars as part of the war on drugs. What politician would be against that? Only those friendly towards drug dealers.

As the Rhode Island State Chapter Coordinator for the National Motorists Association, I know what an uphill fight it can be, even when you are completely in the right. Keep up the good work. Don't stop warning people of the dangers of having their rights taken away, one by one.

Thomas A. Frank, KA2CDK,
Middletown, R.I.

You have excellent concepts here, Tom. I could be wrong, but my general impression is that, so far, the ECPA ogre has been trotted out only when specifically summoned as the result of a specific formal complaint filed with the Dept. of Justice by the allegedly "injured" party — that is to say, someone claiming their privacy has been violated. It doesn't seem to be a law that is presently being routinely enforced on the general public, although it is written with that potential. That being the case, a reasonable approach to a defense against the ECPA might simply be that it is being too selectively enforced. —Editor.

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"Send Help – Quick!"

Reporting Emergencies To 9-1-1 From Your Car

BY TOM KNEITEL, K2AES, EDITOR

People have always been very mobile, and they have long been keenly aware of what's happening in areas where they drive. But there have been changes.

These days, there are people who routinely take their camcorders with them in their cars and trucks so they can visually record any newsworthy events they might come upon. Such video recordings might be turned into cash when sold to local TV station news bureaus, to network TV, or to insurance companies. The images could turn up as important courtroom evidence. Many who don't own camcorders take along regular still cameras, as most newspapers will also buy newsworthy photos from non-professionals.

This has sparked an industry. According to Bill Kurtis' *Investigative Reports* TV program (on the A&E cable network), most major cities now have "video vultures." These are people who cruise the streets all night with video cameras seeking out newsworthy stories. They have mobile scanners, and are linked by cellular and business band to base stations equipped to monitor all area police, fire, and EMS services, as well as private ambulance and security services. The base stations dispatch the mobile video camera crews to shoot tape of everything that sounds like it could be sold to TV. They can usually sell a couple of stories each night.

But it's the 14-million amateur video tapers and still photographers who just happen to be somewhere by fate alone that are so often on the scene ahead of the "video vultures," the news media's own reporters, ahead of police, fire, and rescue personnel.

Fact is, that it is non-professionals—people such as you and I—who are increasingly responsible for summoning those emergency service personnel to the scenes of accidents, fires, crimes, disasters. Mostly we don't have camcorders or still cameras with us in the hopes of selling the images. What so many of us do have in our vehicles (cars, vans, trucks, boats) are two-way communications facilities, including CB's, ham radios, cellulars, business radios, and marine radios.

This has been both a blessing and a problem, according to those who answer the incoming calls at 9-1-1 emergency message centers. Yes, all agree that the public's intentions are excellent in reporting emergencies via radio. There's no doubt that this has saved many lives, and much property. What with 20-million car accidents per year in the USA, such calls are increasing in number.

The problem is that so many people calling in those emergencies by radio from their vehicles mean well, but they don't do it very efficiently. This injects needless confusion into the situation, and can delay the arrival of the assistance being sought. When seconds are vital, delays and confusion become particularly vexing problems. Doing it correctly could make a big difference.

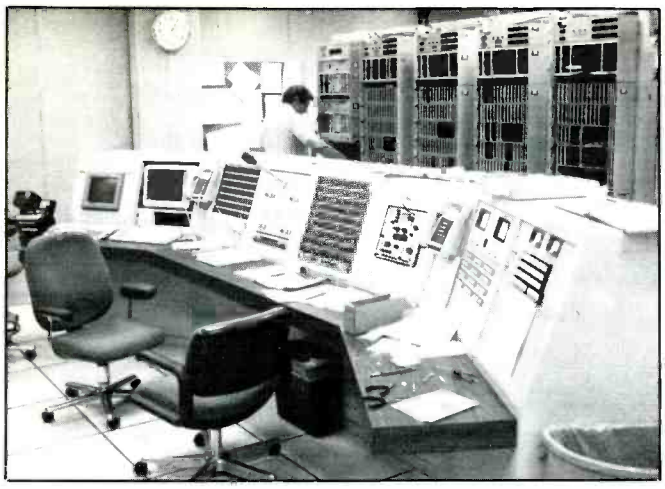
Here are some general pointers for radioing in emergency calls to 9-1-1. Your own local area may have some variations to these suggestions, but they should apply just about everywhere.

Take It Easy

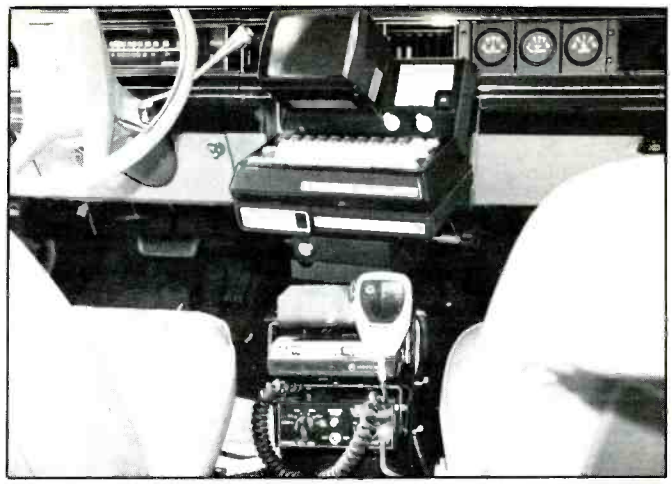
When an emergency situation suddenly occurs, we are taken by surprise. We are caught off guard, but want to summon help right away. The adrenalin begins pumping—we become excited. This is a natural reaction. Unfortunately, this is a poor state to be in when attempting to transmit a coherent message by radio. Although we don't realize it, we speak far too loudly (if not scream), so that the person trying to understand us hears only distortion.

What's worse, when under such pressure, we speak much too rapidly. Also, we are so anxious to blurt out the message that we forget to include some of the important facts. The result is that most of what we intended to say becomes useless.

The idea is to be aware of these natural human reactions, then make a deliberate effort to speak at a normal sound level. Be sure to gather one's thoughts before transmitting, and then speak at a speed that seems to be slightly slower than necessary. Remember



Messages coming in to 9-1-1 must be concise and exacting for proper dispatching purposes. This is the central dispatch area for all of the emergency services in Dallas, Texas.



Police vehicles may attempt to communicate directly with a person who calls in a 9-1-1 report via radio. This is a Dallas Police car. Like many modern police cars, it uses a mobile display terminal for visual copy of vital information.

that someone at the other end of the conversation is not only attempting to understand us, but is probably taking it all down.

Who's Calling?

A person with a cellular usually needs to do nothing more than dial up 9-1-1 to reach an emergency operator. A VHF marine telephone operator can be asked to call 9-1-1 (or the Coast Guard can be reached directly on VHF Channel 16). CB'ers and those with business radios primarily require the call to be placed to a base station or dispatcher, with the information relayed second hand.

Mobile hams with 2 meter transceivers frequently have the ability to access at least one or more repeaters offering autopatch service. This allows landline calls to be dialed up directly from vehicles.

If hams happen to be using the repeater when it's required for an emergency call, the usual practice is to interrupt and announce (depending upon local custom) something along the lines of "I have emergency traffic." Theoretically, this should instantly cause all stations using the repeater to stand by. Stations are always supposed to give priority use of a frequency to stations seeking to transmit emergency communications. Due to poor operating habits, or ignorance of the regulations, it doesn't always happen that way.

If autopatch isn't available, or if the message is being sent by CB or business radio, someone at a base station is going to have to dial up 9-1-1 and give the information to the operator there. The more persons involved in transferring information, the larger the chance for errors to creep in. This situation adds one intermediary person to the process. It may require the base station to repeat vital information to you before passing it along to the 9-1-1 operator. No point in sending help to a location on Route 344 East if the problem is on Route 344 *West*.

Once the 9-1-1 operator is reached, it's best to start out by explaining the manner in which the call is coming through. Examples: "This is an autopatch call from amateur radio W1XYZ," or, "This is a cellular phone call," or "This is a marine phone call from the vessel Splinter, WZ1234," or "I'm a CB base station calling in on behalf of a mobile unit." This gives the 9-1-1 operator a basic idea of the communications ground rules, and whether the call is full duplex, semi duplex, or is being relayed through someone else.

Data

It's a good idea to squeeze as much vital information into the very first transmission. This is just in case the circuit cuts off due to interference, loss of repeater access, or whatever. At the very least, give the nature of the emergency and the exact location at the very beginning.

When giving the location, state the name of the community since 9-1-1 operators often accept calls for wide areas covering numerous jurisdictions. If the street name is tricky, you should spell it out. Mention the complete street name if it includes the word avenue, street, drive, lane, court, road, etc., as the name itself may be used more than once in the same community. And don't forget things like East or West.

Then, ask the 9-1-1 operator to confirm that the information was received. It may be necessary to repeat or clarify the data. Additional information regarding the location or extent of the problem may be requested, or to determine if medical help is required.

Operators prefer that CB and ham radio slang and buzz words be avoided. They also disdain the use of police and fire codes and signals, mainly because they aren't the same in all areas. A caller might report a "10-75," meaning a car fire, but the 9-1-1 dispatcher could recognize 10-75 as a report of a shooting. It would be best to simply report a "car fire." Also, save the "QSL," "QRX," "10-4," "smokey," and "negatory" lingo for more appropriate occasions.

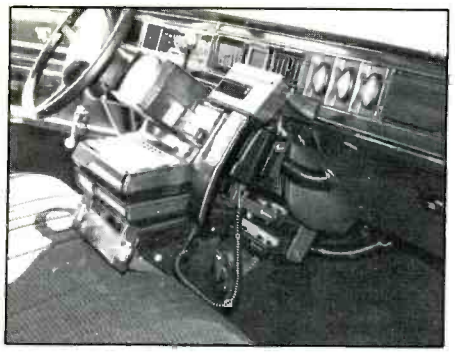
Lastly, ask the 9-1-1 dispatcher if you should remain on the scene until assistance arrives. The information you provided will be flashed to a patrol car. It is possible that a responding emergency vehicle could attempt to contact you directly via CB or cellular. Or, you may be asked to stay on scene to give information to police or fire personnel. If 9-1-1 says you are no longer needed, then either leave—or remain there, but out of the way.

What's Important?

Don't use your two-way radio to tie up the 9-1-1 operator with small talk or unimportant chatter. Don't call in messages that aren't actual emergencies involving the immediate safety of life or property. Calls relating to icy roads in winter, noisy groups of teenagers, unexplained lights in the sky, minor fender benders, vehicles by the side of the road that are out of gas or with flat tires, or that have overheated engines or unexplained mechanical problems, aren't situations that 9-1-1 operators normally handle.

What then? If a stalled vehicle happens to be blocking a lane of a limited access highway, it qualifies as a road hazard so it's a genuine emergency. Other reportable road hazards would include dead, or wandering or injured animals, fallen trees, oil spills, rockslides, and spilled cargo. Report vehicle fires, house fires, brush fires, aircraft accidents, flash flood zones, accidents where there are personal injuries or where vehicles are so damaged that they are unable to be driven. Report hit and run incidents, and drivers who appear to be under the influence. Reports relating to sick motorists in need of immediate medical attention should be called in.

Things such as approaching tornados, bridges just washed out, persons trapped by floods, are deserving of a call to 9-1-1. Felony crimes in progress should be called in. Natur-



This communications test vehicle used by the Dallas Police Department has a cellular, a scanner, and a CB radio, in addition to all sorts of other equipment.

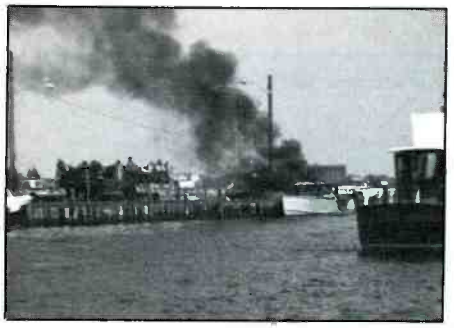
small outboard boat a half mile offshore had its motor catch fire. The cellular on the beach was the only radio available in the area to call for help. It did just fine.

Although reporting an emergency situation makes a person a public spirited citizen, it doesn't confer upon the caller membership in any public service agency. Even if requested to remain on scene, don't obstruct the emergency personnel that show up to handle the emergency. Don't turn into a pest, or try to become actively involved in the incident beyond reporting it and answering any on-scene questions.

If lives were saved, the person who called in the incident could feel they deserve at least a handshake and a pat on the back. As fate could have it, when emergency assistance arrives, the person who summoned can easily be ignored in the excitement of busy police, fire, or medical personnel focused on performing their critical tasks. It could happen that they may even be asked to move out of the way.

The pure satisfaction of having helped someone by reporting their problem quickly, correctly, and efficiently is its own reward. The actual solution to that problem must be left to the highly trained professionals who specialize in these things. Like Zorro or *The Lone Ranger*, the person who called in the emergency should silently clear out as quickly as possible to await the next opportunity to perform their own specialty—which they know how to do very well!

Who was that masked stranger? ■



This boat exploded in port right after fueling. A marine cellular was used to summon the local fire department and rescue team, which quickly arrived on scene, even before the Coast Guard. Note the fire engine on the dock to the left of the boat. (Photo by the author.)

ally, call in reports of downed live electric lines.

Serious marine emergencies (boat fires, explosions, sinkings, collisions, persons at sea seriously ill or injured or lost overboard, abandoned boats adrift, hazards to navigation, missing buoys, oil and gasoline leaks/slicks, etc.) must all be reported to the Coast Guard, which is usually accomplished by calling them on VHF-FM Channel 16. But some emergencies involving boats that take place at marinas, docks, and in many lakes may require first summoning the nearby local fire department or rescue service at 9-1-1 by cellular or other means, even before calling the Coast Guard.

Unless there are children or persons with health problems aboard, the Coast Guard no longer seems very interested in minor marine problems such as small vessels with mechanical problems, or that ran out of gas, or became stuck on a sand bar. It's questionable as to whether 9-1-1 dispatchers in a given area will care, either. Driving a boat under the influence of alcohol is now illegal in some states, so this hazard can probably be called in to a 9-1-1 operator.

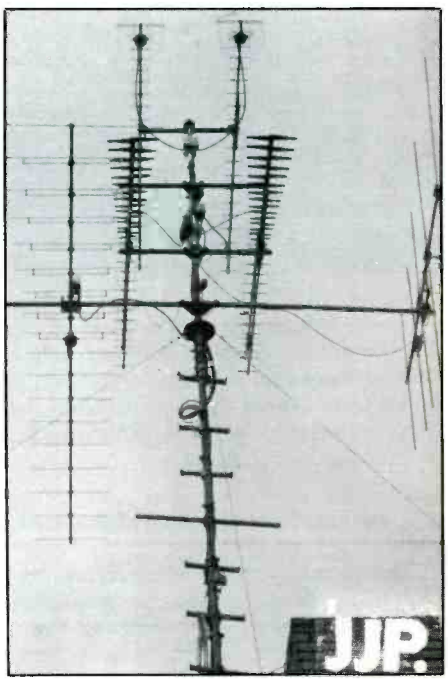
A friend of mine brought his portable cellular along when he went to the beach last summer. While he was sunning himself, a

Worldwide Scanning: '92-'93

Signals Arriving From Practically Everywhere! Turn On Your Scanner!

BY CHUCK ROBERTSON

All set for hearing those "down under" skip stations. The PRO-37 handheld is connected to an outside antenna. The can of Foster's is to toast the first Australian DX of the '92-'93 season. The ICOM R-7000 is for sheer delight.



The beautiful antenna systems used by Joop Prosee, of the Netherlands.

They're back! Those wonderful fall/winter DX scanner signals from other countries. Let your scanner be your passport to these exotic communications, and get ready to cross the borders of the unusual. First, let's ride the skywaves to visit our friends in Australia.

Throw Another Scanner On The Barbie

Recently, I was searching through the 35 MHz band. When the scanner got to 35.01 MHz, it stopped. The comms were in English, and with an accent that was unique. The base dispatcher was having difficulty contacting a mobile unit that had ventured too far away from the repeater. He was saying, "Give us a call when you get back in Australia, mate."

Immediately, I began an intense search for additional Australian stations. I was having a great time, finding that from 35.01 to 35.17 MHz (in 20 kHz steps) there were plenty of Aussies—Melbourne, Canberra, and Sydney from what they were saying.

Phone patch and radio pagers were bombing in on 31.50 and 31.525 MHz. On 31.525, I also heard campus police discussing an in-progress crime, namely a flasher strolling around startling people he encountered.

There were Australian military maneuvers on 32.15 MHz: "Fast mover coming in from port side. F-16 at 110 degrees. He's moving up and down. Bogie buff coming in from port side. Go and get him, four-zero." A location of Gold Mountain was mentioned.

Many RSA police operations, such as the Reaction Unit, may be monitored via skip on the low band. This is their emblem.

254 (UNFICYP) SIGNAL SQUADRON

HEADQUARTERS UNFICYP
BRITISH FORCES POST OFFICE 567

Nicosia 359000 Extension 2543

UNFICYP SIGNALS 522

Mr Max Van Arnhem

Netherlands

5 July 1991

Dear Mr Van Arnhem,

MONITORING OF VHF COMMUNICATIONS

I refer to your letter of 2 March 1991 addressed to the Cyprus Communications Authority and their reply T.11/2/1 - CW. 267 of 13 June 1991.

I am able to confirm that four of the five frequencies listed by you are allocated to UNFICYP, namely 33.40, 40.74, 40.86 and 40.98 MHz. These frequencies are allocated to administration radio nets within UNFICYP which use commercially procured Motorola radio equipment with a power output of 30-60w.

I am delighted that the good work being done by UNFICYP has such a widespread international audience. To further satisfy your obvious interest, please find enclosed a short precis entitled "The United Nations Force in Cyprus" and a copy of the latest edition of the Blue Beret, the UNFICYP monthly magazine.

Yours Sincerely

D MAC TAGGART
WO1 (YofS)
for Force Signal Officer

Copy to:

P Papaioannou
Resources and Technical Service
CYTA-UN Liaison Officer

The UN Forces on Cyprus were monitored on 33.40, 40.74, 40.86, and 40.98 MHz by Max Van Arnhem, of the Netherlands. Max is very proud of his fine QSL letter regarding this reception. Nice going, Max!

TV skip from Channel E-2, Bangkok, Thailand. It was snagged by Joop Prosee, Spanbroek, Netherlands.

Back down on *terra firma*, a construction company was heard on 38.825 MHz. An electric power utility was coming through on 39.25 MHz.

Don't quite know what to make of the chit-chat intercepted in the 30.00 to 30.30 MHz band. It was in AM mode with small talk about cricket, beer drinking, and other similar topics. Frequencies such as 30.10, 30.18, and 30.18 MHz were quite busy. Were these illegals? Or are these legal networks for settlers living in the outback?

Because Australia lies in the Southern Hemisphere, F2 layer scanner skip will be heard best in North America during October and November, also February and March. The deep winter months (December and January) correspond to summer in Australia, and little (or no) long-haul F2 layer skip can be expected to be picked up here from Australia during that period.

Aussie skip usually shows up in Illinois around 2 p.m. Central (2000 UTC), and lasts until a couple of hours after local sunset. Listeners in other areas of North America should also try around 2000 UTC and later for these stations. There are many stations to be logged on the VHF low bands during these hours.

Lure Of The Orient

While you're tuning for Australia, listen for Japanese stations in the 31 to 32 MHz and 39 to 40 MHz bands, in 20 kHz steps. On 31.48 MHz, the dispatcher sometimes uses English phonetics and numbers.

Radiotelephone circuits are intercepted on 45.015, 45.345, 45.36, 45.405, 45.495, 45.525, 45.696, 46.30, and 46.74 MHz. These are full-duplex.

Inasmuch as Japan is located in the Northern Hemisphere, skip signals can be monitored in North America throughout the winter F2 DX season. Afternoon hours are good for checking.

Flight Coordination Centers in South Korea operate in the VHF high and low bands. They are similar to FAA ARTCC's, and communicate with various aircraft, including American military. These low band

operations are on 30.40, 31.60, 32.30, 35.00, 35.25, 36.90, 37.60, 38.00, 38.25, 41.35, and 43.45 MHz.

Euroskip

Max Van Arnheim, one of our readers in the Netherlands, is justifiably proud of his recent reception of the Nevada Test Site (NTS) on 36.05 MHz. He writes that units used multiple digit ID's between 100 and 999.

Max tells us that he picked up the mobile side of a semi-duplex radiophone on 41.71 MHz. From their talk about "going down to the First Fidelity Bank in Jersey City to remove graffiti," Max thought it might be a sand-blasting company.

In the USA, 41.71 MHz is an oil-spill containment and clean-up frequency, so it's hard to get a fix on this report. We did check and find that one of the stations licensed on 41.71 MHz is Thermo Jet, of Cliffside Park, New Jersey. The company is also licensed on 36.25 and 47.48 MHz. Could there be a connection?

Monitoring TV skip also produces good results. Rinus Nienhus, of Amsterdam, and Joop Prosee, of Spanbroek, Netherlands, have independently monitored TV from Thailand's Channel E-2 (video 48.25 MHz; audio 53.75 MHz).

We, here in North America, can tune in on Euroskip, too. Radiophones in Amsterdam have been logged on 42.02, 42.04, and 42.12 MHz. Hospital paging comes through on 39.60 and 39.65 MHz. Radio Netherlands is now using studio-transmitter links on 40.88, 41.15, 41.175, and 43.15 MHz, although these frequencies are changed from time to time.

Geoff Halligey, from his monitoring post in Wales, hears lots of Asian and Mideast skip during morning hours. By afternoon, signals from North America hop across the puddle and land in Wales for Geoff to log.

Get Wild!

Brian Webb, of Calif., has been racking up skip stations one after another on his Realistic PRO-2006. He likes the US Fish & Wildlife

Fall '92 VHF Low Band Skip Loggings

EE= English; FF= French; PP= Portuguese; SS= Spanish; RR= Russian.

Contributors: Max Van Arnhem, Ernie Brown, Geoff Halligey, Tom Kneitel, Joop Prosee, Brian Webb, Russell Write, Josh Wilkes, Lee Whitt, Mark Wells, & your author.

29.70: SS radiophone, & Canadian pager.
29.90: US mil: Shadow-2, Romeo-2.
30.00: US mil medevac helos; & RR tfc sometimes with music.
30.05, 30.05, 30.10: SS, maybe farms in Argentina.
30.05: US mil maneuvers, mentioned 6285 kHz.
30.055, 30.365, 30.805: Arabic phones.
30.30: US mil: Bravo Hot Point & Lawyer Ops; also Wire Talk, Border Talk, Talon-24, & Joker.
30.35: Camp Pendleton USMC, Calif.: Long Rifle, Combat Motorcycles. Also" "The UN wants you to write something for them on how to operate a refugee camp. I'm still trying to line up Sally Struthers for the Feed-the-Kids thing."
30.60: US mil: Stalwart, Stalwart-3.
30.65: US mil maueuvers: Wolf Hound-49, Evaluator-2, mentioned forest reserve boundary.
30.70: US mil: "Shift down so we don't ring the bell of everyone who pases the tiger. Road guards are in place."
30.75: Ft. Irwin NTC, Calif.: Scorpion-24, 24-Bravo. Mechanized infantry task force training controllers.
30.76: Brent Air Towing, Los Angeles, Calif.
30.80: Hebrew traffic.
30.90: RR clear-voice. Mil?
31.02, 31.04, 31.12: SS "gypsy" taxis, NY City.
31.15, 31.925, 33.00: Asian tfc.
31.295: US or Canadian fishing boats "just passing Long Beach." Mentioned Johnny Reef.
31.48: Vessel "Gulf Jaguar" near Peru.
31.50: US mil: Jungle Fighter-3, Black Devil-25, Headhunter-14, Fort Coddy; also Aussie pager with 3 beeps at end of messages.
31.675: Geisha music, then off.
31.70: US mil: "Conduct troop support caterpillar movements."
31.80: Police or Mil, RSA in Afrikaans: Bravo Control, India Control.
31.95: Observer controllers at Ft. Irwin NTC, Calif.: "If you don't move quickly, you're going to lose your interior force right where you are!"
32.03: US mil a/c about eqpt malfunction.
32.05: US mil a/c: Chicken Ranch switched to 311.0 MHz. Also EOC at Ft. Lewis, Wash.: Tango-36. Also Kingston-3 in Jamaica.
32.10: Ft. Irwin NTC, Calif.: Sabre-04, Goldstone Road, Painted Rock, Bushmaster. "Start the scenario now. Bring the OPFOR's up."
32.125: Jamaica: Plant & Base-2.
32.20: USAF in UK: Snow Plow-3, Tower Ops-1; also Romanian petroleum industrial.
32.275: EE, might be RSA.
32.30: US a/c enroute from Spanish Springs. Deacon-73, Green-50.
32.35: US mil a/c mentioned 350.0 MHz & Tucson. Had an engine light on, he said. Also USS Hamilton here & on 30.45 & 32.10 MHz. Also USN oil-spill ops talking about 70% spillage with 90% offshore: Orange Catskill, 2 Orange 2, Genuine X, Blue Jay 749'er.; Also Ft. Irwin NTC, Calif. Also a US fed station, "Call Stanton 6214; call Security 2199.
32.40: US mil convoy enroute Ft. Irwin NTC: Cheap 3-Papa, Pace Setter Talk, Cheap Talk, Eagle Talk-2. Also German taxis.
32.45: Bicycle AAF, Ft. Irwin NTC, Calif.: Bike Lake Metro, Cheap Talk.
32.50: Ft. Irwin NTC, Calif.: Blacksmith-1, Provider-1, Arrowhead-1, MSP-200. Switched to 32.25 then to 32.23 MHz. Also a convoy enroute Ft. Lewis.
32.60: German mil: Papa Uniform.
32.65: Horseman-13 reported being in the desert, 8 miles out of Kingman. Apparently Arizona.
32.68: SS police. Also Argentine pager.
32.70: Ft. Irwin NTC, Calif. with report of helo near Red Lake Pass during maneuvers.
32.80: Kilo-22 & Romeo-22 talking about eqpt for Golden Knights. Also Hebrew from Israel mil units.
32.90: Ft. Irwin NTC, Calif. MILES HQ: Bronco Task Force, Chemos, Goldminer-2.
33.05: Ft. Irwin NTC, Calif.: Eagle-2. Observer controller training for visiting aviation task forces.
33.15: Ft. Irwin NTC, Calif.: Scorpion-1 Channel 1
33.175: US mil: Victor Echo-0.
33.25: Ft. Irwin NTC, Calif. regarding the AAR (After Action Review).
33.30: US mil maneuvers with OPFORS: Concord Pass, Firing Line Delta.
33.50: Ft. Irwin NTC, Calif. advising not to use lasers when other vehicles are on the range. Septic Tank, X-Ray-69, Tower.
33.65: US mil: Talk 75th, 3 Corps Net.
33.95: US mil maneuvers: Mobility Killer, Black-5, Blue-1-Victor.
34.00: Canadian loggers: Paul Bunyan Base and Mobile-1. Also RSA station with EE numbers.
34.05: US mil decontamination ops: Decon-6, Decon Site, Papa 23.
34.06: SS business, Tegucigalpa, Hobduras.

Service frequency of 34.83 MHz, which has stations across the nation and is always lively during band openings. Also try other FWS channels of 34.23 and 34.81 MHz. Many FWS stations are at National Wildlife Refuges, and you can get a free list of NWR's from the Public Affairs Office, US Fish & Wildlife Service, Interior Building, 1849 "C" Street N.W., Washington, DC 20240. Ask for the latest Refuge Managers' Address List.

Brian publishes an interesting free newsletter dedicated to low band skip scanning. All he asks is that subscribers be truly interested in skip scanning and that they participate by submitting their own skip loggings. Brian Webb's address is 3329 Silver Spur Court, Thousand Oaks, CA 91360-1041.

Skip Forecast

Solar Cycle 22 is ever-so-slowly winding down towards a predicted minimum around the middle of the decade. It still has lots of pep and can produce enough long-haul F2 layer DX above 30 MHz to keep you looking for more. Once this DX season cranks up and shifts into full gear, expect low band skip openings every single day. So, maybe the maximum usable frequency (MUF) won't be quite as high as it was last year, but that leaves plenty to hear. First search between 29.70 and 40.00 MHz. If you're hearing DX, then keep trying higher frequencies until you run out of DX.

Look for skip from Africa, Europe and the Mideast to arrive in the morning around sunrise. Australia, Asia, and the Pacific should start showing up around midday, and stay until a while after dark. North American skip should come in all day.

This should be a good season, and you don't want to let it get by you. In a couple of years, F2 long-haul DX will be on vacation for a while and you'll be thinking back on 1992-93 as part of the good old days when that ever lovin' skip was rolling in from everywhere.

We welcome your comments and skip loggings here. And let's also hear from scanner listeners in Australia, Japan, Europe, and elsewhere. Just write to us in care of *POP'COMM*. ■

34.10: US mil Priority Time Message: "Proceed to Hong Kong to pick up 1,000 troops. Return to Ning Pow. Personnel at this this location to give Mike Lima Papa Tango Push-ups." Many Korean military in 34 MHz band.

34.15, 34.175, 34.40, 34.375: RR traffic.

34.225: Morocco.

34.48: PP, might be taxis, Sao Paulo, Brazil.

34.60: US mil: Broken Horse, Knight, King, 5-Bravo.

34.65: US mil maneuvers: Echo-14, Tango-14. "We have repeated attacks from gas & bombs, but neither company has been wiped out,"

34.80: USMC 29 Palms, Calif.: Bearmeat Radio.

34.85: US mil a/c near Harrisburg, Penna.: Crabtree.

34.95: Wrecker in Los Angeles. Illegal freq.

35.01: Australian construction company rptr.

35.03: Aussies: Melbourne, Alstonville, Mobile-2.

35.05: Aussies: Canberra Base, 23, Car-7. Also a logging operation.

35.07: Australian business repeater with a beep after each transmission, plus phone patches.

35.09: Aussie business repeater, very active.

35.11: Aussies talking about cutting coax on job site.

35.13: Aussies: Vanilla Base with a beep at start of each transmission.

35.15: Asian music & 2-way comms.

35.17: Aussie repeater with talk about video cassette. Also Aussie fishing vessels Dixie & Java in simplex.

35.725: PP from Brazil, AM mode. Tone & voice paging. Many others 35.525 to 35.975 MHz band.

35.89: Bootleg repeater or phone patch in southeast USA.

36.02: Romanian?

36.15: US mil: White Castle (San Francisco?). Also Hanbrook Hotel Safety Boat.

36.30: US mil at Mission Creek Rd.: Kilo-49, Echo-49.

36.35: US mil a/c: Corsair-14 calling Santiago. Also mil convoy in NY City area: X-Ray-100, X-Ray-122.

36.43: US mil medical ops (NFM mode).

36.45: US mil maneuvers: Hotel-51. Also DES, referred to as "sent in the green."

36.60, 38.95: US mil maneuvers, 260th Mechanized Regiment: Control, Red Comm-1, Blue-1.

36.70: US mil continuous xmsn of gunnery practice: 11-Tango.

36.75: US mil, Camp Red Cloud, S. Korea, meteo freq. Also possible US Forest Svc sta advising shift to 168.775 MHz.

37.30: US mil, Desidero AAF, S. Korea; also Camp Casey Heliport, S. Korea. Meteo freq.

37.475: Greek & Turkish comms. An odd combo.

37.70: US mil, Ft. Davis: Gator-06. Also Command Net: Range Safety, 065-Base. Also pager, Argentina.

37.75: US mil MP's: Tango-6, Sierra-6. Reference to Building 837.

38.00, 38.20: RSA police. Many in 37.00 to 38.60 band, 25 kHz steps.

38.65, 39.65: US Army Vanderbilt Radio Wire Integration Net in S. Korea provides air/ground mil phone patches. There are 18 ground stations, each using a tactical ID incorporating the word Vanderbilt (Vanderbilt Alpha, Vanderbilt 613, etc.).

38.65, 38.70: Hindi and/or Sinhala. Sri Lanka?

38.725: AA traffic, but with RR #'s in background.

38.80: A sta announcing, "This is an authorized military frequency for the State of Maine." Also Middle Mountain, Mountaineer (US mil?).

38.82: SS mentioning Ministry of Health.

38.825: Australia: "46."

38.90: Ft. Irwin NTC, Calif. Range Control.

39.10: Tehran Police, Iran, in Farsi. Hrd in Netherlands daily.

40.00, 42.80: RSA police, in Afrikaans.

40.10: Mercer County Airport, NJ, Army ops.

40.15: UN troops, Lebanon? Danish.

40.295: Arabic traffic.

40.30: Yakima Firing Center Tower, Wash. Also RSA traffic in Afrikaans.

40.74: UN, Nicosia, Cyprus: 6-Alpha Charlie.

41.00: US mil: Airfield 1, somewhere. Also Turkish radiotelephone.

41.20: PP military. Angola?

41.50: US mil re weapons fire from helo: Range-45.

41.60: British mil: Sierra-01m 6-Delta, Turtle.

41.80, 42.60, 42.95, 44.40, 44.75: RR traffic.

41.90: Mexico? Provo-3.

42.45: SS from Venezuela.

42.70: RR: Crystal.

43.05: SS mil: Rancho Plomo (Lead Ranch).

43.105: 2 Arabic stations.

43.50: Farsi traffic; also SS mil traffic.

43.50, 43.58: FF med pagers. Not Canadian.

45.48, 45.81, 46.50: German radiophones.

45.70: EE, May be US troops in Mideast.

46.725: FF radiophone. Lebanon?

46.86 47.125: Arabic radiophone.

47.75: Bahasa, Indonesia. Radiophone.

51.15: Otis ANGB, Mass.: Cape.

56.50: Ft. Irwin NTC, Calif.: Black-225, Zulu-59.

Radio, As It Was

We Look Through The Pages Of History

BY ALICE BRANNIGAN

On several occasions, mention has been made here of 1933-34 tests in the USA with super-power (500 kW) mediumwave broadcasting. Each time we mention this, mail comes in asking for more information on these experiments and the results.

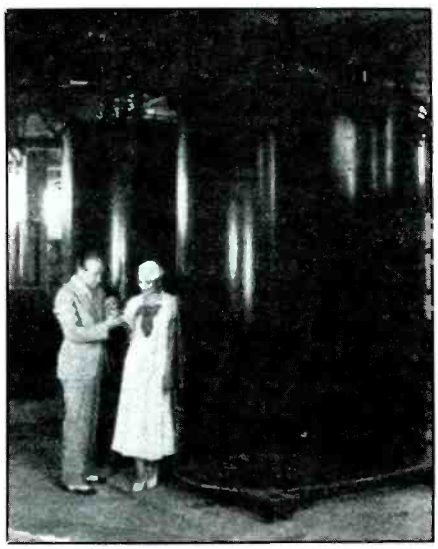
WLW, the 50 kW Crosley station on 700 kHz in Cincinnati (Harrison), Ohio, was the most notable station in these experiments. WLW was issued the special call letters W8XO for 500 kW operations, and was authorized to transmit at this power level only between 1 a.m. and 6 a.m. (0600 to 1100 UTC). It was felt that innumerable rural communities weren't served satisfactorily by local stations and that the 500 kW signals would provide programming at a signal level high enough in most cases to largely override local noise and static conditions.

They claimed that the RCA-designed 500 kW transmitter was the most powerful one built to that date anywhere in the world. The radio amplifier contained twelve 100,000 Watts Type 862 tubes. These were divided into three banks of four tubes each. The tubes were operated in push-pull parallel.

The main plate supply rectifier delivered 100 amps at 12,000 volts, which was the normal voltage applied to the tubes. At 100 percent modulation, the voltage applied to the RF stages was 24,000 volts. Three 1500 amp generators connected in parallel provided 4300 amps at 33 volts for the filaments. The filaments needed 30 minutes to heat up. Cooling the transmitter required 22,500 cubic feet of air per minute forced through ducts, plus 500 gallons of distilled water and 700 gallons of city water in circulation for the tubes. The city water was cooled in a 75-ft. square spray pond.

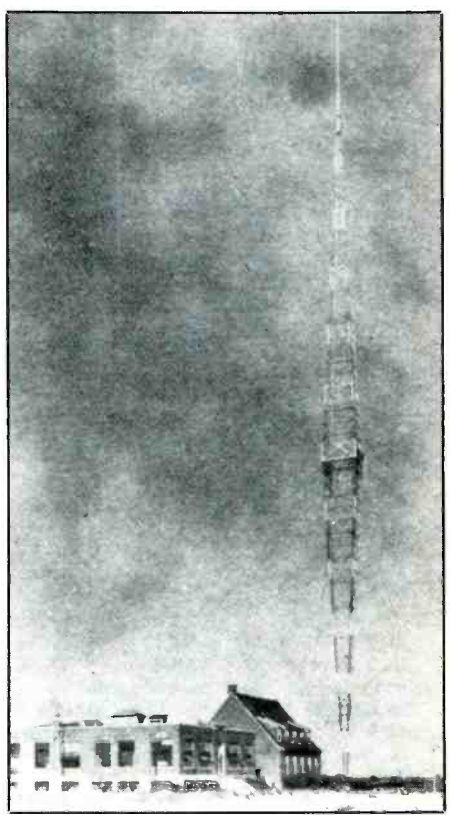
High level modulation was used and Class B audio amplifiers delivered the required audio power. The audio transformers weighed close to 50 tons. The frequency characteristic of the entire transmitter was flat (within 2 dB) from 30 Hz to 10 kHz. All RF stages were operated Class C. The RF harmonic radiation was so low that at any point the harmonics were not greater than 1/100th of 1 percent of the fundamental.

The WLW superstation's .58 wave vertical radiator stood 830 feet in height above ground, and extended 70 feet below ground. The steel itself weighed 136 tons. This weight, combined with the weight of the tight guy wires and their 56 insulators made for a total weight on the base insulator of about 450 tons. It had a test capacity of 1500 tons. The base insulator was made of two porcelain cones connected in the middle in a way that would prevent the porcelain from twisting when the tower swayed.



This pair of modulation transformers was designed for W8XO's use. They weighed almost 50 tons and were submerged in 1400 gallons of oil.

Chief Transmitter Engineer J.E. Whitehouse operates the master transmitter control console at WLW/W8XO. It also controlled other local Crosley stations WSAI and shortwave W8XAL.



The tower for the 500 kW transmitter stood 830 ft. tall.

Reception reports from North America commented upon noticeably louder volume and reduced (but not eliminated) fading, as compared with WLW's 50 kW signal. W8XO brought in DX reports from most areas of the world. Early fears of some that the brute transmitter would "blanket" or wipe out the entire mediumwave band for miles around Cincinnati were proven to be without any justification. To the contrary, there were listeners around North America who were disappointed that W8XO's signal was hardly as powerful as they had expected it to be. They had imagined that it would come blasting in like a local everywhere from California to Maine.

A few years ago, we were told that as recently as the 1960's the old W8XO 500 kW

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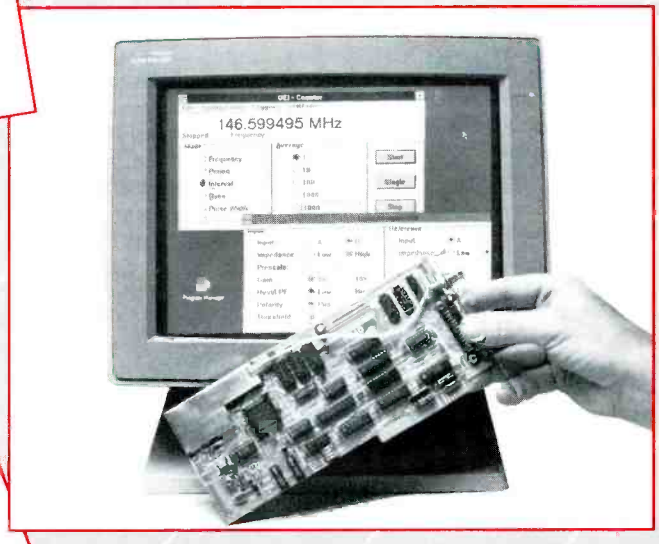

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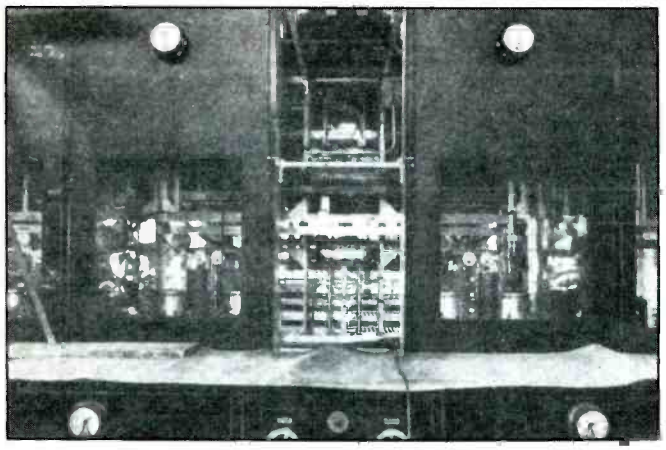
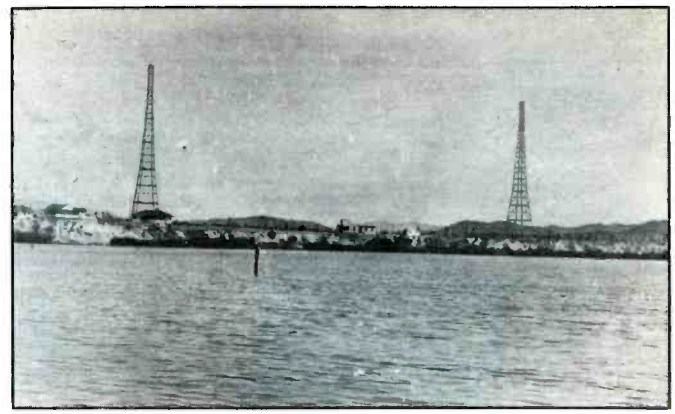


One of W8XO's 180 kW RF units. Each of these used four 100 kW tubes. The entire panel was 54 ft. long, 16 ft. high.



This is the way the US Navy's giant wireless station in Guantanamo Bay, Cuba, looked in the early 1900's.

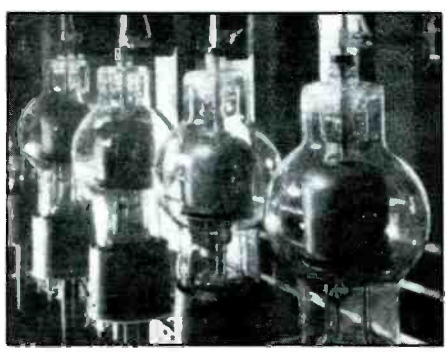
transmitter still existed (in operating condition) at the WLW transmitting plant. For all we know, it might be there yet. It was a station worthy of note, and we thought that you would like to know more about this great test that attracted so much attention.

Guantanamo Radio

During recent months, news stories about the Haitian boat people made many mentions of the temporary refugee camp that (until last June) was established at the US Navy base in Guantanamo Bay, Cuba. It brought to mind that Guantanamo goes back a long way in wireless history.

Under the call letters SI, we dug up a US Navy wireless listing for Guantanamo in 1906 records. In those days, wireless callsigns hadn't yet become standardized with international prefixes. After that happened, the Navy's high powered wireless station at "Gitmo" was known as NAW. In the spark era (1919), NAW operated with "undamped waves" on 67 kHz. We also saw it listed in 1931 with CW on 113 kHz.

A photo of NAW taken in its early days shows two large steel lattice towers flanking a central transmitter building. Several wooden structures are to the side of the tower at the left. Water is in the foreground, with mountains in the distance.



The W8XO transmitter required 1200 amps at 12,000 volts for the plate supply. Six of these mercury vapor rectifier tubes (rated at 450 amps each) were used in the 3-phase, full-wave rectifier system.

For The Record

Lou Chiari, Tampa, Fla., wrote to say that last summer he took our advice and went hunting through flea markets for old radio memorabilia. He brought home some trinkets, and now asks if we can tell him something about several 16-inch 78 and 33 rpm records marked "For Broadcast Use Only." These included recordings of War Bonds and Fred Allen programs, and music by the King Sisters, Gene Krupa, Jan Garber, and The Nat "King" Cole Trio. Lou has no record player than can deal with 78 rpm discs, however some of the labels state to begin playing at the center, and that peaked his curiosity.

From this description, it looks as though Lou has come upon some old radio station transcriptions. Popular in the 1930's and early 1940's, they were from the days when 78 and 33 rpm were the standard transcription speeds. This was prior to the development of Microgroove LP (33 rpm) and 45 rpm recordings. All 78 rpm records for public release came in 10 and 12 inch sizes. A few kiddie records came in 7 inch size. But radio station transcriptions were made in the 16 inch size. This provided longer play-time.

Unlike commercial discs released for public use, some transcriptions started off at the center and played until the recording ended, which was at the edge. This was especially true of transcriptions of radio programs. The sound impressions imprinted on the disc are more spread out near the edge than they are towards the center of the disc. The sound quality is therefore better at the edge than at the center.

In the 78 rpm era, the needles used to play records in homes were steel and could be used only a few times before they became so dull that they needed to be replaced. After that, they sounded awful and started scratching the discs. At radio stations, the needles for playing transcriptions were either wood or steel and were usually used for only one playing. Then they were considered to be below broadcast quality and were thrown away. The idea of starting off at the disc's center was that when a needle was new, it didn't require the best possible sound quality. The needle began to wear down and lose its reproduction quality as it tracked across the record, but the quality of the record kept improving in order to compensate and maintain a relatively consistent sound quality throughout.

Transcriptions were used by radio stations to play recorded radio programs. Also, stations could purchase large libraries of popular or classical music on transcription discs.

Transcriptions haven't been used for decades. They are genuine broadcast relics. These discs turn up at tag sales, yard sales, flea markets, and in antique stores from time to time, and at cheap prices. Lou paid only $2 each!

Ethnic Ethics

Interesting to take a look at ethnic aspects of broadcasting, audience tastes, and how public awareness of this has changed over the years. When I happened to hear a tape of an old *Amos and Andy* program recently, it was difficult for me to believe that this type of material was ever popular, acceptable, and perceived as more entertaining than it was offensive. Not only that, to know that *Amos and Andy* was so successful a concept that the show had many imitators on stations all over.

Amos and Andy began on radio in 1926 as *Sam and Henry* over Chicago's WGN. Two years later, they shifted over to Chicago's WMAQ and became known as *Amos and Andy*, achieving national popularity over the CBS network. That's when all sorts of similar dialect comedy radio individuals and teams popped up, perpetuating the most offensive possible stereotypes of Blacks, Asians, Germans, Mexicans, the Dutch, Italians, Scandinavians, Jews, Greeks, Russians, the Irish, and others. Every group was fair game. These same supposedly good-natured stereotypes had been previously worked over by dialect comedians in vaudeville, burlesque, and minstrel shows.

They had never before reached the vast audiences such as those made available by radio. In the curious idiom of the era, this passed for ethnic entertainment.

Amos and Andy continued for years, and (in one format or another) they remained on radio until as late as 1960. They were also a popular early TV series. Eventually, changing public tastes and resulting complaints forced most of this type of humor off the air. Some few ethnic dialect stereotype comics lingered on, anyway.

A 1931 QSL letter from station KMTR, in Hollywood, offensively makes a point of mentioning that they were verifying reception of "*Ol' 8 Ball and Charlie Lung*, the nigger and the chinaman, a regular nightly feature on our station." This was an *Amos and Andy* knock-off with an apparent California twist.

A photo (about 1930) in our files shows *The Four Porters*, a music and dialect comedy quartet appearing on the Canadian National Railway Network.

True ethnic broadcasting probably didn't begin in earnest until the late 1930's, and grew after being started on stations in larger cities. By the early 1940's, New York City's WOV, WEVD, WBNX, WLIB, WHOM, and WWRL had already become dedicated ethnic broadcasters, presenting a wide mix of African-American, Italian, Jewish, Polish, Spanish, and other specialized programming.

Still, the evolution of ethnic broadcasting was a slower process than you might imagine. It wasn't until 1948 that the south had its first station with an all-Black on-air staff. That was Memphis station WDIA. The station had gone on a year earlier with 250 watts and wasn't making any money. In 1948, WDIA's white owners took on Nat D. Williams to run a program called the *Tan-Town Jamboree*. It resulted in quite a commotion, lost some advertisers, but it put WDIA on the road to success.

Today, WDIA runs 50 kW and has an all-Black format. The station played an important role in the early careers of Isaac Hayes, B.B. King, and others.

It wasn't until 1972, fifty years after broadcasting had begun, that the term "Black radio" came to mean more than simply soul music and personalities. By the early 1970's, it had also come to mean gospel, jazz, political and social issues, African-American culture and history, civil rights, and many other things. There are now more than 170 AM/FM stations claiming to run Black-oriented programming formats, 331 Spanish format stations, 2 Japanese, 2 Italian, and 4 Native American stations. There are hundreds of stations presenting individual programs directed at specific ethnic audiences.

Ethnic and racially directed dialect humor and stereotypes have mostly faded out and been replaced by this constructive approach.

The WSYR Story

In the June issue we discussed WSYR, Syracuse, New York. That brought us an in-

HOLLYWOOD 3026

RADIO STATION KMTR
KMTR Radio Corporation
1025 NORTH HIGHLAND AVENUE
HOLLYWOOD, CALIFORNIA

January, 1, 1931.

Mr. Jos. Hueter.

Dear DX Fan:

KMTR is happy to inform you that your letter of December, 26th has been verified by them.

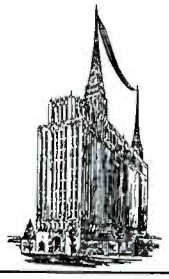
You were listening to Ol' 8 Ball and Charlie Lung -,the nigger and the chinaman - a regular nightly feature on our station.

We want to thank you for your letter and wish you the best year possible for 1931.

Sincerely yours,

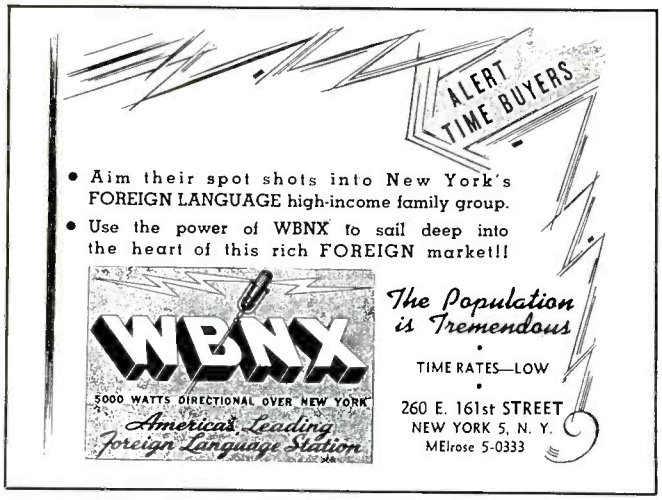
Radio KMTR
Hollywood, Calif.

By Irene Prentice

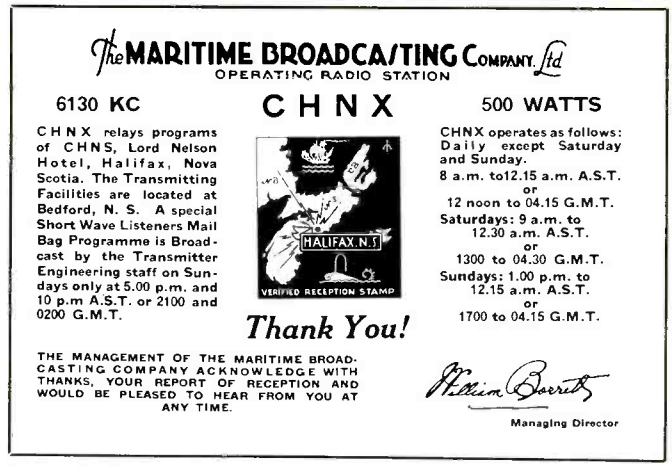


Hollywood station KMTR, in 1931, ran a daily ethnic stereotype comedy program, as mentioned in the worst possible terms in this QSL letter.

This CNR Network music and ethnic dialect comedy group was billed as "The Four Porters." They posed in "blackface" makeup for this publicity photo.



A radio trade publication of 1946 pointed out the benefits to advertisers entering the newly expanding ethnic radio field. Europeans arriving in New York right after WWII spurred this market on to new heights.



From Halifax, Nova Scotia, comes shortwave CHNX. We traced this station back and found that it was operating more than 60 years ago. It has been on the same frequency for over 50 years! (Courtesy Earl Bedford, Jr., N.Y.)

formative letter from Clive M. Beckwith, KC4FTE, of Miami, Fla. Clive points out that the correct name of the widow of Clive B. Beckwith, the station's founder, was Jean (nicknamed Hilda), and not "Olivia," as we had stated. KC4FTE should know, since he is her son! Jean was related (on her mother's side) to Reginald Fessenden, the radio pioneer.

Clive told us that Jean assisted her husband's WSYR operations by becoming what was probably the first woman program director and possibly the first woman announcer. She had a very elegant voice. Clive B. Beckwith, was known as "CB" to his many friends. He died soon after the sale of his station while he was walking along the side of a road with Jean and his friend, William C. Beckwith. Later, Jean and William C. Beckwith were married, and when they had a child, they named him in honor of Clive.

William C. Beckwith had helped to build WSYR/WMAC in the early days. One of the technical points of interest was, for its day, the world's longest transmission line. It was 800 ft. in length. It fed a transmitter on top of a mountain from a transmitter located further down the side of the mountain.

It is KC4FTE's understanding that old Clive sold off the station to Wilder because he didn't have sufficient financial resources to upgrade the station to the point where it could qualify for a network affiliation.

Old Friend

When Earl Bedford, Jr., of Chappaqua, New York, sent us a big stack of the QSL's his dad had received in the late 1930's, we were struck with the card from CHNX, Halifax, Nova Scotia. Here's a station that I have heard so many times on 6130 kHz, and I saw on this 1939 QSL that the frequency then was still the same, and CHNX ran 500 watts then, too (as it does now) when it relays mediumwave CHNS.

Looking back, we see this station operating as early as 1931. That was on 6050 kHz under the Experimental license VE9CF, which later moved to 6110 kHz around 1936. By 1938, the station was known as VE9HX, and had settled in on 6130 kHz. In 1939 the callsign became CHNX, and that's the way things have remained ever since.

The 1939 QSL noted that the station was in the Lord Nelson Hotel, Halifax. The transmitter was at Bedford.

Back To The Books

Drat! Looks as though we have run out of space for now, but we will be back again before snow flies. Muchly appreciated is the mail that has come in here, the old time QSL's, stories, news clippings, station listings, and other related material. Everything is put to use and welcomed. ■

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POP'COMM Reviews:

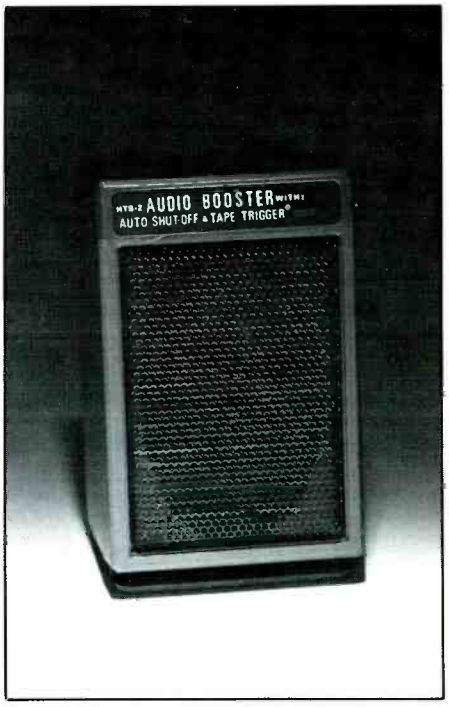
Naval Electronics HTS-2 Audio Booster

Loud is the best way to describe the new HTS-2 Audio Booster. The compact (4½" x 2¾" x 2½") amplified speaker unit is really designed to be used with handheld radio transceivers, but, as the easy-to-understand instructions say, "it is also ideal for use with personal stereo radio/tape players." To that we would add that it is particularly useful to handheld scanner users.

The speaker/amplifier is powered by 4 "AA" batteries (not included) and has a rear-mounted on/off switch. Jacks and cables are provided for connection to your HT or handheld scanner's earphone jack and cassette recorder. There's even a jack for an external 5-15 Vdc adapter, either polarity. That's something other manufacturers should also consider! The HTS-2 can also charge NiCds in this manner.

As we said earlier, the unit produces powerful audio! Using it with an AOR AR1000 handheld scanner, we quickly discovered that when connected to the HTS-2, the scanner's volume control hardly needed to be a hair beyond the "on" position. Talk about a boom box! The HTS-2 also includes a built-in auto shut-off and Tape Trigger, that when connected to a cassette recorder's "remote" jack, will turn the recorder on and off when the circuitry detects scanner audio. That's the good news.

But unfortunately, there's no output jack on the speaker for connection to a cassette recorder's "aux" or microphone jack. To record, you place the HTS-2 unit near the cassette recorder's condenser microphone and connect the remote cord to the recorder. You'll capture all the action on the recorder, but the only way to tape record your scanner's audio more than once at 3 a.m. is to move to a very remote country of your choice so you won't wake the neighbors. The HTS-2 retails for $29.95, plus $5 postage and handling. For a couple more bucks, we think most users would have also preferred another jack on the rear of the unit instead of moving to the hills.



The HTS-2 also includes a special sensor that places the unit in "sleep mode" until audio is again detected. The instructions tell the user not to leave the unit in "sleep mode" because, even though current drain is low, eventually the batteries will drain. Naval Electronics officials report the batteries last approximately three months in this mode. The HTS-2 Audio Booster is available from the manufacturer, Naval Electronics, Inc., 5417 Jetview Circle, Tampa, FL 33653.

Reviewed by POP'COMM staff.

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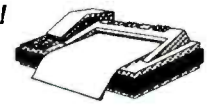

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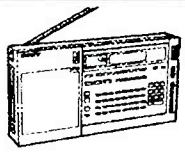

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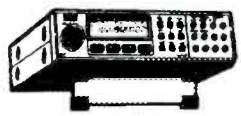
Demo disk of SCS software as above. Call toll free to order, or download it from our BBS at 317 579 2045. Also, Free from your fax machine: Allocation chart of all voice frequencies, plus shortwave, mil air & more freq info Dial FaxFacts#999,989,979

Mobile Scanners

Bearcat 760XLTM
$249.95
100 Channel
800 MHz



Five banks of 20 channels each. Covers 29-54, 118-174, 406-512 and 806-954MHz (with cell lock). Features scan, search, delay, priority, memory backup, lockout, service search, & keylock. Includes AC/DC cords, mtng brkt, antenna. Size: 7 3/8 x 6 15/16 x 1 5/8. Wt: 7.5lbs. Fax fact document #550.

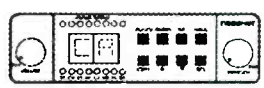
Bearcat 590XLTX
$199.95
100 Channel
11 Band

Five banks of 20 channels each. Covers 29-54, 118-174, and 406-512MHz. Features scan, search, delay, priority, memory backup, lockout, service search, & keylock. Includes AC/DC cords, mtng brkt, antenna. Size: 7 3/8 x 6 15/16 x 1 5/8. Wt: 7.5lbs. Fax fact document #570.

Bearcat 560XLTZ
$99.95
16 Channel
10 Band

Compact, digital programmable unit covers 29-54, 136-174, and 406-512MHz. Features scan, WX search, delay, priority, memory backup, lockout, review,& auto delay. Includes AC/DC cords, mtng brkt, antenna. Size: 7 3/8 x 6 15/16 x 1 5/8. Wt: 2.5lbs. Fax fact document #560.

Trident TR-2C
$89.95



Scan/CB with optional laser detector
Scans pre-programmed by state channels in low, high, UHF & T bands. Weather, 40 ch. CB receive plus mobile relay. Size: 7 3/8 x 6 15/16 x 1 5/8. Wt: 2.5lbs. Fax fact document #580.

Mag Mount Antenna. Easy to install whip antenna with 20' of coax & heavy duty magnet BNC MA 100 **$19.95**
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Downconverter. Converts 800MHz freqs to 400MHz for 3 band scanners. Quartz locked, 9V batt. DC89. **$89.00**
Extended Warranties & Service. Extended warranties available for most models. Call for quote. Out of warranty service by ex- Bearcat/Regency factory techs. Call for quote.

Hand Held Scanners

AOR 900 $199.95
100 Channel 800 MHz

Five scan banks 5 search banks. Covers 29-54, 118-174, 406-512 and 830-950 MHz (no cell lock). Features scan, search, delay, priority, memory backup, lockout, service search, & keylock. Includes AC/DC cords, mtng brkt, antenna. Size: 7 3/8 x 6 15/16 x 1 5/8. Wt: 7.5lbs. Fax fact document #650.

Bearcat 200XLTN
$229.95 200 Channels 800MHz
Keyboard Programmable.

Ten scan banks plus search. Covers 29-54, 118-174, 406-512 and 806 956MHz (with cell lock). Features scan, search, delay, 10 priorities, mem backup, lockout, WX search, & keylock. Includes NiCad & Chrgr. Size: 1 3/8 x 2 11/16 x 7 1/2. Wt. 32 oz. Fax Facts # 450

Bearcat 100XLTN Now $159.95
100 Channels, Keyboard Programmable.
Similar to 200XLTN above without 800MHz. Fax facts #460

Bearcat 70XLTP Only $139.95
20 Channels Keyboard Programmable.
10 Band Hand Held with Ni-Cads & Charger. **Fax facts #470**

Bearcat 55XLTR Now $99.95!
10 Channels Keyboard Programmable.
10 Band with LCD. Requires 5AA's . Fax facts #480

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50 Channels Keyboard Programmable with 800MHz. LCD display, lock, priority, Search, WX, Fax facts #655

Bearcat 142XLM Only $87.95
16 Channels with 10 bands. LED display, lockout, priority, WX scan , review key and memory backup. Fax facts #660.

Bearcat 147XLJ Now $89.95
16 Channels with 10 bands. Track tuned, LED display, priority, WX search, review, memory backup. Fax facts #670.

Bearcat 172XLM Only $124.95
16 Channels with 10 bands. Track tuned, LED display, priority, WX search, review, memory backup. Fax facts #680.

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12 bands and 40 channels with 800MHz and nothing cut out. AC or DC. Fax facts #690.

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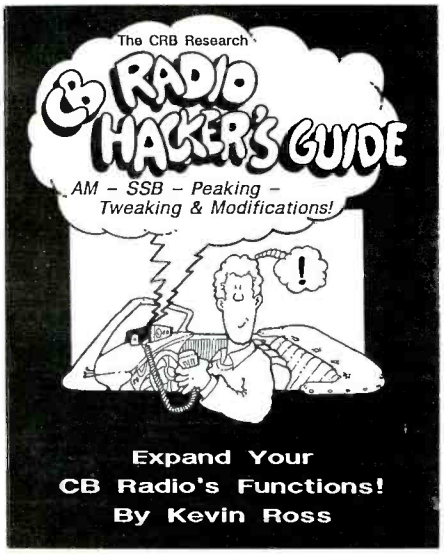
VISA MasterCard

BOOKS YOU'LL LIKE

BY R.L. SLATTERY



Get More From Your CB Radio!

The success of the *Scanner Modification Handbooks* was the message to hobbyists that it's possible to make a few changes or adjustments in a piece of equipment and end up with something that works a lot better and does much more. The same company that brought us the original two *Scanner Modification Handbooks* has now brought out the new *CB Radio Hacker's Guide*, by Kevin Ross.

The author, who is a top CB service technician, points out that many CB radios from different manufacturers utilize chips common to one another. In many instances, those chips have controls, capabilities, functions and features that are utilized in some models from certain manufacturers, but are left unused in other models. With the right know-how, such dormant features can be activated by the owner of the equipment in order to add operating features usually not available except in more expensive models. Kevin Ross knows what these are and reveals how to activate these inactive features.

More worthwhile features and functions can also be added to many CB radios by adding a couple of components, or removing a jumper or wire or two. These changes further enhance the equipment.

In addition, Kevin Ross points out that not all CB radios leave the factory adjusted to operate at their very best. That is to say, most sets could give more power output, fuller modulation, better AGC and squelch action, and do many other things better. They aren't going to do those things unless they're caused to do so by being properly peaked and tweaked to that maximum. It's like turning milliwatts into killer-watts!

These are the main areas addressed in this excellent 151 page book. *The CB Hacker's Guide* covers more than 200 current and recent AM and SSB CB radios from Cobra, Courier, G.E., Midland International, Radio Shack Realistic, SBE, Sears, and Uniden/President.

Charts, diagrams, clear pictorials, and text fill this book. It tells you which screws to turn, which wires to cut, what components to add or remove. Kevin Ross provides enough information to make it all go as easily as possible.

You'll also see how to add microphone and RF gain controls, a noise blanker, a bright/dim LED control, switchable audio tone, hi/low transmitter power, a modulation meter, an analog meter, and much more. Learn how to diagnose CB radio problems, how to test microphones, how to wire all type of CB microphone plugs, how to bypass a wired-in ANL, and plenty of other useful things to enhance your CB station and AM or SSB operations.

We were pleased to see that the book's foreword was written by Bill Sanders, *POP'COMM's* CB columnist. Kevin Ross' text is easy to follow, informative, and to-the-point. In order to capture the flavor and feel of Kevin Ross' clever modifications, his own hand-lettered, hand-drawn, and easily understood diagrams, direct from his own private service bench workbook, have been used. This is a nice approach. Even the full-color cover is appealing.

The CB Radio Hacker's Guide will surely be one of the most useful books in any AM or SSB CB radio room. The book is recommended and endorsed for its members by The SSB Network, world's oldest and largest Single Sideband operators' organization.

The CB Radio Hacker's Guide, by Kevin Ross, is $18.95. It is available from many CB and communications dealers. If your favorite dealer doesn't carry the book, order it directly from the publisher, CRB Research Books, Inc., P.O. Box 56, Commack, NY 11725. Add $3.50 for shipping (sent by UPS, and by 1st Class mail to military addresses, AK, HI, PR, VI, GU, and Canada). Residents of NY State please add $1.80 sales tax.

Getting In On Ham Radio

When the FCC dropped the CW requirement for obtaining a ham license, it heralded a sharp increase in new ham Technician Class ham operators. For the most part, these are a whole new breed of people entering the ranks of hamdom.

In the past, hams were usually those who had seasoned in the ranks of the hobby as scanner owners or SWL's for a few years and then studied CW in order to get a Novice Class ham license. That put them on the road to a Tech license, and then perhaps they would decide to avail themselves of other grades of licenses. Still, by the time they got their Novice tickets, they already knew a lot about the radio hobby just from having been around for a while. Books for the beginning ham have traditionally been addressed to these people.

The new breed of ham is often something rather different. He or she is not necessarily someone who has ever been an SWL or a scanner owner. Communications sounded like it would be fun, so they took the easy test and got a Tech license. But, now what?

Harry Helms' new book, *All About Ham Radio*, was written with this very person in mind. It's aimed at the person who is getting into ham radio "cold," but doesn't want to sound or appear like a big doofus when operating. Yes, there's coverage of basic technical topics here, but Helms' book spends at least an equal amount of time and space on discussing what a person might say and do in order to get the most enjoyment from the hobby. Things like how to quickly assimilate right into the group using the repeater. That's a good idea, and most welcome in a book for beginners, many of whom are now first entering radio via computers or other outside fields. Harry's one of our favorite writers. His "BBBB" style (brisk, basic, blunt, brash) is sprinkled with humor and gems of candor. If you follow Harry's *You Should Know . . .* column here in *POP'COMM*, you're familiar with his appealingly direct approach.

In his 291 page illustrated book, Harry gets around to explaining ham "lingo," contesting, DX'ing, understanding the regulations, rag-

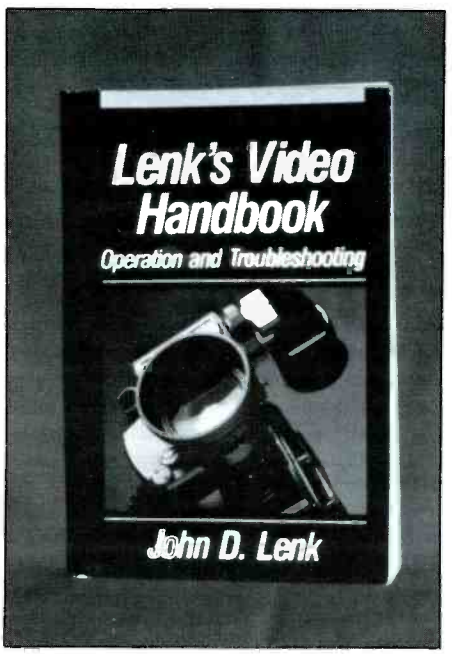
chewing, the different bands and what they offer, the equipment you'll need, emergency uses of ham radio, traffic handling, packet radio and computers. Harry also offers a concise and revealing explanation of the power politics of ham radio, including the players and their roles.

After taking a couple of doses of Dr. Harry's elixir, new entrants into the world of ham radio should be able to handle themselves on the air like seasoned operators. At least, they will be able to mix it up among the old timers, and present themselves to hamdom with plenty of self-confidence.

All About Ham Radio is $19.95, and is available from many leading electronics dealers. Or, if your favorite dealer doesn't carry the book, it may be ordered by mail from its publisher (add $3.00 shipping), HighText Publications, Inc., 7128 Miramar Rd., Suite 15, San Diego, CA 92121. Residents of Calif., please add sales tax.

Video Fixer Upper

Lenk's Video Handbook, by John D. Lenk, is a fat book of information for video service technicians, engineers, and hobbyists. That is to say, it's a universal reference that fills the gap between complex tomes on video theory and bare-bones service manuals.



Packed with practical know-how required to troubleshoot all of today's consumer video equipment, Lenk's book provides hundreds of step-by-step, circuit examples, it also explains the operating theory behind each example in a clear, straightforward, style. There are charts and diagrams to help explain things.

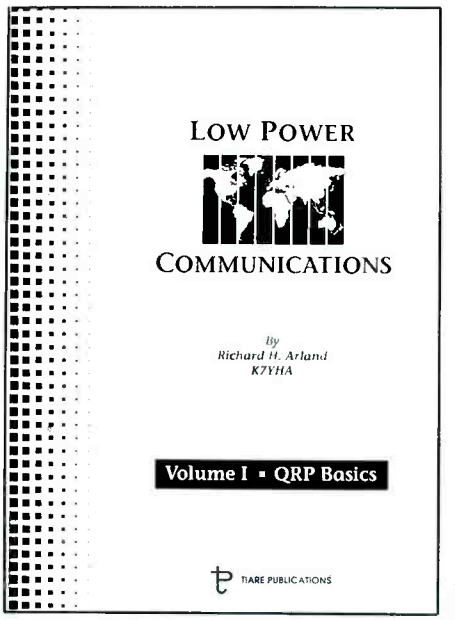
Chapters cover color and b/w monitors, digital video, VCR's, cameras and camcorders, and 8 mm video.

We found the book informative, thorough in its coverage, and well written. Lenk obviously knows his topic well. The typeface used in this book is noticeably smaller than that used in most books. We found that it became somewhat uncomfortable to deal with over extended periods.

Lenk's Video Handbook is $22.95. It is published by TAB Books, Blue Ridge Summit, PA 17294- 0850. Ask for TAB Book 4201.

How Low Can You Get?

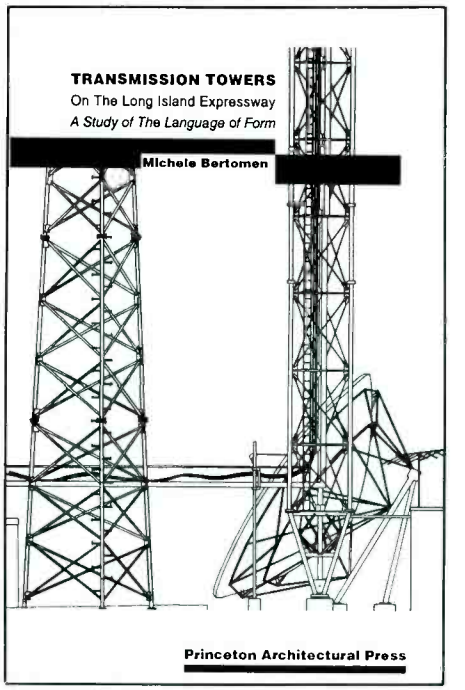
Hams who like to operate with low power, just for the fun and the challenge, are known



as QRP operators. A book for those who enjoy QRP is now out, and is called *Low Power Communications*, by Richard Arland, K7YHA. This is Vol. 1 of a projected two-volume set, and covers the basics. This includes information on getting started, QRP antennas, clubs, solar power, computers, contesting, and other low-power hamming activities. This is a 93 page book with photos and diagrams. It also contains advertising. The price is $14.95, plus $2 shipping, from Tiare Publications, P.O. Box 493, Lake Geneva, WI 53147.

In Addition . . .

Dr. T. Goldblum, of Easthampton, N.Y., passed along an intriguing little book called *Transmission Towers On The Long Island Expressway*, by Michele Bertomen. This is a 73 page book on glossy paper, brimming over with photos and detailed line drawings. It describes and explains the numerous communications, microwave, and broadcast towers located along the famous Long Island Expressway (I-495) that runs 75 miles from New York City's East River all the way to rural Riverhead, on eastern Long Island. The excellent tower drawings were made by college level architectural students, who also did the research on individual towers and their use, specs, owner, and location. Textural material covers general tower history, design, mythology, plus miscellaneous trivia that we found



quite fascinating and enlightening. This is all the information we have on this book. If you're interested in finding out more (including price and availability), contact the Princeton Architectural Press, 37 East 7th Street, New York, NY 10003. ■

BY GERRY L. DEXTER

CLANDESTINE COMMUNIQUE

WHAT'S NEW WITH THE CLANDESTINES

It seemed only a matter of time before the Haitian situation produced a clandestine broadcast, now it's happened. Radio 16th of December is being aired over Indiana station WHRI, and set up through Radio Miami International's brokering service. The initial effort was a two hour broadcast in Creole on Mondays from 2100-2300 on 17830. The broadcasts call for the return of ousted President Aristide. The QSL path for this one is likely to be through Radio Miami International, P.O. Box 521733, Miami FL 33152.

Radio Free Afghanistan is still part of the Radio Free Europe/Radio Liberty effort. The current schedule is 0230-0330 on 9715, 9770, 11815 and 11970 alternating the Dari and Pashto languages in 15 minute blocks. 1300-1330 on 17725, 17760 and 17835 with Pashto and Dari, 15 minutes each. And 1530-1600 on 15160, 17805 and 21510 in Pashto and Dari, 15 minutes each. QSL through Radio Free Europe/Radio Liberty, 1775 Broadway, New York, NY 10019.

Other Afghanistan clandestines now active are Radio Message of Freedom on 7091.5 at 0145-0315 and 1400-1530, perhaps also from around 0930. The sign on and sign off times are widely variable. This station gives an address as GPO Box 857, University Town, Peshawar, Pakistan.

The Voice of Afghanistan is listed for operations at 0130-0245 and 1315 to 1415 (sometimes 1515) on 6146 and 7125. Its address is given as GPO Box 1207, Peshawar, Pakistan.

It seems the Iraqis have reinstituted one of their earlier clandestine-like services which was beamed at Saudi Arabia during the war, before Allied bombs silenced Iraqi shortwave. Holy Media Radio has reappeared in Arabic on 9630, airing anti-Saudi programming between about 1930 and 2030.

The Colombian clandestine Radio Patria Libre continues to be widely heard in its so called International Service. Robert Ross in Ontario had them with good signals on 15045 from 0103 tune in to 0106 closing. This broadcast comes on the air around 0030 and the day-to-day length varies by several minutes, though closing averages around 0115.

Another broadcast runs from about 1130 to 1210. The 15 MHz frequency also varies, usually between 15040 and 15060. The program is entirely in Spanish, of course. And there are still no leads to an address for this one!

The anti-Mozambique Renamo clandestine, Voice of Renamo, has moved to 9860 and airs at 1045 to 1145 and 1600-1700—not opportune times for reception in North America.

North Korea is the site of the Voice of National Salvation, which is widely heard in North America on 4450.

Ex-El Salvador clandestine Radio Farabundo Marti apparently has no plans to use shortwave. It is advertising the coming use of four FM frequencies. Radio Venceremos is now using 6320.

A new, apparent Korean clandestine station in the Voice of Youth of Infantrymen, operating on 3000, though listed for 3025. Unfortunately the 1600-1900 schedule makes it impossible for North Americans to log this one.

One Korean clandestine which is widely heard in North America is the Voice of National Salvation can be tuned in on 4450 in the early mornings in North America, say around 1030, in Korean.

We've mentioned the half pirate, half clandestine station The Voice of Tomorrow in past columns. It seems this station has a cousin on the air now in the form of National Vanguard Radio, being aired via WRNO and scheduled at 0100-0130 (perhaps not nightly) on 7355. It follows "Tomorrow's" white supremicist line.

The address is given on the air as National Vanguard Books, Department R., P.O. Box 39, Hillsboro, WV 24946. According to George Zeller, in his clandestine column in the A*C*E bulletin, Voice of Tomorrow initially called itself Radio Vanguard International and notes, quite rightly, that one must wonder if a connection still exists.

Clandestine stations sometimes choose a name very similar to or exactly the same as the station of the government they oppose. Such is the case with Radio Mogadishu—the Voice of the Somali Republic which is on the air in support of the current (interim) Somali president. It is scheduled at 0400-0500 on 6958, 1000-1100 on 9475 and 1400-1800 on both of those frequencies.

Here's our usual appeal for informational input to this column. If you've logged clandestine stations please submit those loggings separately from those for *The Listening Post*. We welcome information on stations, the groups which operate them, schedules, addresses, QSL copies on so on. DX'ing and monitoring and QSL'ing clandestine stations is one of the most fascinating aspects of the shortwave listening hobby so come join us!

Until next month—good hunting! ■

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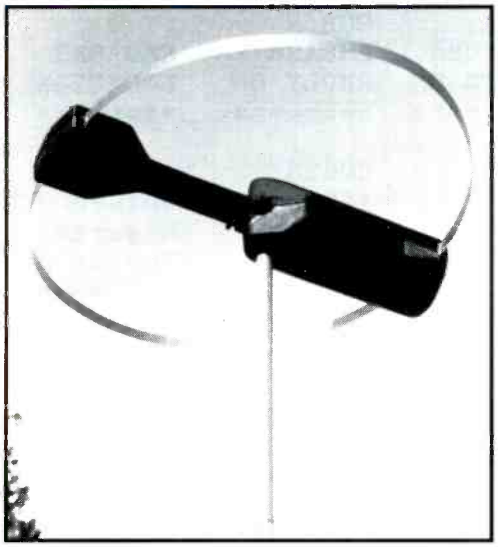

The IsoLoop 10-30 HF antenna is designed to work in limited space applications — apartments, condos, etc. Don't be deceived by its compact size (43" diameter) — it really works! Features include: Continuous coverage from 10 to 30 MHz; narrow bandwidth to suppress out-of-band signals; comes fully assembled (no mechanical joints); much more.

For complete information on these or any other AEA products, call the toll-free InfoLine at (800)432-8873.

The PK-232MBX is a must for the digital Shortwave Listener. By far the most popular multi-mode controller ever, it can receive seven different types of data signals including Morse code, Baudot, ASCII, TDM (Time Division Multiplex), WEFAX, NAVTEX and Packet. It also features: The indispensible SIAM which automatically identifies many types of digital signals; superior software support for PC compatible, Macintosh and Commodore 64 and 128 computers.

AEA-FAX is simply the best way to demodulate multi-level grey scale fax images received by your general coverage receiver. All necessary hardware and software is included in the package which also features: On-screen tuning "scope"; Autolist feature for unattended image capture and save-to-disk; "Daisy-chain" external RS-232 input allows AEA-FAX to share a COM port with a PK-232MBX or other Hayes-compatible device; up to 16 grey levels (VGA); also supports EGA, CGA and Hercules formats; prints to HP LaserJet or Epson compatible printers.

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RTTY

BY ROBERT MARGOLIS

THE EXCITING WORLD OF RADIOTELETYPE MONITORING

Many military, diplomatic, and other types of utility RTTY stations around the world, seemed to have stayed off the air, or had extremely weak signals, last May and June, as shortwave radio propagation once again became very poor in just over a year's time.

Last year, you may recall, solar storm activity was high and solar flares erupted frequently, blocking shortwave radio signals and satellite transmissions sporadically for several months.

This year the problem is different, but experts I've talked to could give no reasons for the poor propagation. At the time of this writing in June, solar storm activity was at its lowest level in the past four years, in addition, solar flux readings were at the lowest point in the 11-year solar sunspot cycle, according to several persons I talked to at the National Oceanic and Atmostpheric Adminstration's Environmental Research Lab in Boulder, CO. Propagation conditions, therefore, should've been excellent.

Talking with other RTTY station monitors across the country, I learned they had the same difficulty I had in hearing signals from afar. Even stations in the United States faded in and out with regularity. Sometimes I couldn't hear WWV, the time signal station in Boulder, Colorado, on any of its shortwave radio frequencies for several hours on particularly bad monitoring days. Offutt Air Force Base, Elkhorn, Nebraska, is only several hundred miles away from where I live, but many of the radiofax weather maps I received from there were heavily streaked with black lines as its signals suffered deep fades.

The Cuban foreign affairs ministry can be found running its RTTY circuit every day of the week, including Saturdays and Sundays, despite the fact that it is financially strapped and is trying to find ways to cut its losses.

A few months ago, Cuba wanted to break the rental leases on its embassy and ambassador's residence in London, according to *Parade Magazine*. Cuba paid $133,000 annual rent for the embassy space and had three years left on the lease. And yet its RTTY operations continue on a regular basis with news of the homeland and coded messages.

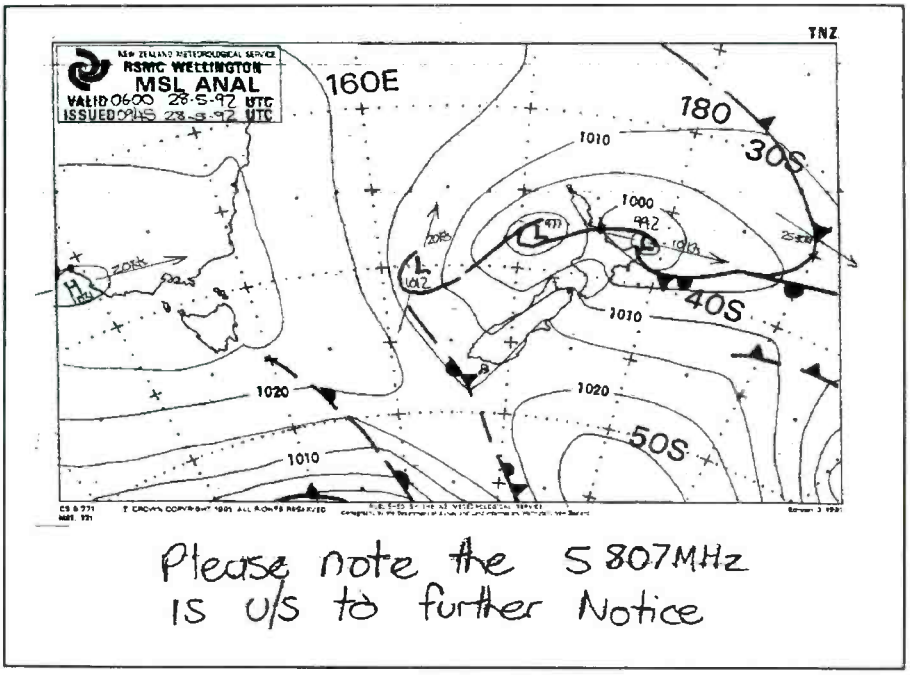
While viewing one of the Cuban MFA transmissions on a Sunday, I saw what appeared to be the usual running of messages containing five-figure groups. But, after the last one of several coded messages was sent, there appeared something unusual I had never seen before from the Cuban MFA—its own time and frequency RTTY transmission schedule (see figure 1). This transmission was sent to Angola for relay to Zambia, and ran on 19087 kHz at 1920 UTC, 50 baud.

Many readers have asked if they could send RTTY loggings and radiofax charts to

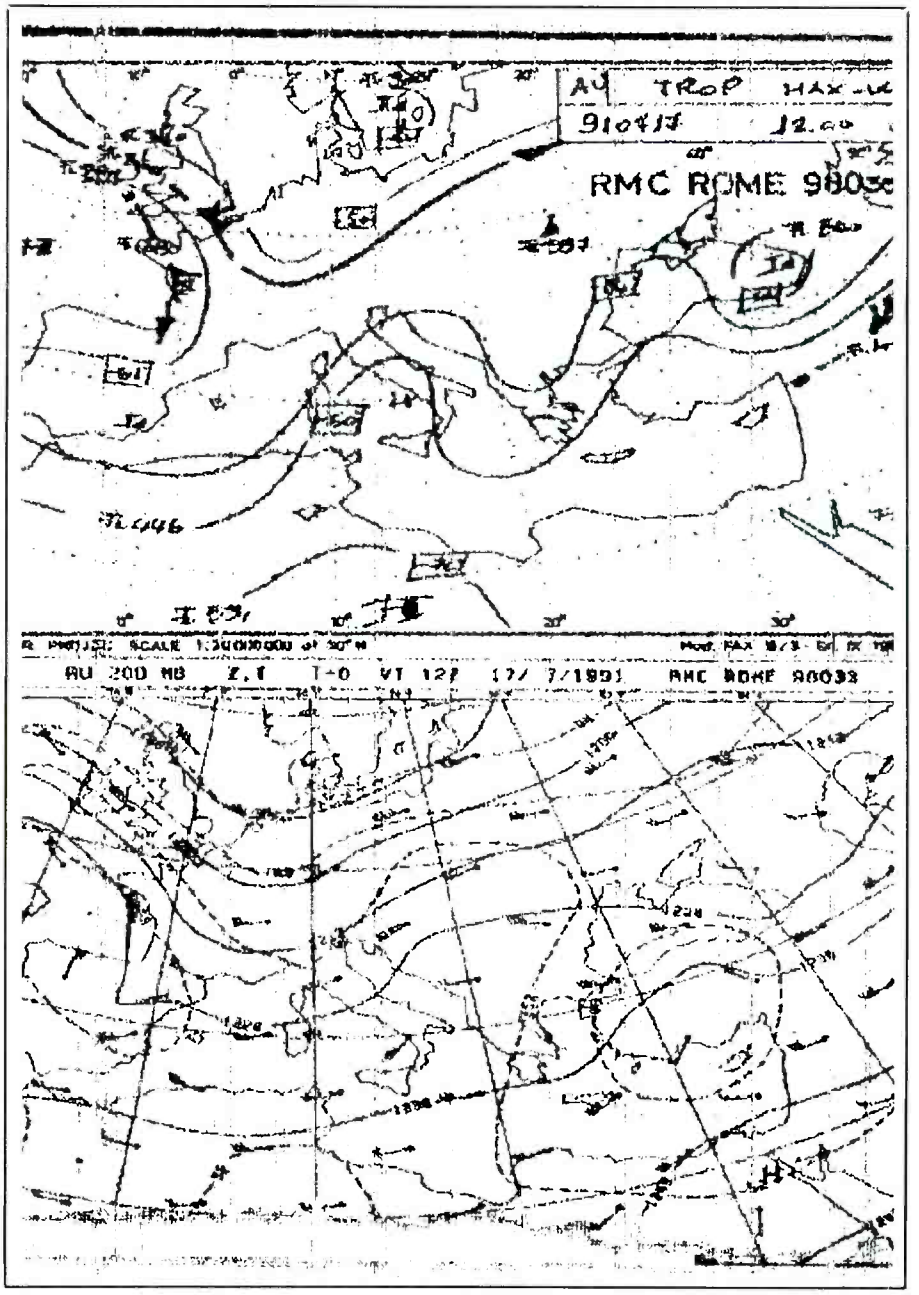
CUBAN DIPLOMATIC SERVICE
RADIOTELETYPE TRANSMISSION SCHEDULE

HOUR (UTC)	CLP1, MFA, HAVANA, CUBA, BROADCASTS ON	CUBAN EMBASSIES REPLY ON	EMBASSY LOCATION
0900	19989	20628	Algeria
	18420	16342	Guinea
	23085	17462	Nigeria
	22010	23351	Tanzania
1000	22863	24805	Zimbabwe
	19087	23050	Angola
	14815	13940	Nicaragua
1100	18630	20996	Guyana
	20820	18591	Peru
1200	19989	20628	Algeria
	20450	16345	Guinea
	20110	23355	Tanzania
1400	19087	23050	Angola
	22863	24805	Zimbabwe
1500	19185	20835	Congo
	14815	13940	Nicaragua
1600	23805	17462	Nigeria
	18630	20996	Guyana
1700	19087	23050	Angola
	14825	16333	Algeria
2000	16895	14620	Zimbabwe

Figure 1



ZKLF, Aukland Meteo, New Zealand, sent this weather chart on 9459 kHz at 0945 UTC, 120/576. (Submitted by Richard Miller of Australia)



Weather charts from IBM55, Rome Meteo, Italy, were transmitted on 8146.6 kHz at 120/576. Aris Giannarelis of Greece copied them off his radio to floppy disk and converted them to the .PCX graphics format used by IBM PC compatible computers. He sent a floppy disk with the conversion to the RTTY column editor, who was able to read the disk using a paint program that used the same graphics format. A printout was then made from the program.

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__C_DXWQP_V_R QA LAH DO__W_LRTY_ QP
 RYV___RUR
 JHRYRYR_RYRYRYRY
BRYRB___YRH HRYRYAN
 6XM8 DE C37A
 THE AUICK BROWN FOX JUMH OVER THEV CKHDOG 1234567890 P
MHYCS__RYRYRYRYRYRYRYRYRYRHRYRYRYRYRYRYRYR_I__RY_Y_ML
T6/.___C37A
 THE QUICK BROWN FOX JUMPS OVER THNLAZY EOG Q  P  ) W
OW_ RYRHRTRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYRYJYRYRYRYRYGK
O 6XM8 DZP +1-
 THE QUICK BROUFFOXPUMPS OVER   IAZY DOG 120) Ø
 RHRHRYRYRYRYRYRYGQ_D_RYRYRYRYRYRYRYRYRYRYYRY_O_Y_Y
ON_XXMU DE C_EKA
 THE QUICK BROWN FTX JUMPS OVER THE LAZY DOG 123_YUIOP
__RYRYRYRY RYRYRYRYPLS RQT RPT RPT RPT RIT
WPLS RPTR RPT RIT RIT_RPT RPT PT RPT RPT
RRLR R R M R R R R R R X RPLS BKBKBKBKBKBKBKBKBKBKBKR R R R R RPY R R RR R R
 R PLF BBKBBKBKBKBKBKBKBKBK ZBZ 40SA 4ZBM _QSM 4 INT OC OKPG R G RPR R R R R LC
```

Mystery station "C37A" sent this test to "6XM8" on 10749.5 kHz at 0004 UTC, 100 baud. (From Robert Margolis)

this column on floppy disks. Yes, you may. I can accept diskettes for IBM-PC compatible computers, in either 5 ¼ inch or 3½inch sizes, and either high or low density formats; and for the Macintosh Plus computer.

Those who wish to send radiofax charts on diskettes may use any of the standard graphical formats, such as .PCX, .GIF, .TIF, etc., when converting the charts after they have been decoded off the radio. For instance, Aris Giannarelis of Greece .PA sends his charts in the .PCX format, one of which is shown in this column.

Please be selective in the radiofax charts you submit for you will be competing for space with other contributors. I have plenty of weather charts from CFH, KGWC, NAM, NPM and WLO, and newspapers from Japan, Russia and Taiwan, and don't need any more of them.

Send charts that are easy to read and not too dark. If the ribbon on your printer is worn, thereby causing a radiofax chart to look faded, a photocopy might be better for submission than the original.

Radiofax News Dept.: An unidentified radiofax weather station was on 14399 kHz one day last June at 1115 UTC, 120/576. It appears that the station may be AFE, USAF, Croughton, England. Another unidentified weatherfax station was on 16201, with charts at 0050 and 0100, 120/576. No transmission was heard after the second chart was completed at 0115.

RTTY Intercepts

2696.7: GLD, Land's End R., England, w/ARQ phasing sig + CW ID at 2110. (Ary Boender, NLD)

3550: YMA20, Ankara Meteo, Turkey, w/aerodrome forecasts for Turkey, 50 baud at 2310. (Boender, NLD)

3592: Un-ID w/RYRY, 50 baud at 0115. (Fred Hetherington, FL)

3595: 9HA, Luqa Aero, Malta, w/flight safety msgs, wx, & tests, 50 baud at 2223. (Boender, NLD)

4014.8: Un-ID idling, 0317-0334, then went QRT, ARQ-E3/48. (Robert Hall, RSA) Possibly the French Air Force—Ed.

4015: USAF packet radio net in Germany heard at around 2315. Stas. were AGA7BI in Bitburg, AFA7DW in Detweiler, & AGA7RM in Rhein-Main. (Boender, NLD)

4343: WLO, Mobile R., AL, w/tfc info, FEC at 0244. (Hall, RSA)

4788.3: TJK, ASECNA, Doula, Cameroon, w/coded wx at 0220, 50 baud. (Hall, RSA)

5160.7: Possibly 5UA, ASECNA, Niamey, Niger, w aero tfc, ARQ-M2/96, channels A & B, at 0434. (Hall, RSA)

5315: Un-ID w/foxes for 1½ hrs, 75 baud at 1910. (Boender, NLD)

6358.5: PBC36, Goeree Island Navrad, Netherlands, w/an availability tape at 0030, 75 baud. (Hetherington, FL)

6902: KAWN, Offutt AFB, Elkhorn, NE, w/coded wx at 2045, 75 baud. (Ed.)

6980: Un-ID meteo sta. w/coded wx at 0100, 50 baud. Long pauses btwn rpts. (Hetherington, FL) Possible candidates include wx stas in Algeria, India, and China. Further monitoring is necessary—Ed.

7350: Un-ID w seemingly endless RYRY, 75 baud at 0145. (Hetherington, FL)

7396: KAWN, Offutt AFB, Elkhorn, NE, w/coded wx, 75 baud at 1226. (ed.)

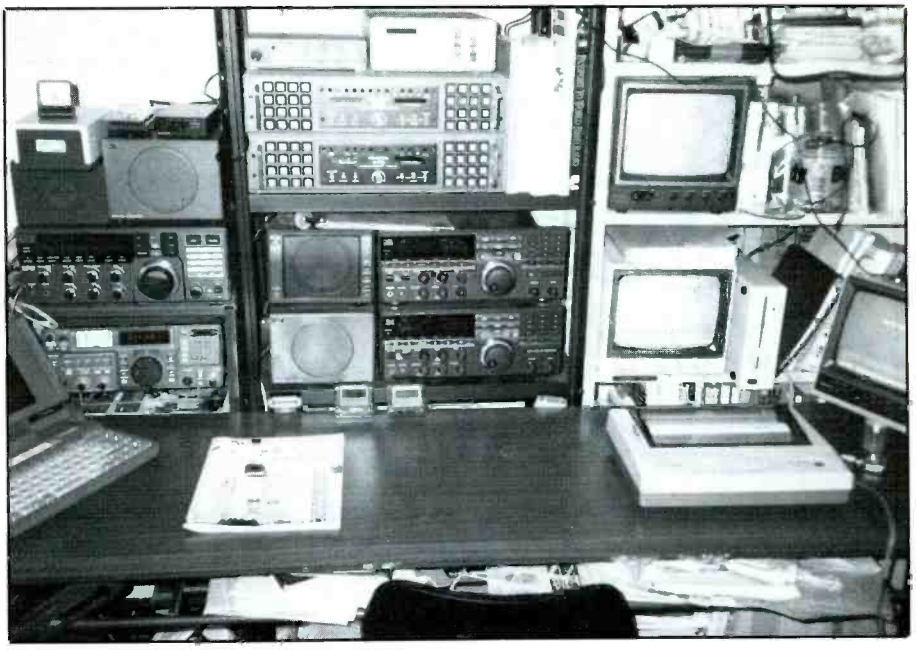
7426.4: Un-ID s/off w "buenos noches" at 2215. ARQ. (Hetherington, FL)

7776.5: OST38, Oostende R., Belgium, w/a tfc list, FEC at 0910. (Burkart, LA)

8001.3: Un-ID w msgs in SS, one mentd "antinarcoticos." ARQ at 2348. Similar sta. seen 3 days later on

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/ied
MFA	Ministry of Foreign Affairs
nx	News
PP	Portuguese
RYRY	"RYRY . . . "test tape
SS	Spanish
tfc	Traffic
w/	With
wx	Weather



Takashi Kuroda of Japan, a contributor of loggings to the RTTY column, has this nifty layout in his home.

8201.5 at 0148, w/an ARQ msg that also mentd "antinarcoticos." (Ed.)

8150: NNN0MSD, USMC MARS, San Diego, CA, w/MARSgrams ar 2256, ARQ. (Ed.)

9228: GYA, Royal Navy, London, England, w/foxes to MTT, 50 baud at 2301. Switched to 75 baud foxes at 2305, foll by msgs at 2315-2330. (Ed.)

10515: HEK9, SRI, Schwarzenburg, Switzerland, w/nx in FF after 0030, 50 baud. Was beamed to South America. (Pedro Oliveira, Brazil)

11262: Turkish Embassy, Athens, Greece, w/a msg in Turk, FEC-A/144 at 1657. ("Gal of Liberia," Italy)

11483: RFGW, MFA, Paris, France, w/RYRY at 1553, FEC-A/144. ("Gal of Liberia," Italy)

12560: Szczecin R., Poland, w/nx in Polish, FEC at 1949. (Ed.)

12588: UKA, Vladivostok R., Russia, w/tfc in RR, 50 baud at 1000. (Hetherington, FL)

12601.5: OXZ, Lyngby R., Denmark, w/nx in Danish at 0845, FEC. (Hetherington, FL)

13373: 5YD, Nairobi Aero, Kenya, w/RYRY at 0458, 50 baud. (Ed.)

13380.2: CUA67, CPRM, Lisbon, Portugal, idling, ARQ-M2/96 at 1853. (Hall, RSA)

13416.7: CCS, Santiago Navrad, Chile, w/RYRY + SGSG at 1257, & tfc to LOL at 1302, 75 baud. (Ed.)

13934: DHO91, MFA, Bonn, Germany w/RYRY + ID at 1711, foll by encrypted msgs after EEEEE at 1716, 100 baud. (Ed.)

13941.5: "5SP," Un-ID Tunisian Embassy, w/5L grps, FEC at 1930. (Takashi Kuroda, Japan)

14356: GFL24, Bracknell Meteo, England, w/coded wx, 50 baud at 1022. (Burkart, LA)

14382.2: Un-ID w/crypto separated by RYRY & numbered headers, 1249-1252, 75 baud. (Ed.)

14395: AJE, USAF, Croughton AB, England, w/EGWR wx data at 1710, 75 baud. (Ed.)

14396.8: MFA, Sofia, Bulgaria, w/crypto after DDDDD to its embassy in Warsaw, 75 baud at 1134. (ed.)

14444.5: Un-ID w/coded wx at 1448, 50 baud. (Ed.)

14448.2: Un-ID w/tfc in JJ, ARQ at 1500. (Ed.)

14454: Turkish Embassy, Prague, Czechoslovakia, w/a msg in Turk + crypto, FEC-A/144 at 1503. ("Gal of Liberia," Italy)

14474: Turkish Embassy, Belgrade, Yugoslavia, w/5L grps, FEC-A/144 at 1610. ("Gal of Liberia," Italy)

14478.5: OEC, MFA, Vienna, Austria, w/a msg in GG, ARQ-S5/96 at 1619. ("Gal of Liberia," Italy) Same sta. w/nx for embassies at 1405. (Boender, NLD)

14513.7: Un-ID w/msgs that appeared to be in JJ, ARQ at 1658. Some garbling due to noisy band. (Ed.)

14518: Un-ID w/5L grps + a msg in GG. ARQ-S6/96 at 1933. (Hall, RSA) Probably MFA, Vienna, Austria—Ed.)

14560: HVN, PTT, Vatican City, Vatican, idling, ARQ-M2/96 at 0907. (Burkart, LA)

14605: Un-ID w/5L grps, 75 baud at 0907. (Burkart, LA)

14665: DFZG, MFA, Belgrade, Yugoslavia, w/Tanjug nx in SC, FEC-A/144 at 0003. (Ed.)

14682: Probably MFA, Bucharest, Romania, w/encryption, ROU-FEC/164.5 at 1711. (Ed.)

14786.5: 9PL, Kinshasa Aero, Zaire, w/aero wx at 0602, 50 baud. (Ed.)

14815: PIAB, Bonn, Germany, w/nx in GG, FEC-A/96 at 1734. ("Gal of Liberia," Italy)

14816: Cuban Embassy, Managua, Nicaragua, w/crypto after ZZZZZ, 75 baud at 1522. (Ed.)

14880: JMG4, Tokyo Meteo, Japan, w/coded wx at 0510. 50 baud. (Burkart, LA)

15751.9: CNM66, MAP, Rabat, Morocco, w/nx in EE at 1357, 50 baud. (Don Schimmel, WV)

16079.8: CLP1, MFA, Havana, Cuba, w/5F grps to its Peruvian embassy, 50 baud at 1236. (Ed.)

16136: BZR66, Xinhua, Yuryumqi, China, w/nx in EE, 75 baud at 0855. (Burkart, LA)

16265: 9VF206, ANSA, Singapore, w/nx in EE at 1720, 50 baud. (Kuroda, Japan)

16300: OMZ, MFA, Prague, Czechoslovakia, w/RYRY + nx in Czech, 100 baud, 0920-0935. (Burkart, LA)

16302: DGZG, MFA, Belgrade, w/nx in SC at 1627, 75 baud. (Schimmel, WV)

16334: FZS63, Belair Meteo, Reunion, w/coded wx at 1218, 75 baud. (Ed.)

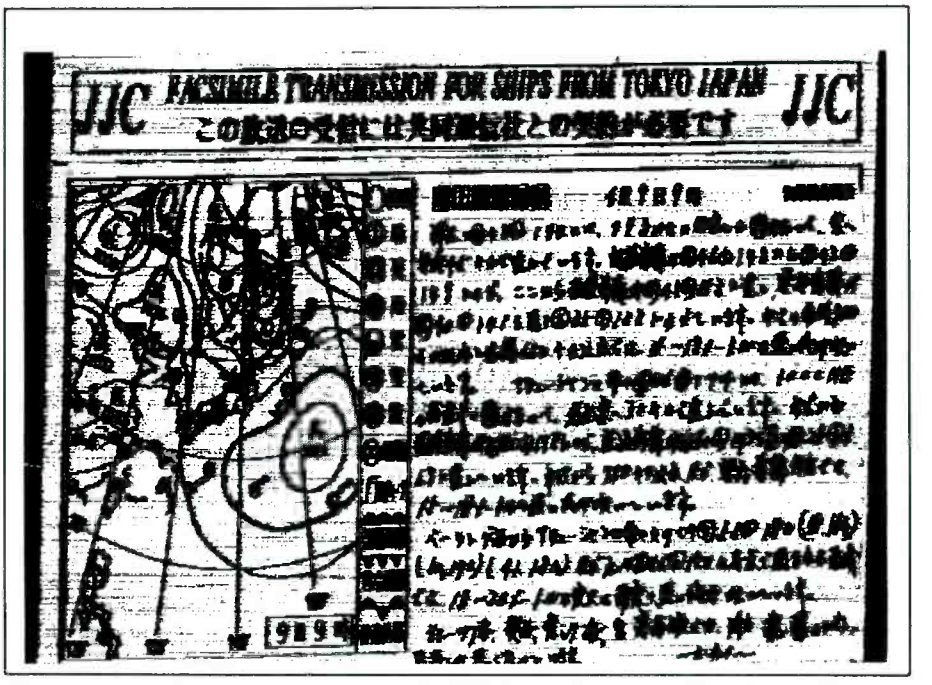
16348: CLN530, PL, Bauto, Cuba, w/nx in SS at 1208, 50 baud. (Schimmel, WV)

16918.5: MTO, Royal Navy, Rosyth, Scotland, w/an availability tape at 1359, 75 baud. (Ed.)

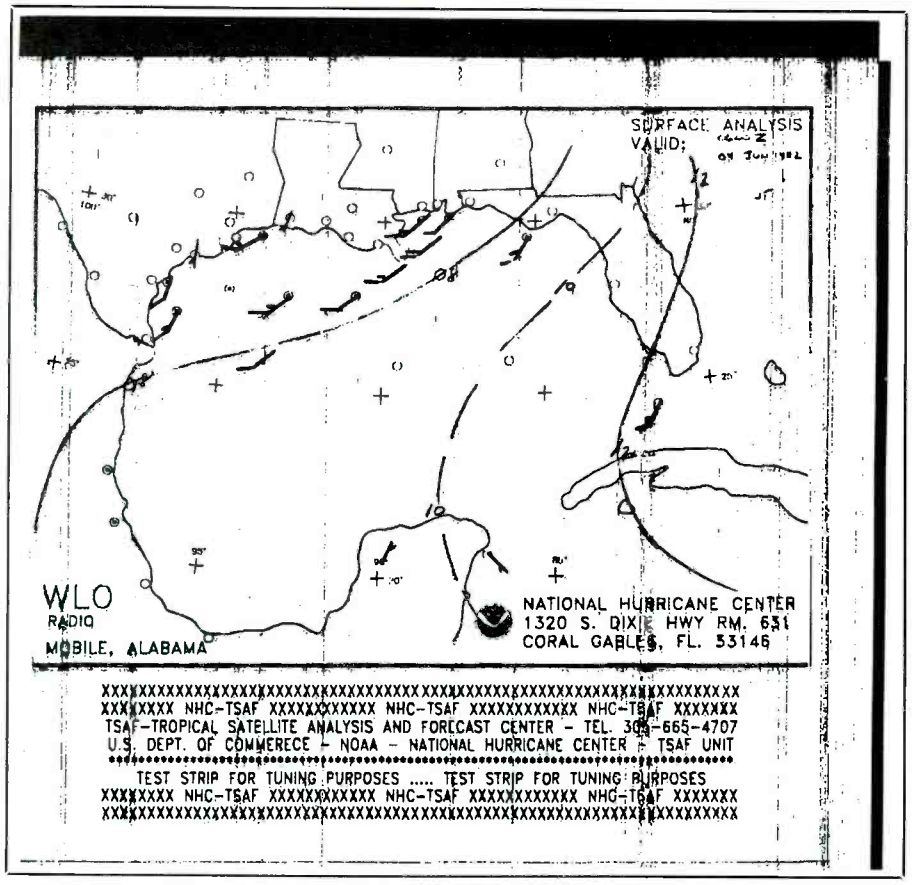
16929: 9HR, Johor Baharu Navrad, Malaysia, w/RYRY at 0840, 75 baud. (Kuroda, Japan)

16937: Un-ID w/encrypted msgs separated by RYRY + vmgtcnjbh, 100 baud at 1400. (Ed.)

16955: UDH, Riga R., Latvia, heard in CW, ARQ &



Weather chart with Japanese text was sent by JJC, Tokyo R., Japan. (From Robert Margolis)



Combined weather chart and test strip was sent by WLO, Mobile R., AL, on 6852 kHz at 0924 UTC, 120/576. (From Robert Margolis)

FEC modes, 1403-1425. (Ed.)

16964.1: ZRH, Fisantekraal Navrad, RSA, w/coastal wx at 1204, 75 baud. (Hall, RSA)

17053.9: Un-ID w/encrypted msgs separated by RYRY + vmgtvnjbh, 100 baud at 1455. (Ed.)

17432.3: DFZG, MFA, Belgrade, Yugoslavia, w/Tanjug nx in EE, 75 baud at 1513. (Ed.)

17472: RPFN, Monsanto Navrad, Portugal, w/RYRY, foxes, & 10 count to RPTI at 1505, 75 baud, foll by encryption at 1510. (ed.)

17521.5: Un-ID w/the last four lines of a mil. exercise msg in SS, 75 baud at 1430. PWZ33 & YWM1 have been monitored on this freq. in the past. (Ed.)

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IMTT  MTT  MTT _DE  LYA  GYA  GX___NO___  __A__N__PTA3  TEST TAPE
THE QUICK BROWN FOX JUMPS OVER THE LAZY 9_?_18
8,5 ZBZ  INT ZBW  I_ ZBZ  INT ZBZO
KNU___MLN_C IWL X__N__LI___L  K I L  ______MT_ NNEG__MTDE  TYA  GYA  GTA
TEST TUPE  TEST TAPE  TEST TAPEKIO+ QUICK BROWN FOX JUOPE OVER THE LAZY DOGA_
_)_____:___1,5 ZLZ  NT ZBZ  INT ZBZ
K I L O  _K I_____
_ I L O  K I L O
K=MTT  MTT  MTT  DE PF___YA  GYA
TEST TAPE  TEST TJVM__9__55-03
53 QUICK BROWNMXSX_PS OVDOFTHE LAZY DOGS BACK
INT ZBZ  I_ ZBZ  __T ZBZ  INT ZBZ
K I L O  K I L O  K I L O  K I L O
MTT  MTT  MT  DE  GYA  GYA  GYA
TEST TAPE  TESTTAPE  TEST TAPE
THE QKIV BROWN FOXQXISPOVER_OV__-+6 DOL  T
CK
IN ZXZ FONT ZBZ
INT ZBZ  INT ZBZ
K I L O  K I G O  K I L O  K I L O
MTT  MTT  _T__DE OHA SGP__N_A
TEST TAPE  TEST TAPE  TEST TAPE
THE QUICK BROWN FOX JUMPS OVSR THE LAZY DOGS BACK
INT ZBZ  _NT ZBZ
_TZA  IN_BZ
K I L O  K I L O  K I L O  K I L O
MTT  MT_ _MTT  DE PX____YA  GYA
TEST TAPE  TEST TAPE  TEST TAPE
THE QUWQK BROWN FOX JUM_E _N___HE LAZY DOGS B__X__ __APV_KIII_A__C__HINT ZBZ
INT ZBZ
K I L O  K IHLPO  K I L O  GIN0.9
MTT  MT_L T  DE _OY_  GYU SGYA
TEST TAPB HYEST TAPE  TEST T_PE
THE QUICC_TROWN FOX JUMPS OER TTSVJWQNDMGS BAVXBVNT ZBZ  INT ZBZ  INT ZBZ  I
 ZBZ
K I LHON  K I L O  K I L O  K I L_O
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Test transmission of GYA, Royal Navy, London, England, appeared on 9228 kHz at 2301 UTC, 50 and 75 baud. (From Robert Margolis)

17524: AJE, USAF, Croughton AB, England, w/EGWR wx data at 1100, 75 baud. (Hetherington, FL)

17547: HDN, Quito Navrad, Ecuador, w/RYRY & SGSG, 75 baud at 1240. (Ed.)

18037.2: Japanese Embassy, Port-au-Prince, Haiti, w/text in JJ, ARQ at 1358. (Ed.)

18039.5: TCY4, AA, Ankara, Turkey, w/nx at 1310, 50 baud. (Ed.)

18033.5: Un-ID French diplo w/5L grps + telexes in FF, under severe QRM, ARQ6-90/200 at 1300. (Ed.)

18055: DFZG, MFA, Belgrade, Yugoslavia, w/nx in SC at 1522, 75 baud. (Ed.)

18206.5: Indonesian Embassy, Damascus, Syria, w/nx in Indonesia, ARQ-S5/96 at 1633. ("Gal of Liberia," Italy)

18246.3: ZRO4, Pretoria Meteo, RSA, on new freq., 75 baud at 1209. Normally uses 18242. (Hall, RSA)

18387: Un-ID w/RYRY foll by QJH HLLTYF, 50 baud at 1822. Whozit? (Schimmel, WV) 5AF, Tripoli Aero, Libya. HLLTYF is 5AF's ICAO-assigned location indicator—Ed.

18461.5: PCW1, MFA, The Hague, The Netherlands, w/nx in EE & Dutch, F7B/100 at 1549. ("Gal of Liberia," Italy)

18496.5: CNM80, MAP, Rabat, Morocco, w/YRYR at 1533 & nx in AA at 1538, 50 baud. (Ed.)

18552: 5KM, Bogota Navrad, Colombia, w/unclassified tfc at 13339, 75 baud. (Ed.)

18578.8: CXR, Montevideo Navrad, Uruguay, testing at 1539, 75 baud. (Ed.)

18684.7: "HZW" w/RYRY + HZW 1/485, foll by 5F grps. Was 50 baud at 2000. (Schimmel, WV)

18908: GXQ, Royal Army, London, England, w/RYI's, foxes, & 10 count, 50 baud at 1522. (Ed.)

18972: DFZG, MFA, Belgrade, Yugoslavia, w/nx in SC, 75 baud at 1554. (Ed.)

19087: CLP1, MFA, Havana, Cuba, w/RYRY to Angola, 50 baud at 1949. (Ed.)

19108.6: Un-ID Indonesian diplo w/msgs in Indonesian, aRQ at 1325. (Ed.)

19185: CLP1, MFA, Havana, Cuba, w/5F grps to its Congo embassy at 2040, 50 baud. (Schimmel, WV)

19225.2: FDY, FAF, Orleans, France, w/RYRY, 10 count, & le bricks, 50 baud at 1524. (Ed.)

19516.7: IPG20, MFA, Rome, Italy, w/plaintext tfc at 2310, ARQ. (Burkart, LA)

19731.6: PCW1, MFA, The Hague, Netherlands, idling at 1619, F7B/100. ("Gal of Liberia," Italy)

19756.7: MFA, Jakarta, Indonesia, w/nx re Indonesia food technology. Was FEC-S/96 at 1540. (Hall, RSA)

19821.3: UNHCR, Islamabad, Pakistan, w/tfc at 1342, ARQ. Moved to 20068 at 1355, w QSX on 20060. (Ed.)

19987.8: CLP1, Havana, Cuba, w/tfc to Algeria, 50 baud at 1414. (Ed.)

20006.6: MFA, Cairo, Egypt, w/tfc to various African embassies, ARQ at 1710. (Hall, RSA)

20062.5: Un-ID German diplo w/encryption, ARQ-E/96 at 0310. (Kuroda, Japan)

20085.5: Bulgarian Embassy, Havana, Cuba, w/circulars in Bulgarian + crypto after DDDDD, 75 baud at 1835. (Ed.)

21156.8: 5KM, Bogota Navrad, Colombia, w/RYRY & SGSG, 75 baud at 1602. (Ed.)

20204: YZJ, Tanjug, Belgrade, Yugoslavia, w/pooled nx in EE, 50 baud at 1321. (Ed.)

20286.5: SOV228, PAP, Warsaw, Poland, w/nx in Polish at 1424, FEC. (Ed.)

20399: YWM1, Maracaibo Navrad, Venezuela, working LOL at 2335, 75 baud. (Burkart, LA)

20527.5: CLP1, MFA, Havana, Cuba, w/5F msgs at 2140, 50 baud. (Ed.)

20560: Jana, Tripoli, Libya, w/nx in EE at 1605, 50 baud. (Ed.)

20781.6: CLP1, MFA, Havana, Cuba, w/5F grps, circulars & telexes to Uganda, 50 baud at 1857. (Ed.)

22376: NRV, USCG, Guam, w/wx rpt, FEC at 0500. (Kuroda, Japan)

22863: CLP1, MFA, Havana, Cuba, w/encryption after ZZZZZ to Zimbabwe at 1631, 50 baud. (Ed.)

22955.2: ISX22, ANSA, Rome, Italy, w/nx in EE at 1550, 50 baud. (Ed.)

23593: SAM, MFA, Stockholm, Sweden, w/encryption, SWED-ARQ at 1150. (Hall, RSA)

24871.7: RFHJ, French Navy, Papeete, Tahiti, w/"controle de voie," ARQ-E3/96 at 0655. (Kuroda, Japan) ■

HOW I GOT STARTED

We invite our readers to submit, in approximately 150 words, how they got started in the communications hobby. Please send them typewritten or otherwise easily readable. If you have a photo of yourself, please include it with your story. We can't return or acknowledge material, whether or not it is used. Your story need be submitted only once, we'll keep it on file to consider it for future issues. All submissions become the property of *Popular Communications*.

Entries will be considered on the basis of their story being especially interesting, unusual, or even amusing. We reserve the right to make any editorial changes we deem necessary to improve style or grammar.

Each month, we will select one winner. The author will receive a 1-year gift subscription (or subscription extension if already a subscriber) to *Popular Communications*.

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

Joel's radio room includes a Kenwood 430, MFJ-1278, Tandy 102, ICOM 2AT, Kenwood 220 MHz HT, and Regency HX-1500 handheld scanner.

Our Winner For October

This month's winner is Joel Colman, N8EDI, of Harrison, N.Y. Joel wrote:

"Back in the summer of '67, I lived in suburban Oak Park, Michigan. This was close to Detroit. The riots there that year brought a lot of anxiety to the city, but for a young boy seeing the National Guard in action, it was all very exciting. I would take my Channel 14 CB walkie-talkie on my bike over to where the National Guard was. Then, I'd pretend to bark out commands over the radio to the troops. Of course, 100 milliwatts doesn't go very far and nobody ever responded.

"One afternoon, while I was directing troop movements, a helicopter began hovering overhead. As clear as a bell, a voice came out of my walkie-talkie saying, *Hey kid on the bicycle, get off the air!* I assumed the voice came from the helicopter. Whatever. I made it home on my bike in ten seconds flat and spent the rest of the day hiding in my bedroom. That was my first contact, and my introduction to radio.

Today, I hold an Advance Class ham license, and I teach Novice classes at summer camp. I also enjoy scanner monitoring. I still have an aversion to helicopters hovering overhead." ■

THE HAM COLUMN

BY KIRK KLEINSCHMIDT, NT0Z
AMERICAN RADIO RELAY LEAGUE HQ

GETTING STARTED AS A RADIO AMATEUR

QRP: Low-Power Fun For Everyone

Small hand-held radios—the kind kids get for Christmas—put out about a hundred milliwatts, or a tenth of a watt. That's enough to provide line-of-sight communications of about a quarter of a mile or so (amazing the kids in the process), but it's certainly not enough to work DX, right? Well, not exactly. . .

Instead of using a whip antenna at 49 MHz (like the kiddie walkie-talkies), if you run those precious milliwatts into a decent antenna at 21 MHz, for example, then you can literally work stations on the other side of the globe.

Oh, it won't be a piece of cake, but it's done all the time. And if a tenth of a watt is too austere, try 1 watt, or 5 watts.

This low-power operating has a ham radio nickname: it's called QRP operating. How QRP is QRP? Well, most hams run about 100 W of output power; that's about 20 times as much as the commonly accepted definition of QRP power levels—5 W output on CW, 10 W PEP output on SSB. (QRP is derived from the CW procedural sign meaning "I am reducing power," and QRP? "shall I reduce power?") It doesn't stop there, however. As I hinted at earlier, for some dedicated QRP'ers, QRP means running 1 W, 500 mW, 10 mW, or even 1 mW of output.

Isn't a 1-W signal lost in the shuffle of more powerful stations? It's not as lost as you may think. A 1-W signal is only a little more than 3 S-units weaker than a 100-W signal. So, if your 100-W signal is S-9, your 1-W signal will be about S-6. And that's plenty of signal!

ARRL Lab Engineer Ed Hare, KA1CV, tunes the bands with his Heathkit HW-7. This venerable QRP rig has been modified to put out only 9 milliwatts! So far, Ed's been able to work 25 states and a handful of DXCC countries with his extremely low-power rig.

Operating Techniques

Admittedly, low-power enthusiasts use different operating techniques. It goes with the territory. You'll have to listen more, and probably call CQ less. Persistence pays off, as does using the "best" frequencies for the time of day you're operating. Beginning QRP'ers often call the loudest stations. That's not necessary, although you should be able to clearly copy the stations you intend to call. Many "loud" stations may listen only for loud calls; weaker stations may listen a little "deeper."

CW (Morse code) generally works better than SSB for QRP work, but that doesn't keep the low-power SSB'ers off the air. Other modes make for QRP fun, too. RTTY, especially AMTOR, is quite workable with low-power setups.

Frequencies

Which bands are best for QRP? During the high side of the solar cycle, 10 meters is the hands-down winner. When things are hot you can work the world with a modest dipole or a lowly vertical antenna.

Fifteen meters is also excellent for DX (it's a lifesaver when 10's dead), although it can be spotty for stateside contacts. For General-class-and-up QRP'ers, 20 meters is a top-notch low-power band that features daily DX openings.

Forty is the mainstay band for stateside QRP'ing, and can even deliver a fair amount of DX in evening and overnight hours. Low-power DX'ing on 40 usually requires a better-than-average antenna and a little more work, and it's much easier from either coast.

Thirty meters (and the other WARC bands for the most part) is a QRP haven that's relatively free of high-power, high-pressure operating (contests) and features laid-back stateside and DX QSO's.

Eighty-meters is another good stateside QRP band; it's not as popular as 40-meters, however, because propagation is usually not as good (except for close-in contacts). Eighty also has DX potential, almost exclusively for those who live near one coast or another.

QRP Hardware

Finding a rig for QRP work is pretty easy. There are a few QRP-only rigs available, the most "luxurious" being the Ten-Tec Argonaut II, a nine-band synthesized SSB/CW rig that puts out 5 watts. The Argy II is the modern descendant of "The Classic QRP Rig," the original Argonaut, manufactured over three generations—the 505, 509 and 515. The Argonaut II is available new (it's a bit pricey with its $1200 street price); the older Argonauts are still plentiful on the used market and sell for $150-$300.

Another commercially manufactured (Heath is now officially out of the kit business) QRP rig is the Heathkit HW-9, a 5-W CW superhet rig that covers the bottom end of nine HF bands. (The HW-9 sells for about $200 on the used market.) Earlier versions of this rig are the HW-8 (five bands; $85; direct conversion) and the HW-7 (four bands; $50; not recommended).

If you don't want to invest in a dedicated QRP rig, you can get started by reducing the power output of most modern solid-state rigs. The drive control can usually be used to reduce the RF output to within acceptable QRP limits. Your rig's instruction manual will probably have more information.

The QRP craze may also be one of the last bastions of home-brewing (home construction of ham radio gear). Many QRP'ers build their own transmitters and receivers. The low-power circuits are usually simple, and parts are easily obtainable. It's quite a thrill to work someone while using a transmitter or receiver of your own construction. (QRP kits are again in vogue. See ads from kit suppliers in ham magazines.)

As for antennas, the high-power credo

holds true—use the best antenna you can. You don't have to get carried away to make plenty of QRP contacts, however. If you don't have a beam antenna, a dipole or loop will do just fine. Whatever the antenna, make sure it's in good shape electrically, and use good quality feed line.

Several clubs exist to serve the interests of QRP'ers. One of the most prominent is the QRP Amateur Radio Club International (QRP ARCI). For information about QRP ARCI, write to Mike Kilgore, KG5F, 2046 Ash Hill, Carrollton, TX 75007. Other clubs include the Michigan QRP Club and the G-QRP Club, based in England.

Awards are popular among QRP clubs and QRPers. QRP ARCI issues QRP versions of many popular awards, and several exclusive awards such as the 1000-mile-per-watt award.

Contests are also popular among low-power enthusiasts. About a dozen QRP-only contests are held throughout the year, and many mainstream contests such as Sweepstakes, ARRL International DX, CQ WorldWide, and others have QRP entry categories. Mixing it up with "the big boys" adds to the fun!

Whether you're a veteran QRP'er or you're trying it for the first time, why not share your thoughts (and a photo of you at your QRP station)? Write me at ARRL, Department PCN, 225 Main St., Newington, CT 06111. In the meantime, I'll be listening for your flea-power signal—if you listen for mine . . . ■

YOU SHOULD KNOW

BY HARRY HELMS, AA6FW

INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

Strange Stuff On Shortwave

The shortwave bands have a lot to offer organizations and individuals who want to communicate in a covert manner. Shortwave radio is inexpensive, relatively "low tech," and a proven medium. The shortwave bands are big and offer a lot of room to communicate without being noticed. Perhaps most importantly, shortwave allows instant communication around the world. It's not surprising, then, that many shadowy organizations have taken up residence on shortwave and transmit puzzling, enigmatic signals. I've reported on these in the past for *POP'COMM,* and here's another round-up of the latest activity.

The Number That Wouldn't Stop

I thought the collapse of communism in eastern Europe and the evaporation of the Soviet Union would bring about the end of numbers stations. I was very wrong on that point. If anything, the level of numbers station activity seems to have actually *increased* over the past few months!

The old dependable 6840 kHz continues to perk along with all sorts of weird stuff, but several new frequencies—6935, 7422, 7887, and 9251 kHz—are now active in the 0200 to 0600 UTC period. As usual, a female voice reads out the number groups. 6935 kHz features both four- and five-digit groups in Spanish, 7422 kHz has four-digit Spanish groups, 7887 kHz has five-digit English groups, and 9251 kHz has both five-digit Spanish groups and three-digit English groups. Sometimes the 7422 kHz signals are simultaneously transmitted on 11533 kHz and the 9251 kHz broadcasts are sometimes in USB; but, most numbers stations use AM.

We already know that some numbers stations of the four-digit variety are transmitted from sites near Warrenton, Virginia (near Washington, DC) and Miami. In addition, there are very likely some additional sites in the United States because of propagational considerations. For years, various reliable sources have indicated that many numbers transmissions also originate from Cuba, and other sites in Guatemala, El Salvador, and Nicaragua have been identified by reliable sources. (By the way, those "reliable sources" are often employees of FCC monitoring stations who get curious about where a signal is coming from and do direction-finding to locate it, and then share the results with some SWL's on a "don't quote me" basis.)

So what are numbers stations used for? A variety of sources have described how shortwave messages consisting of number groups are used to communicate with intelligence agents. (Two books that describe in detail actual examples of this are *Widows* by William Corson, Susan Trento, and Joseph Trento and *The Spy Who Got Away* by David Wise.) However, it is believed that many of the numbers messages are actually for training purposes or just meaningless "filler" instead of actual messages to agents.

"Filler" messages intended for no agent would be transmitted because the "opposition" would have no way of determining which messages are genuine or not, and would have to devote some of their time and resources in an attempt to interpret such messages.

Numbers stations are still active in Europe, including many using German numbers. This is a bit hard to understand, since supposedly East Germany was the big source of such transmissions. Yet the transmissions continue, with plenty of evidence indicating that many are originating from a unified Germany!

So what's going on? It might just be a case of a government bureaucracy continuing to do something even though the need is no longer there. It might be that training of spies continues even if the old adversaries aren't around anymore. Or it could be something we can't even guess at now. Regardless, try tuning outside the established amateur and shortwave broadcast bands on frequencies between 4 to 15 MHz in the 0000 to 0800 UTC period, and odds are you'll hear several numbers stations per week. Most numbers transmissions begin on the hour and half-hour, so those are particularly good times to listen for such stations.

The Phantom of the AM Broadcast Band

It seemed like your "normal" mystery station. It was a CW station, sending random letters and numbers in groups of irregular length. The keying was sloppy, and seemed to be sent with a semi-automatic key (or "bug") by an operator not skilled in its use. No identifiable call sign was ever heard. But what took this out of the ordinary was its operating frequency—just above 830 kHz in the AM broadcast band!

I first noticed this signal on September 25, 1991 at 0547 UTC. At that time, the signal was on 831.9 kHz. My first reaction was that I had a problem with my receiver, so I turned on the other receivers in my shack that tune the AM broadcast band and looked for the signal on them. I wasn't disappointed—at one time, I had three time receivers fed by three different antennas receiving the signal! Clearly, this wasn't an image, mixing product, or other spurious signal produced by my receiver's internal circuitry.

After my initial reception, I checked every evening and mornings before my local sunrise, but did not hear it again until October 7, when I heard it just a few cycles above 831 kHz at 1125 UTC. I stayed with the signal, and it wasn't until 1410 UTC (about my local sunrise) that the signal finally started to fade, and by 1430 it had faded out. I heard this station again over the next several days, with my last reception being on October 16 at 1302 UTC; the signal stayed within a few cycles of 831 kHz during this period. I haven't heard it since despite many attempts.

One interesting point was that the station's transmitter had a slight "warble" on each dit and dah transmitted, indicating a slight frequency shift when the transmitter was keyed. The tone of the signal had a slight AC "hum," and it had developed a bad "chirp" by the time I last heard it on October 16. My best guess is that I was hearing a transmitter whose fundamental frequency was around 415 kHz, and a combination of problems was causing it to put out a strong second harmonic and have some frequency stability problems as well.

But which station was I hearing? I took some bearings on the signal using my AM band loop antenna, and these indicated a location in either the Baja California or western Sonora states of Mexico. These bearings were confirmed by Ralph Sanserino, bulletin publisher for the International Radio Club of America, who also heard this mystery from his listening post near Riverside, California.

The fade out times for the station also would be correct for such a location in Mexico. However, this scenario started to unravel when I searched my latest International Telecommunications Union microfiche for any Mexican stations on or around 415 kHz and found none listed. A search of additional references, such as Ken Stryker's *Beacon Guide*, also turned up no likely suspects. Queries to the FCC produced only bewildered, grunting noises from them.

That's where the matter now stands—I'm stumped! Judging by the strength of this signal, it's unlikely that it was heard outside of southern California, southern Nevada, Arizona, New Mexico, and possibly west Texas. I'd like to hear from anyone else who heard this signal or has some clues as to which station it was.

SLHFB's Are Still Around!

Single-letter high frequency beacons (SLHFB's) are stations that merely repeated a single letter of the alphabet continuously, with some brief interruptions for number groups and data bursts. These were very common a few years ago, but have declined markedly in recent years. A couple of years ago, one national publication even went so far as to pronounce them dead and gone forever. Well . . . not so fast, Bunky. There are still some SLHFB's out there, although you

do have to make the effort to find them these days. A couple I've heard recently and with some regularity are "N" on 3249.1 kHz and "V" on 10285 kHz.

The most persistent and puzzling SLHFB is "P" on 3592 kHz, which is sometimes simultaneously transmitted on 4043.2 kHz. This is often heard throughout the evening and early night hours in eastern North Americas. This SLHFB is often interrupted by five or six five-digit groups, and sometimes sends "UMS UMS UMS" after the groups before the repeating "P" resumes. "UMS" is a generic call used by several shore stations of the once-Soviet/now-Russian Navy, leading to speculation that this SLHFB is originating from their facilities in Cuba.

What are the purposes of SLHFB's? Speculation has ranged from navigation or propagation beacons all the way to their being some sort of elaborate system for monitoring lake and reservoir levels! However, no explanation is entirely convincing and the mystery is still very much with us, although at a reduced level.

The World's Wildest Frequency

A year ago, 6840 kHz would have gotten my vote as the one where you're most likely to hear strange and unusual stuff. 6840 kHz is still plenty wild, but 7415 kHz may be even stranger. If you take a listen on weekend nights or on major holidays, you'll see what I mean!

After a lull, pirate radio activity is back at a high level on 7415 and much of it is in SSB. It seems that some of the activity is due to kids commandeering dad's ham station for a "one shot" evening of being an outlaw of the airwaves. (DX'ers are starting to refer to such stations as "baby pirates.") Unlike many earlier pirates, the new SSB breed on 7415 kHz don't operate on a regular schedule that invites an FCC bust. Instead, a given station may operate only once a month, and then only for an hour at a time. This makes them more difficult for us to hear, but it also means the FCC is less likely to catch them in the act.

7415 kHz is also becoming something of an "intercom channel" for pirates. Since most of the users of 7415 kHz are using transceivers, it's a simple matter for them to carry on "QSO's" that are similar to those heard on the so-called "freeband" above the CB channels. The first QSO's were between pirate operators who simply wanted to say "hi!" to other pirates. Since then, they have evolved to sometimes elaborate scheduling sessions ("will the Voice of Anarchy be on at 0300 next week? If not, I'll go on then.") and even shouting matches between competing pirates. There is even one pirate known simply as "Hello Radio," whose entire programming consists of a young male's voice saying "H-e-e-e-l-l-l-l-l-o-o-o-o-o radio!" This station often jams other pirate stations that the "Hello Radio" operator apparently dislikes.

But there's more. Several Spanish language SSB nets populate the area around 7415 kHz in the evenings. These are informal, with no formal callsigns used. There's also lots of whistling to establish contact, and lots of cryptic references to towns in Mexico and other Central America nations and mentions of "las fuerzas armadas" (the armed forces). Finally, CW numbers stations also pop up around 7415 about 0300 UTC or so.

Give a listen to 7415 kHz from time to time. You may hear something really interesting.

KKN50 Mysteries

Regular *POP'COMM* readers know that I've long been fascinated by station KKN50 the U.S. State Department's station. It can be heard almost every evening on 6925.5 kHz with a CW marker. It's always struck me as strange that in an age of rapid, highly reliable, and secure communications by satellites and cable that a CW communications network made no sense. I can understand the need for a shortwave back-up system for embassies located in Third World nations where normal communications could be disrupted without warning, but it would make more sense for this network to operate via RTTY than CW; no CW operator can match the speed of RTTY, and various error-correcting modes such as FEC and ARQ would give a much lower error rate. All this has long led me to suspect that the prime purpose of KKN50 and other Department of State stations (such as KRH51, supposedly located at the London embassy) is to communicate with

POP'COMM's World Band Tuning Tips

October, 1992

Freq.	Station/Country	UTC	Notes
2390	LV de Atiltan, Guatemala	0300	SS
2410	R. Enga, Papua New Guinea	1100	
3200	Trans World Radio, Swaziland	0300	
3205	R. Sanduan, Papua New Guinea	1000	Pidgin
3215	R. Oranje, South Africa	0300	EE/Afk
3235	R. Clube Marila, Brazil	0200	PP
3240	Trans World Radio, Swaziland	0345	close
3250	R. Luz y Vida, Honduras	0230	SS
3260	R. Madang, Papua New Guinea	1100	
3270	Ecos del Oriente, Ecuador	1030	SS
3280	V of Pujiang, China	1100	CC
3295	INBS, Iceland	0630	Icelandic
3315	SLBS, Sierra Leone	0600	
3320	R. Orion, South Africa	0245	
3225	R. Maya, Guatemala	1100	Ind. langs
3360	LV de Nahuala, Guatemala	0305	s/off, indian
3380	R. Chortis, Guatemala	0230	SS
3375	R. Dourados, Brazil	0330	PP
3385	R.E. New Britain, P/New Guinea	1100	pidgin
3395	R. Catolica, Ecuador	1030	SS
3500	LV de Guainia, Colombia	1030	SS
3880v	R. Free Bougainville	0800	
3905	R. New Ireland, Papua New Guinea	1100	
3995	Deutsche Welle, Germany	0330	GG
4331	R. Horizonte, Peru	1100	SS
4450	V of National Salvation (cland)	1030	Korean
4509	R. Horizonte, Bolivia	0900	SS
4680	R. Nacional Espeje, Ecuador	0000	SS
4740	R. Yunost, Russia	0200	RR
4755	R. Ed. Rural, Brazil	0000	PP
4765	RTVC, Congo	0355	FF
4770	R. Nigeria, Kaduna	0500	
4790	R. Atlantida, Peru	0300	SS
4800	R. N-103, Dominican Republic	0400	SS
4810	R. Suid Afrika	0300	Afrikaans
4825	R. Educadora Braganca, Brazil	0900	PP
4830	R. Tachira, Venezuela	0200	SS
4840	R. Valera, Venezuela	0900	SS
4850	CRTV, Cameroon	0430	FF/EE
4865	R. Verdes Florestas, Brazil	0200	PP
4865	Gansu PBS, China	1130	CC
4870	ORTB, Benin	0457	sign on, FF
4875	Super Radio, Brazil	0235	PP
4875	V of Jinling, China	1100	CC
4885	Ondas del Meta, Colombia	1000	SS
4890	R. France Int'l, Gabon relay	0400	FF
4895	LV del Rio Arauca, Colombia	0430	SS
4900	R. Centinela del Sur, Ecuador	1100	SS
4904.5	R. National, Chad	0427	sign on, FF
4915	R. Cora, Peru	1000	SS
4920	R. RICA, Nicaragua	1030	SS
4935	Kenya Broadcasting Corp.	0300	
4940	R. Continental, Venezuela	0200	SS
4950	R. Nacional, Angola	0400	PP
4955	R. Marajoara, Brazil	0800	PP
4970	R. Rumbos, Venezuela	0300	SS
4976	R. Uganda	0400	
5005	R. Libertad, Bolivia	0200	SS
5015	R. Pioneira, Brazil	0230	PP
5020	SIBC, Solomon Islands	0800	
5025	R. Rebelde, Cuba	0330	SS
5030	R. Catolica, Ecuador	0200	SS
5035	R. Aparecida, Brazil	0030	PP
5035	RTVC, Central African Rep.	0428	sign on, FF
5040	R. Ala, Russia	0330	s/on
5047	RTV Togolaise	0600	FF
5055	TIFC, Costa Rica	0300	
5062	R. Progresso, Ecuador	0230	SS
5075	Caracol, Bogota, Colombia	0400	SS
5645	R. France Int'l	0000	FF
5699	R. Freq. San Ignacio, Peru	0200	SS
5935	R. Czechoslovakia	0100	
5935	WWCR, Tennessee	0300	

Freq.	Station/Country	UTC	Notes
5950	GBC, Guyana	0900	
5960	R. Japan via Canada	0100	
5980	R. Guaruja, Brazil	0800	PP
6006	R. Reloj, Costa Rica	0700	SS
6010	R. Mil, Mexico	0300	SS
6010	R. Mil, Mexico	1200	SS
6015	R. Union, Peru	0800	SS, ex-6115
6020	R. Netherlands	0030	
6030	R. Globo, Brazil	0000	PP
6045	R. Polypus, Russia	0400	RR
6050	R. Nigeria, Ibadan	2230	
6055	Spanish National Radio, Spain	0430	SS
6060	R. Nacional, Argentina	0930	SS
6080	R. Austraila	1100	
6105	R. Universidad, Costa Rica	0200	SS
6116	La Voz del Llano, Colombia	1000	SS
6120	R. Globo, Brazil	0900	PP
6130	R. Portugal	0700	sign off
6135	R. Santa Cruz, Bolivia	1000	SS
6135	Swiss Radio Int'l	0230	
6140	Australian Bc Comm.	1100	
6160	CKZU, Canada	1300	
6180	R. Nac. Amazonas, Brazil	2200	PP
6180	R. Havana Cuba	0400	EE
6210	Europea Christian R., Italy	0630	
6210	Croatian Radio	0000	Croatian
6245	Vatican Radio	0430	
6275	Radio Patria Libre	0115	Col.cland.
6300	R. Venceremos, El Salvador	0230	SS
6560	Iraq Republic Broadcasting	0130	AA
6803	R. Ondas del Mayo, Peru	1100	SS
6840	CPBS, China	1200	CC
6910	R. Dublin Int'l, Ireland	0730	
6910	R. Russia (feeder)	0230	RR
7125	IRRS, Italy	0500	
7130	VOFC, Taiwan	1030	CC
7160	RTM, Malaysia (Sarawak)	1100	
7190	Rep of Yemen Radio, Aden	0300	sign on, AA
7205	Adventist World R., Italy	0800	
7203	R. Lubumbashi, Zaire	0430	FF
7215	Voice of the UAE	2300	
7220	All Union Radio, Russia	0100	RR
7235	Deutsche Welle, Germany	0400	AA, via Malta
7240	Croatian Radio, Croatia	0300	
7255	R. Botswana	0300	
7270	R. RSA, South Africa	0400	
7305	Vatican Radio	0250	
7315	Croatian Radio	0000	via WHRI
7315	R. Free Croatia	0330	via WHRI
7365	KNLS, Alaska	0800	
7375	R. For Peace Int'l, Costa Rica	0200	USB
7390	Deutsche Welle	1200	via USSR
7400	R. Yerevan, Armenia	0338	
7400	R. Belarus, Belarus	0030	Byelorussian
7465	Reshet Bet HS, Israel	0100	Hebrew
7475	RTV Tunisienne, Tunisia	0400	AA
7490	WJCR, Kentucky	0300	
9022	VOIRI, Iran	0030	EE
9115	R. Continental, Argentina	0030	SS feeder
9265	Icelandic Ntl Bc Svc	0730	EE
9280	Voice of Asia, Taiwan	1000	CC
9325	R. Pyongyang, N. Korea	1300	
9395	V of Greece	1900	GG
9405	KFBS, Saipan	1500	RR
9445	Voice of Turkey	2330	TT
9475	R. Australia	0900	
9475	R. Cairo, Egypt	0200	
9480	TWR, Monaco	0645	
9486	R. Tacna, Peru	0400	SS
9505	R. Yugoslavia	2230	to Europe
9520	R. Veritas Asia, Philippines	1200	
9530	KHBI, Saipan	1400	
9535	Trans World Radio, Bonaire	0300	

Freq.	Station/Country	UTC	Notes
9540	R. Nacional, Venezuela	1100	SS
9545	R. Tirana, Albania	0530	sign on
9555	R. Portugal	0230	
9560	FEBC-Russia	0900	RR
9565	R. Universo, Brazil	0500	PP
9570	R. Romania Int'l	0300	SS
9570	R. Korea, S. Korea	1400	
9580	R. Yugoslavia	0130	
9580	Africa No. One, Gabon	1900	FF
9585	R. Tanpa, Japan	1000	JJ
9600	R. UNAM, Mexico	0300	SS
9610	BBC via Ascension	0630	
9610	R. Norway Int'l	0200	
9615	R. Veritas Asia, Philippines	1433	sign on
9630	R. Oranje, South Africa	0500	
9645	R. Norway Int'l	0300	
9650	Swiss Radio Int'l	0130	
9660	R. Japan via Canada	1500	CC
9665	R. Marumby, Brazil	2300	PP
9690	R. Beijing, China	0330	via Spain
9695	R. Sweden	0330	
9700	R. New Zealand	1030	
9705	R. Portugal	0230	
9720	R. Galaxy, Russia	2230	RR
9725	Adventist World R., Costa Rica	1250	
9735	R. Oman	1945	AA
9735	R. Nacional, Paraguay	2300	SS
9745	R. Cairo, Egypt	0200	
9746	R. Bahrain	2000	AA QRM-HCJB
9750	R. Yerevan, Armenia	0330	Arm/EE
9750	R. Kiev, Ukraine	0300	
9755	R. Monte Carlo, Monaco	0400	AA
9760	R. Tirana, Albania	0130	Albanian
9770	R. Beijing, China	0000	via Mali
9800	R. Rossly, Russia	0650	RR
9830	Croatian Radio	0600	
9830	Voice of Hope-Asia, Palau	1100	
9835	AWR, Russia	2300	
9870	BSKSA, Saudi Arabia	2000	AA
9870	R. Ukraine	0100	
9880	R. Galaxy, Russia	2000	RR/EE
9950	All India Radio	2200	
9985	WCSN, Maine	2355	sign off
11040	CPBS, China	0200	CC
11455	R. Kisangani, Zaire	0400	s/on, FF
11520	Ukrainian Radio	0100	Ukrainian
11530	V of Hope, Lebanon	1400	
11550	RTT Tunisia	1800	AA
11588	Kol Israel	1800	
11620	All India Radio	2000	
11620	Vatican Radio	0145	SS
11635	R. Netherlands via Madagascar	0100	
11675	R. Rodenezh, Russia	1128	s/on RR
11685	R. Ala, Russia	1230	RR
11695	BRT, Belgium	0600	Dutch
11705	R. Sweden	2330	
11710	RAE, Argentina	0100	
11715	R. Beijing, China	0330	via Mali
11715	R. Korea, S. Korea	1030	via Canada
11720	R. Sofia, Bulgaria	0300	
11725	VOA relay, Botswana	0200	
11735	Radio SNC, Russia	1100	RR
11735	R. Japan, via Gabon	2300	
11745	R. Norway Int'l	2300	EE/NN
11755	R. Baghdad, Iraq	1930	AA
11765	R. Sofia, Bulgaria	0600	
11775	CBS, Taiwan	1430	CC
11780	Deutsche Welle, Germany	0600	
11780	Radio Austria Int'l	1530	
11790	R. Vilnius, Lithuania	2300	
11795	UAE Radio	1600	
11800	RAI, Italy	0100	
11810	R. Korea, S. Korea	0600	
11810	R. Jordan	1400	AA
11815	R. Brazil Central	0800	PP
11820	R. Tirana, Albania	0330	s/on
11827	R. Tahiti	0500	FF/TT
11835	R. El Espectador, Uruguay	0300	SS
11830	New Wave Radio, Russia	0700	
11850	R. Tbilisi, Georgia	0445	
11855	AWR, Russia	0745	
11865	R. Japan	1400	
11870	R. Yugoslavia	0040	
11880	R. Galaxy, Russia	2130	
11895	Voice of Turkey	2330	
11905	RAI, Italy	0230	II
11920	RT Morocaine, Morocco	2000	FF
11920	R. RSA, South Africa	0500	PP
11925	R. Bandeirantes, Brazil	0000	PP
11945	R. Space, Russia	1500	RR
11945	Iraq. Republic Broadcasting	0030	AA
11955	Voice of Turkey	0400	TT
11960	R. Sweden	1130	
11960	RTV Malienne, Mali	0900	FF
11965	V of UAE	1800	AA
11970	R. New Wave, Russia	1300	RR
11990	R. Czechoslovakia	0000	
12055	Deutsche Welle, via tx in CIS	0156	s/on
12095	BBC, England	2100	
12105	Voice of Greece	2230	Greek
13620	R. Kuwait	2000	
13625	KHBI, Saipan	1400	
13530	R. For Peace Int'l, Costa Rica	0200	
13635	Swiss Radio Int'l	2130	
13650	R. Pyongyang, N. Korea	0000	
13655	BRT, Belgium	2330	
13666	Voice of Europe, Italy	0100	
13675	UAE Radio, Italy	0100	
13685	Swiss R. Italy	0700	
13720	KSDA, Guam	1800	
13755	ISBS, Iceland	2000	Icelandic
15050v	R. Patria Libre	0045	SS, cland
15070	BBC	1400	
15084	VOIRI, Iran	0430	Farsi
15090	R. Damascus, Syria	2115	
15100	Kol Israel	2130	EE
15110	Spanish National Radio	2000	SS
15110	All India Radio	2330	
15150	Iraq Republic Radio	0030	
15160	R. Sofia, Bulgaria	0400	
15170	R. Korea, S. Korea	1030	KK
15185	R. Finland Int'l	2300	
15195	R. Japan	0500	
15200	R. Bangladesh	1230	EE
15205	V of Palestine via R. Algiers	1700	AA
15208	R. Bangladesh	1230	
15215	RTV Algerienne, Algeria	1800	
15235	V of Great Arab Homeland, Libya	2000	AA
15260	VOIRI, Iran	0230	sign on
15275	All India Radio	1200	
15230	UAE Radio, Dubai	2300	
15325	R. Japan	1500	vla Fr. Guiana
156340	Iraq Rep. Broadcasting	0230	EE/AA
15345	RT Morocaine, Morocco	1500	AA
115345	RTM, Morocco	1400	Berber
15350	R. Luxembourg	0300	
15365	R. RSA, S. Africa	0300	sign on
15400	Radio Finland Int'l	1500	
15425	SLBC, Sri Lanka	2330	Mon.
15430	R. Austria Int'l	1330	
15476v	R. Nac. Archangel, Antarctica	2230	SS
15480	V of the UAE	1600	s/on, AA
15485	R. Uno relay, RAI/Sicily	1530	Italian
15495	Ukrainian Radio	0600	Ukralnian
15505	R. Kuwait	2245	AA
15530	R. France Int'l, via Hungary	0630	FF
15550	Central People's Bc Stn, China	0230	CC
15640	Kol Israel	2100	
15670	CPBS, China	0000	
15750	R. Russia	1800	RR
17500	RTT Tunisienne, Tunisia	0500	AA
17565	R. Australia	1605	
17605	R. Yerevan, Armenia	0300	Armenian
17630	Africa No. One, Gabon	0900	FF
17690	R. Minsk, Belorus	0030	
17705	R. Pakistan	0200	Urdu
17725	V of the Great Homeland, Libya	2100	AA
17740	R. Yugoslavia	1200	
17730	Vatican Radio	0628	s/on
17730	R. Alma Ata, Kazakstan	1830	
17740	R. Sweden	1300	EE
117740	R. Iraq Int'l	2330	
17760	New Wave Radio, Russia	1700	RR
17770	R. New Zealand Int'l	0445	
17795	Radio France Int'l	1500	FF
17815	R. Tashkent, Uzbekistan	1200	EE
17840	BBC via Antigua	1400	
17860	Qatar Bc Service	1300	AA
17860	Deutsche Welle via Malta	2300	GG
17870	VOA Botswana relay	0400	
17890	Spanish National Radio	1200	
17895	HCJB, Ecuador	24hr	SSB
21480	R. Zagreb, Croatia	1200	
21510	V of UAE, Arab Emirates	0630	AA
21515	Radio Portugal	1630	
21580	R. Pilipinas, Philippines	0230	
21605	UAE RAdio	1600	
21675	R. Kuwait	1600	AA
21705	R. Norway Int'l	2100	EE/NN
21810	R. RSA, S. Africa	0230	
25730	R. Denmark, via Norway	1255	s/on, DD

persons *outside* of normal diplomatic channels.

Last year's Gulf War seemed like an ideal time to test this little theory; if anything could activate a back-up communications network for U.S. embassies, then certainly the start of major war involving American forces would be it. The U.N. resolution ordering Iraq out of Kuwait had a deadline of January 15, and it seemed likely that any military action was to take place it would occur on that date or very soon thereafter. (January 15 was the date of a new moon, and it was unlikely that the Allied forces would squander their superiority in night fighting techniques by delaying.) One of my DX correspondents, Dave White in Maine, and I agreed to keep an ear tuned to KKN50 on 6925.5 kHz around that date.

I tuned to KKN50 at 0430 UTC on January 15. I found the frequency covered with a powerful open carrier that had telephone dialing tones and ringing sounds in the background! I stayed on the frequency until 0438, when the very end of the KKN50 CW marker (". . . /10/12/16 K") was heard, and was immediately followed by a resumption of the normal marker at 0440. This continued until 0500, when the marker was sent once manually, with a drawn-out "dah-di-ddaaaahhhhh" at the end, and then there was silence.

Dave White was listening at 0014 on January 16, and heard "KKN50 KKN50 DO YOU COPY KK?" being sent by another station. KKN50 apparently did not hear this station or else ignored it, as their marker started promptly at 0015. This continued until 0022, when KKN50 began tuning its transmitter. AT 0026, KKN50 sent "KRC81 KWT94 DE KKN50 QSX 6/10/12 K" and repeated this until 0055. At that point, KKN50 went silent and "NJEEOEEE" was heard on the frequency; the signal was loud and apparently sent automatically. AT 0115, Dave then heard "KKN50 DE KWT94 ZHQ 14368/11424 K," "DE KKN50 INT ZHQ 14368/11424 K," and "DE KWT94 C" sent. Surmising the numbers referred to frequencies, Dave checked 11424 kHz and found KKN50 there as well.

The next night, January 17, Dave heard similar traffic in the 0014 to 0117 UTC time frame. At 0105, Dave heard "XVWE XVWE DE RKV NCV KKK" and "XWWE XWWE RCV RCV RCV KK" at 0106.

I was listening on January 18 and found 6925.5 kHz again covered by a powerful open carrier. Underneath, I could hear "KWT91/KWT94 DE KKN50" being repeated. I intermittently checked this frequency throughout the evening until 0400, when the usual KKN50 marker returned.

So what does all this activity mean? I don't know, but it does mean that I plan to keep an ear on KKN50 whenever there is a major international event affecting the United States.

Don't be content to just read about the type of activity described in this article. Start tuning outside the broadcasting and ham radio bands for your own puzzles. ■

NEW PRODUCTS

REVIEW OF NEW AND INTERESTING PRODUCTS

Battery Charger Maintains Three Batteries at Full Charge

Ray Jefferson announces the addition of a new Model 155 High Frequency "Switcher" Battery Charger. The Model 155 converts AC dockside power (110 or 220 volts, 50 to 60 Hz) to 12V DC which is then used to automatically maintain up to three banks of marine batteries at 100% charge. When the energy level of a monitored battery drops, the "Switcher" automatically restores 100% charge. Once fully charged, it returns to the monitoring level. There is no "trickle charge" to boil off electrolyte, an important feature which can significantly prolong the life of your batteries.

The Model 155 features reverse voltage protection to ensure against battery damage by accidental reverse wiring and there is built-in surge protection. It also provides an extra 15 Amp boost for engine starting so there is no need to disconnect the charger during engine start.

Ray Jefferson's Model 155 Low Frequency "Switcher" Battery Charger is compact, constructed of lightweight, corrosion resistant aluminum. Measuring only 10"H x 5 1/8"W x 3/4"D and weighing a mere 2.5 lbs., the unit is easy to install almost anywhere—even on small boats.

For further information contact Ray Jefferson, 4200 Mitchell Street, Philadelphia, PA 19128.

For Computer Owners Only

DataFile announces their release of ProScan, Version 1.0, an easy-to-use yet powerful program that takes the chore out of tracking those "nameless numbers." With ProScan, track up to 9,999 frequencies.

ProScan features an on-screen listing of frequency records. Each record contains bank number, channel/record number, frequency number, name, location, class, type and call sign. These records can be listed in order by channel number, frequency number, name, location or class. Changing orders is as simple as pressing the left or right arrow keys. View the results immediately without having to wait for sorting.

ProScan seeks individuals records instantly without having to use menus. Seek by channel number, frequency number or name. "Intelligent Seeks" provide for closest match when an exact match is not found. Not only does ProScan print reports by channel, frequency, name, location or class; it prints selected groups as well.

ProScan includes a generous note pad for each frequency record. The note pad offers automatic time and date stamping. Additional features include help screens, frequency duplication check, clock display, automatic bank numbering and more.

ProScan requires IBM or compatible computer, MS/PC-DOS version 2.0 or higher, 640K RAM, hard disk and is compatible with IBM/Epson or compatible printers. ProScan comes complete with printed documentation. The price for ProScan is only $39.95 and includes printed documentation ($34.95 for disk only, demo version with printed documentation, $12.50). To order ProScan, send check or money order to DataFile, Inc., PO Box 20111, St. Louis, MO 63123. Please specify 5¼" or 3 ½" disk.

Correction: In the August 1992 issue, Radio Shack's Realistic® BTX-120 transceiver had its price incorrectly listed as $14.95. The actual price is $149.95. We apologize to Radio Shack and our readers for any inconvenience.

LISTENING POST

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

The new High Adventure Ministries' station KHBN, the "Voice of Hope for Asia," operating from the Pacific island of Palau is now being heard. 9830 is scheduled from 0800 to 1600, 11980 at 2000-0800. Except for the 0300 to 0800 English language segment, all other hours are in Chinese. Reports should go to High Adventure Ministries, PO Box 93937, Los Angeles, CA 90093. If you wish to report direct, the address is PO Box 66, Koror, Palau 96940.

There's another new country on the air, though it's been pretty well camouflaged. It seems that one of the transmitters being used by Radio Vilnius, Lithuania, is actually inside Moldova (formerly Moldavia). 11860 *was* the frequency used by this transmitter but now Radio Vilnius has changed its frequency line up so we can't be sure which one of them has the Moldova transmitter—perhaps 11780?

The schedule for English is 2130-2200 on 9675 and 9710; 2300-2330 on 11780, 13645 and 15580. Other transmitters in use are at Petropavlosk-Kamchatsky and Khabarovsk.

Radio Japan should be on the air via the BBC transmitters at Skelton by now, according to "Radio Japan News" forwarded by Dick Sharp of Oklahoma City. The site will be used to improve reception in Europe and the former Soviet Union. Radio Japan will use one, perhaps two of the site's 250 kW transmitters for two, five hour broadcasts daily, including Russian, German, Japanese and English. Early in 1993 the BBC is expected to begin using the Yamata transmitting site in Japan.

More relay news: the BBC is leasing time over the facilities of Radio New Zealand International, experimenting with broadcasts to Asia. The broadcast is only half an hour, at 1100-1130 on 9720.

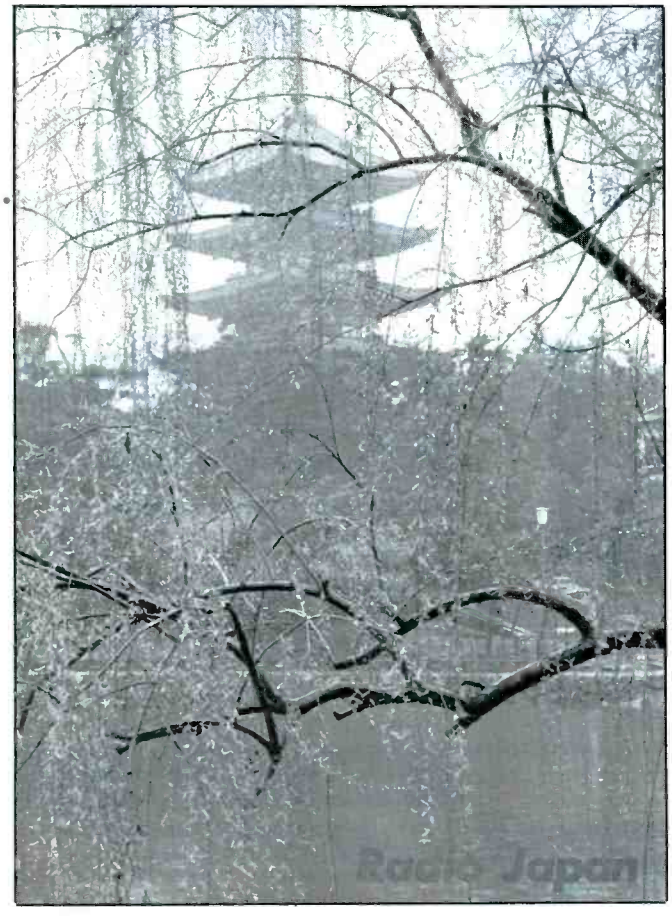
Check 11705 for a new Brazilian station which is supposed to be on the air now. Radio Transamerica in the city of Santa Maria, Rio Grande do Sul has been running tests up to 2200 sign off, all in Portuguese. Reports go to C.P., 6084, Porto Alegre.

Word is that the new Radio Exterior de Espana Costa Rica relay station may be on the air by now, although REE has yet to release any frequency information. This transmitter should put an excellent signal into North America, once it becomes operational.

Radio Canada International and the Canadian Forces Network are airing a special program for Canadian military personnel on duty with the UN in what was Yugoslavia. Like most such arrangements it may not continue for very long. At this writing it's being aired Monday through Friday at 1900-1930 on 5995, 7235, 13650, 15325, 17875 and 21675. The program is in English and French.

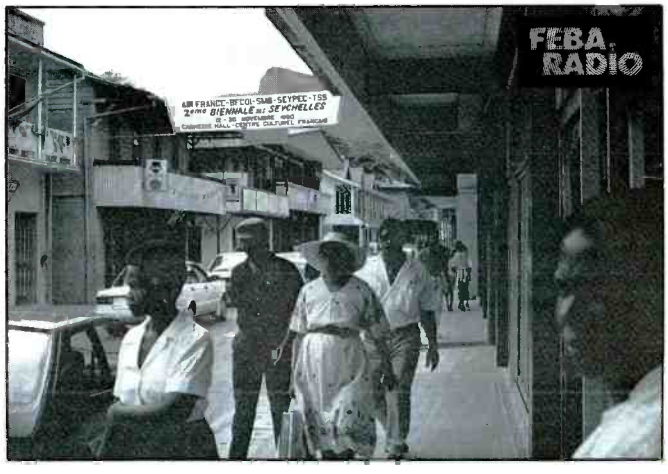
It's hard to keep up with the continental schedule changes of Radio Iraq International. The latest we've noted is from 0900 to 1100 on 11880 in Arabic with the "Call of the Kinfolk" service for Iraqis in Saudi Arabia and 2215 to 0115 in Arabic and English on 11945, 15150 and 17740.

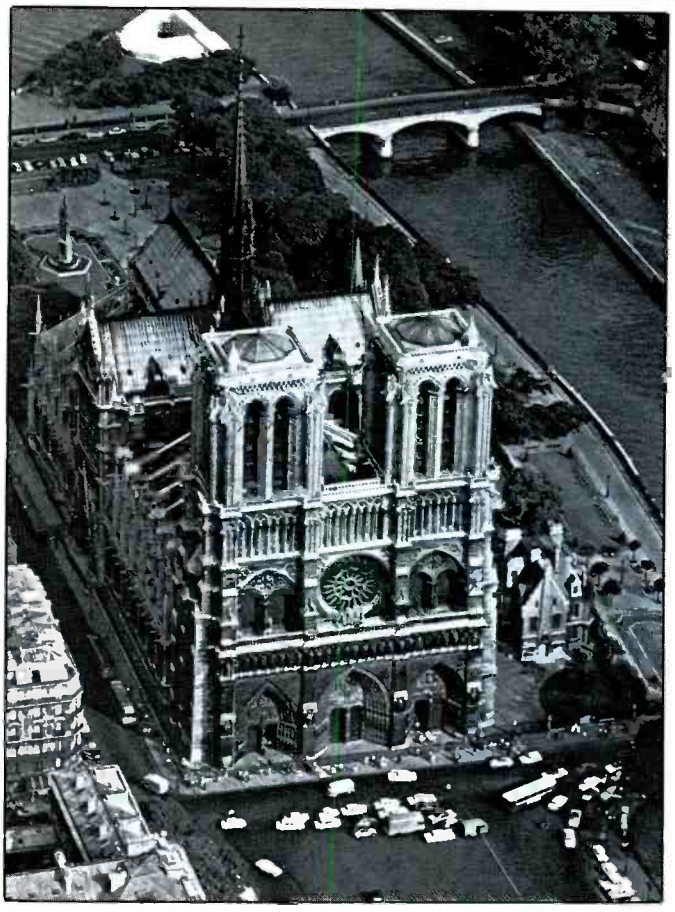
Radio Miami International, discussed last month, has been granted the call letters WRMI and expects to be on the air with broadcasts before the end of the year. They'll use the old shortwave transmitter of Radio



Radio Japan sent this scenic QSL to Todd Borsch back in 1978.

Here's a recent QSL card from FEBA Radio, Seychelles Islands. (Thanks Larry R. Zamora).





Another colorful QSL card, and another one from 1978 and Todd Borsch.

A full color view of the Notre Dame Cathedral graces the front of this Radio France International QSL card. (Thanks Larry Blisard, PA).

Clarin. The station will very likely turn up on 9950, so watch that spot.

Radiodiffusion Nationale, Guinea, has been undergoing some refurbishing. Long used 4910, at Kipe, is now inactive while the site is being renovated. Active frequencies are 6255 (Kipe) and 7125 and 9650 which are 100 kilowatt transmitters at a new site, Sofoniya. Note there's a report of 7125 in this month's loggings.

New countries such as Palau and Moldova come on the air but, unfortunately, others leave shortwave. This time, it's Zambia. According to reports it was the money received from airing the Radio Freedom program of the African National Congress which kept the external service going. Now that the ANC has discontinued the program Radio Zambia can't afford to keep its shortwave on the air. Zambia was most often heard in North America on 4910.

In the Mail: David and Nancy Riggins of Newark, Delaware, are new listening enthusiasts who are building a monitoring post, trying out antennas and exploring the bands. They hope to be contributing soon. You'll be our first husband and wife DX'ing team!

Jill Dybka of Nashville, Tennessee is also new to shortwave, but between attending school and a weekend job she's finding listening time a bit limited. Welcome to the column, Jill. We'll look forward to your reports whenever you can send them.

Brad D. Low, Jacksonville, Texas, is not only into SWL'ing (both broadcast and utilities) but scanner monitoring and ham radio operating as well (he's N5ZIS). If that weren't enough radio he also works part time at two local FM stations!

Brad will be touring England next year, plans to take a portable along and is interested in getting some advance tuning tips for both high frequency, AM and FM. You can write him at 840 Henderson St., Jacksonville, 75766.

Bill Moser in New Cumberland, Pennsylvania comments that he's been having some difficulty in locating broadcasts from both Radio Moscow and Radio Havana Cuba. He notes that Moscow seems to have fewer channels and that the 11840 Cuba relay hasn't the punch it formerly did. Moscow's frequencies have certainly dwindled, Bill, and yes, 11840 often sounds very poor.

Let's hear from you next month. Your shortwave broadcast loggings are always welcome. Please list by country, leave cutting room between each item and include your last name and state abbreviation after each item. We also look for your letters and comments, station schedules and other literature, spare QSL's we can use as illustrations. And where, oh where, is your shack photo this month?

Here are this month's loggings. All times are UTC. Broadcasts reported are in English except when noted otherwise as SS, PP, AA (Spanish, French, Arabic) etc.

SWBC Loggings

Albania: Radio Tirana on 11825 at 0248 with Albanian folk music. (Moser, PA)

Antigua: BBC relay, 15220 at 1118 with news. (Moser, PA)

Deutsche Welle relay in GG at 2000 on 17810.

Ascension Island: BBC Atlantic relay, 15260 at 2130 fwith news. (Moser, PA)

Radio Australia, 5995 at 0857 with jazz, ID, news. New 9475 to Middle East at 0916. Also 11800 to South Asia at 1314. (Lamb, NY) 9580 at 1108. (Moser, PA) 13605 at 1128 to East Asia and 21740 at 0500. (Low, TX) 17715 at 0130. (Borsch, IL) 17795 at 0300; 0600. (Johns, TX; Seefeldt, WI)

ABC Brisbane, 4920 at 1331. ID "Across Queensland, this is ABC Radio" (Zamora, CA)

VNG time station, 8638//12984 with time signals at 0700; 1125. (Lamb, NY; Rocker, NY)

Austria: Radio Austria International, 6015 (via Canada) at 0630. (Seefeldt, WI) 9870//13730 at 0345. (Low, TX) 9875 at 0145. (Zamora, CA) 13730 at 1138. (Moser, PA)

Belgium: BRT, 9930//13650 at 2330 with news. (Borsch, IL) 13655 in FF at 2142, EE at 2330. (Low, TX) 17555 at 1128 with IS, ID, news. (Moser, PA)

Botswana: Radio Botswana, 7255 at 0255 with IS under heavy QRM. (Moser, PA)

Brazil: Radio Globo, 6030 at 2205 in PP. (Lingenfield, PA)

Radiodifusora Amazonas, Manaus, 4805 at 0940 in PP with Brazilian pops, frequency announcement, IDs. (Lamb, NY)

Radio Guaruja, 5980 at 0910 in PP with "Ave Maria" and religious talk over music and before crowd, ID. (Lamb, NY)

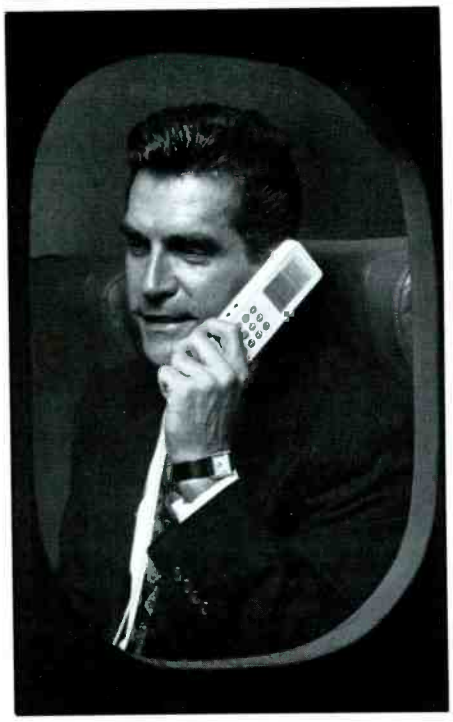
Radio Educacao Rural, 4755 at 0849 in PP with local music, ID, mentions of Campo Grande. (Lamb, NY)

Radio Aparecida, 5035 in PP at 0007 with ID, sound effects, request show. (Lamb, NY)

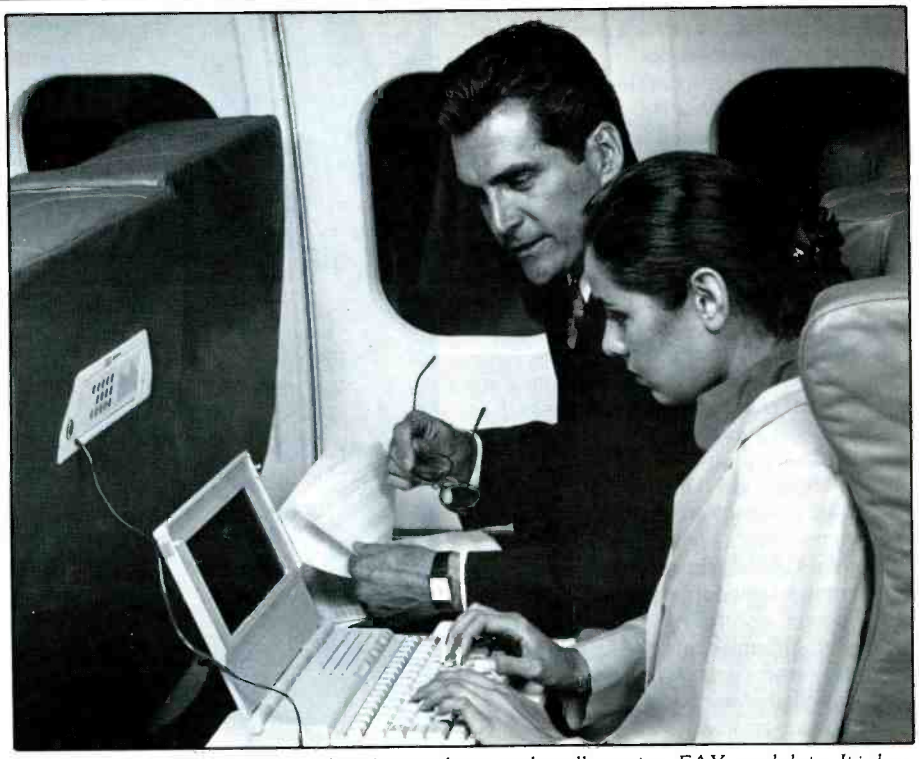
Bulgaria: Radio Sofia, 11720 at 2301; 0345. (Moser, PA; Rocker, NY) 11870 at 0045. (Low, TX) 15160 at 0300; 0504. (Johns, TX; Lamb, NY)

TELEPHONES ENROUTE

BY TOM KNEITEL, K2AES



The new GTE Airfone air/ground system allows calls to be placed from anywhere in the world and relayed by satellite.



The GTE Airfone satellite-based air/ground system handles voice, FAX, and data. It is being tested on Northwest Airlines and Lufthansa.

passengers decided to use the system at the same time, the network could handle the demand. Such a situation could come about, for example, if the pilot were to announce an arrival delay.

DeskTalk designed the ground system from the same perspective as it had developed the cabin system, and used commercially available products. The difference is that while the cabin system is contained within a single aircraft, the ground system consists of a ground operations center and more than eighty base stations spread out from coast to coast.

At each base station, there's a 386 DOS-based server. Like the cabin server, the ground server controls radio operation and acts as a communications hub for the various base station data comms equipment. The ground server also acts as a store-and-forward message switch for data transaction messages.

At the data operations center (presently in Torrance, Calif., but being moved to Oak Brook, Ill., which will make Torrance a back-up and development site), DeskTalk utilized industry standards such as TCP/IP for the network and protocol and UNIX platforms, along with commercially available products such as terminal servers and modems.

DeskTalk Systems, Inc. is located at 19401 S. Vermont Ave., Torrance, CA 90502.

In-Flight has been awarded the license to provide digital air/ground services in Canada via its affiliated company, In-Flight Phone Canada.

GTE Airfone, the other major air/ground service supplier, tells us that they are providing the cabin equipment for Lufthansa's trial (which is going on now and will last until the end of next June) of satellite communications services. The GTE Airfone units are in use aboard 737-300 and 747-400 craft used for European domestic and international flights. Passengers are able to call anywhere in the world while the craft are in flight or on the ground.

Northwest is the first US-based carrier testing this GTE satellite system for air/ground service. These tests are now being conducted aboard the company's 747-400 craft. The test includes cabin telephones, terrestrial avionics, and satellite interface.

COMSAT Aeronautical Services is providing access to the Inmarsat global satellite network through its ground earth stations in Southbury, Conn., and Santa Paula, Calif. Satellite access allows calls to be placed when the aircraft is out of range of GTE Airfone's North American 800 MHz ground network.

With satellite-based service, an on-board radio transmits each call to a satellite via an antenna atop the aircraft. The satellite then routes the call to an earth station, and from there it is connected into the landline telephone network.

With GET Airfone's regular 800 MHz domestic air/ground service, the call is sent via radio to one of the company's 109 ground stations located throughout the USA and southern Canada. From the ground station, it is routed to the public telephone network.

GTE Airfone, which is headquartered in Oak Brook, Ill., provides air/ground public telephone service to passengers on 1,700 commercial aircraft operated by eleven US-based carriers, plus Air Canada.

Remember UPS & The 220 MHz Ham Band?

For a while there has been talk of United Parcel Service wanting to establish a network of its own in the 220 to 222 MHz band. Inasmuch as these frequencies were allocated as part of the 220 to 225 MHz ham band, the UPS concept was opposed by ham operators, the American Red Cross, and many others. After the UPS plans for 220 to 225 MHz were announced, the FCC decided that these frequencies weren't sufficiently used by hams. So the frequency allocation was removed from the Amateur Radio Service and given over to commercial and governmental land mobile uses. The American Red Cross would like to establish some disaster services there to fill the void left by the removal of the hams. The American Red Cross still opposes the FCC allowing UPS to be given the use of these frequencies.

But, after all of the ruckus, is UPS really still interested in 220 to 222 MHz? They say they are, but got tired of waiting for the FCC to move ahead with their plan. In the mean time, UPS recently signed an agreement with Motorola to provide a nationwide cellular mobile data network. The network, which is scheduled to be operational by early next year, will provide UPS with immediate tracking capability for air and ground package movements, even in remote delivery areas.

The $150-million investment in cellular data technology will include Motorola manufacture and support for an in-vehicle communications system, including more than 50,000 cellular telephone modems (CTM).

Mitsubishi has this new combo cellular and modem.

The system will allow drivers to insert handheld computers called Delivery Information Acquisition Devices (DIAD) into Motorola supplied DIAD vehicle adapters (DVA), which automatically uploads data to the UPS host computers via the CTM.

The UPS network will transmit data via the circuit-switched capabilities of regular cellular service suppliers such as PacTel Cellular, Southwestern Bell, GTE Mobile, and McCaw Cellular.

With the new Motorola equipment, a customer will sign the handheld DIAD upon receiving a package. The driver will then slip the DIAD into the vehicle's DIAD Vehicle Adapter, which transmits the information to UPS' host computers in Mahwah, New Jersey. Customer service telephone reps can access this tracking information through the *UPSnet* global telecommunications network.

Isn't this is a similar system to the idea that UPS had in mind for 220 to 222 MHz when they set the FCC thinking that those frequencies weren't needed by hams? Then why would they still need 220 MHz now? Has UPS picked up their marbles and gone off to play in someone else's yard? Interesting to remember that Federal Express, another parcel delivery service, has long used a complex parcel locating system employing handheld units. FEDEX figured out how to do it on regular business band channels without disrupting the frequency allocations of others. Just thinking out loud.

Cellular & Integrated Modem

Mitsubishi International has a cellular they call the Cellular Data Link. It incorporates an error correcting modem that fits inside the phone. That is to say, it's a fully featured Microcom MNP-10 modem and the Mitsubishi Model 1500 series cellular neatly rolled into one package.

As such, it provides a simple one-cable connection between a quality cellular and a personal computer for the purposes of sending data over a cellular system. It allows automatic dialing and answering and can be controlled by all standard communications software packages.

This unit comes in three different configurations, for mobile use, for portable use, and for dedicated data use. Depending upon the configuration, MSRP's range from $995 to $1495. The units are being marketed by Mitsubishi International and by Microcom through their regular product distribution systems.

Thank you for writing in. We are always interested in your opinions, news, questions, and ideas regarding cellular, pagers, marine two-way, air/ground phones, and other phoning systems utilizing radio. We are also interested in hearing from service suppliers and from equipment manufacturers. ■

BY GORDON WEST, WB6NOA

Easy Whip Tuning

If you operate on high frequency SSB, you have all experienced the frustration of trial and error whip tuning. You remembered that a longer whip will work lower in frequency, but it took your installed transmitter, coupled with an SWR bridge, and a lot of on-the-air testing to find just the right spot for the whip-tip adjustment. Most high frequency whip antennas will require fine-tuning to complement their particular vehicle mounting position.

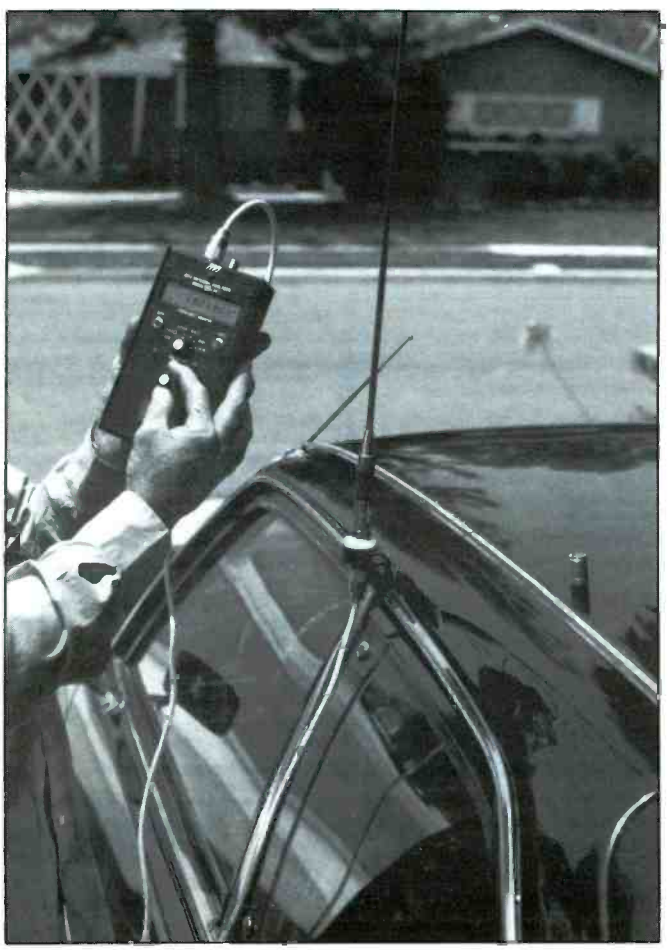
On VHF and UHF, whip tuning usually isn't much of a big deal, because most quality high-band and ultra-high antenna systems are "pre-tuned". But not necessarily so—they are pre-tuned to a normal antenna installation on the top of your vehicle's roof, and most antenna installations no longer are punched through in this manner. More logically, trunk lip-mounts may move the installation to the hatch of a vehicle, and gutter-mounts make for easy antenna installation to the side of a vehicle. Then there are the glass-mounted antennas that will seldom ever work up to par, straight out of the box, until they are tweaked with an on-the-air transmitter and an SWR bridge.

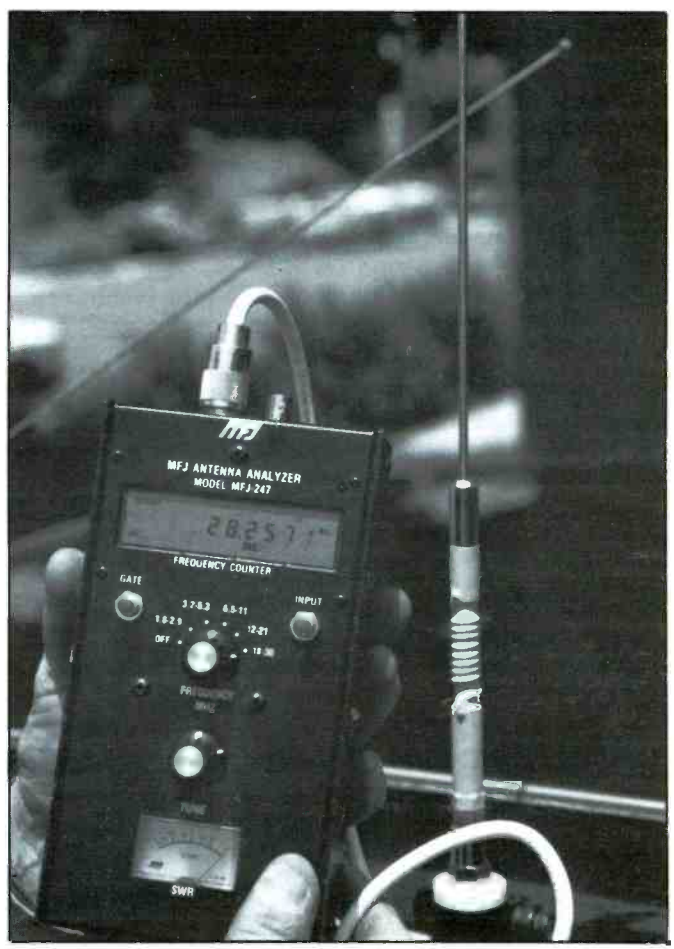
For VHF and UHF work, high frequency SWR meters won't work. You will need to borrow a directional watt meter with interchangeable frequency slugs, and these gizmos may be hard to find.

Some old and some new products from MFJ (Mississippi State, Mississippi) have solved this problem. They are nicknamed "SWR Analyzers".

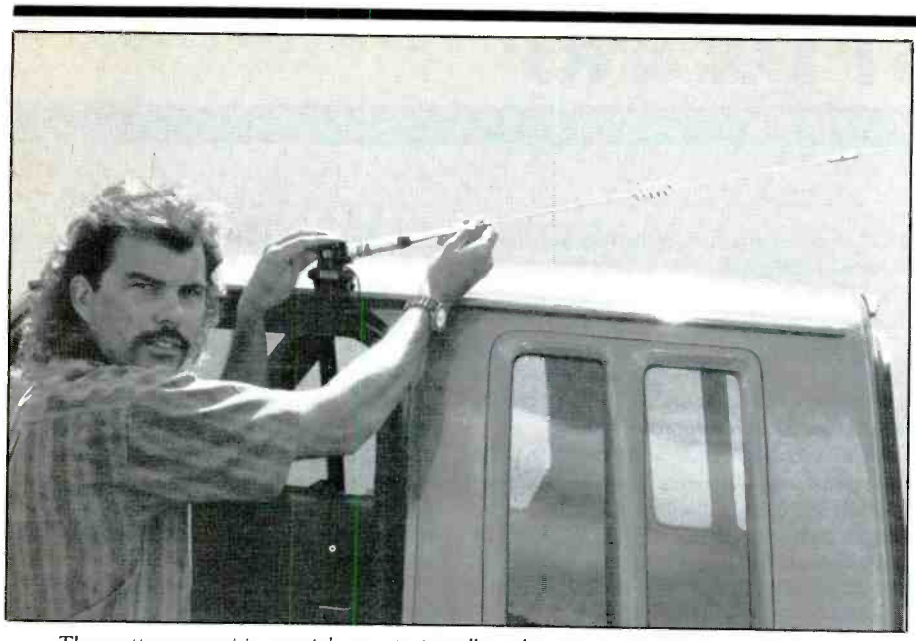
Model 208 works on VHF from 140 MHz to 156 MHz, and Model 207 works from 1 MHz to 30 MHz. Each model is priced around $100, and features a nice little SWR meter and a tuneable oscillator with half-way decent frequency markings. All you need is a short piece of coax to hook into your mounted antenna and the battery powered SWR analyzer. Try to get at least 5 feet away from the antenna so you don't de-tune it with your body. Push the "on" button, sweep the dial near the frequency that you are hoping the antenna is resonant on, and look for a sharp dip. If the dip is too low in frequency, slightly shorten the adjustable whip element. If your system resonates too high, you need to lengthen your antenna— *slightly*.

The high frequency set-up also works nicely on beam antennas and multi-band antennas. No longer do you need to shout down to a buddy to key the transmitter, as you look





The MFJ SWR analyzer is a fast and easy way to fine tune a whip.



The gutter mount is a quick way to install a whip on an emergency vehicle.

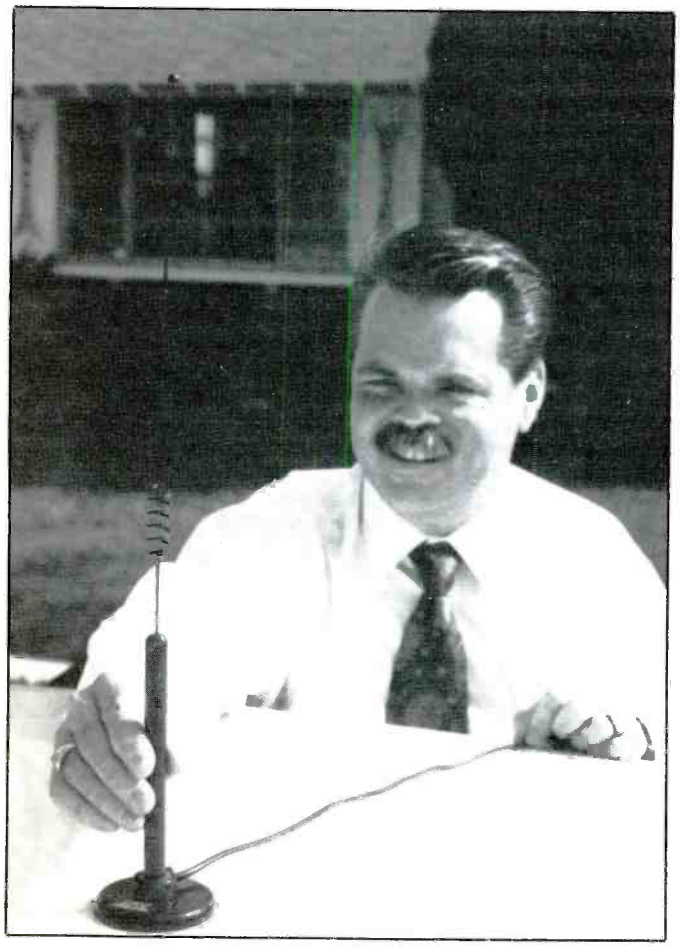
at the SWR bridge. With this set-up, the little MFJ box generates its own tiny micro-signal, and this signal is plenty to drive the built-in SWR meter for a dip at resonance.

The new MFJ Model 247 SWR analyzer has gone one step further to add a built-in Optoelectronics LCD frequency counter for a more accurate reading on where the little built-in oscillator is transmitting. This gives you spot-on antenna calibration, plus the set-up might also double as a good proximity frequency counter for a double check that your equipment is right on frequency.

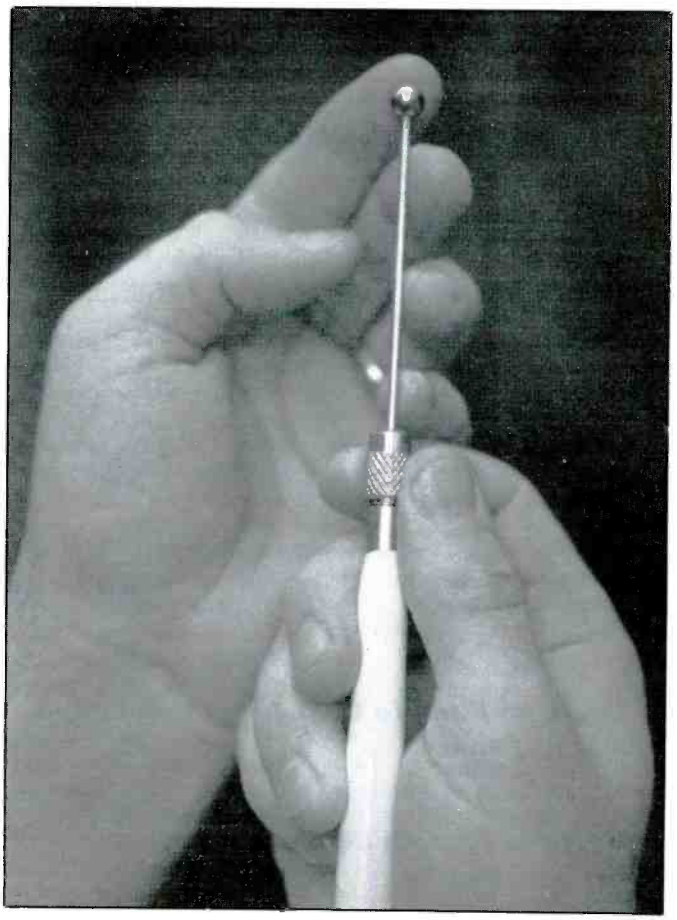
The SWR analyzer with the built-in frequency counter is run the same way as the less expensive counters—sweep the general frequency band for a dip in the SWR meter, look to see where the SWR meter bottoms out, and that is where the antenna is resonant. Adjust your whip tip or antenna assembly, and then recheck to see if you have brought it up to resonance at the right frequency.

There is no UHF SWR analyzer presently on the market. I expect to see something, soon, probably from MFJ. So for UHF systems, you'll still need to use the transmitter, take your readings, change the length of the whip, and see whether or not you moved the whip tip in the right direction. Just think, if you had one of these new SWR analyzers, you could do it with one quick sweep, and not foul up any communications taking place on the channel.

Finally, make sure you turn your unit off after you get through sweeping the band. Because it puts out a little 10 milliwatt signal, it very well could put out enough signal to cause interference to a nearby receiving station whose antenna is within 15 feet of this little mini-transmitter. But if you use the unit properly, it will save you a lot of time during your next antenna tune-out. ■



Magnetic mount whips usually need to be fine tuned.



A one-inch whip tip adjustment may change a whip's performance by 100 kHz.

BROADCAST DX'ING

BY ROGER STERCKX, KVT1JH

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

Starting Up: A question came in from F. H. Singer, of Omaha, Nebraska. F. H. is one of many readers who rely upon our monthly station update data to keep his own station information current. He wonders if, once issued a permit to construct new stations, those stations are normally ready to commence broadcasting within a relatively short period of time (like a couple of months).

A couple of months? Maybe, in a few instances. It's usually much longer than that and often stretches out more than a year or two by the time it comes to turn on the transmitter. Until the construction permit is issued, equipment (studio gear, transmitter, tower, etc.) isn't even ordered. Financing this hardware may take time, and so does awaiting delivery, the installation, and getting everything operating properly. There is a staff to assemble, plus a thousand other time and money consuming factors that bear upon the situation.

Some stations ask the FCC to allow them extra time to get their act together before the station can become operational. The FCC will usually grant a time extension or two if some reasons for the delay are explained. If the delays become too long, however, and the FCC comes to the conclusion that the station is just not going to be able to begin operating, then the authorization to construct that station may be cancelled.

Getting Started, Personally: Over the months, a number of people have asked that I offer some thoughts on how they might get started on a career in broadcasting.

A high school or college radio station is the best place to begin, while a person is attending school. Start out with any volunteer job they'll offer, whether it's filing the CD's or carts, answering the telephones, or waxing the floors. It's the way you get to know how the station is run, and who the people are who run the station. It's how they'll get to know you. Let them know your long-term aims. As time goes on, they'll move you up to better jobs, either behind the controls or behind the microphones. You won't get paid, but you'll get valuable experience.

If the school offers courses in broadcasting, take every one you can get. Or, get books on broadcasting techniques and industry and study on your own.

With or without school station experience, it may still be necessary for a person to start out in commercial broadcasting as an "intern" at a station. That means the station allows the person to hang around, help out, and learn by watching. This is a low-pay (or no-pay) menial job performed by someone starting out on the bottom rung and trying to get a foot in a door somewhere. If an intern shows promise, the next step up could be as someone's "gopher," or even an assistant to someone—like to the News Director, Sports Director, or Program Director. The position could start out as nothing more than a phone answerer, mail opener, and file clerk. Don't worry.

As time goes on, a person acquires contacts, know-how, and takes over various responsibilities. With luck, they may eventually be given opportunities to fill in behind the microphone at night, on holidays, and then on weekends. This is the path that provides the kind of experience and can lead to the careers most of those who have written appear to seek.

You've got to want it very badly. The work is hard, the money isn't great outside the major markets. Getting started can't be done without dedication, without rejections and disappointments, without paying your dues, and without waiting for someone to recognize

New FM Call Letters Issued

KGPZ	Coleraine, MN
KLSF	Amarillo, TX
KUON	Sherwood, AR
KOUO	Eden Prairie, MN
KPGM	Casper, WY
KRKD	Dunsmuir, CA
KZWA	Lake Charles, LA
KZWB	Haughton, LA
WFHB	Bloomington, IN
WKBG	Martinez, GA
WKQW-FM	Oil City, PA
WNCV	Niceville, FL
WNUU	Garrison, KY
WRCM	Wingate, NC
WSEY	Mt. Morris, IL
WVXA	Signal Mtn., TN
WZRU	Roanoke Rapids, VA
WZYA	Searsport, ME
WZYB	Ft. Ann, NY
WZZS	Zolfo Springs, FL

Requests Filed To Change FM Call Letters

Now	Seeks	
KSNE	KZRO	Marshall, AR
WZTU	WHVE	Cocoa Beach, FL

Changed FM Call Letters

New	Was	
KBAX	KMLO	Falbrook, CA
KBBM	KTDG	Winterset, IA
KCFM	KRKQ	Chester, CA
KEDG	KMMK	Las Vegas, NV
KFCL	KQKX	Wooklake, CA
KFIE	KDAT	Merced, CA
KIBN	KZZD	Wichita, KS
KIXT	KWCD	Grover City, CA
KKFG	KCEM-FM	Bloomfield, MN
KKLF	KHKN-FM	Gonzales, CA
KKTY-FM	KKIC-FM	Douglas, WY
KKYY	KGYC-FM	Gunnison, CO
KLDR	KAJO-FM	Harbeck, OR
KMUZ-FM	KMUZ	Camas, WA
KOTT	KSQC	Otterville, MO
KZXR	KACA	Prosser, WA
WBSK	WXRI	Windsor, VA
WBTZ	WMJT	Pinconning, MI
WBUG-FM	WLKO	Ft. Plains, NY
WEHR	WZQE	Shepherdsville, KY
WGFN	WMLB	Glen Arbor, MI
WHEM	WYDR	Eau Claire, WI
WHVE	WZTU	Cocoa Beach, FL
WHVP	WQFA	Hudson, NY
WJCR-FM	WJCR	Millerstown, KY
WJDK	WWYA	Morris, IL
WKEZ	WYXX	Holland, MI
WKRJ	WWDP	New Philadelphia, OH
WKYI	WWUD	Stamping Ground, KY
WLKE	WPRG	Bar Harbor, ME
WNTC	WALD-FM	Walterboro, SC
WNYP-FM	WXED	Morristown, NY
WPMR-FM	WPMR	Tobyhanna, PA
WPYR	KPYR	Millinton, TN
WVOK	WKFN	Oxford, AL
WWEV-FM	WWEV	Cumming, GA
WXHC	WRIP	Versailles, IN
WYYS	WNYP-FM	Cortland, NY

Permits Forfeited & Cancelled

KDRF	Deer Lodge, MT	96.7 MHz	3 kW
KEJA	Garden City, SD	89.3 MHz	85 kW
KFBU	McCook, NE	93.9 MHz	50 kW
KMAZ	Hereford, TX	103.5 MHz	50 kW
KMES	Jonesville, LA	101.1 MHz	3 kW
KNAR	Myrtle Point, OR	94.1 MHz	2 kW

Applications Filed To Change AM Facilities

KBSG	Auburn, WA	1210 kHz	Seeks drop to 27.5 kW days.
KGRB	West Covina, CA	900 kHz	Seeks increase to 1 kW nights.
KIRS	San Diego, CA	1040 kHz	Seeks 900/470 watts, using KSON antenna.
KLVS	Lake Oswego, OR	1290 kHz	Seeks increase to 25 kW days.
KOFY	San Mateo, CA	1050 kHz	Seeks increase to 10 kW nights.
WAJA	Franklin, NC	1480 kHz	Seeks to add nights with 54 watts.
WAMS	Wilmington, DE	1380 kHz	Seeks increase to 4.2 kW nights.
WBOX	Bogalusa, LA	920 kHz	Seeks to operate daytime only.
WGNU	Granite City, IL	920 kHz	Seeks drop to 450 watts days.
WHJB	Greensburg, PA	620 kHz	Seeks drop to 350 watts nights.
WKTA	Evanston, IL	1330 kHz	Seeks pre-sunrise operation with 24 watts.
WLJN	Elmwood Twp., MI	1400 kHz	Seeks drop to 640 watts.
WMID	Atlantic City, NJ	1340 kHz	Seeks drop to 870 watts.
WMQA	Minocqua, WI	1570 kHz	Seeks drop to 250 watts nights.
WRNL	Richmond, VA	910 kHz	Seeks drop to 1.5 kW nights.
WWLX	Lawrenceburg, TN	590 kHz	Seeks drop to 600 watts.

Changed AM Facilities

KFXE	Camdenton, MO	1520 kHz	Increased to 10 kW; 4.2 kW critical hrs.
KUET	Black Canyon, AZ	710 kHz	Added nights with 4.2 kW.
WBNN	Union City, IN	1030 kHz	Dropped to 330 watts.
WHGR	Houghton Lake, MI	1290 kHz	Became daytime only.
WNFO	Ridgeland, SC	1430 kHz	Dropped to 630 watts.

Applications Filed For New FM Stations

CA	Greenfield	88.5 MHz	2.35 kW
FL	Crawfordsville	94.1 MHz	6 kW
GA	Brunswick	104.1 MHz	6 kW
IA	Audubon	96.5 MHz	100 kW
IA	Britt	99.5 MHz	6 kW
IA	Cedar Falls	98.5 MHz	25 kW
IA	Hudson	96.1 MHz	3 kW
LA	Mansfield	104.7 MHz	25 kW
ME	Ft. Kent	10.65 MHz	25 kW
MN	Perham	99.5 MHz	6 kW
MO	Doolittle	104.5 MHz	6 kW
MO	Lake Ozark	102.7 MHz	6 kW
MS	Starkville	91.1 MHz	14 kW
NC	Carolina Beach	106.7 MHz	1.8 kW
NC	Shallotte	98.3 MHz	25 kW
NJ	Netcong	88.1 MHz	2.2 kW
NY	Pattersonville	90.7 MHz	Low Power
OK	Del City	91.7 MHz	150 watts
OR	Cottage Grove	100.5 MHz	6 kW
SC	Bucksport	107.9 MHz	
TN	Pioneer	89.3 MHz	300 watts
TX	College Station	89.7 MHz	200 watts
WI	Antigo	106.1 MHz	25 kW
WV	Webster Springs	100.3 MHz	1.3 kW

Applications Filed To Change FM Facilities

KBJJ-FM	Marshall, MN	107.1 MHz	Seeks 107.5 MHz, 25 kW.
KIWA-FM	Sheldon, IA	105.5 MHz	Seeks 105.3 MHz, 50 kW.
KVPI-FM	Ville Platte, LA	93.5 MHz	Seeks 92.5 MHz.
WCLS	Oscoda, MI	100.1 MHz	Seeks 100.7 MHz, 20.5 kW.
WEUL	Kingsford, MI	98.1 MHz	Seeks non-commercial status.
WJNF	Marianna, FL	91.1 MHz	Seeks 89.7 MHz, 4 kW.
WXXX	So. Burlington, VT	95.3 MHz	Seeks 95.5 MHz.

Changed FM Facilities

KCLW-FM	Hamilton, TX	92.1 MHz	Moved to Glen Rose, TX.
KBYO-FM	Tallulah, LA	104.9 MHz	Moved to 104.5 MHz, 25 kW.
KDBH-FM	Natchitoches, LA	97.7 MHz	Moved to 97.3 MHz, 11 kW.
KEDR	Ione, CA	88.3 MHz	Moved to Sacramento, CA.
KPYR	Osceola, AR	98.1 MHz	Moved to Millington, TN.
WAKB	Wrens, GA	96.7 MHz	Moved to 96.9 MHz, 14.5 kW.
WCLA-FM	Claxton, GA	107.1 MHz	Moved to 107.3 MHz, 25 kW.
WHOV	Hampton, VA	88.3 MHz	Moved to 88.1 MHz.
WJMQ	Clintonville, WI	92.1 MHz	Moved to 92.3 MHz, 6 kW.
WQPM-FM	Princeton, MN	106.3 MHz	Moved to 106.1 MHZ, 32.4 kW.
WRLS-FM	Hayward, WI	92.1 MHz	Moved to 92.3 MHz, 6 kW.
WZOE-FM	Princeton, IL	98.3 MHz	Moved to 98.1 MHz, 6 kW.

Permits Issued To Build New FM Stations

CA	Merced	94.1 MHz	3 kW
IA	Asbury	103.3 MHz	25 kW
IL	Mt. Morris	95.7 MHz	2.7 kW
IL	Pittsfield	89.3 MHz	42 kW
KY	Westwood	99.7 MHz	3 kW
KS	Salina	90.7 MHz	1 kW
MI	Beulah	92.1 MHz	1.7 kW
MN	Coleraine	96.1 MHZ	100 kW
MO	Asbury	103.5 MHz	6 kW
MO	Colombia	93.9 MHz	3 kW
NC	Semora	106.7 MHz	3 kW
NM	Clovis	102.3 MHz	25 kW
ND	Arthur	96.7 MHz	5 kW
ND	Dickinson	99.1 MHz	100 kW
NY	Warsaw	88.3 MHz	7 kW
RI	Providence	88.1 MHz	1 kW
VA	Deltaville	92.3 MHz	3 kW
TX	Amarillo	96.9 MHz	100 kW

Requesting Changed AM Call Letters

Now	Seeks	
KBBA	KEWI	Benton, AR

Changed AM Call Letters

New	Was	
KCQL	KCEM	Aztec, NM
KCUV	KFRR	Englewood, CO
KIEZ	KHKN	Carmel Valley, CA
KKTY	KKIX	Douglas, WY
KMUZ	KKGR	Gresham, WA
KURS	KIRS	San Diego, CA
KPKE	KGUC	Gunnison, CO
WAVO	WYRS	Rock Hill, SC
WCKN	WFXF	Indianapolis, IN
WPMR	WPCN	Tobyhanna, PA
WQLE	WKZA	Kane, PA
WSKN	WQBS	San Juan, PR
WWEV	WAVO	Decatur, GA

WICO/94.3, Salisbury, Md., runs a country music format. (Courtesy Samuel Bozman, Maryland.)

KAMD, in Camden, Ark., offers this good looking sticker to its country music audience. (Courtesy Richard Moore, Ark.)

your talents and give you a break. And, even then, that break could be reading a 30-second weather report on a one-lung daytimer in Podunk, with the promise of also doing the sports scores the following week. It's progress. Nobody started out in radio with a three hour morning drive time program over a major station in Chicago, Los Angeles, New York, Boston, Houston, Cleveland, Seattle, Atlanta, or Miami.

There are a dozen other ways of breaking into radio, but this is the route that I would personally suggest.

Some words of caution. I received a letter from a reader who signed up for a six-week course at a "broadcasting school" that promised to get him a job at a radio station when he graduated. He thought it sounded like a quick way to get into radio, so he shelled out big bucks for this course. When he graduated, they did get him a job. It was at a small rural station, which was fine with him. But all he he was offered was a one hour spot at 2 a.m. Sunday, and he was supposed to sell his own commercials. This was quick, but not the best way to get started in radio. I thought it was a gyp.

The answer is that experience is still the best teacher. It gets the jobs that can eventually lead somewhere. If you're thinking of going the broadcasting school route, double check their promises, and ask if you can speak to a few of their graduates.

One Man's Trash . . .: It's always interesting to see how quickly call letters dumped by one radio station are snapped up by another station. The FCC's rule 73.3550 specifies that call signs for broadcast stations are awarded on a first-come, first-served basis. When requests to change call letters are pending at the FCC, the FCC doesn't consider the unwanted call letters to be available for application by other broadcasters until the actual change is approved. Prior to the effective date, the FCC won't even accept applications from new stations wanting to pick up the ditched call letters, although sometimes several different stations are all anxious to acquire a particular set of call letters that is about to become available.

In an effort to get the drop on desirable call letters about to be relinquished, some stations have attempted to contact those stations giving up call letters in an attempt to make private arrangements or cash agreements for their old call letters to be designated. The FCC has recently pointed out that it does not recognize such arrangements as binding in determining the reassignment by the agency of the call letters.

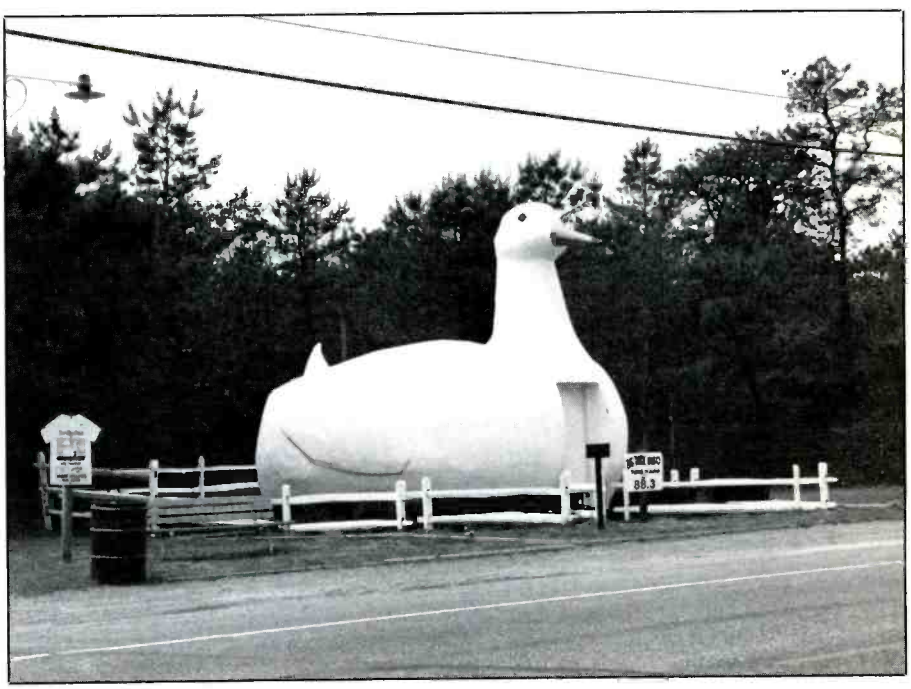
Taking No Prisoners: Ellwood Beach Broadcasting, Ltd. was one of the four applicants for a new FM station to be licensed at Montecito, Calif. While the applications were all being considered, the FCC decided that Ellwood "failed to report a change in circumstances with respect to its transmitter site." This, the FCC felt, was a violation of the FCC's rules "with intent to deceive."

As a result, Ellwood's application was dismissed from further consideration. Furthermore, the FCC notified Ellwood that it was being levied with a $25,000 "forfeiture liability."

Ellwood never even got a license, or sent out a signal, yet they're in the hole to Uncle Sam for $25,000 over some paperwork goof. It's not easy being a broadcaster, or even trying to be one.

Just The FAX: The FCC upheld the dismissal of the license application of Homewood Community Broadcasters, Ltd. for a new FM station at Homewood, Ala. The FCC wants applications to contain "an original signature verifying the accuracy of the application." Homewood's application was submitted by FAX, and was originally found to be acceptable even though the signature was an electronically transmitted facsimile of the original signature.

On second thought, however, the FCC decided that it really wasn't an "original



Strange home of a new FM station ID'ing as WBIG on eggs-actly 88.3 MHz. The frequency is printed on a sign in front. This station asks listeners to pay for its bill, even though the signal isn't all it's quacked up to be. (Courtesy Dr. Ted Goldblum, N.Y.)

signature," by definition. Unfortunately, by the time the FCC came to this realization, it was too late because the time for filing had expired. Notwithstanding the FCC staff's failure to detect the "defect" in time to have it corrected, the Homewood application was dismissed. An FCC Review Board upheld this decision, upon Homewood's appeal (which they also said was filed too late).

Indecency Matter: Station KGB-FM, of San Diego, Calif., was notified that the FCC wanted them to cough up a $25,000 forfeiture for airing two "indecent" songs at about 8 a.m. on two mornings in 1990. KGB-FM told the FCC that one of the songs had been broadcast despite the station's policy against playing the song, which had brought about previous FCC enforcement actions. KGB-FM admitted that the written lyrics to the other song were offensive and shouldn't have been broadcast.

No Consideration: KIEV, of Glendale, Calif., had been given a forfeiture in the amount of $10,000 for not announcing the names of the sponsors of two shows, a 90-minute investment program aired every weekday, and a half-hour daily travel show.

KIEV asked for a reduction of the amount based upon its attempt to comply with the rules, and because the amount was far too severe for the infractions cited. KIEV cited its good compliance history, and its inability to pay the large sum demanded.

In reconsidering the KIEV forfeiture amount, the FCC said that these factors "are either unavailing or were already taken into account" when the $10,000 amount was set. Request denied.

Onward & Upward: We were pleased to learn that WNIS/850, Norfolk, Virginia, is finally running its full 50 kW (25 kW at night), after several years of planning and getting things worked out. The new tower west of Smithfield is completed, and WNIS is now the most powerful station in the Tidewater area. Couldn't happen to a nicer group of folks than the WNIS gang. WNIS is the home of Pat Murphy, who is the station's Program Director, as well as a popular WNIS air personality. Pat's also a very active communications hobbyist and an enthusiastic *POP'COMM* supporter of long standing.

The new WNIS signal stretches from Richmond to Cape Hatteras, which is a lot bigger hunk of real estate than when WNIS was running 5 kW days and 1 kW at night.

Thanks to Stewart Tyler, Sr., of Suffolk, Va., for letting us know.

Bah! Humbug!: After having heard about several notable recent broadcasts of hoaxes, the FCC has now decided that it has had enough. From now on, it's strictly forbidden for a station to knowingly broadcast false information relating to a disaster or a crime when it could have been foreseen that the broadcast will or does cause significant public harm. Broadcasters who violate this rule could be fined as much as $25,000 per day for a maximum of $250,000. By the time the quarter-million dollar total rings up, the FCC figures there won't be too many people at the station still seeing very much humor in the hoax.

Some of the recent alleged hoaxes have included the 1989 incident when KSLX (Phoenix, Ariz.) announced it was taken hostage. A volcano eruption in suburban Connecticut was broadcast in 1990 over Hartford's WCCC. In 1990, there was the widely reported false murder confession broadcast over Los Angeles' KROO. The nuclear attack alert during Desert Storm was a memorable moment at KSHE, St. Louis. The assassination of the host of a talk show on WALE, Providence, R.I., caused a stir during the summer of 1991. This past spring, WNOR, in Norfolk, Va., caused some concern when it reported that a big mound of garbage in the town dump was getting set to go off in a methane explosion.

Some broadcast hoaxes have gone too far. At times, it's hard to see what point was trying to be made, or that it was supposed to be a gag. That's not always true, though.

Two years ago, while I was doing some work for a station in the Hartford area, I listened a lot to WCCC/1290. I found WCCC an excellent station with a wonderful sense of humor. They had (and may still have) a morning man named Sebastian. The fellow was hilarious. It's hard to accept that any Connecticut resident (particularly a WCCC listener) could ever regard with seriousness a "report" claiming the sudden appearance of an erupting volcano in their local suburban area. I thought it was pretty funny, myself, so did a lot of other people.

Wanna Buy A Duck?: A report sent in by Dr. Ted Goldblum, Easthampton, N.Y. advises that a new low-power, short-range (1 mile) FM station has been put on the air near the Sears-Bellows County Park in the Flanders area of Riverhead, N.Y. Using the unofficial call letters WBIG, the station operates on 88.3 MHz sending out a repeating two-minute message recorded by supermodel Christie Brinkley. The donated $2,500 FM transmitter is located in a 20-foot high, 10-ton, concrete duck that stands on Route 24. The "Big Duck," as it is known, was built in 1931 by a local duck farmer as a roadside poultry and egg store. Over the years, the structure became a prominent Long Island landmark, although it hasn't been a farm stand for a long time. Now it's owned by a non-profit historical society. The gist of the broadcast is an appeal for funds to restore the duck and preserve it as a roadside architecture museum. "WBIG" operates full time, year round. Dr. Ted advised that the station's operators feel that the range of WBIG isn't all it might be, so they're trying different antenna configurations. If that doesn't extend the range, they may consider a different transmitter.

Come Back: Hope you will send us bumper stickers, recent AM/FM QSL's, photos of AM/FM stations, clipping about broadcasters, questions, and your thoughts regarding AM/FM radio. ■

SCANNING VHF/UHF

BY CHUCK GYSI, N2DUP

MONITORING THE 30 TO 900 MHz "ACTION" BANDS

In many parts of the country, colder weather will be upon us for the winter season. That means a bunch of things. First of all, make sure your outside antennas and cable are in good shape before the cold weather sets in. You really don't want your cable coming undone from the antenna's connector when the temperature is freezing. That's no fun with a soldering gun.

Next, make sure you have your frequencies in order for winter emergencies. If a big snow hits, be ready with a list of frequencies used not only by state, county and municipal snow plow crews, but also private contractors that perform plowing services. In some states, the plowing work for major highways and toll roads is contracted out by the state or a county to a private contractor. Know what companies in your area perform plowing services and look for them on either business band or trucking frequencies.

You might also find private snow plows in parking lots and driveways operating on business band frequencies, especially the 461-465 MHz band. Often times tow trucks will have plows attached in snowy weather, so you may hear some activity on automobile emergency frequencies reserved for two trucks. But don't let the first—and early—snow of winter catch you off guard.

And last but not least, if you live near a ski slope, check for radio communications. Most ski patrols use frequencies in the 155-MHz special emergency band, which is shared with ambulances and rescue trucks, veterinarians, lifeguards and school buses. Some ski slopes use UHF business band radios for operations, however, in addition to whatever might be used by ski patrols. In any event, when it's too dangerous to travel, stay home and catch the action on the air. You'll be on top of the weather with great reports.

Scott Nelson of Keizer, Oregon, read with interest the report on scanner notification nets in the June issue of *POP'COMM*. He wants to know whether there are any such groups in his area. I don't know of any; most are operating in major metropolitan areas only at this time. Known groups are in New York/North Jersey; Boston; Hartford, Conn.; Los Angeles; Dallas-Fort Worth, and other areas. If there isn't a group in your area, you might consider trying to start such a group. Try an ad in *POP'COMM* and see whether others in your area might be interested. Then start looking around for radio equipment and services. After you do your homework, go on the air and keep in touch with other buffs who will keep you on top of things.

Scott also asks for a list of railroad frequencies in his area. While we can't provide an actual list because of space constraints, we recommend that you search between 160.215 and 161.565 MHz for local activity. Several railroads should be able to be heard with no difficulty. In addition, some minor activity might be heard on the UHF frequencies between 452.900 and 452.950, as well as the mobile channels of 457.900 to 457.950 MHz. Some of those frequencies might be used for station services at a large railroad station, or even for end-of-train telemetry that is sent to the engineer.

Here's the headquarters of the world's first all-emergencies volunteer communications center operated by Air Sea Rescue at Point Danger in Australia. This photo was taken by Bill Pittman, KC4YIH. Antennas are located atop the large tower as well as atop the command center at left of the tower.

Lastly, Scott asks for a list of frequencies used by hams for railfan activities. Railfans, who also are hams, are making use of 146.490 MHz as a primary channel, with 146.565 as a backup channel.

Some other ham frequencies that railfan hams might show up on in search of other railfans along train tracks and at railroad events are 223.62, 446.050 and 1294.425 MHz. For the most part though, most will make use of 146.490 exclusively.

Carl Patterson, KD4MRG, of Windermere, Florida, inquires about the current rules regarding the public's use of scanners and whether hams can have so-called scanners in their cards.

This year, for the first time ever, it is legal for hams in all 50 states to have a scanner in their vehicle, or even ham equipment that can receive outside the ham bands, for instance, a 2-meter transceiver that also can receive public safety transmissions in the 150-174 MHz band. Kentucky legislators enacted a law earlier this year that exempts hams from their law. Every other state that has a mobile scanner law exempts hams, at least from technician class on up. New Jersey used to restrict the use of mobile scanners, tool, but that law was revised last year to make it legal for anyone to have a mobile scanner so long as they didn't use it in the commission of a crime. Hams and scanner hobbyists were behind the push in that law change.

The word to the wise is: if you're planning on traveling and don't want to worry about states that may restrict the mobile use of scanners, take the time to at least study for the 30-question multiple-choice exam for the technician class ham license. With that license in your pocket, no police officer in these United States can issue you a ticket or confiscate your equipment if you have a mobile scanner.

Ham clubs in most cities offer exams at least once a year for those who want to become hams. For more information on possible local exams, write to: American Radio Relay League, 225 Main St., Newington, Conn. 06111.

From Paul Gil, Registered Monitor, KCA6YY, of Los Angeles, California, comes a list of frequencies used at Los Angeles International Airport (LAX): 133.8, arrival information; 121.4, clearance delivery; 121.65 and 121.75, ground control; 119.8, tower (LA helicopters in traffic control area);

Here's a souvenir postcard from Point Danger's Air Sea Rescue Center. Thanks go to Bill Pittman.

An aerial view of Point Danger on Australia's Gold Coast courtesy of Bill Pittman.

120.950 and 133.9, tower; 124.3 and 125.2, departure; 124.5, approach (northern and western arrivals); 124.9, approach (eastern and southern arrivals); 132.6, north and west arrivals, LA Center; 133.4, east and south arrivals, LA Center. Some other aviation-related frequencies of interest include: 123.025, helicopters (Los Angeles Police Department, Los Angeles County Sheriff's Department, news media); 123.05, Los Angeles Police Department heliport; 119.975, Los Angeles County fire helicopters.

Lastly, some more southern California frequencies of note: 450.850, KFWB-AM news; 145.460, ham disaster group and space shuttle audio retransmissions; and 156.600, Los Angeles Harbor ships and vessels (pilot), marine Channel 12.

Steve Anderson writes from Rosemount, Minnesota, with some state patrol frequencies: 155.505, metro west; 154.935, metro east; 160.335 and 171.575, aircraft. Those last two frequencies are odd allocations, so if you are in a neighboring state, don't be surprised to hear railroads on the 160.335 frequency and forestry crews on the 171.575 channel.

Steve also says he's an active scanner listener and wants more information on registered monitors, which are mentioned in this column on occasion. For more information on obtaining your own distinctive call-sign type of identifier (mine is KPA3CA), write to: CRB Research Books Inc., P.O. Box 56, Commack, N.Y. 11725. Be sure to tell them you read about it in *POP'COMM*.

Bill Pittman, KC4YIH and KFL4FC, of Elfers, Florida, says he recently visited the Gold Coast area of Australia south of Brisbane on business and carried along his 2-meter ham walkie-talkie.

Searching through the bands, he came across a couple of frequencies of interest: 156.375, volunteer air-sea rescue unit; 161.900, Brisbane Radio Seaphone (only the party on land was heard—apparently the marine vessel transmitted duplex on another frequency and was not repeated at the transmitter, much like here in the United States); and 162.150, taxi and limousine service.

Other marine frequencies heard included: 156.475, 156.525 and 156.800.

Bill also noted that only two repeaters in the 146-MHz band were heard, while a repeater on the 147-MHz band relayed packet and RTTY. Marine activity on 11 meters uses 27.62 to 27.99 MHz, Bill learned, while 27.88 is reserved for emergencies.

Jim Tolton of Chatsworth, California, says he'd like to tune in radios used at stadiums. He's not sure where to start looking and asks for help.

Basically, stadium security and sports teams use business band frequencies for their needs. You can usually find them in the 151.625-151.955, 154.515-154.600 and 461-470 MHz ranges. If a city or state operates a stadium, then some local government or police service frequencies might be used for various details, too. But for the most part, if you want to tune in team communications from the field or hear security handle an unruly patron, check out the business band frequencies.

What are you hearing on your scanner? What have you tuned in of interest lately? We welcome your comments, questions, frequencies and photos here. Write to: Chuck Gysi, N2DUP, Scanning VHF/UHF, Popular Communications, 76 N. Broadway, Hicksville, N.Y. 11801-2909. ■

BY DON SCHIMMEL

COMMUNICATIONS CONFIDENTIAL

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

Brad Low, FL introduced himself as being a 20-year old college student and between studies, a very active SWL, Ham, and scanner monitor. He is also employed part-time by two Jacksonville radio stations, KOOI (106.5 MHz) and KEBE (1400 kHz) as a board operator/technician.

His letter continued: "I have been monitoring utility communications since 1989 (when my subscription to *POP'COMM* began). My monitoring station consists of a Realistic DX-440 (with a random-wire antenna), a Bearcat 200 scanner, and a Venturer multiband as a backup." Welcome to the column, Brad, and thanks for the loggings.

Next out of the mailbag was a letter from Simon Mason, England who wrote "I've noticed that the YL/EE 4F station on 16434/13424 kHz is on every day at 1330 with exactly the same format as the YL/SS 4F station on 6840 kHz with a daily schedule at 0230. As I said last time, a warble jammer starts up at around 1328. At 1330, ten tones are sent, then two or three 4F groups are repeated until 1340. Some of the 4F groups are carried forward to the next day as in the Spanish broadcasts. I don't know if anyone has heard a German equivalent."

John Vylasek, Va started his DX-ing with a Radio Shack DX-350. "This receiver covers international broadcast bands primarily, but it also offers some low frequency coverage that sparked an interest in utilities. Now I use a DX-440 with two longwires, one oriented East-West and the other North-South. Needless to say, my low frequency DX capabilities have increased considerably. I also use a small Realistic 'Jetstream' VHF receiver for aeronautical utility and chatter."

Registered Monitor, Anthony Franz KFL4GN, does his monitoring using a DX-390 with a 300 foot longwire plus a 56 foot longwire. He asked about a station he hears every night between 0100-0200 on 7445 kHz with a callup of Kilo Papa Alpha 2. Anthony, this is part of the MOSSAD (Israeli Intelligence Service) network.

Douglas Stingley, OR says "As a weather buff, I find the VOLMET transmissions invaluable to listen to. I generally find the area which I live in rather on the poor side in relation to Army, Navy, and Air Force voice traffic, but there are always Coast guard operations to be heard."

Douglas asked for a central address to write for QSL'ing UN operations. I checked my references and I do not hold such an address. Perhaps another reader can help out on this?

I have received some questions regarding the meanings of two US Air Force Acronyms. The first one is AUTODIN which is Automatic Digital Network, an extensive data system. (See Fig. 1.)

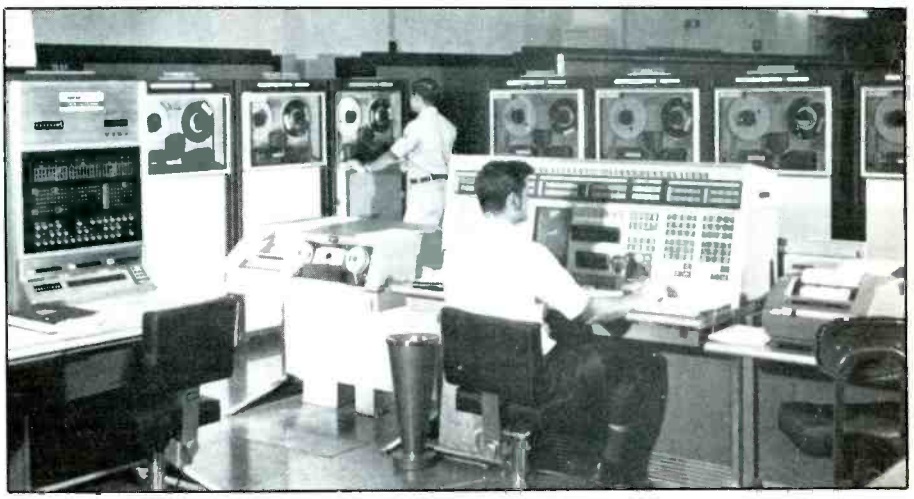


Figure 1—AUTODIN switching center at McClellan AFB, CA. US Air Force photo.

The second acronym is AUTOVON which stands for Automatic Voice Network.

In 1982, the Soviets provided the Sandinistas with a communication intercept facility at Santa Maria. Later, three more such intercept facilities were built. One located at Puerto Cabezas, another at San Francisco, and the third one at Santa Rosa. I wonder who is manning these Nicaraguan sites now?

Recently the mailbag has contained a few queries dealing with the sweeping sound heard in the 2-30 MH range. This sweep sound is probably that of a "Chirpsounder." The March, 1990 column and the August, 1990 column both had some information describing this equipment.

Over the years there have been other generations of the equipment developed. The present Joint Service designation is AN/URQ-39 Chirpsounder HF Frequency Management Receiver.

According to JANE's Military Communications "The AN/URQ-39 is capable of receiving Chirpcomm, which is a 40 character message which may be superimposed onto the ionospheric sweep. This is useful for sending frequency coordination information when no prior knowledge of propagation is available.

Ute Intercepts. All Times UTC.

50: OMA, TSS Liblice, Czechoslovakia at 2300 w/time sigs. (Boender, Netherlands)

60: MSF, TSS Rugby, England at 1100 w/time signals. (Boender, Netherlands)

70.45: Decca Station (Holland chain), Thorpeness at 1300 w/carrier. (Boender, Netherlands)

71.43: Decca station (Frisian Islands chain), Finsterwolde at 1305 w/carrier. (Boender, Netherlands)

75: HBG, TSS Prangins, Switzerland at 1130 w/time signals. (Boender, Netherlands)

77.50: DCF77, TSS Mainflinger, Germany at 1133 w/time signals. (Boender, Netherlands)

84.55: Decca Station (Holland chain), Gilze-Rijen at 1536 w/carrier. (Boender, Netherlands)

85.72: Decca station (Frisian Islands chain), Finsterwolde at 1536 w/carrier. (Boender, Netherlands)

100: Loran-C station (probably Sylt, Germany) at 1114 w/pulses. (Boender, Netherlands)

112.73: Decca station (Holland chain), Heiloo at 1535 w/carrier. (Boender, Netherlands)

114.29: Decca station (Frisian Islands chain), Hoyer, Denmark w/carrier. (Boender, Netherlands)

126.62: Decca station (Holland chain), Sas Van Gent at 1532 w/carrier. (Boender, Netherlands)

128.58: Decca station (Frisian Islands chain), Heiloo at 1530 w/carrier. (Boender, Netherlands)

198: Beacon DIW, Dixon, NC at 1054. (Vylasek, VA)

206: Beacon GLS, Galveston, TX (Scholes Field) at 0642. (Vylasek, FL)

221: Beacon FAP, u/i location at 0334. (Vylasek, VA) My ref shows a PAF beacon on 226 kHz located at Ft. Eustis, Va. (Ed.)

228: Beacon BCZ, Butler, AL at 1054. (Crabill, VA)

236: Beacon GNI, Grand Isle, LA at 0640. (Vylasek, FL)

251: Beacon PRO, Perry, IA at 1220. (Crabill, VA)

254: Beacon CAT, Chatham, NJ at 0733. (Crabill, VA)

257: Beacon SQT, Melbourne (Regional-Satellite), FL at 0649. (Vylasek, FL)

270: Beacon TPF, Tampa (Peter Knight), FL at 0650. (Vlyasek, FL)

312: Beacon D, Cove Island, Canada at 0331. (Franz, FL)

323: Beacon GTN, Georgetown (Washington National), VA at 0432. (Vylasek, VA)

332: Beacon DC, Oxon Hill (Washington Nat'l) MD at 0422. (Vylasek, Va)

342: Beacon YYU, Kapuskasing, Ont., Canada at 0433. (Vylasek, VA)

344: Beacon XX, Abbotsford, BC, Canada at 1204. (Vaage, CA)

347: Beacon YG, Charlottetown, PEI, Canada at 0418. (Vylasek, VA)

349: Beacon APG, Aberdeen, MD at 0431. (Vylasek, VA)

352: Beacon YUP, Ottawa, Ont., Canada at 1026. (Crabill, VA)

356: Beacon PI, Peoria, IL at 1034. (Crabill, VA)

Abbreviations Used For Intercepts

AM	**Amplitude Modulation mode**
BC	**Broadcast**
CW	**Morse Code mode**
EE	**English**
GG	**German**
ID	**Identifier/Ied/ication**
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)**

359: Beacon TKX, Kennett, MO at 1037. (Crabill, VA); Beacon BO, Boise, ID at 0333. (Franz, FL)

361: Beacon MT, u/i at 1222. (Vaage, CA) Poss ex-347 kHz, Mattoon, IL. (Ed.)

367: Beacon MO, Modesto, CA at 0317. (Franz, FL)

373: Beacon EP, Estevan Point, BC, Canada at 1226. (Vaage, CA)

374: Beacon SA, Sable Island, Man., Canada at 0436. (Vylasek, VA)

379: Beacon GKQ, Newark, NJ at 0438. (Vylasek, VA)

385: Beacon GAI, Gaithersburg, MD at 0422. (Vylasek, VA)

385: Beacon WL, Williams Lake, BC, Canada at 1231. My best DX this month, 1246 miles. (Vaage, CA)

388: Beacon AM, Tampa, FL at 0321. (Franz, FL)

392: Beacon PNA, Pinedale, Wenz Field, WY at 1232. (Vaage, CA)

395: Beacon XEN, Xenia, OH at 1050. (Crabill, VA)

397: Beacon LU, u/i at 0323. (Franz, FL)

2670: CG Charleston SC w/wx & notices to mariners at 0240; CG Chincoteauge, VA w/notices to mariners & GSPS update at 0533; CG Woods Hole, MA comms w/vessel Independence relaying info for disabled vessel Miss Amanda at 0400. All USB. (no name)

4020: US Army MARS net at 1340. (Low, TX)

4146: Maritime comms at 0011. (Low, TX)

4469: Tennessee CAP net, Callsign Blue Chip in USB at 0203. (Hill, MI)

4640: YL/EE w/3 + 2F tfc for 602 count 130; 515, count 98; 117, count 58; 917, count 204 at 0000. Simulcast on 5047 kHz. (Mazanec, OH)

4832: At 2200 Swedish Rhapsody tune on music box being sent. At 2205 YL/GG into 5F msgs for 95048/77838/62907. Rpt of 2100 msgs on 4779 kHz. (Mason, England)

5177: YL/GG w/Gruppe 35 X2 and into 5F grps after CW NNN sign on at 2100. Rptd 2 days later. (Mason, England)

5230: YL/EE rptng Mike India Whiskey 14 Delta at 1905. (Mason, England)

5427: KRH50, US Embassy, London, England sending raspy CW mkr at 1900. QRA DE KRH50 QSX 5/7/11/13/16/20. (Mason, England)

5499: Brazzaville Volmet w/aviation wx on USB at 0300. (Rausch, NJ)

5535: British Airways Company freq. London wkg Singapore 24 in USB requesting wx for Guyana. (Rausch, NJ)

5700: McClellan AFB w/coded tfc in USB at 0406. (Hill, MI)

6224: CG San Juan PR in USB comms w/vessel disabled near Dominican Republic. Hrd at 0355. (Rausch, NJ)

6507: OM/EE rptng 248 from 2200-2205. Then 137 X2 52 X2 and into 5F grps. (Mason, England)

6640: NY AIRINC wkg a/c 940 w/tfc in USB at 0235. (Hill, MI)

6675: At 2105 carrier on w/whistling in background. At 2110 54588 sent in MCW, then rapid dots, then 22, 221 and into 5F grps. Ended w/83 83 SK. At 2200 sent 2R2/79 21 and into 5F grps. (Mason, England)

6679: Oakland, Ca Volmet w/airfield wx in USB at 1227. (Hill, MI)

6738: Ardis Air 1 clg MacDill. No joy. USB at 1239. (Hill, MI)

6741: At 2010 three musical notes rising up scale until 2015. Then Achtung X2 and into 5F. (Mason, England)

6757: MKL, RAF Edinburgh w/coded wx at 2000 in Cw. (Mason, England)

6761: Lots of activity here from 0400-0500. Laster 72 (B-2 a/c) getting pp thru Nailhop to Mudbug Control and reporting heavy thunderstorms along IR-144. Then made pp to Carswell AFB giving eta. Also, Norse 25 in contact w/Nailhop and reporting flight ops normal. Kilt 01 also reports flight ops normal. Hawk 87 w/pp thru Nailhop to Blue Thunder Control and reporting it aborting due severe storms on IR-165. (Grote, IL)

6802: YL/SS w/4F grps in AM at 0017. (Hill, MI)

6824: At 2100 OM/Rumanian w/long 5F msg after Skylark violin/pan pipes tune. Ended w/Terminat x3. Also on 5425 kHz. (Mason, England)

6855: YL/SS w/5F grps in AM at 0240. (Hill, MI)

6933.5: YL/SS at 0000 w/232 232 232 & count 1-0. At 0010 ten tones, Grupo 237 x2 and into 4F grps. At same time on 6930, 5F CW grps being sent. Down at 0013 w/AR AR AR SK SK SK. (Johnson, NY)

6935: YL/EE w 3 + 2F grps. Callup of 171, count 225. Hrd at 0000. (Mazanec, OH)

7040: SLHFM C & S hrd in 40m amateur band every day. Hrd at 1930 and also on 9011 kHz. (Mason, England)

7185: Space Shuttle Atlantis/Mission Control audio in USB at 2100. (Hill, MI)

7375: YL/GG rptng 383 383 383 41265 061 from 2000-2007. Then 5 dashes and into 5F grps. also on 6708 kHz. (Mason, England)

7420: YL/SS w/4F grps 0304-0415. (Franz, FL)

7445: Kilo Papa Alpha 2 in EE. Also Kilo Alpha Charlie 3. 0101-0115. (Franz, FL) Mossad. (Ed.)

7695: YL/GG in RCs w/801 callup & into 163 3/2F grps at 0410. (Willmer, MI)

7846: YL/SS at 0700 w/5F grps. Callup of 678, 02,

FREQUENCIES

Family "A" - 3016, 5598, 8825, & 13306

Family "B" - 2899, 5616, 8864 & 13291

Family "C" - 2872, 5649, 8879 & 13306

Family "D" - 2971, 4675, 8891 & 13291

VHF - 126.9, 127.1 & 127.9
(south) (north)

VOLMET - 3485, 6604, 10051 & 13270

H + 20-25 FORECASTS Montreal/Dorval, Montreal/Mirabel, Toronto, Ottawa.

H + 20-25 ACTUALS Montreal/Dorval, Montreal/Mirabel, Toronto, Ottawa, Gander, Goose Bay, Halifax.

H + 25-30 FORECASTS Winnipeg, Edmonton, Calgary.

H + 25-30 ACTUALS Sydney, Iqaluit, Winnipeg, Edmonton, Calgary, Sondrestrom.

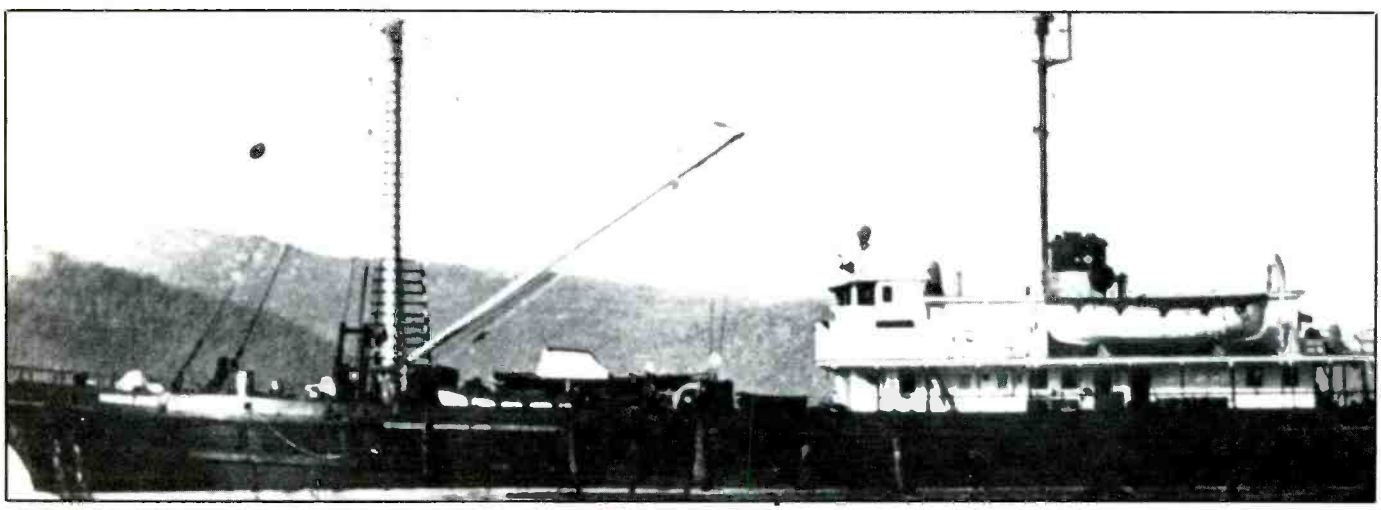
H + 50-55 FORECASTS Gander, Goose Bay, Halifax.

H + 50-55 ACTUALS Montreal/Dorval, Montreal/Mirabel, Toronto, Ottawa, Gander, Goose Bay, Halifax.

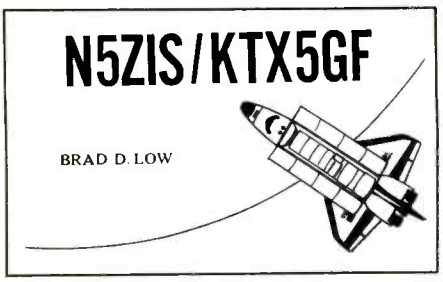
H + 55-60 FORECASTS Sydney, Iqaluit, Sonderstrom.

H + 55-60 ACTUALS Sydney, Iqaluit, Winnipeg, Edmonton, Calgary, Sondrestrom.

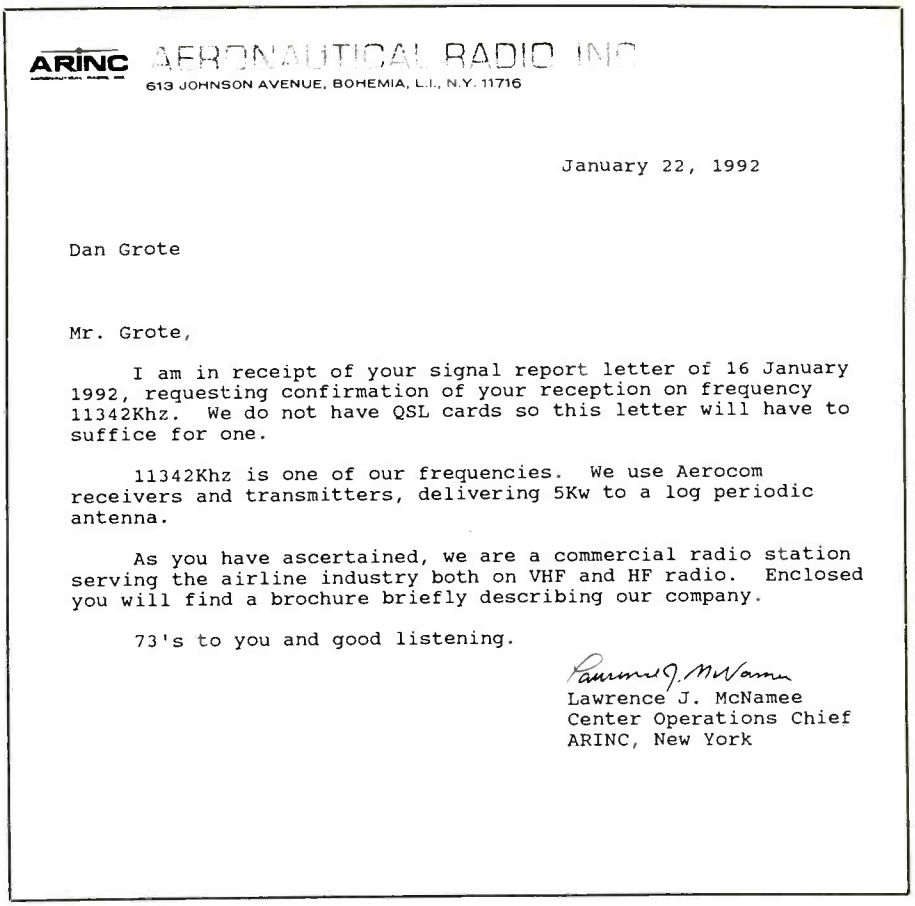
Ed Rausch III, NJ received this frequency & schedule chart with a QSL letter from the Gander Flight Service station.



Yes, the Air Force Communications Service had a navy. The vessel Colonel Basil O. Lenois was used to maintain the Alaska Communication System's submarine cable from Seattle, Washington, to Alaska: US Air Force photo.



Here is the combination Registered Monitor/Ham card used by Brad Low.



ARINC AERONAUTICAL RADIO INC
613 JOHNSON AVENUE, BOHEMIA, L.I., N.Y. 11716

January 22, 1992

Dan Grote

Mr. Grote,

I am in receipt of your signal report letter of 16 January 1992, requesting confirmation of your reception on frequency 11342Khz. We do not have QSL cards so this letter will have to suffice for one.

11342Khz is one of our frequencies. We use Aerocom receivers and transmitters, delivering 5Kw to a log periodic antenna.

As you have ascertained, we are a commercial radio station serving the airline industry both on VHF and HF radio. Enclosed you will find a brochure briefly describing our company.

73's to you and good listening.

Lawrence J. McNamee
Center Operations Chief
ARINC, New York

QSL letter received by Dan Grote, IL.

then 02, 175 and into groups. Also on 7888 kHz at 0800. (Mazanec, OH)

7862: YL/SS w/5F grps at 0404. Hrd in AM. (Franz, FL)

7920: Yankee Hotel Foxtrot 1 (Mossad) hrd 0400-0405 & also 0500-0503. YL reading phonetic alphabet forwards & backwards?? (Franz, FL)

8070: Petroleum Helicopters, Inc., Gulf of Mexico net at 2124. (Low, TX)

8294: WGW, San Juan, PR wkg WIP9174, Tug Gauntlet concerning departure time from Puerto Rico. WPE, Jacksonville, FL wkg WIKA4296 Defender w/position report and wx. All LSB at 0515. (Rausch, NJ)

8579: Sevastopol, Ukraine w/CQ mkr in Cw. CQ DE URL ANS 12431AAA5 K. (Mason, England)

8599: Tianjin, China w/CQ DE XSV mkr in CW at 1650. (Mason, England)

8624: Guangzhou, China w/CW mkr, CQ DE XSQ/4/7 QRU? at 1645. (Mason, England)

8670: IAR, Rome, Italy in CW at 2007 wkg MV Grigory Nesterenko (UNWR). (Boender, Netherlands)

8701: UNM2, Klaipeda, Lithuania in CW at 2100 w/mkr & tfc list. (Boender, Netherlands)

8728: Monaco & Madrid maritime radio in USB w/tfc lists at 0200. (Rausch, NJ)

8764: Comsta Portsmouth wkg USCGC Laurel (8240 kHz) w/tfc in USB at 0336. (Hill, MI); USCG Comsta Portsmouth w/wx at 0000. (Franz, FL)

8828: Honolulu Volmet w/aviation wx in USB at 0600. (Rausch, NJ)

8855: Porto Velho, Brazil LDOC wkg American 909 w/position report. Cayenne, French Guiana LDOC wkg Springbok 202. / Cayenne w/relay of position report of Springbok 202 to Carrasco, Uruguay LDOC. (Rausch, NJ)

8891: Cambridge Bay aeroradio in USB at 0450 wkg Lufthansa 493. Iceland aeroradio wkg Scandinavian 938. (Rausch, NJ)

8930: Aero radio Stockholm in USB at 0610 wkg Delta 177. (Rausch, NJ)

8967: Coyote wkg Akila in USB at 0545 regarding Ghost 26. (Grote, IL)

8972: AFRTS in USB at 0330 on this Naval drug interdiction freq. (Willmer, MI)

8973: Ashleaf 1 in contact w/Blue Star in USB at 0408 exchanging coded info then went green mode. (Grote, IL)

8982: NOJ, USCG Kodiak, AK in CW clg CQ asking ships to QSX 8368.8 kHz. I've never heard NOJ on this freq before nor since this one time logging which lasted for nearly two hours. (Caldicott, MA)

8984: USCG Helo 2107 contacted Comsta Miami & informed opr that missing vessel (no id mentioned) had been located at 1523. Gave winds as out of East at 24 knots. At 1530, District 7 Operations requested Helo 2107 to drop food, water and a radio to passengers. 2107 responded with "msg acknowledged." (no further tfc. (Caldicott, MA)

9011: Croughton in USB at 0356 w/wx for Lajes Field, Azpres then out at 0400. (Grote, IL)

9017: Butternut in contact w/Project in USB at 2142. Teamwork (a/c) in contact w/S; under re radio equip. (Grote, IL)

9023: Bandsaw India relaying tracking info to Sky Striker 04 at 1927. (Willmer, MI)

9090: YL/EE w/3 + 2F tfc for 955 count 119, 450 count 183, 785 count 73, 247 count 215, 188 count 78, 285 count 72, 559 count 51. 653 count 159 and 187 count 77. At 2100. (Mazanec, OH)

9145: Prob drill ckt. Starts out KILOAD QRA Z6R-P-0201930Z GR120 Bt (ext of 5L grps). (White, ME) These transmissions have been observed for years. Texts are always 120 grps in length. (Ed.)

10460: YL/GG at 0100 in USB w/Whiskey Papa and electronic tones. At 0105 into 80 3/2F grps for 716. Each grp rpted twice. (Johnson, NY)

10740: YL rptng November Zulu w/electronic tones fm 2200-05 then 5F msgs for 202 and 649 in USB. (Mason, England)

10820: At 0518 YL/EE (Mossad) rptng Kilo Papa Alpha Two. (Johnson, NY)

11055: SAM 29000 wkg Andrews AFB for pp to SAM Command in USB at 2005. (Hill, MI)

11110: MCW station sending 260 X3 00000 between 2000-05. (Mason, England)

11176: SAM 203 wkg Ascension Island in USB at 0413 for wx info. MAC 60167 in contact w/Croughton re wx info. (Grote, IL)

11233: CANFORCE 1107 wkg Edmonton Military for tfc in USB at 2350. (Hill, MI)

11246: McDill AFB at 2238. (Low, TX)

11300: LDOC Tripoli, Cairo, Khartoum, Jeddah, etc in USB at 0200. This freq is very active. (Rausch, NJ)

11387: Sydney Volmet in USB at 1000 w/aviation wx. (Rausch, NJ)

1176: Balance 18 (NCS) in net w/Balance 20, 27, and 31 at 1911 in USB during drill passing msgs. (Willmer, MI)

12222: At 2110 OM/RR w/842 X3, 1. Nearby on 12219 kHz YL/GG w/964 X3, 1. At 2115 OM/RR said 717 40 717 40 and into 5F grps. Then YL/GG said 236 113 236 113 and into 5F grps. Both ended w/000 000. (Mason, England)

12353: OM/EE in Bermuda using call Southbound Too wkg sailing yachts at Galapagos Islands, Panama Canal, Barbados & many areas of the Caribbean in assisting them by providing wind direction forecasts taken from current satellite photos. This channel is very active each evening from 2330-0130 w/approx 10 to 15 yachts clg this station. (Caldicott, MA)

12688: UQK, Riga, Latvia in CW at 0350 w/CQ & QSX 4185/8368.5/12552.5 mkr. Also hrd on 12706 kHz. (Caldicott, MA)

12732: UBN, Jdanov Donetskoi, Ukraine w/tfc list in CW at 0400. (Caldicott, MA)

12963: HAR, Budapest, Hungary in CW at 1400 w/CQ DE HAR mkr. (Boender, Netherlands)

13006: Nagasaki, Japan w/CQ DE JOR in CW at 1845. (Mason, England)

13089: NMN, CG Portsmouth, Va w/wx at 2235. (Low, TX)

13119.2: WOM, Pennsuco, FL at 1357. This is CH 1215. (Low, TX)

13201: MAC 3075 w/pp thru McClellan to Travis Metro. YL interrupted pp to read phonetics. Then pp initiated again. At 2316 Navy NXS-125 requested pp to its Duty Office and gave telephone nbr. All in USB. (Grote, IL)

13244: A/C JT655 to McDill w/msg that they diverting to Norfolk because a/c has fuel leak. McDill acknowledged. Hrd at 1314. (Caldicott, MA)

13380/85: 315 000 and 167 000 sent in CW each of dif date at approx 1800. (White, ME)

13775: YL rptng Juliet Whiskey from 2100-05. Then 5F grps for 521, 88 grps in length. (Mason, England)

13970: Possible AF MARS net at 1335. (Low, TX)

14345: 2 Meter EME info net at 1734. This net meets at 1700 on Saturdays and Sundays. (Low, TX)

14408: AFAODB wkg AFA2AQ w/USAF MARS pp's in USB at 0140. (Hill, MI)

14653: W2C at Fort Monmouth wkg W4A. Said this freq was assigned to CECOM and TransComm. W4A advised that this freq was used to monitor Army boats. MARS call AARO6C was mentioned. Locations mentioned incl Rock Island and Pine Bluff. Tale re equip status and needs and W2C mentioned that volunteer hams were working at his site. Hrd in USB at 1538. (Willmer, MI)

14653.5: OM (computer generated voice) w/following: A2 this is D1X23 message 91214. Then 10 3L grps passed. Same format rpted for msg 91215. (Willmer, MI)

14670: CHU, Canadian time & signal station at 1713. (Low, TX)

14815: OM/EE w/strange accent rptng 821 in full carrier AM at 1915. Then 704 x2 42 x2 and into 5F grps.

Ended w/00000. (Mason, England)

15805: Z9R w/multiple EAM type msgs throughout day in USB. (Willmer, MI)

16081: OM/RR w/5F grps in AM with YL/EE Lincolnshire Poacher station sending 5F nearby on 16084 kHz at 1610. Ended w/000 000. (Mason, England)

16310: YL/SS in AM w/4F grps. Short msgs 3-5 grps. Hrd at 1830. Simulcast on 11491. (White, ME)

16459: YL/EE at 1400 in AM w/315 315 315 and count 1-0. At 1410 ten tones, count 225 x2 and into 4F grps. Two tapes of same transmissions were being played, one about 3 secs ahead of the other, making it sound as though the YL was rptng each grp twice. (Johnson, NY)

16823.5: UFB, Odessa, Ukraine w/De UFB CW mkr and phasing in ARQ at 1654. (Boender, Netherlands)

16829: UBN, Zhdanov, Ukraine in CW at 1710 w/DE UBN mkr and phasing in ARQ. (Boender, Netherlands)

16869: Bulacan, Phillipines w/CQ DE DZJ at 1721 in CW. (Mason, England)

16907.3: DHS, Ruegen, Germany in CW w/tfc list at 1600. (Caldicott, MA)

16986: CTP, NATO Lisbon, Portugal in CW at 1659 w/DE CTP mkr. (Boender, Netherlands)

17008.8: TAH, Istanbul, Turkey in CW at 0940 w/call mkr. (Boender, Netherlands)

17015.7: SLHFM S in CW at 1445. (Boender, Netherlands)

17016: SLHFM C in CW at 1445. (Boender, Netherlands)

17018: EBA, Navy Madrid, Spain in CW at 0942 w/coded msgs. (Boender, Netherlands)

17037: YQI6, Constanta, Rumania in CW at 1700 w/callup & tfc list. (Boender, Netherlands)

17098.4: GKA, Portishead, England in CW w/notice to mariners re construction of subsurface structures & requesting ships to use wide berths at specific locations. This was foll by tfc list. (Caldicott, MA)

17130: HLW, Seoul, S. Korea in CW clg CQ w/channel mkr. (Caldicott, MA)

17245: Portishead, England in USB wkg tfc w/vessel in Azores at 1930. Vessel using 16363 kHz. (Rausch, NJ)

17410: At 1303 YL/EE w/EZI and into 5L text. After 'End of Transmission' at 1314 could hear other 5L tfc in background. KKN39 mkr nearby. (Mason, England)

17907: NY Radio wkg various a/c for position reports & flight data. USB at 1947. (Hill, MI)

17910: A/C at 2250 clg Toronto. (Low, TX)

18019: MAC 60147 wkg MacDill for pp's in USB at 1358. (Hill, MI)

18195: YL/GG at 1600 w/Hotel Kilo & electronic tones. At 1605 into 3/2F grps x2 for 336 and 621. Rptd same time next day on 18575 kHz. USB mode. (Johnson, NY)

18202: OM/EE at 1700 rptng 968 in AM. At 1705 347 x2, 10 x2 and into ten 5F grps x2. At 1706 347 x2, 10 x2 and off. (Johnson, NY)

18446: OM/RR w/callup of? ADIN NOL rptd for several mins & then NOL x3 rptd three times & down. (Ed.)

19380: YL/EE rptng 332 x3 57704 034 from 2100-05. After 5 dashes into 5F grps. Also on 11190 & 14930 kHz. Hrd every Mon/Wed/Fri. (Mason, England)

20011: YL/EE w/548 548 548 1-0 at 1400 in AM. At 1410 ten tones, count 225 x2 and into 3/2F grps. Simulcast on 15938 kHz. (Johnson, NY)

20205: YL/EE at 1800 w/510 x3 and then counts 1-0 rptd. At 1810 ten tones, Count 90 x2 and into 3/2F grps. AM mode. (Johnson, NY)

20321: In here at 1607 when YL/Czech sending 5F grps in AM mode. Off at 1617 w/000 000 (NULNULNUL NULNULNUL). On another day same YL w/diff grps hrd this same time on 20468 kHz. (Johnson, NY)

20475: OM/Czech sending 5F grps x2 in AM at 1325. Very weak signal. (Johnson, NY)

20735: YL/SS at 0000 rptng 714 over & over in AM until 0004. Then 392 x2, 76 x2 and into 5F grps x2. Off at 0017 w/00000. Week later 714 callup again but diff grps sent. (Johnson, NY)

20868: YL/SS at 2300 rptng 333 x3 and 1-0 count. At 2310 ten tones, Grupo 39 x2 and into 4F grps. Rpted at 2313 and off at 2316 w/Fin. (Johnson, NY)

21395: WA3NAN at 1527 w/relay of audio from Atlantis (STS-45). (Low, TX)

21925: CG 1715 wkg Honolulu at 2215 w/Woodpecker OTHR QRM. USB mode. (Willmer, MI)

21967: A/C PLOB clg u/i stn. No joy. Opr had very heavy accent. USB at 2251. (Hill, MI)

26102: OXZ, Lyngby, Denmark at 1833 in CW w/mkr. (Hill, MI) ■

WASHINGTON PULSE

FCC ACTIONS AFFECTING COMMUNICATIONS

Malicious Interference And Unlicensed Operations

The Federal Communications Commission notified James Winstead, Jr. of Redwood City, California, that he is apparently liable for a monetary forfeiture of $15,000 for malicious interference using an unlicensed station.

From October 1990 through July 1991, the FCC's San Francisco Office was contacted by at least fifteen (15) public safety agencies as well as taxicab companies, automobile emergency organizations, broadcast auxiliary stations, general mobile and amateur radio station licensees in the San Francisco Bay area. All complained of harmful interference caused by communications from other licensees on their repeater frequency. Based on these complaints, the San Francisco Office launched a major investigation which resulted in the identification of Mr. Winstead as the operator responsible for causing the interference.

On July 12, 1991, Mr. Winstead operated a mobile dual-band amateur transceiver to interfere with communications of a taxicab company on the frequency 457.450 MHz and amateur communications on the frequency 147.81 MHz. He has no authorization to transmit on frequency 457.450 MHz which is assigned to the Taxicab Radio Service. Mr. Winstead caused this interference by retransmitting amateur radio signals on the input frequency of the taxicab company's repeater and by retransmitting the taxicab company's communications on amateur radio frequency 147.81 MHz.

Mr. Winstead admitted to FCC agents that he used that radio to intentionally cause interference to stations licensed in various radio services out of spite for police departments. His equipment had been modified to operate as a crossband repeater, enabling Winstead to receive and retransmit signals simultaneously on both UHF and VHF frequencies. He surrendered this modified equipment to FCC agents.

On May 18, 1992, the Commission issued a Notice of Apparent Liability to Mr. Winstead in the amount of $15,000 for his unlicensed operation and intentional malicious interference to radio communications.

Computer Retailer Fined

A Palm Bay, Florida, computer retailer has been fined $17,000 by the Federal Communications Commission's Vero Beach Office for repeatedly offering uncertified computers for sale. The vendor, dynamic Micro, has stores in Palm Bay and Melbourne, Florida.

FCC regulations categorize computers as being either a Class A or Class B device. Class A computers are used in a commercial environment and are advertised to commercial users through trade magazines, etc. Class B computers or personal computers (PCs) are generally used in the home and commonly sold in retail stores. FCC Rules require all computers to be certified. Such certification assures that computers meet radio frequency emission limitations that prevent radio frequency interference to users of the radio spectrum.

Consumers contemplating the purchase of a PC are cautioned to make sure they are buying a computer that has been certified by the FCC. One way of checking for certification is to check for a label that has an FCC identification number affixed on the computer's central processing unit. If the label is missing, there is a strong possibility the equipment may not be certified and the computer is being unlawfully offered for sale.

The marketing of illegal radio frequency devices, including computer equipment requiring Commission approval, is a violation of Section 302 of the Communications Act and Section 2.803 of the Commission's Rules. Sanctions may include administrative fines of up to $10,000 for each violation or for each day of a continuing violation up to a total of $75,000; and/or federal court civil seizure and forfeiture of the unauthorized equipment inventory; and/or criminal penalties, upon conviction, of a criminal fine of up to $100,000; and/or imprisonment for up to one year.

Licensing Procedures For Certain Low Power Devices

The FCC's Private Radio Bureau received a request from Hewlett Packard Medical Products Group (Hewlett Packard) asking that licensees for certain low power medical devices (medical monitors) be allowed to slightly increase the power of those devices without going through the license modification procedures mandated by Section 90.135 of the commission's Rules, 47 C.F.R. §90.135. The low power devices that Hewlett Packard refers to generally operate in the Business Radio Service on the 12.5 kHz offset channels in the 450-470 MHz band. These devices now operate at approximately two (2) milliwatts on a secondary basis to the primary users in the band. In order to operate more effectively at slightly greater distances, however, newer medical devices in this band will operate at approximately four (4) milliwatts. Pursuant to existing Commission Rules, licensees of these new devices would be required to submit license modification applications and undergo new frequency coordinations before such devices could be put into service.

The current maximum permissible transmitter power level for operation on the 450-470 MHz offset frequencies is two (2) watts. 47 C.F.R. §90.267. An increase in power level for these biomedical telemetry devices from 2 milliwatts to 5 milliwatts would, therefore, remain well below this 2-watt limit. Because these devices operate at such low power levels (27-40 dB below typical land mobile users of these bands) and are used primarily in localized areas and within buildings, a small increase in transmitter power from 2 milliwatts to 5 milliwatts would result in no measurable interference to primary licensees.

Thus, to require all currently licensed users to submit license modifications to account for such small power increases is unnecessary and would unduly burden both licensees and Commission processing staff. The Private Radio Bureau will, therefore, waive the license modification requirement for licensees operating on the 450-470 MHz offset frequencies when such licensees increase transmitter output power to up to 5 milliwatts.

Reconsideration Of Automated Maritime Telecommunications Systems Dismissed

The Commission dismissed as moot a petition for reconsideration filed by the Association for Maximum Service Television, Inc. (MSTV) asking the Commission to reconsider its determination that no harmful interference would result from expanding Automated Maritime Telecommunications System (AMTS) operations to the Group C and D channels.

The AMTS provides automated, integrated, interconnected ship-to-shore communications similar to a cellular phone system, including non-voice services, for vessels to use as they move along a waterway. It offers improved services over those available from individual public coast stations. In the First Report and Order, the Commission amended the rules to permit AMTS operations on a nationwide basis and concluded that the safeguards built into the rules to protect television Channel 13 operations would allow nationwide use of all four Groups of AMTS channels.

Because of the Notice of Proposed Rulemaking in Gen. Docket 91-2 which proposed reallocating a portion of the Group C and D spectrum, the Commission amended the rules to provide for nationwide AMTS operation only on Group A and B channels. A decision to allow nationwide use of Group C and D channels was held in abeyance pending the outcome of that proceeding.

Consequently, in view of the decision in Gen. Docket 91-2 to reallocate the 218-219 MHz band (Group C and D ship transmit channels) for interactive video and data service, the issue of AMTS operation on Group C and D channels is moot.

Streamlined Application Process For Experiments

The FCC's Office of Engineering and Technology announced that it intends to adopt new procedures to speed up the processing of applications to conduct experiments pursuant to Part 5 of the Commission's Rules. Activities permitted under Part 5 range from the development of telecommunications equipment to the test marketing of new technologies and services.

Each year, the Commission receives between 800 and 900 applications under Part 5 and recently, the number has been growing. Since July, 1989, for instance, the Commission has received 139 applications to perform experiments relating to the new field of Personal Communications Services (PCS). In addition, data generated from experiments are expected to play a significant role in decisions to grant licensing guarantees for innovators of new technologies or services under the Commission's pioneer's preference policy adopted in April of 1991.

At the present time, the processing time for most routine Part 5 applications is about 60 days. It is anticipated that this number can be greatly decreased by treating many renewal applications on a fast track and reducing the time required to coordinate applications with the Commission's licensing bureaus. The Office of Engineering and Technology anticipates that under its new procedures, most renewal applications can be processed within a week of receipt at the Commission, and most routine applications to perform new experiments can be processed within a week of receipt at the Commission, and most routine applications to perform new experiments can be processed within 30 days.

Approval Process Streamlined For Changes To Authorized Equipment

The FCC's Equipment Authorization Branch is implementing a new, fast-track approval process for Class II permissive changes to products that have been granted an equipment authorization. The expedited process will reduce burdens on manufacturers and consumers by enabling product improvements to be introduced to the market more rapidly.

The Commission's equipment authorization program ensures that radio and electronic equipment meet technical standards designed to control radio interference. Examples of equipment subject to this program include mobile and cellular radio transmitters, microwave transmitters, personal computers and personal computer peripherals. The authorization process generally requires the manufacturer to submit a written application, including a technical report, to the Commission for review. Upon making a finding that all requirements are met, the Commission issues a grant of equipment authorization. The equipment may not be marketed until the required equipment authorization has been granted. The current time to process most routine equipment authorization applications is 30 to 35 days.

The Commission permits changes to be made to authorized equipment without the filing of a new application provided that the changes do not reduce the level of the equipment's compliance with the Commission's technical standards. Changes that reduce the level of compliance are termed Class II permissive changes and must be approved by the Commission.

Requests for approval of Class II permissive changes have been processed in the same queue with applications for authorization of new equipment. However, manufacturers have advised the FCC staff that they have a particularly acute need for prompt processing of requests for approval of Class II permissive changes. They note that the need for changes to a piece of equipment often arises unexpectedly as a result of changing market demands. For some products, such as personal computer equipment, the delay in waiting for approval of a permissive change request can represent a significant portion of the product's marketable life.

In response to this situation, the Commission's Equipment Authorization Branch is establishing a separate processing queue for Class II permissive change requests. This will enable a much faster processing time. The staff expects that this action will more than cut in half the current time for processing permissive change requests. The impact on processing of applications for authorization of new equipment will be negligible.

This change in processing is being implemented immediately. Questions concerning this notice should be directed to Mr. Charlie Cobbs, Chief, Equipment Authorization Branch, telephone (301) 735-1585 extension 204.

Public Telephones Ordered To Be Hearing-Aid Compatible

The Commission ordered that telephones in all areas of the workplace, all telephones in hotel and motel rooms, all telephones in rooms in hospitals, residential health care facilities for senior citizens, convalescent homes and prisons be hearing aid compatible by May 1, 1993, where these establishments have 20 or more employees. Telephones in these same areas, for establishments that have fewer than 20 employees, need to be hearing aid compatible by May 1, 1994.

This action implements the Hearing Aid Compatibility Act of 1988, which also requires that the Commission consider the cost-

benefit ratio when adopting its rules.

The Commission originally proposed an earlier implementation date. However, the Commission concluded that subjecting these telephones to retrofitting would, in a large number of cases, require their discovery and replacement or refurbishment in the field. To avoid excessive costs associated with field retrofitting, the Commission established the effective date so that the number of telephones requiring field retrofitting would be substantially lower.

Proposals Put Forth to Implement The Telephone Consumer Protection Act Of 1991

The Commission put forth a number of proposals to implement the Telephone consumer Protection Act of 1991 (TCPA). The TCPA amended the Communications Act of 1934 by adding a new Section 227 restricting the use of automatic telephone dialing systems (auto dialers) and fax machines for telemarketing purposes.

Section 227 defines auto dialers as equipment which has the capacity to store or produce telephone numbers to be called using a random or sequential number generator, and to dial such numbers. Persons are prohibited from making calls, other than for emergency purposes or with prior consent of the called party, to residences using an artificial or prerecorded voice to deliver a message.

Accordingly, auto dialer calls would be prohibited to: residential telephone lines without the consent of the called party; emergency telephone lines; the telephone lines of a guest room of a health care facility; a paging service or other specialized mobile radio service; and, any service for which the called party is charged for the call. Use of a facsimile machine to send an unsolicited advertisement also would be prohibited.

The Commission said the overall intent of Section 227 is to protect consumers from unrestricted telemarketing which can be an intrusive invasion of privacy. However, the Commission believes there are many valuable uses of auto dialer massaging that do not fall within the intended scope of Section 227's prohibitions. The TCPA authorizes the commission to propose exemptions to the prohibitions. Thus, the Commission proposed to exempt from the TCPA, such non-commercial uses for auto dialers as calls by: civic institutions, local, state, or federal government, political campaigns and other non-commercial or non-profit institutions. The Commission seeks comment and analysis regarding these exemptions.

The Commission also tentatively concluded that the privacy rights the TCPA intends to protect are not adversely affected where the called party has or had a voluntary business relationship with the caller. Therefore, the Commission proposed an exemption to liability for commercial calls placed by a caller, or on behalf of a caller, to its clientele. The Commission noted that the legislative history of this section reflects various interpretations of the scope of this exemption and the definition of "business relationship."

Consequently, the Commission seeks comment on whether this exemption should encompass prior, current, or both, customers of a business, and how each should be distinguished. Comments also are sought on the definition of what qualifies as a "business relationship." Although a business relationship might exist without the exchange of consideration between the parties, the Commission noted that a business relationship requires a voluntary two-way communication between the client and the business. Thus, the Commission has tentatively rejected any interpretation of the term "business relationship" which would be based solely on a prior solicitation from the caller to a prospective customer.

Next, the TCPA exempts from the category of prohibited calls, those calls made for emergency purposes. In keeping with the legislative history and the intent of the TCPA, the Commission would interpret "emergency" to include situations which convey information to consumers concerning health or safety, whether or not the event was anticipated or could have been anticipated. Comments are requested on this interpretation of the term "emergency purposes."

Finally, the TCPA directs the Commission to protect the privacy rights of residential telephone subscribers to avoid receiving telephone solicitations. Accordingly, the Commission has asked for comment on five potential privacy protection mechanisms regarding telephone solicitation to residential subscribers: 1) national or regional databases of persons who object to receiving solicitations; 2) network technologies that enable called parties to avoid calls from certain numbers; 3) company generated "do not call me" lists; 4) special director markings; and, 5) time of day restrictions. Comments are requested on these alternatives as well as proposals for additional methodologies. Comments should include an analysis of the cost and benefits to be derived from particular alternatives and should describe the technologies involved. Comments are also requested on whether different methods and procedures may apply to local telephone solicitations, and for groups such as small businesses or holders of second class mail permits.

PIRATES DEN

BY EDWARD TEACH

FOCUS ON FREE RADIO BROADCASTING

Lots of logs again this month and, as usual, some are reported for the first time. Here we go.

Rubber Chicken Radio showed up on 7415USB at 0315 with "Professor Perverto" airing comedy, says Edward Rausch III, New Jersey.

Robert Ross, Ontario had the Desert Network on 7415.8 at 0124-0206 close, with oldies and ID "This is Saudi Sam on the Desert Network." Ed Rausch heard them giving an address of P.O. Box 69, Wolf Run, Ohio 43970.

Ross heard RFM on 15052 at 2322 with rock music and DJ "H.V. Short" giving the Box 109, Blue Ridge Summit, PA 17214 address.

WORF—Klingon Radio ("transmitting from the planet Kling") was heard by Rausch airing new wave music at 2323 on 7415. No address announced, I guess.

WARI, Alternative Radio International, was logged by Michael J. Schumacher in New Jersey on 7415, hosted by Doc Lobotomy. Rausch logged it on 7415 at 0005-0025 with punk rock, frequent IDs and P.O. Box 452, Wellsville, NY 14895. Ed Kusalik, Alberta, found them at 0037 but giving P.O. Box 605, Huntsville, AL as the address. Off at 0040.

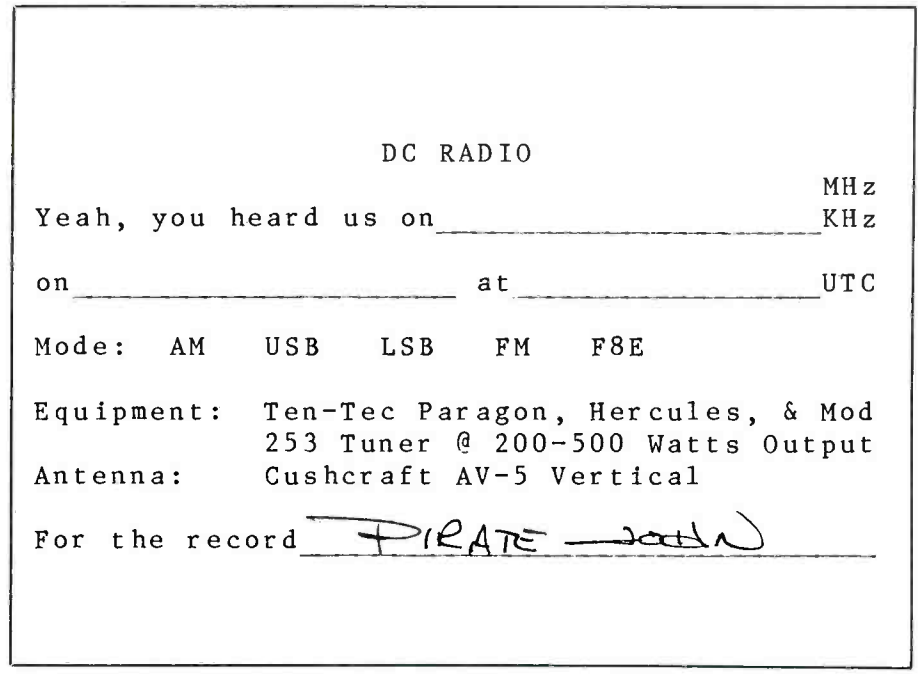
Kusalik had Midnight Radio on 7415 at 02100-0254 close with many IDs, "Slam and bog" show with hosts "Flam and Flo," "Midnight Radio News" and note that logs should go to A*C*E. Closed with ID and midnight chimes. Raush notes that the hosts were airing their religious views in the broadcast he heard at 0245.

Radio Armageddon was noted by Rausch on 7415 at 0300, using the slogan "pirate radio fire and brimstone" and announcing that the first official broadcast was coming up at 0300.

WSKY (Whisky Radio) showed for Anthony B. Santora in Connecticut on 7415 at 0200 with 70's pop and rock tunes. Kusalik had them at 0343 with 60's music, IDs ". . . from the East, WSKY Radio . . ." and "Super Rock Gold Program."

Santora heard CSIC on 7415 at 0200 with hardcore rock and "Psycho Chicken" WLIS (We Love Interval Signals). Some days later he had CSIC, 7415 again, relaying WLIS (We Love Interval Signals) at 0200 with interval signals from Radio Moscow, Radio Pakistan and All India Radio.

KXKVI Interplanetary Radio showed for Kusalik on 7415 at 0506 with "owned and operated by Clandis corporation with studios in outer space, OK, in outer space, OK . . ." and later into a two-way with Voice of the Night. Raush had this on 7414 at 0550 with ID and synthesizer music.


DC RADIO

Yeah, you heard us on _____ MHz _____ KHz

on _____ at _____ UTC

Mode: AM USB LSB FM F8E

Equipment: Ten-Tec Paragon, Hercules, & Mod 253 Tuner @ 200-500 Watts Output

Antenna: Cushcraft AV-5 Vertical

For the record PIRATE JOHN

This is the full size QSL issued by D.C. Radio, signed by Pirate John. Equipment is listed as a Ten-Tec Paragon, Hercules and Mod 253 tuner and Cushcraft AV-5 vertical antenna. Power output ranges from 200-500 watts. No indication as to an address for reports, though.

Santora heard Radio Clandestine on 7415 at 0112 with rock and roll and game show spoof. Rausch had them with host R.F. Burns at 0314 with rock and alternative music.

WLOL, the Voice of the Loon, was heard by Rausch with the "Captain Willie Mailbag Program" on 7420 LSB at 0300. This one uses the Wellsville address.

Kusalik tuned East Coast Beer Drinkers on 7415 at 0513 to sign off at 0533 giving QSL information (via Blue Ridge), mentioning pirate author George Zeller, Radio Gemini relay, mention of A*C*E, reports from listeners.

Rausch caught a test from Omega Radio at 0000 on 7417 when they were trying out a new antenna. Host "Dick Tator" and reports to either Wellsville or Blue Ridge Summit.

The Voice of Anarchy was another Rausch logging, on 7420 at 0115 with a mailbag program. Blue Ridge Summit address.

Rausch caught Acid Radio on 7415 at 0155 and Jolly Roger International featuring Blackbeard with rock music and satire. Kusalik had them at 0515 with rock and many IDs, "Captain Roger" and a "live report from Tokyo" and gave phone number.

A tentative Action Radio was noted by Kusalik on 7415 at 0138 with lots of talk and a selection by Abba. Wellsville address announced.

WHIZ (WIZ) Radio was another Rausch logging, on 7415 USB at 0135 with "the Wizard," rock music and a monologue by Hunter Thompson.

Rausch also had He Man Radio with the He Man and a bathing suit show. Gave the Blue Ridge summit address.

Still another Rausch score was the Voice of the Voyager Two, on 7415 at 0035, with announcer R.F. Wavelength playing rock music and giving the location as New Hampshire.

Two unidentifieds: Rausch had a possible Irish pirate DLR-106 on 6220 at 0355 with an Irish-sounding announcer playing rock music and giving a QSL address in Ireland. Kusalik had one which seemed to ID as "QXB Radio" on 7417.45 just prior to 0156 close. Announced the Wellsville address.

Thanks to all for the fine reports this month. Your pirate loggings and statio news are wanted here each month. Send me copies of pirate QSL's, too, so I can use them in these pages. And station operators—check in so we can let readers know more about your programming, equipment and future plans. Studio shots are very welcome!

See you next month! ■

CB SCENE

27 MHz COMMUNICATIONS ACTIVITIES

BY BILL SANDERS, SSB-295

A new handheld with lots of features has been introduced by Midland International. It's their Model 75-779, that can search all 40 channels and also has a dual watch mode for monitoring two channels simultaneously. It also has instant access to Channels 9 and 19, plus a battery saver circuit that reduces power drain by up to 80 percent when in the receive mode.

The "7 watts of input power" unit has a switchable 4 or 1 watt output power. Four watts output is the maximum allowed, regardless of the input power. Essentially, what 7 watts in with 4 watts out means is that the transmitter is operating at 57 percent efficiency. This is about average efficiency for all full power AM CB's, with 70 percent efficiency being the most one could ever realistically hope for.

It's OK for Midland to specify the input power of a transmitter, but since the FCC CB regulations are stated in terms of output power, other CB manufacturers don't usually list the input power rating of their equipment. Without some explanation, the relative significance of this unfamiliar CB rating to the more familiar output power rating might not be fully appreciated by non-technical persons as merely being an expression of transmitter efficiency. It is not an indication that the unit is "more powerful" than all units that are described only as having "4 watts," which represents output power.

This handheld has a snap-on battery pack, and spare snap-on battery packs are optionally available. The LCD read-out indicates received signal strength, battery condition, output power level, scan or dual watch mode, and other relevant data.

For more information about the Model 75-779, contact Marketing Department, Midland Consumer Communications Division, 1690 N. Topping, Kansas City, MO 64120.

Midland has some very clever features in their Model 75-779 handheld.

Good Stuff From The Past

A real hotshot rig from the 1962 era was the Saturn CBX-15, made by Mesur-Matic Electronics, which was in Warner, New Hampshire. This $200 transceiver was solidly built with a steel and aluminum chassis and cabinet. It was, rugged, and intended to appeal to the operator who wanted a good rig that could easily be made to run a little extra power.

The Saturn CBX-15 offered 13-tube performance, with a 2 tube 6-channel transmitter with a pi-output. In a world of single conversion CB receivers, this radio had a dual conversion receiver (tunable or 2 crystal controlled channels) offering 0.1 uV sensitivity. The Saturn could operate with either a carbon or a crystal microphone.

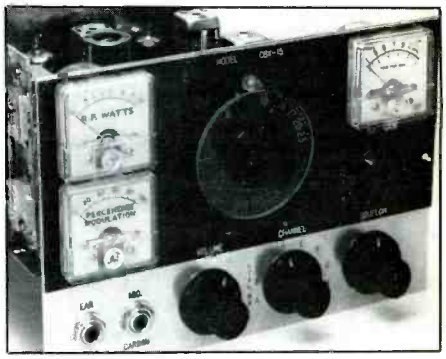
Front panel meters included an S-meter, modulation percentage meter, and an RF wattmeter. The RF wattmeter was calibrated to 10 watts because while the Saturn was designed for legal 5 watts (input), which was the FCC CB standard then, it could be run at 12 watts input with very little trouble at all. That would produce approximately 7 watts output, which was enough to challenge anybody else's 3 watt signal for local command of a given channel. The set's manufacturer supplied the 12 watt kit, which could also let the unit operate on frequencies as high as 30 MHz.

The Saturn CBX-15 was advertised nationally, and some dealers carried them in stock. But it was hand made and never mass produced. It was strictly intended for the type of hard-core CB hobbyist who was first beginning to emerge in 1962. The CBX-15 must have been ahead of its time, because it didn't remain on the market very long. For its day, it was a very decent radio, though.

Digging In The Mailbox

We heard from Steve Ett, of New York, N.Y., who liked our write-up on the old Courier I CB rig from 1968. He remembers that when he was in high school, his father bought him a Courier 23 as his first CB radio. His antenna was a 3 ft. whip on a steel mast on the roof of a 12 story building, with a lead-in running down to his 8th floor apartment. He says it gave him great coverage!

A fine letter arrived from Christian Olele, of P.O. Box 534, Port Harcoma, Rivers



Was the deluxe Saturn CBX-15 hobby rig years ahead of its time when it appeared in 1962?

We like this photo of the station used by Jeff Seefeldt, Wausau, Wisconsin.

State, Nigeria. He likes our column, although he hasn't gotten on the air yet. He enjoys listening, however, and has collected quite an assortment of worldwide QSL's.

Sonny Hotchkiss, of Florida, asked how he can obtain the address of a strong European DX station identifying as SSB-73D. The SSB Network advises that SSB-73D is their member Georges Wach, P.O. Box 6, Vanves Cedex 92173, France.

Wagner F. Grande, a loyal *POP'COMM* reader in the Philippines, tells us that he has a Standard Horizon 29 CB rig with a ground plane antenna. He can copy stations in Guam, Saipan, Indonesia, Korea, and elsewhere. They come in very well at his location, but when he attempts to call them they don't seem to be able to copy him at all. He suspects that maybe his CB rig or antenna isn't up to the job he expects to be done, and would like our thoughts.

The Standard Horizon 29 was a good set, although we haven't seen one since the late 1970's. We don't even know if these radios are still being made. So, for starters, we would suggest getting a power mike. Better yet,

Handy POWER™

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- Modular mounts for accessories.
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NQ4K Robert Walters LakeRidge, VA

"The PowerPack was flawless and was still working when our (emergency) drill ended."
W6VKF/7 CE "Jim" Ware Concrete, WA

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DC PowerPack—Sealed lead acid cell rechargeable up to 1,000 times.
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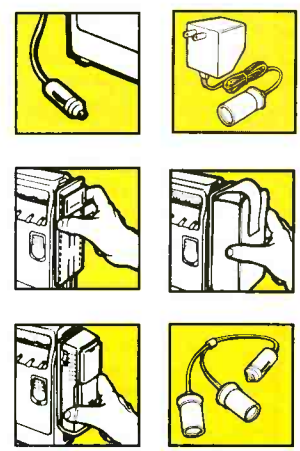
Modular Clip Holder—Holds H-T, or anything with a belt clip.

Modular Storage Pouch—Carries accessories & adapters.

Modular Light—Constant/flashing light for night or emergency. Powers 8 watts up to 8 hours.

Double Socket—Powers two 12 volt products.

HAM KIT INCLUDES



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List Price $151.40 **Your Price** **$99.95**
$9.95 S&H*

*S & H in continental USA. Extra cost for others. CA residents add tax $7.75/Kit. Allow 2-4 weeks for delivery. Extra charge for 2nd day express.

CIRCLE 65 ON READER SERVICE CARD

Nifty QSL card from the Flash DX & QSL Club, which operates from Switzerland. It was submitted by Bill Henderson, SSB Network member SSB-490C, of Pennsylvania.

Does anybody remember these old time CB QSL's? This one is from the early 1960's and was sent in by Randy, K8TMK. The address on the QSL isn't good any longer!

what about getting a newer radio that incorporates more recent communications technology? Something in a combination AM/SSB radio would be a definite improvement.

Next, we'd have to say that a ground plane (GP) is fine for local CB coverage, but you're going to want a more macho antenna than a GP. You want something with gain and directivity if you hope to regularly chase DX. Look over the directional base station CB antennas made by companies like Antenna Specialists, Signal Engineering, or Jo Gunn. Check the ads.

Lastly, take into account that the stations you are hearing in those exotic DX distant nations may not be operating with the same stock CB equipment you're using. You could be copying them so well because they're running anywhere from 100 to 500 watts.

Those are some very general thoughts. Readers wishing to offer this reader specific advice are invited to contact him directly. He is Wagner F. Grande, 11 N. Roxas St., Trancoville, Baguio City, 2600 Philippines.

A vote for low power was cast here by Paul Richardson, Bathurst, New Brunswick, Canada. Paul is weary of the race for operators to want to keep upping the power over the next station, feeling it adds only to interference and noise on the band. He would like to see everybody use low power, saying that he can easily work 15 miles with a legal-powered CB rig.

REACT has gotten off to a good start with its Training & Development Task Group, which is a membership training program. Members can obtain well-prepared training programs for self-study. At the end of the course, there is a test (plus re-test, if necessary), and a certificate. The cost to each member taking any one of the various courses is very low ($7.00). More information is available from REACT International, P.O. Box 998, Wichita, KS 67201.

You'll Be Board With This Antenna

There's nothing fancy about this antenna. It's cheap to build and it works. You need a 2X4 plank at least 11 ft. long, 9 ft. of 300-ohm TV lead, 2 stand-off insulators (Radio Shack 15-853), a ground rod (Radio Shack 15-530), plus the RG-59/U TV coaxial cable with PL-259 to run to your CB set.

Brush a coating of linseed oil onto the plank to protect it from the weather. When it dries (which should take most of a day), give the plank a couple of coats of spar varnish or polyurethane, or any other protective material you have handy.

When dry, you can start on the antenna proper. First, place a stand-off insulator at one end of the plank on one of the 4 in. sides.

Measure off 9 ft. from the insulator and, on the same side of the plank, place a stand-off. This leaves you ready for stringing the radiating portion of the antenna.

Solder the two conductors together at one end. This is the end at the top of the antenna. Place the junction of the two conductors in the stand-off. A dab of epoxy, caulk, nail polish, or chewing gum here will add to the weatherproofing.

The other end of the TV wire runs towards the bottom end of the antenna. Do not solder anything here. Place the wire in the stand-off.

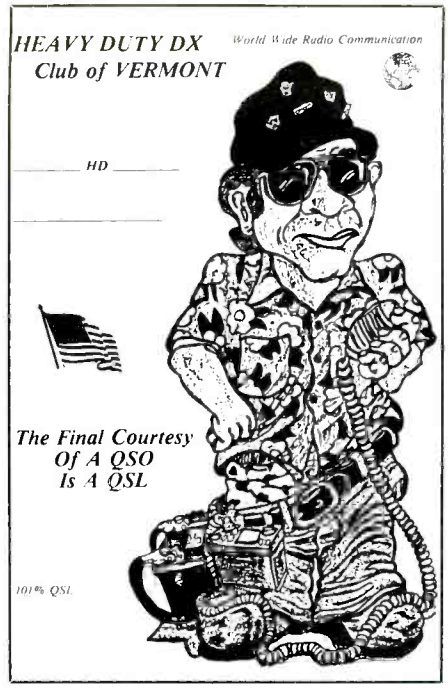
Now it's time to decide where the antenna will be planted. Yes, planted! Dig a hole about 2 ft. deep. A fence post digger would come in handy because the hole doesn't need to be very wide to accommodate the plank. Don't dig where there are utility wires overhead, or utility pipes or wires below ground.

About 6 in. away from the plank hole, sink your ground rod. Another way of getting a ground is by hooking up to a nearby water pipe. Or, you could spread out four wire radials at right angles to one another. Each of these could be 108 in. long, and buried a few inches below the surface. The ground system connects to one of the ends of the twin lead.

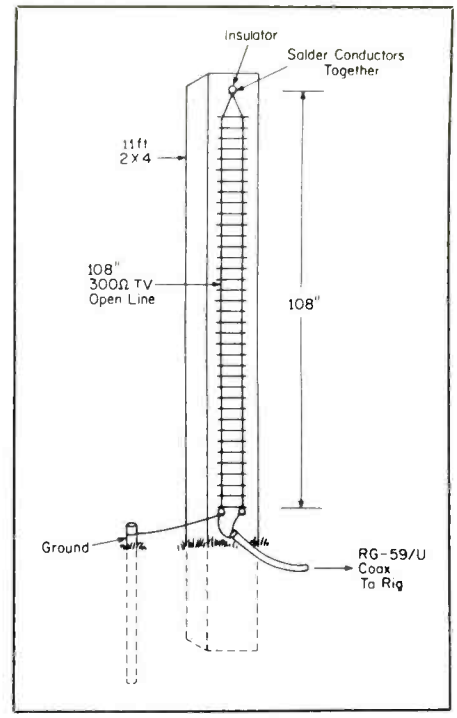
Since the impedance of this antenna is about 100 ohms, use 72 ohm TV coaxial cable instead of CB's old standard 52 ohm cable. Solder the center conductor of the coax to one side of the antenna, about an inch below the stand-off. A short wire is then run from the braid of the coax to the other wire of the twin lead—the wire to which the ground system is connected.

Now stand the plank in the hole. Pack in dirt to make a snug fit. Run the coaxial cable to the CB radio. Weatherproof all connections. You may wish to bury the coaxial cable to improve the appearance of this antenna installation, and also to prevent people from tripping over it, although burying the coaxial cable will shorten its life unless you run it through a metal conduit or PVC pipe.

The antenna is best used with an antenna matcher adjusted for lowest SWR.



A wonderful QSL from Chuck, of the Heavy Duty DX Club of Vermont. This QSL is one we liked a lot.



Here's an antenna that will have you board with CB!

That's our quarter's worth for October. Please be sure to keep us well supplied with your station photos, QSL's, comments, and suggestions. ■

Beaming In *(from page 4)*

proach would be to set up a law that said that if you're a hobbyist, it's OK to use a scanner in a vehicle. On the other hand, if it's found that the mobile scanner was located in a vehicle that was used in connection with the commission of a felony, then the scanner use gets dumped in with the criminal activity.

When we printed this position, we received really fine letters from readers who happened to be in law-enforcement. All agreed that this was a workable concept and felt that it made more sense than arbitrarily shutting out all scanner owners. We didn't receive a single negative letter. Several readers pointed out that with police frequently broadcasting descriptions of missing persons, stolen or wanted vehicles, and similar, informed and responsible citizens with this information can act as extra eyes for the police—like Neighborhood Watch. This is an advantage at a time when budget constraints have cut into the size of some police agencies. Furthermore, police can easily scramble those messages that are confidential. It made sense.

It came to pass that in February of this year, New Jersey changed its scanner law to one that is very much like what we had outlined. Under the revised New Jersey law, a person can use a scanner in their vehicle. No problem, it's legal. However, if a person is using a scanner when they commit a crime, upon getting caught, they'll face additional charges relating to using the scanner. In fact, the way the law is written, it doesn't make any difference where the scanner is located. It can be in their vehicle or their home, or clipped to their belt.

This is the right approach. We applaud New Jersey for recognizing that it makes no sense to punish all scanner owners for the sins of the few.

Not that this new law sits all that well with the old guard that supported the previous ban on all mobile scanner usage. Chief Paul Tighe, of the Millburn Township Police Dept., and legislative chairman of the N.J. State Police Chiefs Assn., was interviewed by the *Asbury Park Press* (April 19, 1992), and described the new law as "a classic con job."

As paraphrased by the reporter who interviewed Tighe, the Chief pointed out that, "now motorists of a criminal mindset can now electronically eavesdrop on police activities, giving them an edge as they ponder when and where to commit dastardly deeds." We read this that Chief Tighe is under the impression that criminals were waiting for this law to change so they could, at last, use scanners in their cars.

Tighe described this as "an extremely dangerous law." This is because, "You want to know who's responding (to a crime or accident scene) and which way they're coming from. That way you can slow down at certain intersections because you can anticipate which direction they're coming from. Now, you don't know who's going to go racing off to the scene. Someone could pull right out in front of you."

This seems to imply that the Chief may think that drivers with scanners are the only ones on the roads when police vehicles are on their way to a crime or accident scene. Or perhaps he feels that scanner owners are more likely than other drivers to speed up upon entering intersections when they hear approaching police sirens. We can't figure out the point here, except to say that they were tossing everything except empty soap boxes at this new law in an effort to continue to make all of us look like creeps, dopes, and criminals.

Chief Tighe described scanner owners as "do-gooders, rubberneckers, and/or the curious." Ho hum.

All of this is the standard issue anti-scanner name calling and rhetoric. It's what we have come to expect from those who feel the need to say something to make a point, but find that they can't really support the premise with logic.

Despite the huffing and puffing by anti-scanner forces, this revised law was passed anyway. It was pushed by scanner owners mounting a massive letter writing campaign to their state legislators. *The Asbury Park Press* described it as consisting of "zillions of letters." The head of the Assembly's Judiciary, Law and Public Safety Committee thought well of the campaign, and was quoted in the *Press* as stating that the ban against mobile scanners seemed like "kind of an archaic and anachronistic law."

To all who face similar restrictive state laws, we would say that New Jersey serves as a fine example that change for the better can, and does happen. It takes work and cooperation, and the ability to witness well meaning but uninformed people saying ridiculous things about you and your interests. But it's worth it in the long run.

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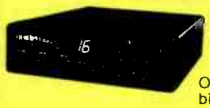

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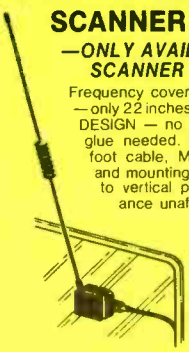

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Specifications:

Coverage:	500KHz-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
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Antenna:	BNC
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Scan Speed:	15 ch/sec.
IF:	21.4MHz, 455KHz
Increments:	10,12.5,25,30
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- One Year Limited Warranty.

Options:

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RS232 Control Package (software & cable) offers spectrum display and database.	SCS2	$295.00
Wide band preamp	G-W2	$89.00

Specifications:

Coverage:	1MHz-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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400 Channels. 100KHz to 2036MHz.

Standard Features:

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- Continuous coverage.
- Attenuation Programmable by Channel.
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- 4 Priority Channels.
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- Telescopic Antenna
- 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 (software & cable) offers spectrum display and database.	SCS3	$295.00
Wide band preamp	G-W2	$89.00

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
Audio:	1.2 Watts at 4 ohms
Power:	Input 13.8 V. DC 500mA
Antenna:	BNC
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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
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Wide-band scanning receiver

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Optional Accessory

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