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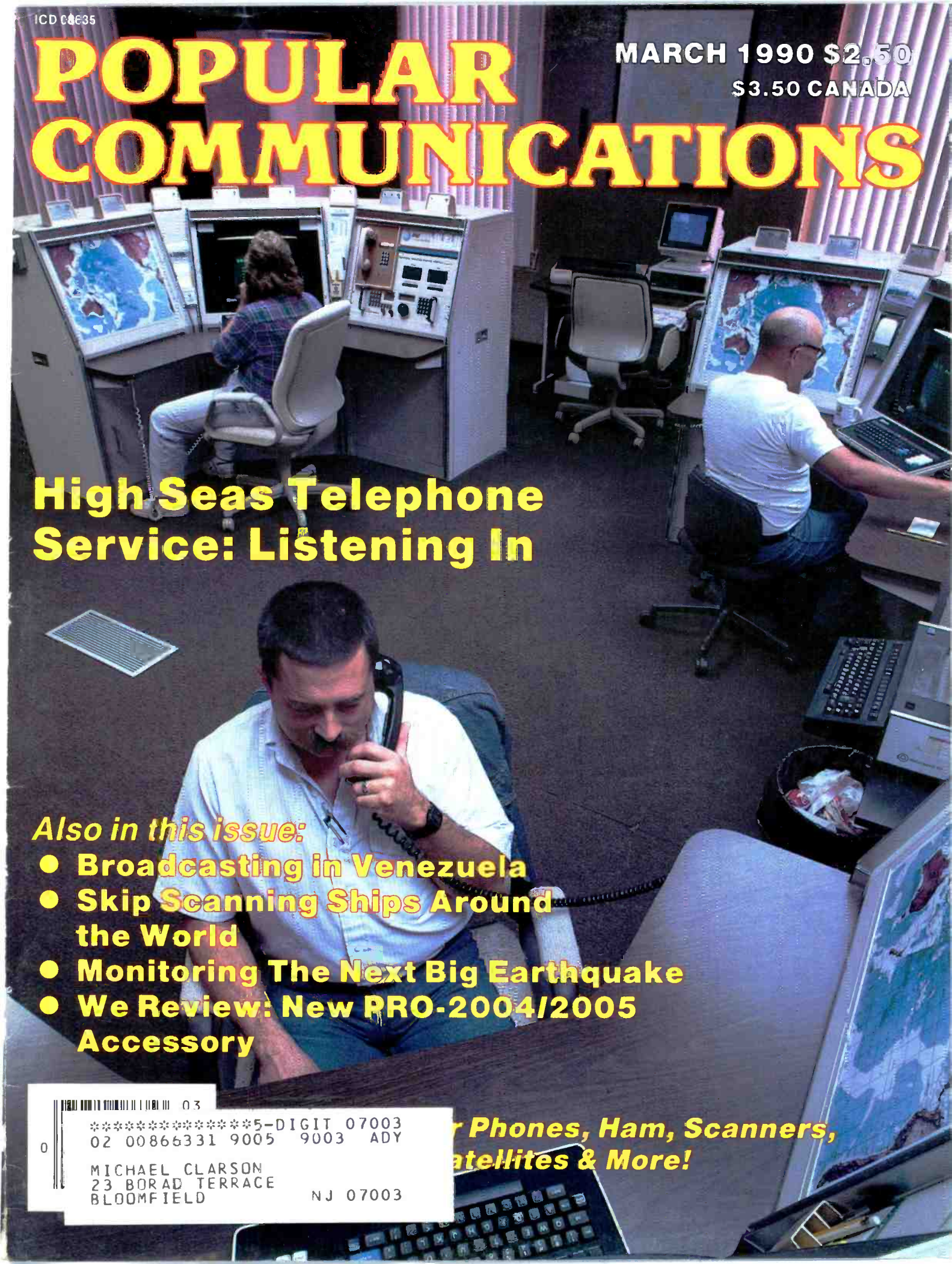

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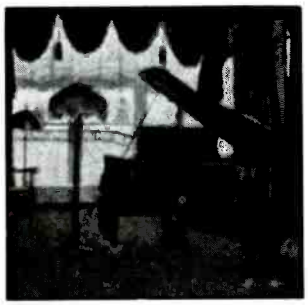

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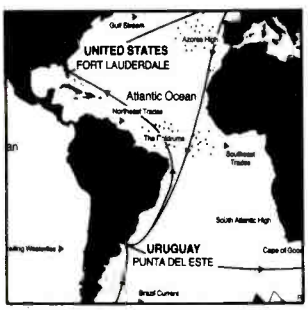

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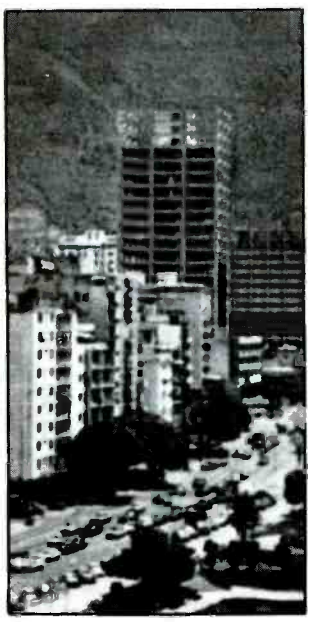

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FEATURES

COLUMNS

DEPARTMENTS

This month's cover: *Control operators at AT&T ship to shore receiving site talking to ships in Pacific. By Larry Mulvehill.*

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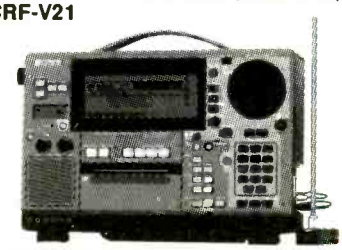

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- Remote Terminal
- Literal & Databit Modes
- Variable & Standard Shift
- Automatic Tuning
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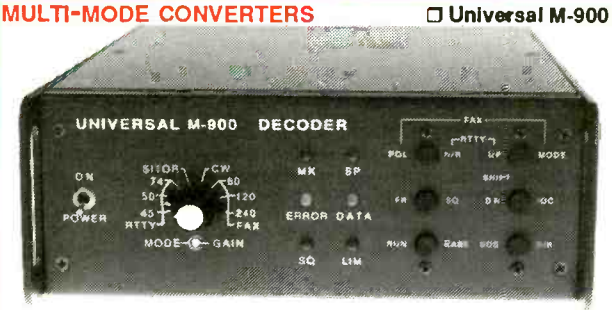
MULTI-MODE CONVERTERS

❒ **Universal M-900**



Here is a compact, easy to use decoder that copies all the most important shortwave transmission modes. The M-900 covers Morse code for monitoring hams, ships and coastal stations. Baudot RTTY is included for decoding weather and international press broadcasts. Both Sitor A and Sitor B are supported for monitoring the extensive maritime and diplomatic traffic. Facsimile (to the printer only) lets you receive maps and pictures from around the world. Requires 12 VDC @.8A Text output to video monitor. **$499.95 (+$8)**

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M-900 System Components

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- Cables for above

Please write to Universal for full information on the M-900 and the above optional items. Full system prices are available.

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BEAMING IN

BY TOM KNEITEL, K2AES

AN EDITORIAL

Not long ago, a friend of mine brought a cordless phone. When I saw him recently at his birthday celebration, he cornered me in order to extol the benefits of his wonderful device. I heard how he can make calls while in his swimming pool, on his ride-on lawnmower, and all sorts of other places where you'd think that most rational people would be thankful to temporarily escape from the need to place or receive telephone calls.

He was enumerating all of the features of his wonderful machine, from ten-channel, two-line operation to thirty number autodial, from its speakerphone base to automatic redial. I sat there with a painted-on smile, perfectly willing to let him rattle on for a while because everybody is entitled to bore at least one person to tears about their new toy. When it comes to hearing the virtues of everybody else's newly obtained electronic stuff, I am invariably at the top of the list of people they most like to tell. It's a calling and a curse, but I've got it pretty well down now. I can even manage to say "that's wonderful" a couple of times and ask a few questions while my mind is totally disconnected from the entire description.

In his guy's case, I must admit that he had gone out and purchased himself quite an infernal and impressive contraption, and I imagine at a cost that most folks would consider extravagant. However, by the time I had missed my turn at the hors d'oeuvers tray after it was carried around the room three times, I realized that I was going to have to make a desperate move if I wanted any canapes before all that remained were those awful little orange fish egg things smeared on crackers. He had his nickel's worth of my eardrum anyway, and it was apparent that the only way to bring him down was quickly, and with a thud.

As soon as he paused to take a breath, I tossed out the thought that lots of people had the capability of listening in on all of his cordless telephone calls. He was unshaken, saying he had forgotten to mention that when he told the salesperson that he sometimes discussed confidential matters on the phone, he was told about the federal secrecy laws that protected his privacy. Besides, the salesperson pointed out that the unit he was considering had a very effective "privacy" button that could be pushed.

I guessed that maybe the "privacy" button either shut off the system's second handset, or else prevented his neighbor's cordless phone from showing up on his favorite channel or accessing his dial tone. Whatever it was, it wasn't the voice scrambler he had assumed it was. I told him that anybody within a mile or two of his house that owned a police scanner could overhear every single word of his conversation. He was still certain that I was wrong, but by then our conversation had attracted a circle of others who owned cordless phones and were in varying stages of shock, disbelief, and indignity at the news I had brought.

While my XYL was telling the hostess that this is why most people don't invite us to parties any longer, I had suddenly turned from being someone passively sitting in a corner, to being the focal point of attention with my heretical statements. Even the lady with the hors d'oeuvers tray was standing in the crowd, apparently one of the world's many cordless telephone owners who had never imagined that their calls were being sent out over the airwaves.

Finally, I had to go out to the car and bring in my handheld. Programming it to search 49 MHz, I challenged the host to carry his handset to some distant point, press his "privacy" button, and make a call. He agreed, but after a few others in the group said they had also heard that cordless phones offered no privacy, he seemed to realize that maybe I was right, after all. To the amazement of many, the test proved my point as his voice came blasting out of my handheld scanner. My friend was furious.

To anybody who has any connection with communications, it seems so obvious that if a device has an antenna sticking out of it, then somehow, somewhere, a signal is involved, and there's a reasonably good chance that the signal can be intercepted, and perhaps without very much difficulty. Why this is such a shock to most of the public is somewhat of a mystery. Apparently, it is given some mention in some of the owners' manuals that come with cordless phones, but maybe it hasn't made clear, or stressed very hard, because it would certainly be a negative selling point. Of course, in the instance of my friend, a salesperson had given him incorrect advice, but I don't know whether out of his own ignorance, or just to make the sale.

One of my theories is that it might not make much of a difference if you tell people that their cordless phone (or car phone, or ship/shore) calls can be overheard by others, or else they simply disremember about it after a brief period of awareness since no bells, lights, or sirens have gone off in their cordless to announce that unknown ears are listening in.

Another theory is that, even persons who are fully aware of the potentials for their conversations to be overheard, cannot and do not retain this information at the forefront of their consciousness when they get involved in a protracted business, or personal discussion. This is especially true if emotions begin to run high, as they often do. At that point, the conversations can get far more frenetic than you'd imagine they'd be if the participants felt they had an audience of strangers so large that they're one step away from getting Arbitron ratings. Of course, I'm not talking about professional law enforcement, espionage, or intelligence agents who may be trained to be aware of what they say over any cordless, car, or hardwired phone.

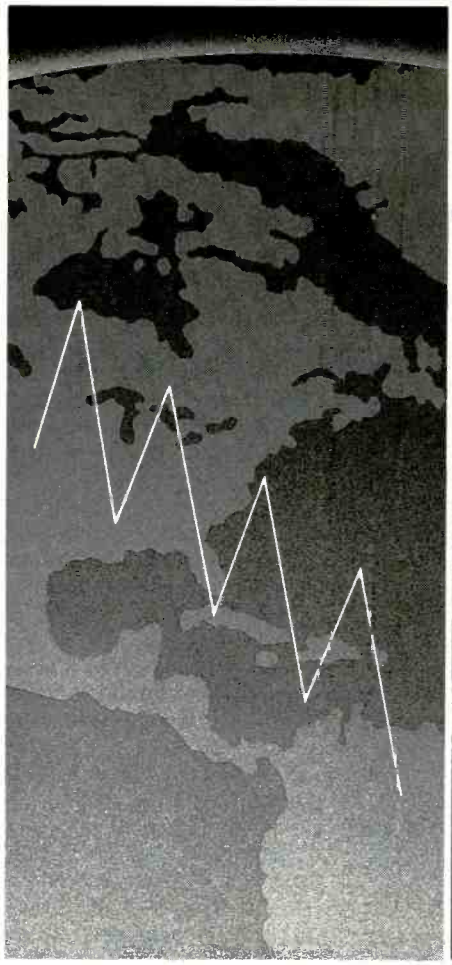
Interestingly, people seem prone even to talking about illegal activities over cordless phones, or at least they often accused of doing so. In 1985, a fellow in Dixon, IA brought a huge lawsuit because his neighbors used their cordless to listen to him talking on his cordless phone. When he began discussing matters relating to a theft, the neighbors tape recorded his conversations and turned them over to the Scott County Sheriff's office as evidence. The federal court suit accused the Sheriff of illegally gathering information. The judge threw out the suit, ruling that the law didn't guarantee privacy for cordless telephone calls broadcast into the public airwaves. Of course, that was before the passage of Electronic Communications Privacy Act of 1986 (ECPA) was passed. That law says that you aren't allowed to listen to the pedestal (46 MHz) transmissions of cordless telephone systems. It's almost impossible to detect violations.

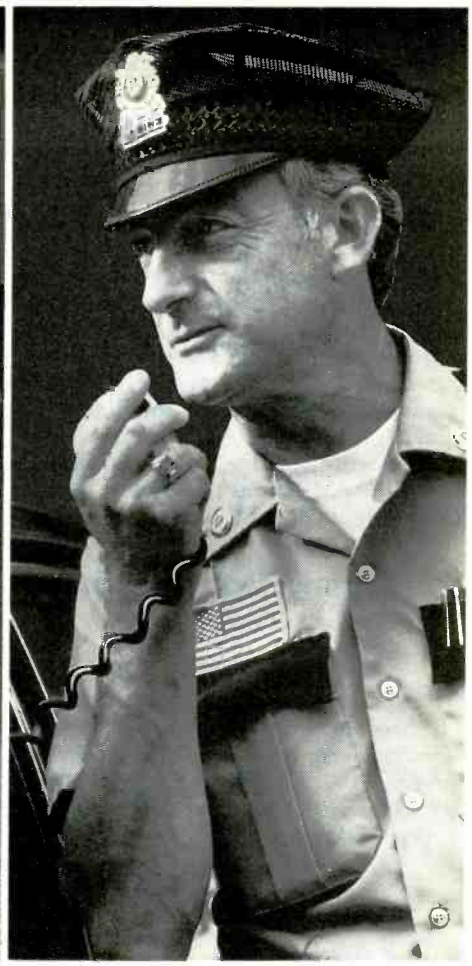
In post-ECPA days, there's the case of Peter Fata of Rockland County, NY. He didn't seem to realize that his cordless phone conversations were able to be picked up so easily on scanners. Among the casual listeners was an off-duty New York City police officer who happened to be a scanner owner. He suspected that the conversations he was hearing related to trafficking in illegal drugs, so he made a tape and returned it over to the Rockland County Sheriff's department.

The Sheriff then went out and got a warrant to make his own tapes of additional conversations and, in 1988, prosecuted Fata on charges of drug conspiracy. A felony charge conviction was obtained and Fata was given a sentence of three years to life.

Fata, however, appealed the conviction on the grounds that the police officer's original tape wasn't made with a warrant, was illegal, and therefore tainted the prosecution's case. In the appeal, the attorney claimed that the tape recording was an invasion of his client's privacy.

(Continued on page 80)





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CIRCLE 34 ON READER SERVICE CARD

MAILBAG

LETTERS TO THE EDITOR

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

Johnny, On The Spot

What's the status of the present sunspot cycle?

John Colton,
Windsor, Ontario

They are presently at their peak and should remain at this level until about the end of April. At that point, they'll slowly begin tapering off for the next couple of years.—Editor

Late Night Radio Doings

I enjoyed hearing you, Tom, and the many other hams on the Ray Briem Show recently. I didn't mind staying up until the "wee hours" for this program. It's sad that Ray's show was later taken off the ABC TalkRadio Network.

James G. Malta, N2HOQ/KNJ2KG,
Piscataway, NJ

Many letters came in to our offices after the network pulled the plug on Ray's show. The several programs he devoted each year to SWL'ing and hamming were really looked forward to by many within the communications hobby. On the other hand, the program that replaced Ray's is a good cure for insomnia.—Editor

Still Willing To Put Up With Me

Are you the same Tom Kneitel that was with *CB/DX Horizons* magazine in the early 1960's? If so, I've been one of your readers for nearly 30 years. As I look back through the old "callbook" that used to cover CB, in the 1962 edition you were listed as 10Q3161. I was one of the first CB'ers licensed in San Juan County, UT and was also listed in the same edition as 15Q1381. I have maintained my interest in communications through the years and look forward to the day that the FCC finally approves a no-code ham license.

J. Clarence Johnson, SSB-46E,
Bluff, UT

Yes, I was with that magazine in California and Oklahoma for a year beginning in April of 1961. My first 27 MHz CB license was 2W1965, issued in early 1959. Always glad to hear from readers who go back a way with me—Editor.

Calling All Tapesponders

Not too many years ago, we joined a tapespondence club through a classified ad in a radio magazine and the results were wonderful.

Unfortunately, by moving about so much, we lost all our records and addresses. We would like to get into tapespondence again and wonder if you knew of the existence of any tapespondence clubs in the U.S.A.

On 20 meters, most every ham is great, but tapespondents are quite different in their desire to maintain correspondence within the U.S.A.

Any information you can dig up for us would be most appreciated.

Good luck with your publication.

Milton Lederman, WB2HHR,
27 West 72nd St.,
New York, NY 10023

Any readers who can help Milt may contact him directly at the address shown—Editor.

Blue Suede Footwarmer?

A DJ on a local radio station has mentioned several times that Elvis Presley was a CB'er during the days he was a trucker. I called the station and asked him if it were true, and he said it was common knowledge. This would make a good story for POP'COMM. I am a big Elvis fan.

P.N. Hollister,
Sevierville, TN

It would make a good story if there were any truth to it, but it's been a rumor that's circulated for years that is totally unfounded. Presley was driving a local delivery truck in 1954 when he began recording for Sun Records in Memphis. Towards the end of 1955 he was singing full-time, had signed Col. Tom Parker as his manager, had a recording contract with RCA Victor and was on his way to fame. In 1956, he was famous enough to go to Hollywood to star in "Love Me Tender." CB radio didn't come into existence until late 1958, and really didn't get started until 1960. By then, Presley was not only a major star, but he was in the U.S. Army and stationed in West Germany. Moreover, the "trucker" aspects of CB didn't even show up until about 1974, which was a good twenty years after Elvis had been behind the wheel of anything larger than a pink Cadillac. I hate to be the one to toss cold water on popular myth. Chances are that it grew out of the fact that Presley had many friends who happened to (incidentally) be CB'ers. As a result, he was interested in CB radio and was known to have done a number of kindnesses for CB'ers who were down on their luck, and apparently had shown up unexpectedly at several 1960's CB jamborees in the Memphis area—Editor.

No-Code? No Way!

I am a former CB'er, and used to think it would be nice if there was a no-code, feeling that I couldn't learn the code. Finally, I began studying for my Novice ticket. I was surprised to find that learning code at 5 w.p.m. was easy and I passed the test. I had a little trouble getting to 13 w.p.m. for the General ticket, but I made it and now hold an Advanced ticket (studying for Extra). I'm against a no-code ham ticket and fear that it could turn ham radio into the chaos that CB became. Handicapped persons get no special treatment when it comes to ham tickets, so why give someone special consideration because they are too lazy to learn the code? I felt a sense of accomplishment when I learned the code. One ham I work on CW is unable to see or hear. If he can master the code, then anybody should be able to do so.

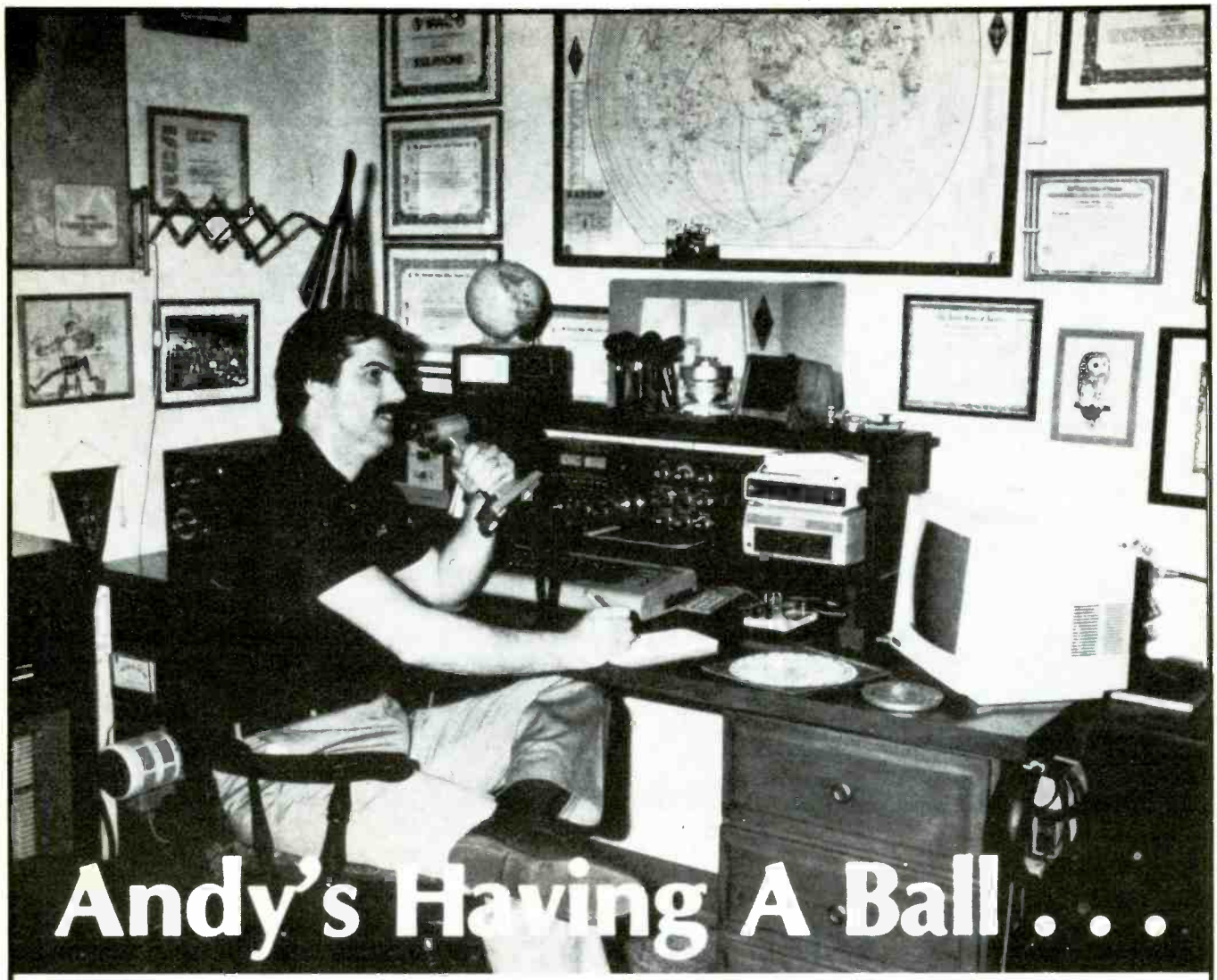
Bill McCollum, KE0XQ,
Omaha, NE

Ancient Modulation

Now that SSB has taken over voice communications on HF, and FM has done so above 30 MHz, it appears that the last refuge of old double-sideband AM is the shortwave and mediumwave broadcasting bands. At what point will the FCC officially close the door on this dated technology? I, for one, say "good riddance."

B.E. Kondrick,
Conway, AR

Whoa! AM is a long way from being ready for the scrap heap. In the field of two-way communications, it's used by millions of CB'ers, and also for aero communications in the 118 to 136 MHz and 225 to 400 MHz bands. Even in the world of ham radio, AM is promoted by a national organization called the Society for The Preservation of Amplitude Modulation (SPAM), of Box 27, Potrero, CA 92063. The following AM frequencies are listed by SPAM: 1885, 1895, 1990, 1996, 3870 to 3890, 7160, 7195, 7285, 7290, 7295, 14286, 21385, 28304 to 28325, 29000 to 29200 kHz, and also 50.4 and 144.5 MHz on VHF. Ancient Mary still serves many useful and necessary roles in communications. Don't count the old gal out yet—Editor.



and you can too!

Andy is a Ham Radio operator and he's having the time of his life talking to new and old friends in this country and around the world.

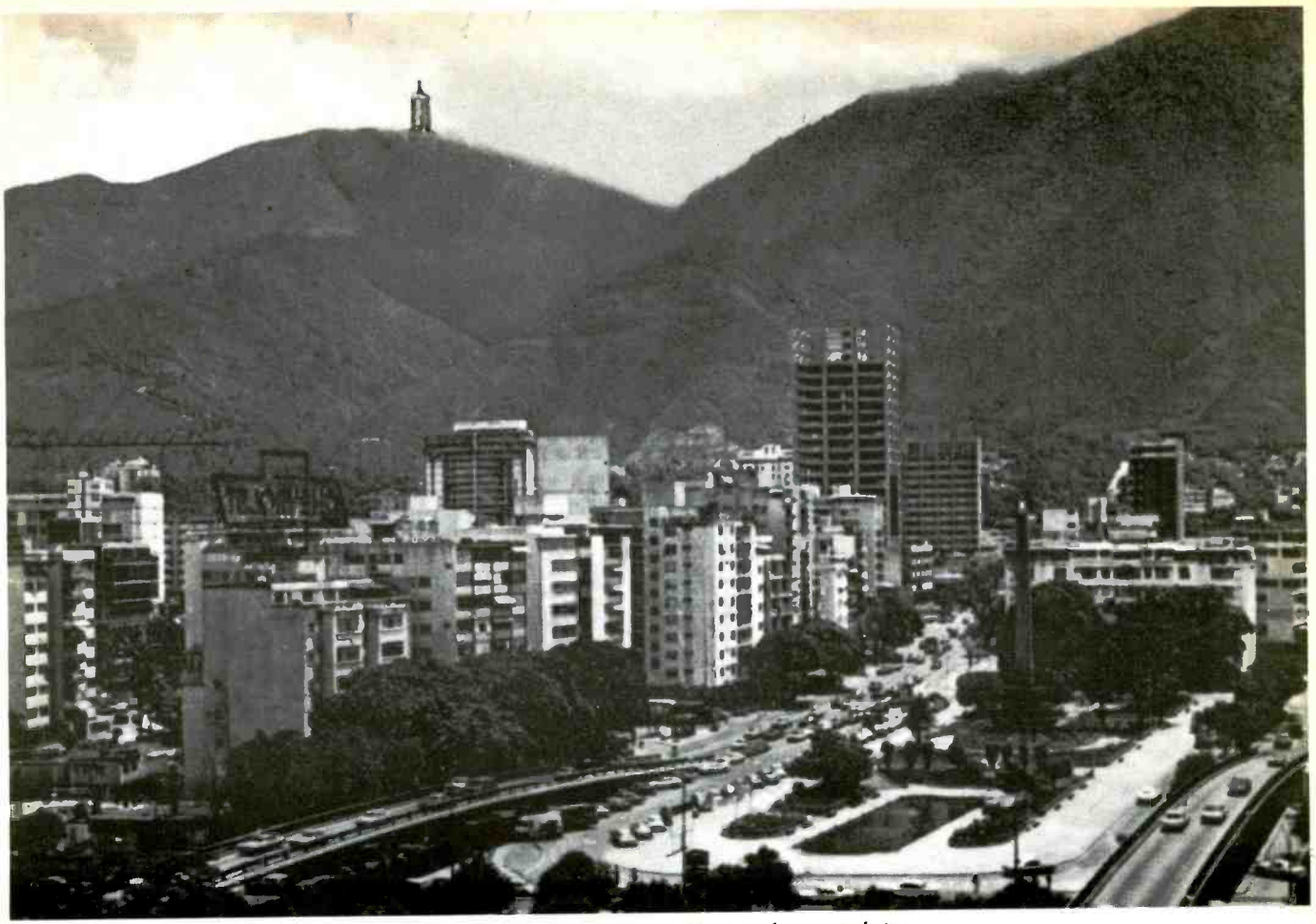
You can do it too! Join Andy as he communicates with the world. Enjoy the many unique and exclusive amateur bands . . . the millions of frequencies that Hams are allowed to use. Choose the frequency and time of day that are just right to talk to anywhere you wish. Only Amateur Radio operators get this kind of freedom of choice. And if it's friends you're looking to meet and talk with, Amateur Radio is the hobby for you. The world is waiting for you.

If you'd like to be part of the fun . . . if you'd like to feel the excitement . . . we can help you. We've got all the information you'll need to get your Ham license. Let us help you join more than a million other Hams around the world and here at home. Who are we? We're the American Radio Relay League, a non-profit representative organization of Amateur Radio operators.

For information on becoming a Ham operator
circle number 110 on the reader service card or write to:

AMERICAN RADIO RELAY LEAGUE Dept CQ, 225 Main Street
Newington, Conn. 06111.

This space donated by this publication in cooperation with the American Radio Relay League.



A partial view of Caracas, the Venezuelan capital city.

DX'ing Little Venice

Here Comes The Big "YV" Parade!

BY GERRY L. DEXTER

One might be forgiven for wondering what in the world possessed Spanish explorers to name the place Venezuela; there hardly seems any connection with Venice. It was the indian dwellings on Lake Maracaibo which caused the inspiration. Perhaps, that far from home, it's easy to see reminders that wouldn't otherwise be so obvious.

Venezuela was pretty much a nothing place for nearly all of its existence. The indians hadn't developed much in the way of culture or civilization by the time the Spanish arrived and their arrival and dominance over the next 400 years didn't exactly bring on a great new world. The boom began in 1917 with the discovery of oil. Venezuela became one of the world's top oil producers and exporters and its standard of living is now up there at the top of the list amongst Latin American nations.

For some never explained reason, Venezuela seems to inspire little excitement amongst shortwave broadcast DX'ers, even those for whom Latin America is a prime interest. Perhaps it's the fact that the majority of the stations are relatively easy to hear, or perhaps its the sense the Venezuela's culture isn't as distinctive as those of Peru or Bolivia or Ecuador. Whatever the reason, as far as many DX'ers are concerned Venezuela is still the uninspiring poor boy of South America, even though it is fairly rich in shortwave stations.

Not as rich as it used to be, however. Like many Latin American countries, the number of active shortwave broadcast stations is on a steady decline. In 1969, the SWL could hear many Venezuelan broadcasters which are not audible today: Radio Coro, Radio Bocono, Radio Barquisimeto, Radio Caracas, Radio Sucre, Radio Cabimas, Radio Miranda, Emisoras Vargas, Radio Barcelona, Ondas del Lago and numerous others—some of which had had a long runs on shortwave—are gone. The *World Radio TV Handbook* for that year listed some 60 Venezuelan shortwave broadcasters. Then years later the number had been cut in half!

That alone is a good reason to begin exploring for Venezuelan SWBC stations—you can never be sure how much longer a particular station will be on the air, never mind the fact that some of them have been around since the 1940's! By the same token, however, Venezuelans, like Latin American broadcasters in general, sometimes remind you of something out of a Stephen King novel—you can never quite be sure they are going to stay dead!

DX'ing Venezuelans means spending a lot of listening time down on the tropical bands—90 and 60 meters—as well as 49 meters since that's where most of these stations hang out. Typically of Latins, not all of the stations you find on a "current" list are active at any one time, so in some cases, it is

RADIO NACIONAL
DE
VENEZUELA

CANAL
ONDA CORTA

Apdo. 3979, Caracas 1010,
Venezuela, Sur América

Radio Nacional's schedule shows programs of news, history, folk, popular and Caribbean music, sports, economic and cultural news to name a few.

QSL QSL QSL QSL QSL QSL

For, Para: _____

We are pleased to confirm your recepcion report of our transmission on the Frequency of 4850 KHz. on 04/22/86 between 04/30 and 4.85 mhz hours

Confirmamos su reporte de recepción de nuestra transmisión en la Frecuencia de 4850 KHz, el día: _____ entre las: _____ y _____ horas (hora venezolana).

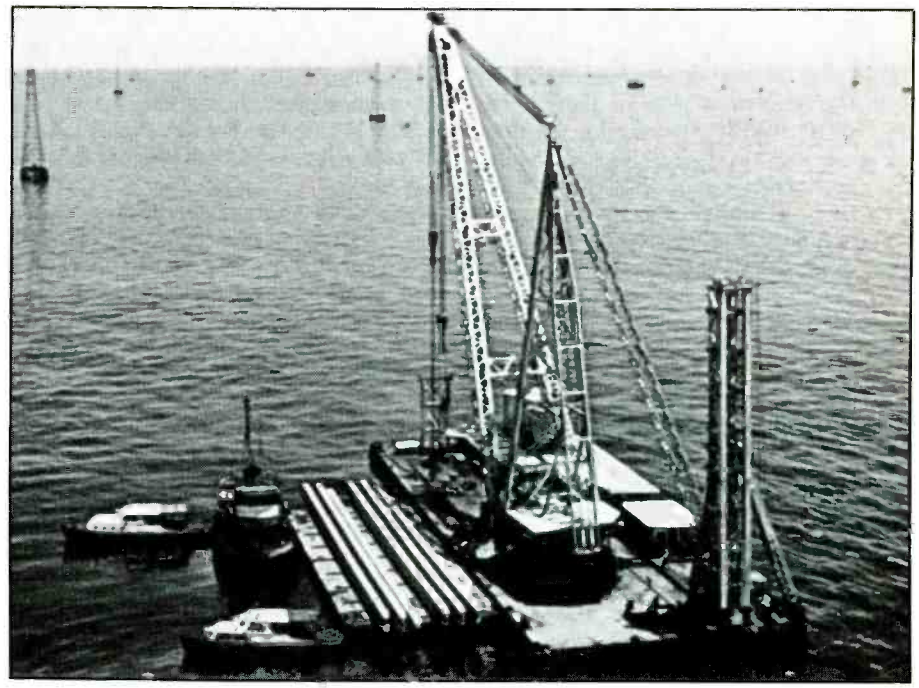
GRACIAS ..... y ..... SALUDOS!

Radio Capital

GERENTE DE PRODUCCION
MANUEL CORREA

AV. FRANCISCO DE MIRANDA, CENTRO COMERCIAL LOS RUICES, 3er. PISO - LOS RUICES TELFS.: 35.70.33 - 35.70.97
CARACAS, VENEZUELA

Radio Capital leaves little doubt that their card is a QSL!



Oil rigs on Lake Maracaibo.

a matter of being aware of where a station would be if it were active and then cruising by the frequency every now and then just to see if somebody may have finally turned the lights on.

Most YV's operate on an 0900 to 0400 UTC schedule, though you shouldn't look upon that rule as inviolable. The best times to look for these stations are, quite logically, the evenings and early mornings, since that's when the applicable SWBC bands will be open. Sign on is an especially good time to check for these stations on 49 meters, since there is often less interference from the big international broadcasters at that time. Hunting Venezuelans will also make you very familiar with the national anthem of that country, known amongst DXers 'cause it's l-o-n-g! Station sign on and sign on announcements can also be lengthy, even a bit stentorian.

Virtually all of the broadcast time is in Spanish, although the government station, Radio Nacional, has aired some English in the past. All of the Venezuelan shortwave broadcasters are commercial outlets. Venezuela has never been very much represented by religious or cultural stations on shortwave, in contrast to most other Latin American countries.

By and large the Venezuelan stations are pretty good when it comes to confirming listener reception reports. Perhaps 6.5 on a scale of 10; slightly better than the average for South America. Reception reports should be in Spanish and include return postage in the form of unused Venezuelan stamps of International Reply Coupons.

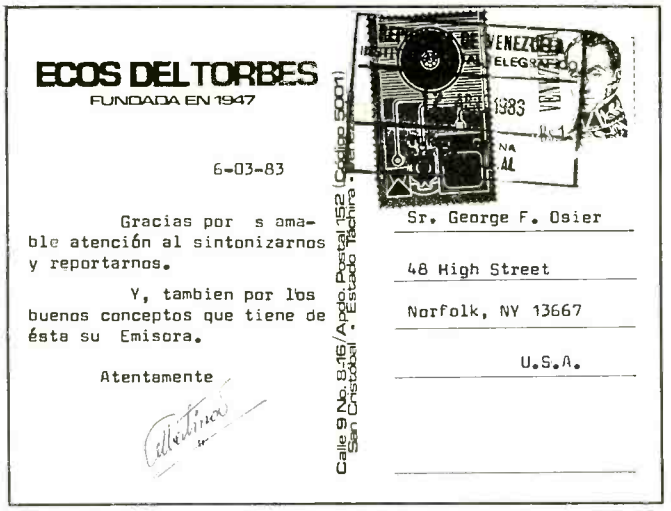
Here's a by-city survey of what there is to hear on shortwave from "Little Venice."

CARACAS. The Venezuelan capital lies in the Caracas basin, on the slopes of the central highlands. it's an impressive, modern city built by oil.

There are three shortwave stations operating from Caracas, including what must be the easiest of all Venezuelans to hear—Radio Rumbos, Rumbos operates in parallel on two shortwave frequencies, with 10 kW on each. YVLK in on 4970 and is easily heard in the early morning or evening hours and YVLM on 9660 can be heard daytimes. The schedule is 0900 to 0600. This is one of the country's major broadcasters. It operates a national network. Reports go to Apartado (P.O. Box) 2618, Caracas.

A second Caracas station, appropriately named Radio Capital, holds forth on 4850, although it has periods of inactivity. The call letters are YVKX and the power, like the majority of Venezuelans, is a fairly modest 1 kW. It's scheduled from 1000-0400 but 24 hours on weekends. Reports go to Centro Comercial Los Ruices, Av. Francisco de Miranda, Caracas.

The government station, Radio Nacional, has made attempts at providing a true international service on and off over the past several years but never quite gets it done. Radio Nacional has five frequencies available. YVSC on 5020 used 30 kW, is assigned to 9500 and 9540, though the latter frequency is shown with a 50 kW transmitter and is part of the international service. YVOV and YVLS, both 10 kW, are listed



ECOS DEL TORBES
FUNDADA EN 1947

6-03-83

Gracias por s amable atención al sintonizarnos y reportarnos.

Y, tambien por los buenos conceptos que tiene de ésta su Emisora.

Atentamente

Calle 9 No. 8-16 / Apdo. Postal 152 (Código 5001) San Cristobal • Estado Táchira

Sr. George F. Osier

48 High Street

Norfolk, NY 13667

U.S.A.

Ecos del Torbes on 4980 is a pretty reliable verifier.

Ciudad Bolivar on the shores of the Orinoco River.

for 11695 and 11860, respectively. 9540, 11695 and 11860 are scheduled between 1100-1200, 1400-1500, 1800-1900, 0000, 0100 and 0300-0400 but not all of these are active—often it's just one of the three and most recently that has been 9540. Operation on 5020 is also sporadic. The station still indicates it plans to offer programming in English, French and Portuguese at some future point. Reports go to Apartado 3979, Caracas 1010.

SAN CRISTOBAL sits on a tri-level plateau with the base on the shores of the Torbes River. Founded in 1561, San Cristobal retains a good detail of the Spanish colonial look. There are two shortwave stations still active here and both are pretty easy catches.

Ecos del Torbes was founded in 1947. The YVOC call identifies a 10 kW transmitter operating on 4980 from 0900-0400. QSLs come from Apartado 152, San Cristobal, Tachira state.

Almost as easily snagged is Radio Tachira on 4830 which also runs 10 kW. YVQB uses "first in the Andes" as one of its slogans and is scheduled from 0900-0400. The only problem in getting a good log on this one is QRM from the Costa Rican, Radio Relij, on 4832. Radio Tachira is a pretty good verifier. Reports go to Apartado 37, San Cristobal, Tachira.

MARACAIBO—This damp, hot city of 700,000 on the northwest shore of the famous lake Maracaibo is an exporter of coffee and shrimp. But oil is where it's really at. 70% of Venezuela's oil comes from this area.

Like the other major Venezuelan cities, Maracaibo used to have several active shortwave stations. Now the number is down to just two, and even they aren't consistently active. Check 3275 for the 1 kW signal of Radio Mara which is scheduled for 1000-0400. Reports on YVMC go to Apartado 1969, Maracaibo 4001A, Zulia state.

Also from Maracaibo is Radio Popular, YVMU, with 1 kW on 4810, though it has not been active in awhile. Were it so, the schedule would probably 0900 or 1000 to 0400. The address is Apartado 347, Maracaibo, Zulia.

MERIDA is the capital of the state of the same name. Surrounded by cliffs and plantations, it is home to the University of the Andes and is also known for its candied fruits.

Merda's one shortwave outlet is Radio Los Andes, YVSB, one of a handful of Venezuelans up on the 49 meter band—in this case a slightly variable 6010. operations are somewhat irregular and, with all of the interference usually found in this area, your best shot at logging this 1 kilowatter is probably around the 1000 sign on (keep in mind that sign ons sometimes start a couple of minutes before the hour so you may wish to be on the scene early). Reports go to Apartado 47, Merida, Merida.

TOVAR, also in Merida state, is a small city of around 20,000. The one shortwave station here, Radio Occidente, is listed for 3225 and 9750. The former frequency is occasionally active, the latter never heard. YVTC used 1 kilowatt, scheduled at 1000-0400. Reports can be sent to Cra. 4, No. 6-46, Tovar, Merida.

TRUJILLO, the city and the state are in the Sierra Nevada de Merida where the higher mountain peaks are snow capped year 'round. Most of the population lives in the many basins and valleys. Even though it's the state capital, Trujillo has only around 20,000 people.

YVOG, Radio Trujillo, listed for 3295 with 1 kW hasn't been reported in sometime, so this may be one of those borderline situations where a license is being held on to "just in case." The schedule is listed at 0955 to 0300 and it's surely worth an occasional check to see if this one has suddenly come to life. The address is Ave. Independencia 10-11, Trujillo, Trujillo.

VALERA. With more than twice the population of Trujillo, Valera has grown considerably as a trading center in Trujillo state. Its more active shortwave outlet, Radio Valera, is normally found between 0900-0300 on 4840. YVOI's address is Av. 10, No. 9-31, Valera, Trujillo.

Radio Turisino, YVMH, with 1 kW on 6180 is more irregular. The station, with the slogan "la voz expresion de Venezuela," is listed with an 0900-0200 schedule and loggings by North American DX'ers are almost always during the first hour of the station's operation. Reports go to Apartado 12, Valera, Trujillo.

BARINAS is a cattle center and home to foreign oil camps. It's a fairly small city, too,

with around 25,000 people.

It's also home to one of the newer Venezuelan shortwave stations, Radio Continental, with 1 kW on 4940 (variable to slightly lower). It's scheduled from 1100 to 0400. it has been a good, through slow verifier of reports so far. The station's address is Av. Marques del Pumar, Barinas, Barinas.

CIUDAD BOLIVAR on the south bank of the Orinoco River, is a trading center for the Guyana highlands. "CB", as it's locally known, is said to be the best place in Venezuela to shop for gold jewelry and other gold items.

Radio Mundial Bolivar (formerly Radio Bolivar) is another of those "sometimes active, sometimes not" kind of operations. YVNW's 1 kw is on 4770, listed for 0900 to 0400. The address is Apartado 123, Ciudad Bolivar, Bolivar.

VALENCIA. The capital of Carabobo state, Venezuela's fourth largest city sits on the west bank of the Carabobo River. It's the center of the country's most highly developed agricultural region and home to quite a number of transplanted Europeans and Americans.

La Voz de Carabobo, YVLA on 4780, has the dubious distinction of being about the toughest of the active Venezuelans to QSL. It is active on a pretty consistent basis and, when the U.S. government's FEMA station isn't interfering, can usually be heard quite well. The schedule is 0900 to 0400. Address: Torre Trebol, Urb. Lomas del Este, Valencia, Valencia.

EL TIGRE is an important but fairly small trading and market center in Anzoategui state.

This is home to la Voz del El Tigre, which also ID's as Radio 980 (its medium wave channel). YVQL is not always active and you have to tune the more temperamental 90 meter band to find it. A little patience and persistence should bring it in, though. It's scheduled with 1 kW at 0900-0400 and reports to go Apartado 430, 6034 El Tigre, Anzoategui.

MATURIN is a commercial center of about 55,000 in Monagas state and is home to another shortwave station with irregular habits.

Radio Maturin, YVQH, sometimes fires up its 1 kilowatt transmitter on 5040, generally with an 0900-0400 schedule. Reception reports go to sucre 73, Maturin, Monagas state.

OCUMARE DEL TUY in Miranda state is the site for Radio Valles del Tuy, listed for 1 kW on 6130. This one, however, has not been reported in some time and it's anyone's guess—probably including the owners, too—whether it will ever return. You might spot check the frequency around 0900 or 1000. If you do find this one active, reports go to Altos Teatro Cine, Av. Miranda, ocumare del Tuy, Maranda state.

TARIBA, in Tachira state, is home to another station unreported in several years, yet still on the lists. Radio Suceswos, YVTH, listed for 1 kW on 9700. If you do have success with this one the address is Carrera a4, No. 1-35, Tariba, Tachira.

Beyond all these stations, there was a recent report that Radio Yaracay in San Felipe had plans to resume shortwave broadcasts. But their old frequency of 4940 is now occupied by Radio Continental. For the past several years a Radio Alto Llano has been reported due to activate on 5010 but hasn't been heard. Nor have two others which have been listed for some years—Radio Elorza and Radio Corora, both named after their home cities.

Even if none of the above four stations ever show up, others are bound to. And even if there's never any fresh activity, Venezuela still offers a sizeable number of targets, and with reasonably good chances for a QSL, too. If you are just getting your feet wet in Latin American DX'ing tuning the Venezuelans is a great way to begin. And if you've ignored Little Venice in favor of "better" pickings elsewhere your missing some good targets. PC

Cable cars offer a stomach-churning view of Merida.

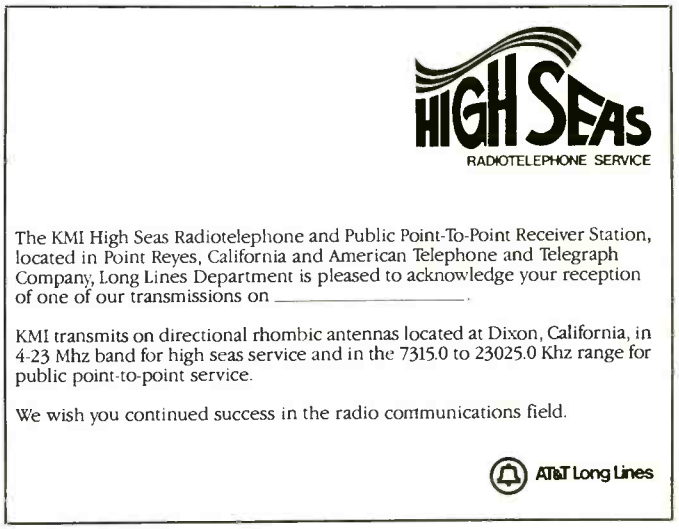
High Seas Telephone Service

AT&T's Network of HF SSB Stations Calling Ships at Sea

BY ANSON MacFARLAND, KVA4EX

"High Seas" radio channels provide essential communications for the maritime community. The channels are available for business and personal, safety, and distress communications. Although many vessels on the high seas have installed sophisticated satellite communications equipment, high frequency (HF) single sideband (SSB) comms remain their primary link to virtually any telephone in the world via the "High Seas Operator."

Each nation has its own group of coastal stations performing this service. Some are operated by government telecommunications authorities, but in some nations it's a service provided by the private sector. In the United States, it's a service of private industry. An independent station (WLO) in Mobile, AL operates, plus three sta-



This acknowledgment card is sent out by station KMI in response to reception reports.

Coast Station KMI—California

Address: AT&T Station KMI P.O. Box 8 Inverness, California 94937

For Technical Information Call: (415) 669-1055

KMI Point Reyes, California

Coast Station	Channel Designation	Coast Station Transmit (Carrier)	Ship Station Transmit (Carrier)
	242	2450.0	2003.0
	248	2506.0	2406.0
	—	2182.0	2182.0
	417	4407.0	4112.6
	416	4403.9	4109.5
	401	4357.4	4063.0
	822	8784.0	8260.1
	809	8743.7	8219.8
	804	8728.2	8204.3
	1229	13,187.6	12,416.8
	1203	13,107.0	12,336.2
	1202	13,103.9	12,333.1
	1201	13,100.8	12,330.0
	1624	17,304.2	16,531.3
	1603	17,239.1	16,466.2
	1602	17,236.0	16,463.1
	2236	22,704.5	22,108.5
	2228	22,679.7	22,083.7
	2223	22,664.2	22,068.2
	2214	22,636.3	22,040.3

Channels 416-1203

*UTC	TFC	Weather
0000	X	◇
0400	X	
0800	X	
1200	X	◇
1600	X	
2000	X	

◇ Broadcasts of national weather service information.
Note: Traffic lists and weather will be omitted if channel is busy.
*Formerly GMT

The complete frequency guide and schedule of weather and traffic list broadcasts from AT&T's three high seas telephone stations.

Coast Station WOM—Florida

Address: AT&T Station WOM 1350 N.W. 40th Avenue Fort Lauderdale, Florida 33313

For Technical Information Call: (305) 587-0910

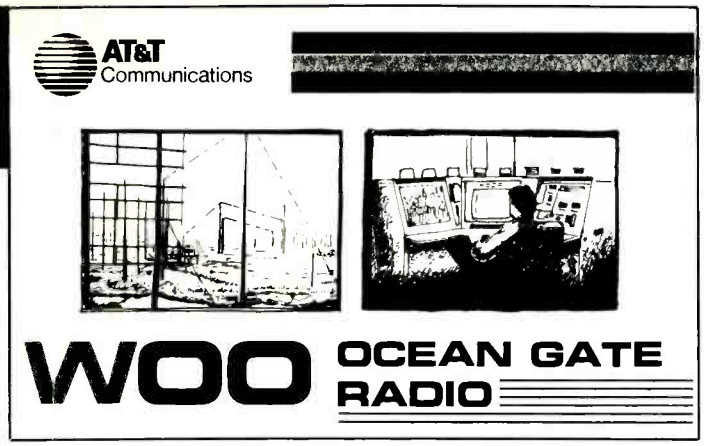
WOM Ft. Lauderdale, Florida

Coast Station	Channel Designation	Coast Station Transmit (Carrier)	Ship Station Transmit (Carrier)
	—	2182.0	2182.0
	209	2490.0	2031.5
	247	2442.0	2406.0
	221	2514.0	2118.0
	245	2566.0	2390.0
	423	4425.6	4131.2
	417	4407.0	4112.6
	412	4391.5	4097.1
	403	4363.6	4069.2
	825	8793.3	8269.4
	810	8746.8	8222.9
	805	8731.3	8207.4
	802	8722.0	8198.1
	814	8759.2	8235.3
	831	8811.9	8288.0
	1215	13,144.2	12,373.4
	1209	13,125.6	12,354.8
	1208	13,122.5	12,351.7
	1206	13,116.3	12,345.5
	1223	13,169.0	12,398.2
	1230	13,190.7	12,419.9
	1616	17,279.4	16,506.5
	1611	17,263.9	16,491.0
	1610	17,260.8	16,487.9
	1609	17,257.7	16,484.8
	1601	17,232.9	16,460.0
	2222	22,661.1	22,065.1
	2216	22,642.5	22,046.5
	2215	22,639.4	22,043.4

Channels 403, 802, 1206 and 1601

*UTC	TFC	Weather	*UTC	TFC	Weather
0100	X		1300	X	◇
0300	X		1500	X	
0500	X		1700	X	
0700	X		1900	X	
0900	X		2100	X	
1100	X		2300	X	◇

◇ Broadcasts of national weather service information.
Note: Traffic lists and weather will be omitted if channel is busy.
*Formerly GMT



A reply card from WOO mentions using 10 kW into rhombic, log periodic, and omnidirectional antenna systems.

tions run by AT&T. This story will focus on the three AT&T stations: California (KMI), Florida (WOM), and New Jersey (WOO).

These stations provide two-way voice communications between ships on the high seas (also aircraft), and can connect the calls to other vessels, aircraft, or land telephones throughout the world. The stations operate every day, on a 24-hour schedule, and utilize USB mode duplex channels throughout the 2 to 23 MHz range. In addition to exchanging telephone traffic, the stations also broadcast weather and traffic lists. All of these services are for the benefit of cruise ships, cargo vessels and tankers, fishing boats, pleasure craft, as well as private aircraft.

Because of their locations and wide selection of frequencies, KMI, WOM, and WOO can communicate with ships operating in any area of the world. Each of the duplex channel pairs used is assigned an international channel designator number consisting of three or four digits, the first one or two digits representing the frequency band of that channel (i.e., Ch. 417 is the 4 MHz band, Ch. 1611 is in the 16 MHz band). These channels are shared by high seas telephone stations throughout the world. The frequency pairs are arranged with the coast station transmitting on one frequency, and the vessel using a lower frequency.

Generally speaking, the lower numbered channels are used at night and the higher frequencies predominate during daylight hours. AT&T, however, reminds users that good communications practice suggests attempting to establish communications on the highest frequency pair possible that contact can be made.

The three AT&T coastal telephone stations are relatively easy to hear on any equipment that is capable of tuning the 2 to 23 MHz frequency range in SSB mode. The stations apparently receive a considerable amount of mail from listeners seeking verifications (QSL's) of their reception. Many non-broadcast and non-ham stations either ignore such requests, or else will respond to them only if a prepared reply card is furnished by the listener. I don't know about the policies of WOM, but KMI and WOO have responded pleasantly to reception reports with cards of their own. While not actually full-blown "verification" cards, they're still nice additions to any QSL connection.

Moreover, if you've been a listener who hasn't yet tried utility (that is, non-broadcast) station monitoring, maybe these stations are as good a way as any to break the ice with some easy-to-copy stations. **PC**

Coast Station WOO– New Jersey

Address: AT&T Station WOO P.O. Box 550, Beach Avenue
Manahawkin, New Jersey 08050

For Technical Information Call: (609) 597-2201

WOO Manahawkin, New Jersey

Coast Station	Channel Designation	Coast Station Transmit (Carrier)	Ship Station Transmit (Carrier)
	242	2450.0	2366.0
	232	2558.0	2166.0
	—	2182.0	2182.0
	422	4422.5	4128.1
	416	4403.9	4109.5
	411	4388.4	4094.0
	410	4385.3	4090.9
	826	8796.4	8272.5
	815	8762.3	8238.4
	811	8749.9	8226.0
	808	8740.6	8216.7
	1228	13,184.5	12,413.7
	1211	13,131.8	12,361.0
	1210	13,128.7	12,357.9
	1203	13,107.0	12,336.2
	1631	17,325.9	16,553.0
	1626	17,310.4	16,537.5
	1620	17,291.8	16,518.9
	1605	17,245.3	16,472.4
	2210	22,623.9	22,027.9
	2205	22,608.4	22,012.4
	2201	22,596.0	22,000.0
	2236	22,704.5	22,108.5

Channels 411-811

*UTC	TFC	Weather	*UTC	TFC	Weather
0000	X		1200	X	◇
0200	X		1400	X	
0400	X		1600	X	
0600	X		1800	X	
0800	X		2000	X	
1000	X		2200	X	◇

◇ Broadcasts of national weather service information.
Note: Traffic lists and weather will be omitted if channel is busy.
*Formerly GMT

Radio's Early Days

Thoughts and Pertubations About an Earlier Era

BY ALICE BRANNIGAN

We haven't ever delved, except in passing mention, into some of the things that the call letters of old timey radio stations stood for, or at least *supposedly* represented. By the time commercial broadcasting began in late 1921 and early 1922, the concept of the government assigning all of the stations identifying call letters had long been firmly established. American stations had three and four letter callsigns that were distinguished by the fact that the first letter in the callsign was either a "K" or a "W."

To the federal government, the callsigns represented a way of quickly identifying stations on the air in event of interference or rule violations. Unless a specific un-issued callsign was requested by a station applicant, the government normally issued the callsigns in sequential order. The general rule settled upon "K" callsigns awarded to stations west of the Mississippi River, "W" callsigns east of the Mississippi. One would have imagined that it would have been the other way around, with "W" representing "west."

In the early days of broadcasting, many stations primarily existed as extensions of the licensee's stores, factories, or other commercial establishments, or else they were used to promote schools, or even entire cities. The special callsigns requested from the government often reflected these tie-ins. Sometimes, the broadcasters seemed to do it in reverse, inventing slogans that appeared to be uncomfortably force-fit to match up with callsigns that they just happened to get by sheer chance.

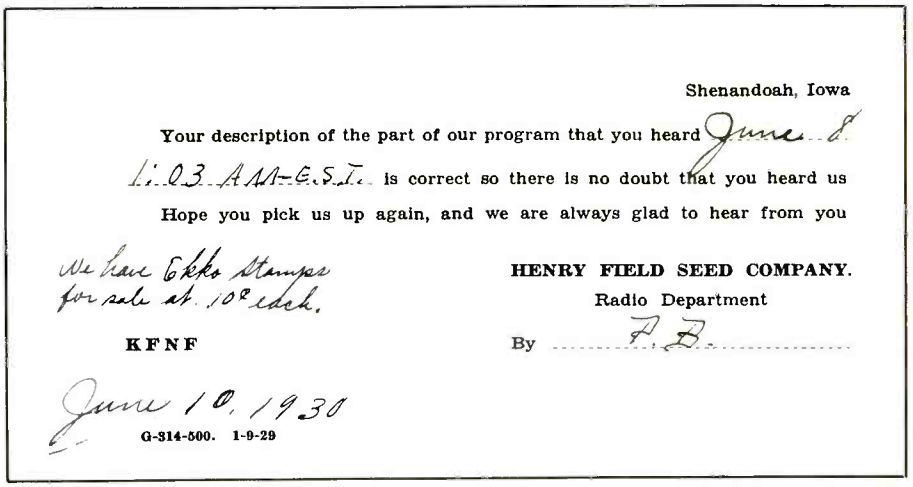
Chicago's WLS, owned by Sears, Roebuck was proud to announce it was the *World's Largest Store*, just as WOC in Davenport, owned by the Palmer School of Chiropractic, was pleased to tell its listeners about the *Wonders of Chiropractic*. The Hotel Lassen, Wichita, took out a license as KFH so listeners would be reminded of *Kansas' Finest Hotel*. The Henry Field Seed Company, of Shenendoah, IA used two callsign-based slogans, *Known For Neighborly Folks*, and also *Keep Friendly, Never Frown*. A catchy one was used by WAIT in Taunton, MA. They said the letters stood for *We Are In Taunton*, and most listeners probably figured out that's why the government issued those initials to the station.

Still, other stations' slogans were a mix of awkward and just plain awful, and you just know that they were the dismal result of what must have been brain busting in order to figure out a slogan that fit their uncooperative callsigns. There was WAAW in Omaha that might have come up with less of a mouthful had they not tried so hard to push a farming message like *Where Agriculture Accumulates Wealth*. In Macon, GA, WMAZ, the station of Mercer University announced *Watch Mercer Attain Zenith*, which sounded awful, but there wasn't much to be done when fate handed out a callsign containing a "Z." It was still better than the slogan of WDBO, operated by Rollins College, Winter Park, FL. The best they could come up with was *Way Down By Orlando*, which probably gave the English Department fits.

WOAN, of Lawrenceburg, TN liked to announce *Watch Our Annual Normal*. Well, maybe it sounded good at the time, or you had to live there to get caught up in all of its sweeping majesty. It was still more appealing than the enticement offered by Minneapolis station WRHM which intoned, *Welcome Rosedale Hospital, Minneapolis*. And what about WCBQ, the Nashville station that wasn't at all dismayed by coming up with a slogan utilizing the tricky letter "Q"? They told their listeners *We Can't Be Quiet*!

The listening public (then as well as now) knows or cares little about the why's and wherefore's behind the issuance of callsigns to broadcasters. It may be that their perception is that they are merely initials for slogans that were created by the station themselves, like *K-Rock*, *Z-99*, and *Power 101*. Some of those grand oldies like Miami's *Wonderful Isle of Dreams* (WIOD) or Shreveport's *Kill Worry, Keep Healthy* (KWKH) had so much charm and fit so well that it would be easy to make that assumption. Actually, the WKH, in KWKH, stood for the owner's initials.

There are still slogans in use today that are tied to callsign initials, but we wonder how many newly created ones are as corny, clever, contrived, or had as much magic as those thought up in the 1920's and early 1930's. Those shown here are only a very



Shenandoah, Iowa

Your description of the part of our program that you heard June 8 1:03 AM-E.S.T. is correct so there is no doubt that you heard us

Hope you pick us up again, and we are always glad to hear from you

We have Ekko Stamps for sale at 10¢ each.

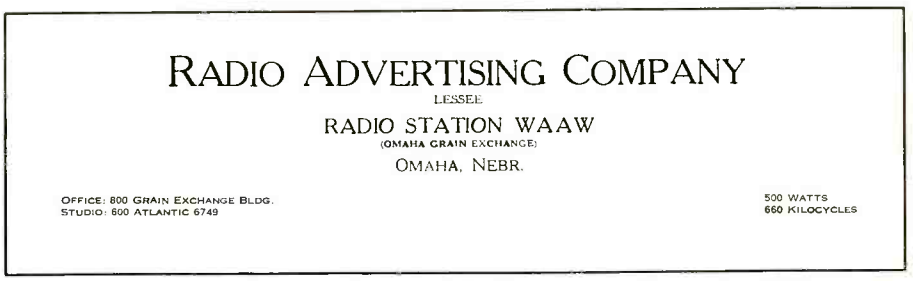
HENRY FIELD SEED COMPANY.
Radio Department
By P. D.

KFNF

June 10, 1930

G-314-500. 1-9-29

Station KFNF was lucky, it had no less than two catchy slogans using the letters in the callsign. (Courtesy Joe Hueter, PA).

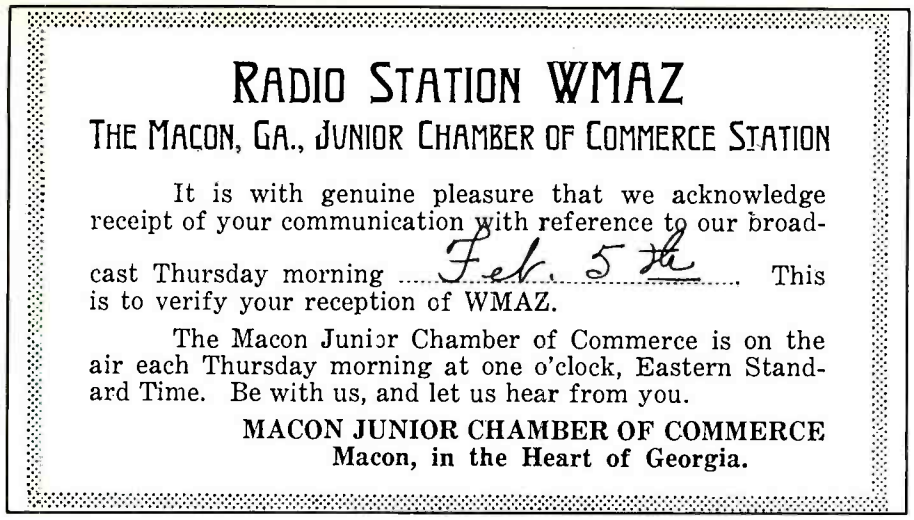


RADIO ADVERTISING COMPANY
LESSEE
RADIO STATION WAAW
(OMAHA GRAIN EXCHANGE)
OMAHA, NEBR.

OFFICE: 800 GRAIN EXCHANGE BLDG.
STUDIO: 600 ATLANTIC 6749

500 WATTS
660 KILOCYCLES

In their zeal to promote farming, Omaha's WAAW came up with a multi-syllabic tongue-twister for a slogan in order to punch their message home.



Macon's WMAZ was a college station that got stuck with a "Z" in its callsign. They did the best they could, which was absolutely awful.

WDBO was originally a college-owned station near Orlando, FL. Eventually the station was sold and moved Orlando, which was as good an excuse as any drop its silly slogan based on the callsign.

small selection. The book *Radio Station Treasury (1990-1946)* lists hundreds in use between 1926 and 1932.

Early Chicago Station

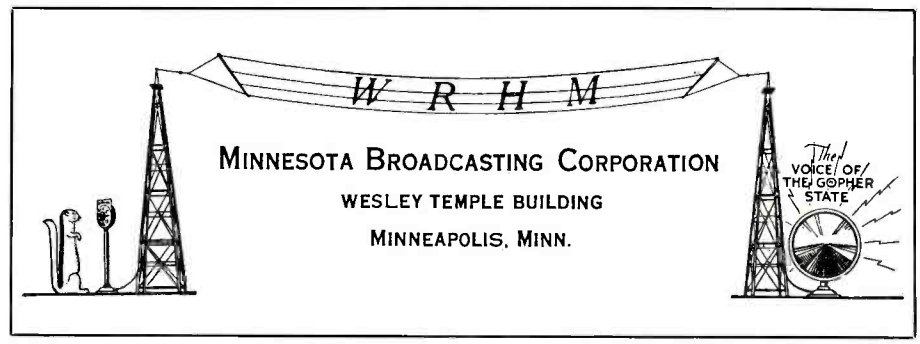
Don Baldwin, of Medford, NJ recalls growing up in Illinois and DX'ing on a crystal set. A reminder of those early days was a postcard Don found dated 1924 that depicted Chicago station WJAZ. It's not a station Don can recall, and he wonders if we can find out something about WJAZ and its eventual fate.

The station went on the air in 1923 on 670 kHz with 20 watts and having the ability to operate under its WJAZ commercial broadcasting license or as Experimental station 9XN. It was owned by the Chicago Radio Laboratories, 332 South Michigan Avenue, Chicago.

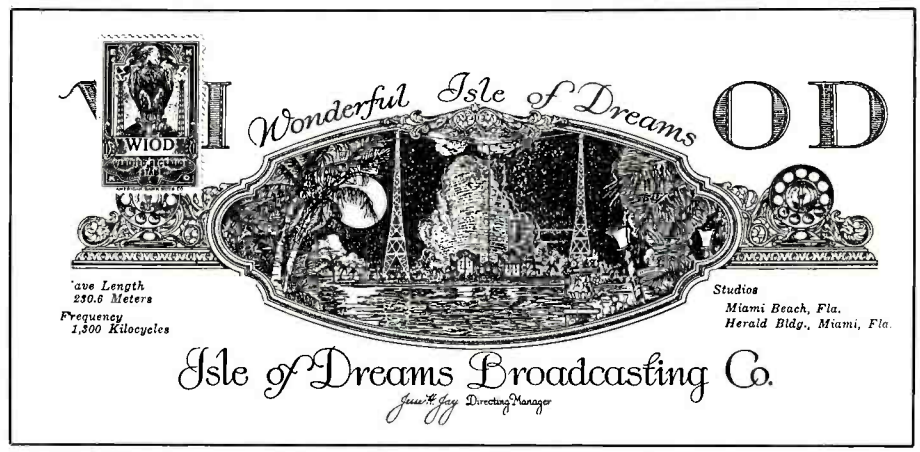
A year later, WJAZ was on 1120 kHz. The postcard we have shows it at that point in its career, with two masts supporting a fancy spiderweb antenna system. The postcard also shows the WJAZ "Crystal Studio" at the Edgewater Beach Hotel in Chicago.

It appears that Chicago Radio Labs was an early name for the Zenith Radio Corporation, for they were the station's owners in 1925, and at nearby 310 South Michigan Avenue. During 1925 and 1926, WJAZ was actually licensed as a portable station, and had authorizations at various times for 100 watts on 930 kHz, also 1500 watts on 1120 kHz.

The year 1928 saw WJAZ become more settled, running 5 kW while dividing time on 1140 kHz with religious station WMBI. The WJAZ transmitter was in Mount Prospect, IL, with the Zenith Radio Corp. offices moved to 3620 Iron Street, Chicago. A major government-imposed frequency upheaval in November of 1928 forced WJAZ on to 1480 kHz where it shared time with WORD, WIBO, and WHT. By 1930, WJAZ had moved to 1490 kHz where its time share stations in Illinois were WCHI and WORD. But that was the beginning of the end, for WCKY in Cincinnati had become the dominant station on the frequency and in a few months, the several other 1490 kHz stations were removed by the government. WJAZ was deleted in December of 1931.



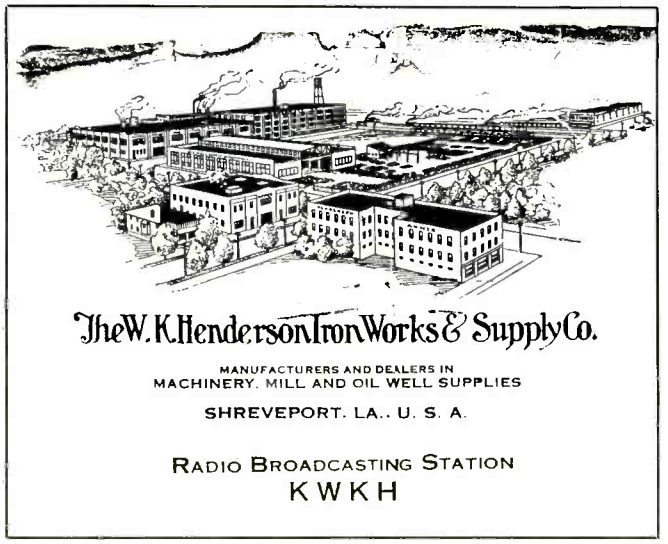
WRHM, of Minneapolis, must have spent at least one minute dreaming up the slogan, "Welcome Rosedale Hospital, Minneapolis."



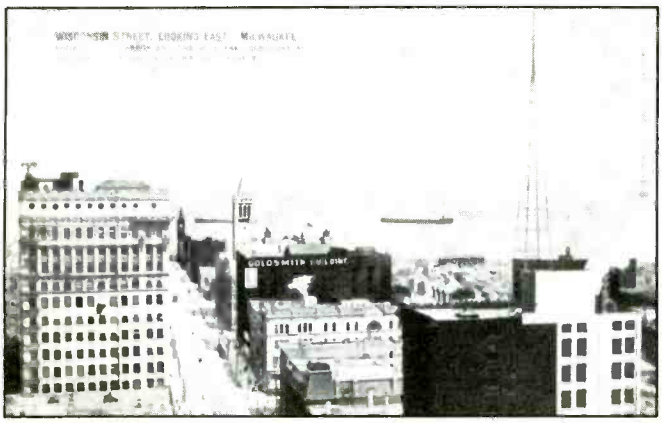
WIOD's "Wonderful Isle of Dreams" had one of the best-sounding and most appropriate callsign-based slogans in broadcasting. (Courtesy Joe Hueter, PA.)

Great Lakes Telegraph

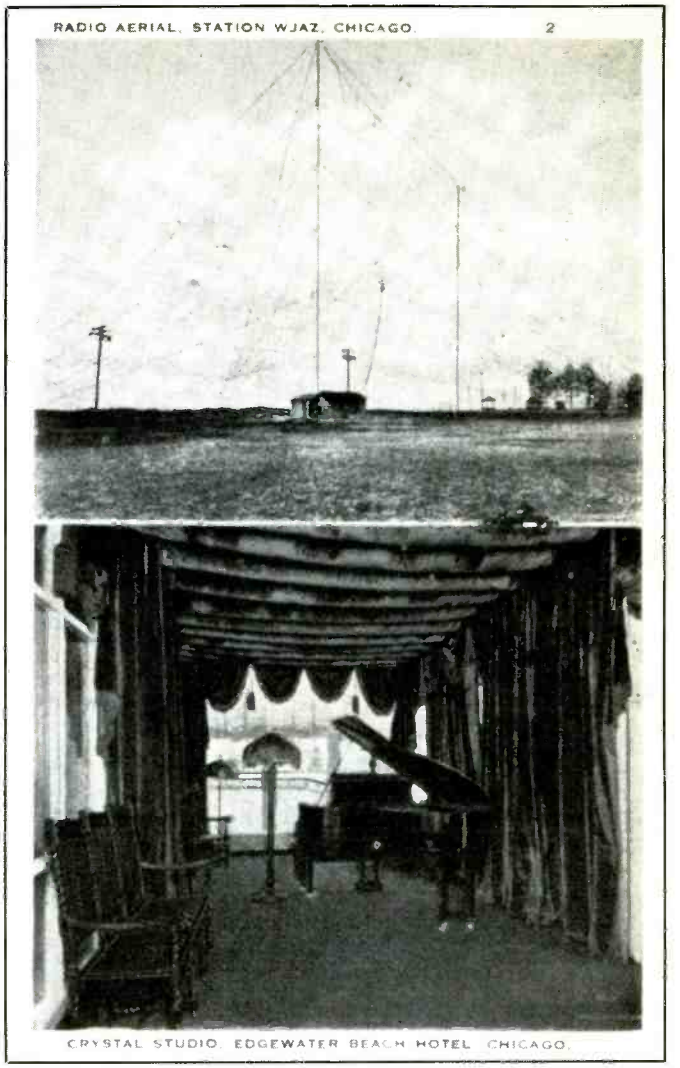
In the early days of wireless, large networks of coastal telegraph stations dotted the Great Lakes in order to maintain communications with steamers on those waters. Notwithstanding the severe weather on the Great Lakes that made communications necessary for the safety of life and property, even running the coastal station turned out to be a rather exciting and eventful way of earning a living. This was because there were several highly competitive companies



Shreveport's KWKH was a creation of W.K. Henderson, a unique character who thought up just the right slogan to match the callsign and also the flamboyant image of himself and his great station. (Courtesy Larry Flegle, N4TMW.)



A rare (1909) view of the United Wireless Telegraph Company's coastal telegraph station in Milwaukee. Using "MK" as its identification, the station contacted vessels on the Great Lakes.



Chicago's WJAZ had a brief but interesting career. (Courtesy Don Baldwin, NJ.)

all attempting to put one another out of business. Their efforts along these lines ranged from luring accounts (shipping companies) away from other coastal networks to going so far as to deliberately jam the communications in which their competitors were engaged. More than once, even distress communications were jammed, resulting in considerable problems for the vessel seeking help.

One of the first coastal telegraph companies to provide service to Great Lakes vessels was the United Wireless Telegraph Company. They had a tidy little network of shore stations dotting the shoreline of each of the lakes. We are fortunate in having a postcard dated 1909 that depicts their station in Milwaukee, WI. In those days, before federally-issued callsigns, this station used "MK" as its identification.

In our scene, we see MK's tower to the right atop the Railway Exchange Building. The major thoroughfare running towards the lake is Wisconsin Street, (now called East Wisconsin Avenue), looking east. This is around the area of the present Federal Building.

From The United Kingdom

One of our readers in England, Clive Edsor, passed along a 1943 photo showing the three towers and operations center described in the photo as the *North Regional Wireless Station*. We dug into the archives and this station began broadcasting on April 25th, 1931 as station 2ZY on 797 kHz. This was a BBC Home Service station situated on one of the most prominent hills of the Moorland of the West Riding of Yorkshire almost within sight of Lancashire. It could be seen from many parts of Halifax and Huddersfield and from almost every vantage point within twenty miles. The nearest town was Slaithwaite. The masts were 501 feet in height, and the site was 1120 feet above sea level.

In 1936, the station was running 50 kW on 668 kHz, operating 1115 to 0000 UTC (GMT) daily, and 1230 to 2245 UTC on Sundays. A year later, the power was increased to 70 kW.

Records for 1946 show the BBC Home Service *North Regional* station was still on 668 kHz, but running 100 kW and shown with a location of Moorside Edge. Presently, the Moorside Edge station operates with 200 kW on 909 kHz, 150 kW on 1089 kHz, and 100 kW on 1215 kHz.

Good Morning, Vietnam!

Although the war in Vietnam is still fresh in the memory of many, most likely there are a few DX'ers today who can display (or have ever seen) an actual QSL card from the war zone. The problem was solved for us by R.C. Watts, Louisville, KY who shares with us a peek at his 1964 QSL from the *Armed Forces Vietnam Network* station that ran 50 kW on 540 kHz. The QSL is a multi-station type which could be used for any of the seven different stations listed.

uniden®

$12,000,000 Scanner Sale

Uniden Corporation of America has purchased the consumer products line of Regency Electronics Inc. for $12,000,000. To celebrate this purchase, we're having our largest scanner sale in history! Use the coupon in this ad for big savings. Hurry...offer ends March 31, 1990.

★★★ MONEY SAVING COUPON ★★★

COUPON COUPON COUPON COUPON

Get special savings on the scanners listed in this coupon. This coupon must be included with your prepaid order. Credit cards, personal checks and quantity discounts are excluded from this offer. Offer valid only on prepaid orders mailed directly to Communications Electronics Inc., P.O. Box 1045 – Dept. UNI3, Ann Arbor, Michigan 48106-1045 U.S.A. Coupon expires March 31, 1990. Coupon may not be used in conjunction with any other offer from CEI. Coupon may be photocopied. Add $12.00 for shipping in the continental U.S.A.

Regency TS2-T **$259.95**
Regency R1600-T.....**$239.95**
Regency R1099-T.....**$99.95**
Regency RH606B-T.....**$419.95**
Regency RH256B-T.....**$294.95**
Bearcat 200XLT-T2.....**$229.95**
Bearcat 100XLT-T **$184.95**
Bearcat 800XLT-T2.....**$229.95**
Uniden HR2510-T **$229.95**
Uniden HR2600-T **$274.95**
Unlden PRO500D-T2.....**$29.95**

★★★★ VALUABLE COUPON ★★★★

Bearcat® 760XLT-T

List price $499.95/**CE price $244.95/SPECIAL**
12-Band, 100 Channel • Crystalless • AC/DC
Frequency range: 29-54, 118-174, 406-512, 806-956 MHz. Excludes 823.9875-849.0125 and 868.9875-894.0125 MHz.
The *Bearcat* 760XLT has 100 programmable channels organized as five channel banks for easy use, and 12 bands of coverage including the 800 MHz. band. The *Bearcat* 760XLT mounts neatly under the dash and connects directly to fuse block or battery. The unit also has an AC adaptor, flip down stand and telescopic antenna for desk top use. 6-5/16" W x 1⅝" H x 7⅜" D. Model **BC 590XLT-T** is a similar version without the 800 MHz. band for only $194.95. Order your scanner from CEI today.

NEW! Regency® Products

R4030-T *Regency* 200 ch. handheld scanner $254.95
R4020-T *Regency* 100 ch. handheld scanner $189.95
R4010-T *Regency* 10 channel handheld scanner... $114.95
R1500-T *Regency* 100 channel mobile scanner ... $244.95
P200-T *Regency* 40 channel CB Mobile $38.95
P210-T *Regency* 40 channel CB Mobile $56.95
P220-T *Regency* 40 channel CB Mobile $79.95
P300-T *Regency* 40 channel SSB CB Mobile..... $137.95
P400-T *Regency* 40 channel SSB CB Base..... $174.95
PR110-T *Regency* "Passport" size radar detector ... $114.95
PR120-T *Regency* "micro" size radar detector.... $144.95
MP5100XL-T *Regency* 40 Ch. marine transceiver... $139.95
MP5510XL-T *Regency* 60 Ch. marine transceiver... $159.95
MP6000XL-T *Regency* 60 Ch. marine transceiver... $209.95
MP2000XL-T *Regency* handheld marine trans..... $189.95

Regency® RH256B-T

List price $799.95/**CE price $299.95/SPECIAL**
16 Channel • 25 Watt Transceiver • Priority
The *Regency* RH256B is a sixteen-channel VHF land mobile transceiver designed to cover any frequency between 150 to 162 MHz. Since this radio is synthesized, no expensive crystals are needed to store up to 16 frequencies without battery backup. All radios come with CTCSS tone and scanning capabilities. A monitor and night/day switch is also standard. This transceiver even has a priority function. The RH256 makes an ideal radio for any police or fire department volunteer because of its low cost and high performance. A *60 Watt* VHF 150-162 MHz. version called the **RH606B-T** is available for $429.95. A UHF 15 watt, 16 channel version of this radio called the **RU156B-T** is also available and covers 450-482 MHz. but the cost is $454.95.

★★★ Uniden CB Radios ★★★

The *Uniden* line of Citizens Band Radio transceivers is styled to compliment other mobile audio equipment. Uniden CB radios are so reliable that they have a two year limited warranty. From the feature packed PRO 810E to the 310E handheld, there is no better Citizens Band radio on the market today.

PRO310E-T *Uniden* 40 Ch. Portable/Mobile CB... $83.95
PRO330E-T *Uniden* 40 Ch. Remote mount CB... $104.95
PRO500D-T *Uniden* 40 Channel CB Mobile $38.95
KARATE-T *Uniden* 40 channel rescue radio..... $53.95
GRANT-T *Uniden* 40 channel SSB CB mobile.... $166.95
MADISON-T *Uniden* 40 channel SSB CB base... $244.95
PC122-T *Uniden* 40 channel SSB CB mobile..... $119.95
PRO510XL-T *Uniden* 40 channel CB Mobile..... $38.95
PRO520XL-T *Uniden* 40 channel CB Mobile..... $56.95
PRO530XL-T *Uniden* 40 channel CB Mobile..... $79.95
PRO540E-T *Uniden* 40 channel CB Mobile..... $97.95
PRO640E-T *Uniden* 40 channel SSB CB Mobile... $137.95
PRO710E-T *Uniden* 40 channel CB Base $119.95
PRO810E-T *Uniden* 40 channel SSB CB Base... $174.95

★★★ Uniden Radar Detectors ★★★

Buy the finest *Uniden* radar detectors from CEI today.
TALKER-T2 *Uniden* talking radar detector $144.95
RD7-T *Uniden* visor mount radar detector $99.95
RD9-T *Uniden* "Passport" size radar detector $114.95
RD9XL-T *Uniden* "micro" size radar detector..... $144.95
RD25-T *Uniden* visor mount radar detector $54.95
RD500-T Uniden visor mount radar detector..... $74.95

Bearcat® 200XLT-T2

List price $509.95/**CE price $239.95/SPECIAL**
12-Band, 200 Channel • 800 MHz. Handheld Search • Limit • Hold • Priority • Lockout
Frequency range: 29-54, 118-174, 406-512, 806-956 MHz. Excludes 823.9875-849.0125 and 868.9875-894.0125 MHz.
The *Bearcat* 200XLT sets a new standard for handheld scanners in performance and dependability. This full featured unit has 200 programmable channels with 10 scanning banks and 12 band coverage. If you want a very similar model without the 800 MHz. band and 100 channels, order the **BC 100XLT-T** for only $189.95. Includes antenna, carrying case with belt loop, ni-cad battery pack, AC adapter and earphone. Order your scanner now.

Bearcat® 800XLT-T2

List price $549.95/**CE price $239.95/SPECIAL**
12-Band, 40 Channel • No-crystal scanner Priority control • Search/Scan • AC/DC
Bands: 29-54, 118-174, 406-512, 806-912 MHz. Excludes 823.9875-849.0125 and 868.9875-894.0125 MHz.
The Uniden 800XLT receives 40 channels in two banks. Scans 15 channels per second. Size 9¼" x 4½" x 12½." If you do not need the 800 MHz. band, a similar model called the **BC 210XLT-T** is available for $178.95.

Bearcat® 145XL-T

List price $189.95/**CE price $94.95/SPECIAL**
10-Band, 16 Channel • No-crystal scanner Priority control • Weather search • AC/DC
Bands: 29-54, 136-174, 406-512 MHz.
The *Bearcat* 145XL is a 16 channel, programmable scanner covering ten frequency bands. The unit features a built-in delay function that adds a three second delay on all channels to prevent missed transmissions. A mobile version called the **BC560XLT-T** featuring priority, weather search, channel lockout and more is available for $94.95. CEI's package price includes mobile mounting bracket and mobile power cord.

President® HR2510-T

List price $499.95/**CE price $239.95/SPECIAL**
10 Meter Mobile Transceiver • Digital VFO Full Band Coverage • All-Mode Operation Backlit liquid crystal display • Auto Squelch RIT • Preprogrammed 10 KHz. Channels
Frequency Coverage: 28.0000 MHz. to 29.6999 MHz.
The *President* HR2510 Mobile 10 Meter Transceiver made by Uniden, has everything you need for amateur radio communications. Up to 25 Watt PEP USB/LSB and 25 Watt CW mode. Noise Blanker. PA mode. Digital VFO. Built-in S/RF/MOD/SWR meter. Channel switch on the microphone, and much more! The HR2510 lets you operate AM, FM, USB, LSB or CW. The digitally synthesized frequency control gives you maximum stability and you may choose either pre-programmed 10 KHz. channel steps, or use the built-in VFO for steps down to 100 Hz. There's also RIT (Receiver Incremental Tuning) to give you perfectly tuned signals. With receive scanning, you can scan 50 channels in any one of four band segments to find out where the action is. Order your HR2510 from CEI today.

NEW! President® HR2600-T

List price $599.95/**CE price $299.95/SPECIAL**
10 Meter Mobile Transceiver • New Features
The new *President* HR2600 Mobile 10 Meter Transceiver is similar to the *Uniden* HR2510 but now has repeater offsets (100 KHz.) and CTCSS encode.

BC760XLT
800 MHz. mobile scanner
SPECIAL!

★★★ Uniden Cordless Telephones ★★★

XE750-T *Uniden* Cordless Phone with speaker $99.95
XE550-T *Uniden* Cordless Phone..... $79.95
XE300-T *Uniden* Cordless Phone..... $69.95

★★★ Extended Service Contract ★★★

If you purchase a scanner, CB, radar detector or cordless phone from any store in the U.S. or Canada within the last 30 days, you can get up to three years of extended service contract from Warrantech. This service extension plan begins *after* the manufacturer's warranty expires. Warrantech will perform all necessary labor and will not charge for return shipping. Extended service contracts are not refundable and apply only to the original purchaser. A two year extended contract on a mobile or base scanner is $29.99 and three years is $39.99. For handheld scanners, 2 years is $59.99 and 3 years is $79.99. For radar detectors, two years is $29.99. For CB radios, 2 years is $39.99. For cordless phones, 3 years is $34.99. Order your extended service contract today.

OTHER RADIOS AND ACCESSORIES

BC55XLT-T *Bearcat* 10 channel scanner $114.95
BC70XLT-T *Bearcat* 20 channel scanner..... $159.95
BC175XLT-T *Bearcat* 16 channel scanner $156.95
R2066-T *Regency* 60 channel scanner..... $149.95
R1099-T *Regency* 45 channel scanner..... $109.95
TS2-T *Regency* 75 channel scanner..... $269.95
UC102-T *Regency* VHF 2 ch. 1 Watt transceiver... $114.95
BPS5-T *Regency* 16 amp reg. power supply $179.95
BP205-T1 Ni-Cad batt. pack for BC200/BC100XLT... $39.95
B8-T 1.2 V AA Ni-Cad batteries (set of eight)..... $17.95
FBE-T Frequency Directory for Eastern U.S.A..... $14.95
FBW-T Frequency Directory for Western U.S.A..... $14.95
RFD1-T Great Lakes Frequency Directory..... $14.95
RFD2-T New England Frequency Directory..... $14.95
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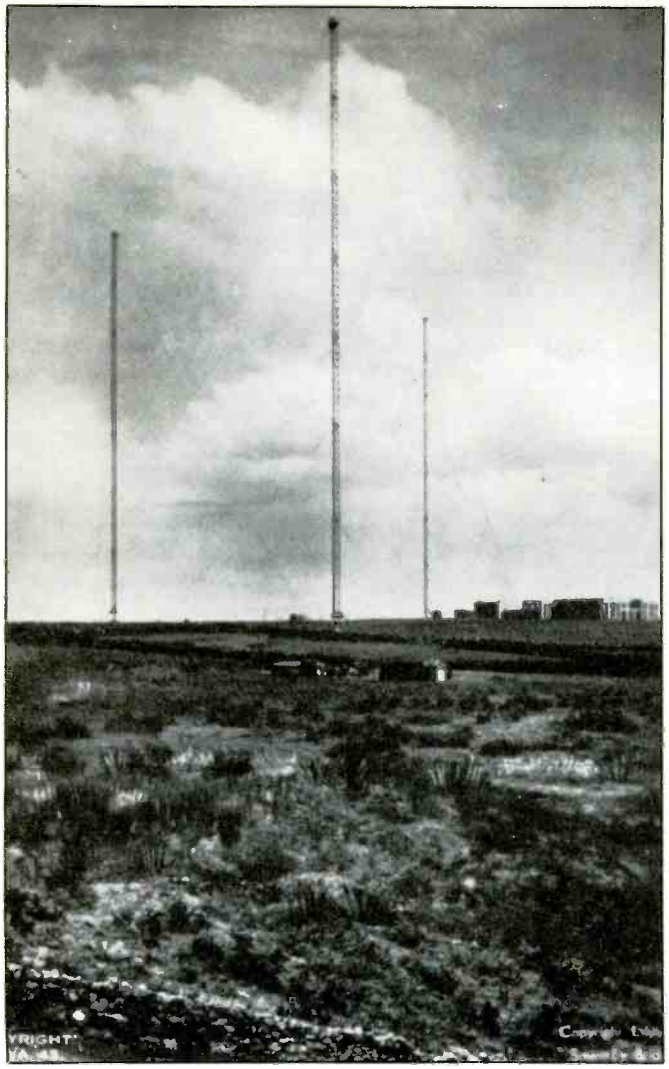
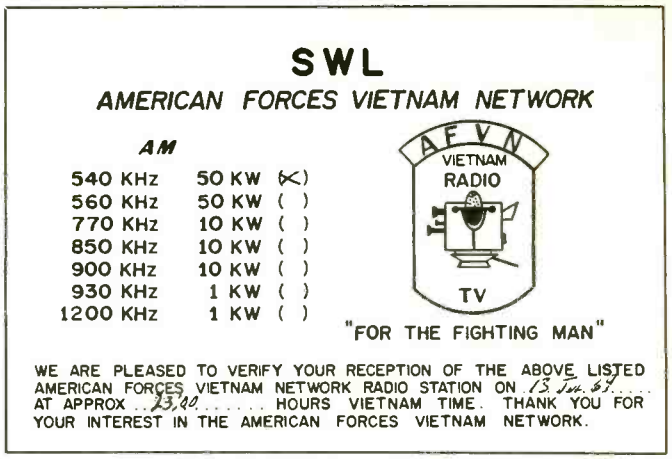


A 1943 view of the BBC's North Regional Wireless Station located near Lancashire. (Courtesy Clive Edsor, England.)



This card is from the U.S. Armed Forces Vietnam Network and is dated 1964, although we can't locate any information on these stations. (Courtesy R.C. Watts, Louisville, KY.)

Today, a station running only 200 watts in the 31-meter band wouldn't need QSL's since nobody would ever hear its signals. This large and colorful 1937 QSL from "Radio Martinique" proves that fifty years ago, you could run a 200-watt SWBC station, and have your station heard! (Courtesy Ed Bailey, CT.)

Checking what information I had available, I was unable to find listings for any of the stations shown on the QSL, so I can't give you information in the way of specific locations. I presume they were all in Saigon, but if someone has better information, we'd welcome same.

Caribbean Calling on Shortwave

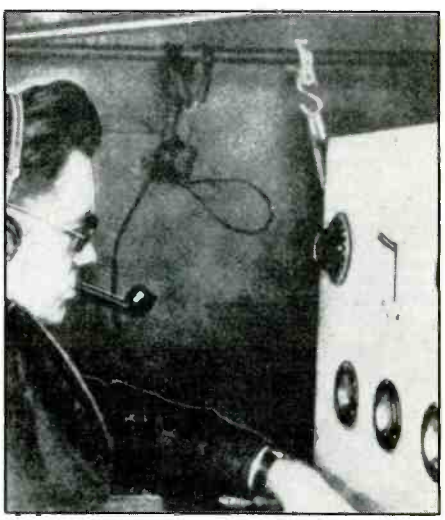
Edward Bailey, West Haven, CT sent us an extremely pleasant letter accompanied by several great QSL cards that he collected in the 1930's. One that was especially colorful and attractive was from *Radio Martinique*, in Fort-de-France, on the French Island of Martinique, in the Caribbean.

This card is dated 1937 and is for reception on 9700 kHz. At 200 watts, this was a good catch. That little power in the 31-meter band sure wouldn't do much for a station these days; would hardly pay to print up QSL cards. But this 1937 card in red, yellow, blue, black, and white is oversized, it is also quite a fancy work of art. Would lead you to believe that they had a lot of reception reports to answer.

This station broadcast in English, French, and German every evening from 2345 to 0045 UTC. *Radio Martinique* remained on the air (and on 9700 kHz) through the years of WWII, although it had increased its power to 1.5 kW by 1948. By the 1950's, the station dropped shortwave coverage and replaced it with a home service on 1500 kHz. In the early 1960's, *Radio Martinique*, itself, was dropped and replaced by the *Antilles-Guyane Network* on 1310 (50 kW), 4895 kHz (4 kW), and 5994 kHz (1 kW). Presently, the station is known as *Societe Nationale de Radio-Television Francaise d'Outre Mer* on 1310 kHz, also 92.0 and 93.0 MHz FM. The shortwave outlets are gone again.

Flying Home

Experimental station W2XBQ was, from

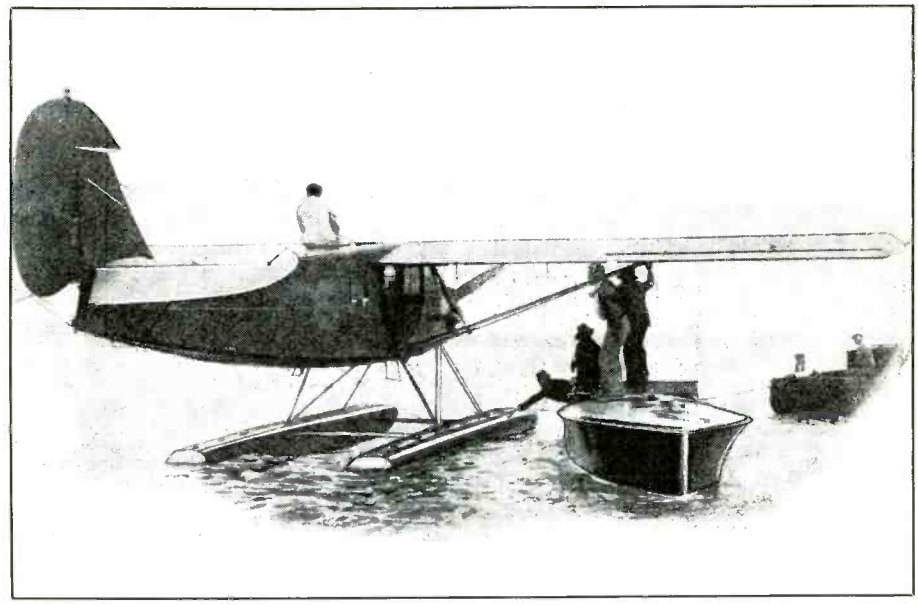


Operating position at Experimental W2XBQ, airborne in 1930, was a snug arrangement. The transmitter ran a DeForest 501A tube in the final (100 mils at 1,000 volts).

1928 to 1930, the flying radio communications laboratory of the Pilot Radio and Tube Company, 323 Berry Street, Brooklyn, NY. This company, started by Milton B. Sleeper, later made early FM broadcast tuners and receivers.

The aircraft in which W2XBQ was located was a single engine, high-wing type on pontoons. The aircraft was named *Pilot Radio* (NR-487H), and it made many headlines in April, 1930 when it flew from New York City to Bermuda with a crew of three in order to test the extent to which reliable shortwave communications with a land station could be maintained during an oceanic flight. The land station selected to participate was WHD, the shortwave communications station owned by *The New York Times*. All communications were CW, and the frequencies used were 1608, 2302, 3076, 4108, 5510, and 6155 kHz. During the flight to Bermuda (800 miles), more than fifty messages were exchanged with solid copy and no requests for repeats.

The airborne antenna was a trailing wire which could be let out to various different lengths, as determined by (the 3rd harmonic of) the frequency employed. The major novelty of the communications system is that it was devoid the usual low frequency transmitting equipment that, until then, aircraft relied upon for over-water flights.



W2XBQ was located in this flying laboratory owned by the Pilot Radio and Tube Company.

They proved that shortwave communications and equipment had evolved to the point where aircraft no longer needed to carry long wave transmitters.

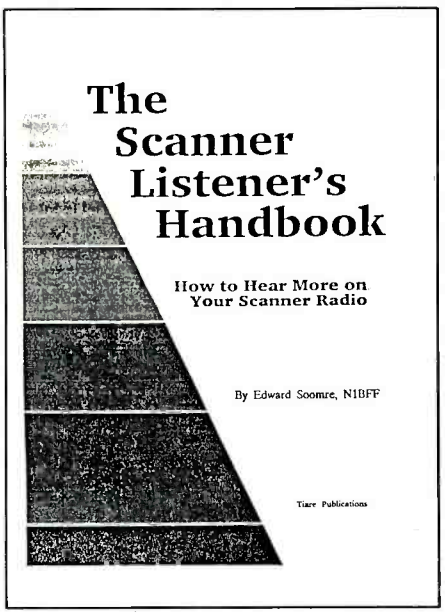
Speaking of long waves, that's what I'm going to have to give you now, with a tear in my eye, until we meet again for the April issue. So, heaps of thanks to those who sent along photos, QSL's, station directories, postcards and other items relating to old radio and wireless for our use in preparing the column. All are appreciated. **PC**

BOOKS YOU'LL LIKE

R. L. SLATTERY

Calling All Scanner Owners

Although there have long been frequency directories to inform scanner users, there has been a dearth of general information on the hobby of scanning itself. That problem looks to have been well solved with the appearance of the new book called *The Scanner Listener's Handbook: How To Hear More On Your Scanner*, by Ed Soomre, N1BFF.



The book begins with an introduction to and explanation of scanners and the hobby of monitoring various two-way communications services operating between 25 and 2,000 MHz. Next, Soomre tells you how to select and buy a scanner to best meet your particular needs; discussing the features of 55 current models, plus 35 scanner antennas, coaxial cables, and accessories. He explains the potentials of and techniques for interfacing scanners with personal computers in order to expand performance capabilities.

Next, the author describes the several types of two-way radio systems encountered on these bands such as simplex, half/full duplex, repeaters, scrambled speech, cellular, and the new trunked 800 MHz systems that have raised so many questions within scanner-user circles. He then presents information on monitoring laws, plus a description of the many radio services encountered on the scanner bands. There is lots of frequency-allocation data here, too, with a listing of which services each of the thousands of assignable frequencies between 25 and 2,100 MHz.

Finally, the author presents several large and valuable reference appendices of scanner manufacturers and dealers, frequency guide sources, and other data that scanner users will find handy in the pursuit of their favorite avocation. Whether you're a beginner, or a seasoned old-timer in the world of scanning, you'll find Soomre's large and well-done book to be thorough and a source of information that you'll doubtless constantly rely upon.

It's good to see that someone has come along to fill this information gap, and has done such a good job of things while doing so. This is a welcome 130-page book that every scanner owner will regard as a close and informative friend.

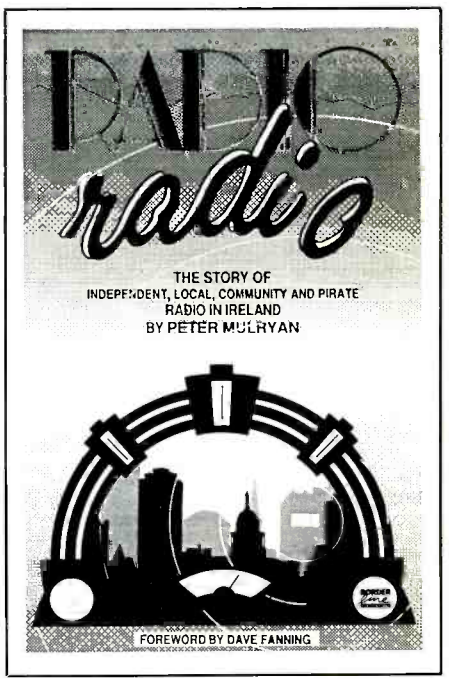
The Scanner Listener's Handbook, by Ed Soomre, is $14.95 plus $2 shipping/handling to addresses in USA/Canada/APO/FPO from CRB Research, P.O. Box 56, Commack, NY 11725. Residents of NY State add $1.08 sales tax.

Just In Time For Saint Pat's Day

A book with the odd title of *Radio Radio*, by Peter Mulryan lets you in on the interesting story of independent, local, community, and even pirate radio in the Republic of Ireland. Let's point out that this book was written and published in Ireland, and wasn't written from afar by someone on this side of the pond who took a fancy to the topic.

Mulryan's 166-page book is filled with photos and exciting text tracing all forms of broadcasting back as early as 1916, with most of the stations covered definitely being on the far side of broadcasting laws and various governmental agencies to one extent or another. There are hobby stations, political protest stations, militant stations, independents, networks, stations that lasted for years and others that came and went in little more than a twinkling of a leprechaun's eye. Not that their common bond in broadcasting gave them all sufficient reason to like, or even tolerate one another at times.

It's hard to comprehend from North America, but in the early days when the only legal broadcasting in Ireland was done by the government (which extended to the early 1980's), one of the major election campaign issues was voting in the party that had the best chance of passing new laws that would assure the licensing of local pirate broadcasters! This isn't to say that in earlier days the pirates operated from hidden locations with a paranoid eye towards the roadway to watch for governmental radio enforcement teams. Many of these stations operated right out in the open, promoted their activities with ads and bumperstickers,



and defied anybody to show up to close them down. This was possible because the stations had enormous local community support, and served a need not met by government-run stations.

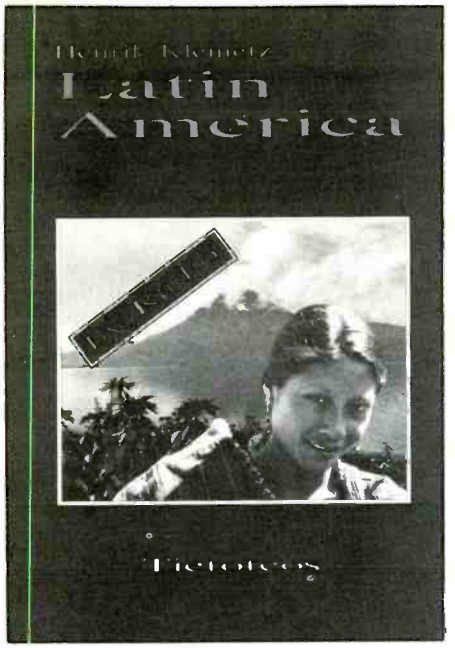
There are plenty of wonderful anecdotes here, lots of colorful characters, and scores of gritty stations arriving and departing in practically every big city and country crossroads.

This book carries a cover price stated in Pounds Sterling (5.95). It was published by Borderline Publications, 38 Clarendon Street, Dublin 2, Ireland. We believe that it might be distributed here by Billboard Publications, Inc., 1515 Broadway, New York, NY 10036. This is a fine book, and lots of fun.

Closer To Home

Latin America by Radio, by Henrik Klemetz, is a 168-page English-language book written by an active Swedish DX'er and published very nicely by a company in Finland.

Many DX'ers have been fascinated by the thousands of mediumwave and shortwave broadcasters operating in Central and South America. Henrik Klemetz numbered among those who never ceased to be intrigued by the local outlets in jungle outposts, the religious and regional stations bringing signals to remote pockets of civilization, as well as the major commercial and governmental networks. These stations can be heard operating in Spanish, Portuguese, and countless Indian dialects.



Eventually, tuning the station on his radio wasn't sufficiently rewarding. Klemetz packed his camera and his radio and went there to visit the stations, discuss their operations and equipment, programming philosophies, local needs they attempt to meet, etc. What emerged was his book, *Latin America by Radio*. It's filled cover-to-cover with photos, QSL's, and information on the stations, including frequency tables, station slogans, local words, station logos, program formats, lists of products sold over the radio, information on music heard, newscast information, national anthems, etc.

There's plenty of information on the best way to DX these stations and, perhaps best of all, how to weasel QSL's out of some of the stations, since local outlets throughout Latin America are notorious for ignoring reception reports. Apparently it's not really all *that* hopeless, you just have to know the technique, which he classifies as "useful and dirty tricks."

There are so many Latin American broadcasters, Klemetz' book will certainly give you plenty of information you'll find directly useful in DX'ing. Moreover, it's an interesting story. It's like a travel guide to Latin America written for DX'ers. A good idea that we found quite innovative.

Latin America by Radio is priced in U.S. funds at $23 from Tietoteos Publishing Company, P.O. Box 40, Tlaportti 1 A, SF-02211 Espoo, Finland.

In Addition

Evolution and Organization of Intelligence Activities In The United States is a 318-page overview of the American intelligence gathering community from 1776 to 1975. It's the result of an authoritative report prepared for the 94th Congress Senate Select Committee to study federal intelligence activities.

The book makes for easy and absorbing reading, however, its principal purpose is to be an authoritative source of information concerning intelligence activities. Virtually every aspect and agency is covered with a surprising amount of detail, including how much has been spent. This book is $32.80 plus $2 postage from Agean Park Press, P.O. Box 2837, Laguna Hills, CA 92654. Residents of California, add sales tax.

We received another in a series of books from Australia. This one, by Desmond Ball, is a 151-page volume entitled *Soviet Signals Intelligence (SIGINT): Intercepting Satellite Communications*. This book, as the previous one we received and mentioned several months ago, was sent anonymously with no information regarding price, ordering, or availability.

This heavily illustrated (photos, charts, tables, diagrams) book is concerned with the USSR's SIGINT capabilities and operations with respect to intercepting satellite communications, including those from commercial as well as defense/intelligence "birds." It describes the Soviet ground station capabilities, especially the facility at Lourdes, Cuba. It discusses SATCOM monitoring from diplo posts, and ships at sea. It concludes that the West inadequately appreciates the scope and sophistication of these activities and has therefore not taken adequate security (COMSEC) measures to protect the information being sent via satellites.

Soviet Signals Intelligence is an excellent book in every respect. It was published by the Strategic and Defense Studies Centre, Research School of Pacific Studies, The Australian National University, Canberra, Australia. You'll have to inquire from these people if you're interested on obtaining a copy of this information-packed book.

A press release was received announcing Bob Grove's *Scanner and Shortwave Answer Book*. This is a 160-page book consisting of hundreds of questions on monitoring and answers from Bob, as they appeared in issues of *Monitoring Times* over the past eight years. These questions cover everything from equipment selection to accessories, antennas, and technical matters. Bob's insight into such matters is always top-notch, so this book is sure to cover a lot of ground you'll want to know about. It costs $12.95 plus $2 postage (to U.S. addresses) from Grove Enterprises, P.O. Box 98, Brasstown, NC 28902. Looks like a good one. PC

SKIP AHOY!

DX'ing Maritime Communications on the VHF "Low Band" With Your Scanner.

BY CHUCK ROBERTSON

The frequency 31.48 MHz, at first glance, doesn't strike you as anything very extraordinary, at least no more so than any of the other 60-odd channels allocated in the 30 to 50 MHz range for the Special Industrial Radio Service. If, for no other reason than being the frequency used by the Gulf Fleet Marine Corporation's many land bases and ocean-going vessels transporting crude oil and other cargo, it turns out to be one of the most exciting frequencies going. For years I've kept this frequency on tap in my scanner, for no matter which direction is bringing in skip, the action goes full tilt.

There's lots of information on ship positions, sea and weather conditions, cargo status, and routing. There's also no shortage of ship-to-ship chit-chat.

Mostly, the vessels monitored are cruising in the Gulf of Mexico and the Caribbean, although the excellent skip conditions of late have brought in Gulf Fleet vessels located in the Mediterranean and the Pacific who are able to contact the company's "Harvey Base" in Louisiana. Only problem is that this network of stations doesn't have the exclusive use of 31.48 MHz, and during periods when skip is rolling in, the frequency becomes wall-to-wall chatter with other stations located in all areas of the nation. Sometimes, when the pileup gets especially bad, Harvey Base and the vessels have even switched modes from NBFM to SSB in an effort to maintain contact through the wall of signals.

Gulf Fleet vessels are authorized to use 220 watts on FM. Most of these vessels can be discerned because they have the word "Gulf" as part of their name (see our roster). Of course, depending upon the primary language of the ship's captain, you might well hear the name of the vessel spoken in Spanish, Norwegian, Dutch, German, or Portuguese.

Touching Base

There are at least four Gulf Fleet bases, the main one called Harvey Base (callsign

Table 1

Apolo del Golfo	Gulf Raven
Atlantic Sea Horse	Gulf Ruller
Barbara G. 5	Gulf Saber
Bering Sea Horse	Gulf Sea Horse
Brazo	Gulf Seas
Caribbean Sea Horse	Gulf Star
Chesepeake Sea Horse	Gulf Storm
Comoro Uno	Gulf Thunder
El Mira de Felice	Gulf Titan
Gulf Ace 2	Gulf Viking
Gulf Breeze	Gulf Wind
Gulf Cajun	Juno del Golfo
Gulf Commander	Jerry G. 6
Gulf Duke	Liberty Service
Gulf Eagle	Lilly Gidfrey
Gulf Falcon	Luke Z. de Felice
Gulf Fever	Matagorda Sea Horse
Gulf Fleet 302	Mary de Felice
Gulf Hawk	Martie de Felice
Gulf Joy'	Micheal de Felice
Gulf Lightning	Mr. Andrie
Gulf Miss	Mr. Mat
Gulf Neighbor	Mr. Roberts
Gulf Pride	Nelly Gidfrey
Gulf Prince 2	Pacific Sea Horse
Gulf Queen 2	San Mataos Sea Horse
Gulf Rambler	Saturno del Golfo
Gulf Ramp	Tarot 2

Table 1 - Some of the Gulf Fleet vessels heard on 31.48 MHz.

KXF841) and located south of New Orleans. For local comms, there's a 500 watt transmitter with an antenna mounted 30-feet above ground. This is used for contracting crew vans, maintenance trucks, and vessels near the coast and on the Mississippi River.

A second 500-watt transmitter is located at Leeville, south of Harvey, and has the callsign KQZ242. This transmitter is remote controlled from Harvey, but has its antenna atop a 600-foot tower. Another remote controlled transmitter (WZU846, 100 watts) is at Sabine, TX and uses an antenna mounted on a tower 580-feet in height. No wonder Harvey Base has such great coverage!

Identification

As a general rule, callsigns aren't used. Sometimes vessels will request the base station to use a particular transmitter site, such as, "go to Leesville." Or they may call for "KQZ," short for KQZ242. When they want Sabine, they may ask for it by name, or as "WZ," short for WZU846. One captain got confused and mixed everything up, asking for "KZU." he got no reply.

Another base is located in Larose, LA. This base can also access the Leeville and Sabine Pass remote transmitter sites. You don't monitor the Larose station very often unless a vessel is calling and the operator at Harvey Base is temporarily away from the radio.

Table 2

Harvey Base—Harvey, LA; KXF841
Leeville—Remote transmitter at Leeville, LA; KQZ242
Sabine—Remote transmitter at Sabine Pass, TX; WZU846
Larose Base—Larose, LA Also called "Home Office"; seldom heard.
Carmen Base—Carmen, Mexico, Gulf of Campeche
HNG Base—Honduras?

Table 2 - Gulf Fleet major bases and transmitter sites.

Larose Base has also been monitored on 31.44 MHz, although I can't find any FCC record for Gulf Fleet Marine on this frequency. Frequency 31.40 MHz even appears to be in occasional use by Gulf Fleet Marine vessels, at least I've heard it used twice during *Mayday* situations. At those times, vessels were heard shifting between 31.40, 31.44, and 31.48 MHz in an attempt to get help. There might even be other channels to use at 20 or 40 kHz spacing, although I haven't monitored any in use.

A third base is at Carmen, Mexico. This is on the oil-rich Gulf of Campeche. HNG Base is the fourth base, possibly located at Honduras. Both of these stations use English or Spanish. Actually, there are other minor bases on 31.48 MHz, such as *Pujon Base* (Louisiana?), which is a docking facility utilized by Gulf Fleet Marine vessels. Pujon isn't operated by Gulf Fleet Marine, and has also been noted on 33.38 MHz and mentioning that they were switching to VHF high-band marine channels to relieve congestion on 31.48 MHz.

All Over

Gulf Fleet's vessels turn up on a number of additional low-band frequencies licensed to other port facilities, oil rigs and shipping companies. For instance, the *Gulf Fleet 50* has been heard on 44.27 MHz repeater using the King's Wharf in Fyzabad, Trinidad and Tobago. The vessel *Apolo del Golfo* has been monitored on 32.60 MHz while communicating with offshore oil rigs, possibly in the Gulf of Mexico. Sometimes you'll hear Gulf Fleet vessels mention that they're switching to Exxon or Conoco channels. You'll also hear vessels from several companies that deal with Gulf Fleet Marine operating on their 31.84 MHz frequencies.

Can We Talk?

Fascinating comms come from the Gulf Fleet vessels, like the report from not long ago that was midway between Trinidad and Louisiana when the captain reported that one of the crew members was "freaking out."

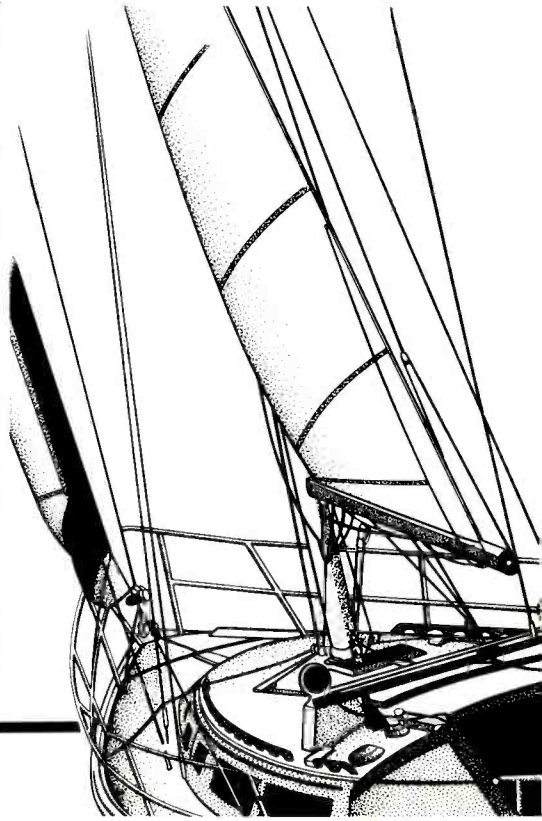
Table 3

30.66, 33.28 Kerr McGee Corp.
30.70, 48.64 Shell Oil
30.74, 30.78, 30.82 Gulf Oil
30.78, 31.16, 33.18 Chevron
33.20, 33.38 CONOCO
33.24 Signal Petroleum
33.26 TENNECO
33.28, 49.16 Cities Service
33.34, 35.48 Union Oil
33.36 EXXON
33.38 Pujon dock
46.68 Coastal States Gas
48.82 Texas Eastern
48.92 Texas Gas
48.98 Getty Oil
49.04 PENNZOIL
49.08 Texoma
49.18 Mobile Oil
49.30 Marathon Oil
49.34 Sun Corp.
49.50 AMINOIL

Table 3 - Low-Band petroleum operations in the Gulf of Mexico.

Sometimes things get tense when the vessels get close to certain coastlines, like Peru, Nicaragua, or Angola. Like the time the skipper of one of the ships radioed, "I'm going to Nicaragua in the morning. Got my machine gun with me." Maybe he was only kidding, but it still sent a shiver up my spine!

Aye, matey! Program 31.48 MHz into your scanner and brace yourself to the mizzenmast for swashbuckling high seas adventure. PC



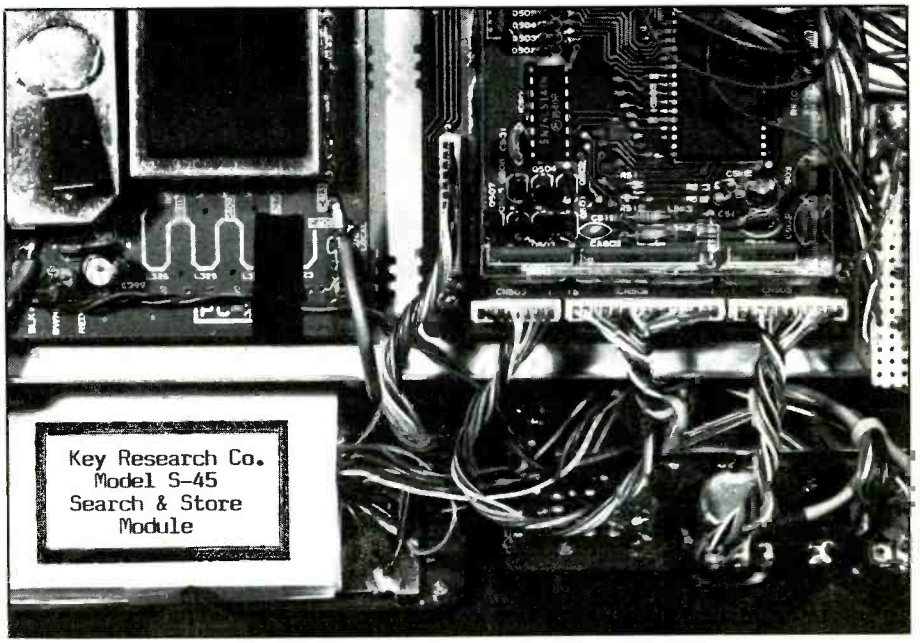
Product Review

An Automatic Search And Store Module For Your PRO-2004 Or 2005

On occasion someone invents a low cost product that performs a unique and particularly valuable service that nothing else can do and, at the same time, is easy to install and use. Permit me to introduce to you such a creation, the *Model SS-45 Search & Store Module* for the Realistic PRO-2004 and PRO-2005 programmable VHF/UHF scanners.

Developed and marketed by Key Research Company, the SS-45 adds a new dimension to scanning for owners of these popular receivers. The module introduces hands-off, unattended searching for active frequencies. No longer is continuous operator involvement required to discover those elusive frequencies. The SS-45 completely automates the "Search" and temporary "Storage" of active frequencies! This means that you can program and start a SEARCH band and then go to bed or to work. When the SEARCH function detects and stops on an ACTIVE frequency, that frequency is *automatically stored* in a "Monitor" channel; the "Monitor" channel number then advances by one; and SEARCH automatically resumes until the next active frequency is found and the process is repeated. This is an automated process that does not require your attention once the Search & Store feature is activated! Later, when you return, the new frequencies can be transferred to the permanent memory channels in the customary manner. The module lets you find new, or rarely used frequencies, that otherwise you wouldn't have the patience or the time to SEARCH out manually! Unfortunately, the Search & Store Module is *not* available for scanners other than the Realistic PRO-2004 and PRO-2005. Depending on the marketing success of the SS-45, Key Research Co. might attempt to adapt this neat feature to other scanners.

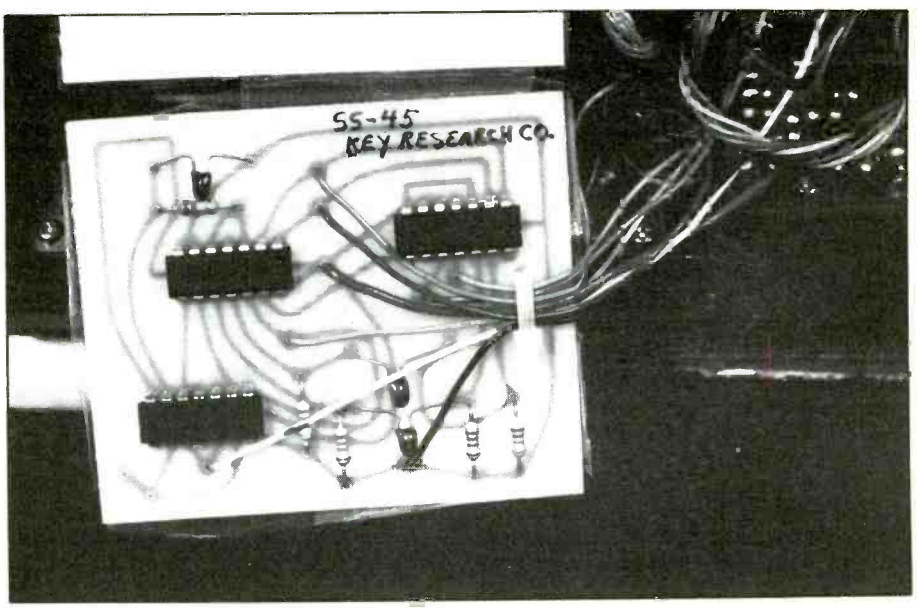
Electronically speaking, the Search & Store Module performs the very same actions that the operator performs during a conventional "Search" operation. For example, the conventional "Search" Mode halts on an active frequency for the time a signal is present. To temporarily store that frequency, it is necessary to press the "Monitor" button on the keyboard. To resume the "Search" either the "UP" arrow or the "DOWN" arrow must then be pressed. At that time, the "Monitor" channel advances by one to await the next operation. That's the manual way to fully utilize the "Search" function of the scanner, but the SS-45 will do all this for you electronically.



The SS-45 rests easily just behind the keyboard.

Drawbacks or disadvantages of the Search & Store module are practically nonexistent, (at least, I couldn't find any), but there are limitations. For instance, the PRO-2004 and PRO-2005 have only ten "Monitor" channels. Once the SS-45 has stored ten active frequencies, the first one will be erased when the eleventh frequency is found, etc. In other words, the SS-45 can find and store a maximum of ten frequencies. This limitation is imposed by the receiver and an identical constraint is inherent in the standard manual SEARCH process. When the ten MONITOR channels are filled, they will be erased and written over, one by one, with new frequencies if the SEARCH is continued.

Another limitation is that the SS-45 will



The SS-45 is a sophisticated electronic circuit.

sometimes "hang up" or stop in the middle of its sequence if and when a *very short* burst of RF signal breaks the Squelch at the moment the "Search" mode scans that frequency. If the RF signal disappears before the Search & Store sequence is completed, (about a tenth of a second), then operation will stop until the squelch breaks again. It could be seconds, minutes or even hours on quiet frequencies before another signal comes in to restart the Search & Store sequence. The operator can, of course, intervene at any time to manually restart the sequence. This limitation, too, is more a function of receiver and external factors than any inherent shortcoming of the SS-45.

Operation of the Search & Store Module is solely from the keyboard (at the touch of a key) and can be activated or deactivated at any time by the operator. All other functions remain normal and intact. There are no external switches or controls. In other words, it is almost as if the SEARCH & STORE feature was provided by the manufacturer as in integral part of the unit! The SS-45 is easily operated as follows:

A. Program and set up a SEARCH routine in the customary manner with HIGH and LOW LIMITS.

B Depress and hold the DOWN ARROW for about one second.

NOTE: If you just "tap" the "DOWN" arrow key, the "Search" mode will operate normally *without* the SS-45. It takes a slightly delayed touch of the "DOWN" arrow key to activate the SS-45. The "UP" arrow key does not activate the SS-45. To deactivate or stop the SS-45 function, just press the "scan," "manual" or "program" keys. The SS-45 will remain out of action until the "DOWN" arrow key is pressed again for a second.

The SS-45 circuit board comes sealed, fully assembled and ready to install. To preserve the excellent warranty, do not break or disturb the cardboard and plastic seal around the module. Photo 2 shows what the SS-45 module looks like under the seal wrap. Three integrated circuits, five resistors and three tantalum capacitors make for and extraordinary package of high technology! Installation is incredibly easy with eight wires to solder, and the solder points are very accessible. There are no holes to drill; no wires or circuit patterns to cut; and no controls to install. The whole installation process took me maybe ten minutes, but it took *that long* because I was very careful and critical of what I was doing! Photo 1 shows the SS-45 in its installed position on the back of the keyboard.

It sells for about $25, and there is a 30-day "no questions" guarantee and a 90-day guarantee against defects in parts or workmanship. The Search & Stores Module (Model SS-45) is available from: Key Research Company, PO Box 5054, Cary, NC 27511.

Review by Bill Cheek.

This van is typical of those used by MSHP district engineers. They have both a trouble shooting and communicating capability.

This mobile EOC is owned by the State Emergency Management Agency. It is normally operated by members of the communications division of MSHP. IT has low and high band VHF capabilities and a HF SECURE radio. It is shown here at the Rolla Regional Airport near Vichy during a recent drill. This airport may be used for major air operations following the earthquake.

The New Madrid Earthquake

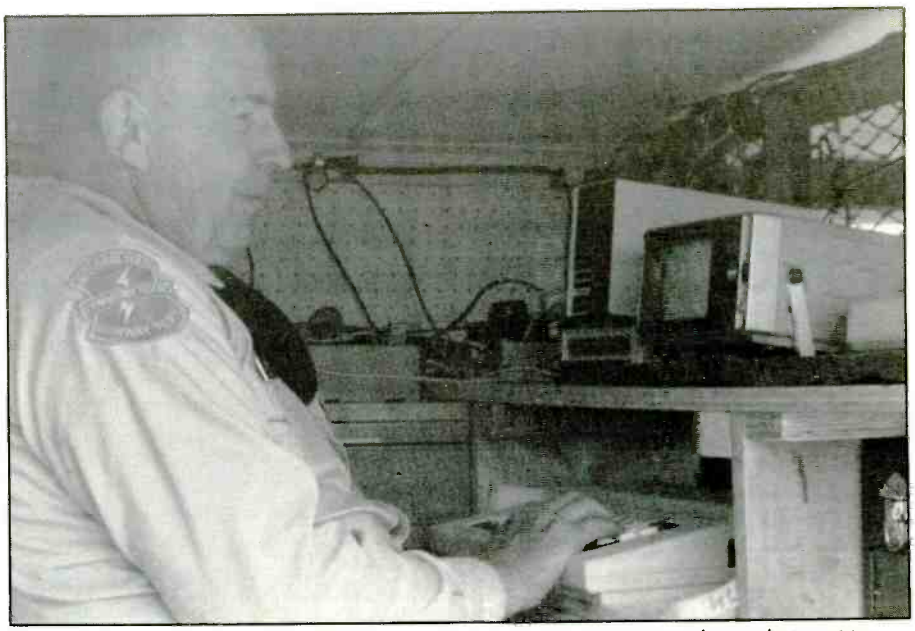
Don't Even Think About Moving From California To Missouri

BY WILFRED HENRY

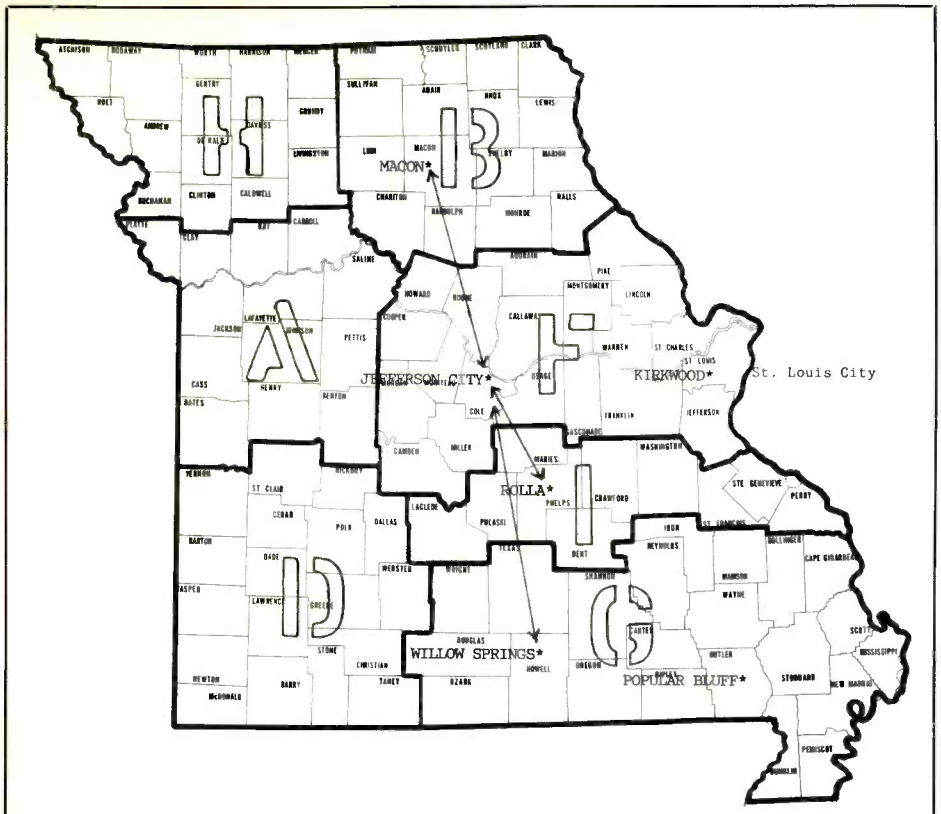
It may surprise you that this is not about the gory details of the California earthquake. You may be initially amused by the suggestion of a world class earthquake in Missouri. But Missouri has its own problems. That's right—the land of Ozark mountains, recreational lakes, canoeing streams, folk crafts, and country music is about to fall into a giant sink hole—or something like that.

Missouri has had a history of earthquakes. Back in the early nineteenth century, several monster earthquakes centered near New Madrid, Missouri, rang church bells in Washington, D.C. These three earthquakes were the most powerful ever to occur on this continent. Seismic historians have rated the quakes around 8.4 on the Richter scale. Portions of the Missouri River disappeared in the earth, flowed backwards, or changed course. Noxious fumes and substances were released from deep underground. Much of the topography of southeastern Missouri was radically affected.

The late Professor McNutt of St. Louis



This is an inside view of the MSHP van. Pictured is the amateur radio packet position.



Mercalli VII—about 5.5 on the Richter scale—Everyone is frightened and runs outside. Sand and gravel stream banks cave in. Chimneys and walls crack. Plaster, stucco, and loosened bricks and tiles fall.

Mercalli VIII—about 6 on the Richter scale—Everyone is frightened almost to panic. persons driving vehicles are disturbed. Branches break off the trees. Sand and mud are ejected from the earth in small quantities. Temporary and permanent changes occur in Springs and wells. Chimneys, columns, monuments, and towers fall.

Mercalli IX—about 6.75 on the Richter scale—There is general panic. Ground cracks conspicuously. masonry strictures are thrown out of plumb. large parts of well-build masonry buildings collapse. Reservoirs are seriously damaged. Some underground pipes break.

Mercalli X—about 7.3 on the Richter scale—Ground cracks at widths up to several inches. Fissures form up to a yard wide parallel to canals and stream banks. Numerous landslides occur on river banks and steep coasts. Dam dikes, and embankments are seriously damaged. Most masonry and frame structures are destroyed. Buried pipelines are torn apart or crushed. Cracks and broad, wavy folds will open in concrete pavements and asphalt road surfaces.

Mercalli XI—about 8 on the Richter scale—Broad fissures, landslides, and liquefaction occur. Water, sand, and mud is ejected from the earth in large amounts. Dams, dikes, and embankments are greatly damaged. Few masonry structure remain standing. Large, well-built bridges are destroyed. Railroad rails are greatly bent and thrust end wise.

The diagram shows the projected effects on Missouri as the result of a 8.6 (worst case) earthquake anywhere on the New Madrid fault. The roman numerals indicate Mercalli intensity levels.

University is credited with the current outbreak of earthquake fever in the Show-me state. Although he determined that a monster earthquake is probably not to be expected in our lifetimes, he did determine that a major earthquake can be expected at most anytime. Such a quake could severely affect Missouri, Illinois, Indiana, Kentucky, Tennessee, Alabama, and Arkansas (compare this with the small area in California which is threatened). St. Louis and Memphis could become midwestern San Franciscos. More that 200 lesser earthquakes are recorded each year on the New Madrid fault.

Shaken by his prophesy, the Missouri State Emergency Management Agency (SEMA) began to get serious about promoting earthquake mitigation and planning. Several major state level earthquake drills have been held and others are on the drawing boards.

Direction & Control

In Missouri, the earthquake response will be directed from a couple stories underground in the State Emergency Operations Center (SEOC) in Jefferson City. One part of the SEOC is a modest communications

Yes, Virginia, there is really a New Madrid, Missouri. This is the city limits. The cable television tower (which also has an amateur radio repeater mounted on it) probably will not be standing following the quake. There is a museum downtown which sells T-shirts with this caption: "New Madrid Earthquake, It's our Fault."

center. Plans are on the drawing board for a new multi-million dollar SEOC at a nearby prison farm and for an alternate SEOC at a state university in Rolla.

Because the state response to an earthquake might have to be massive, it may not all be controlled from the SEOC. Four District Emergency Operations Centers (DEOC's) will be installed following an earthquake at the Missouri State Highway Patrol (MSHP) headquarters in Willow Spring, Rolla, Jefferson City, and Macon. (MSHP troops in Kirkwood and Popular Bluff could be disabled by the earthquake.) Each headquarters has a classroom which can be turned into an emergency operations center (EOC) and each has emergency power. But none of these DEOC's has all the required communications equipment installed permanently. Current planning calls for all communicating (private and governmental) agencies to bring portable equipment to the classrooms or mobile units to the DEOC's parking lots to support the disaster response bureaucrats. Communications would be maintained with local EOC's within support areas and with command posts (CP's) within the affected areas.

As soon as the state forces can get into the affected areas, command posts will be set up which will communicate with local EOC's in the affected area and with their assigned DEOC.

Well, that is the chain-of-command—and this schematic also provides definition for the major communications trunks which will be required (from SEOC to DEOC's to CP's and local EOC's).

Communications

Public Service: Needless to say, following a major earthquake, whatever communications which survive will be saturated. There will be lots of activity on police, ambulance, and fire frequencies. But the highway department, the Conservation Commission, the Department of Natural Resources, and

This is the communications area in the Warren County EOC. It is typical of small county EOCs. The equipment is borrowed from local hams and public service agencies.

MSHP believes that self-supported towers have a better chance of surviving the earthquake than guyed towers. Hope a trooper is not standing under this guyed tower at the Popular Bluff headquarters when the ground begins to shake.

Major Earthquake Frequencies

Normal everyday emergency frequencies are not listed here—just frequencies which may awaken during an earthquake response in Missouri. Some of these frequencies, or their counterparts, may be used by the other six states in which the quake could cause significant damage.

Amateur Radio Emergency Service

Primary HF:	3.963 MHz. LSB (Missouri Emergency Operations & Weather Net)
Secondary HF:	7.263 MHz. LSB (Missouri Emergency Operations & Weather Net)
Primary RTTY:	3.630 MHz. (Missouri Radioteletype Net)
Primary CW:	3.5850 MHz. (Missouri CW Net)
Primary VHF:	
Packet:	145.01 MHz. (Missouri PACKET Net #1)

Missouri State Highway Patrol

Point to Point 42.38 MHz.

Civil Air Patrol

Primary HF:	4.5835 MHz. USB
Primary VHF:	148.15 MHz.

Military Affiliate Radio System

Army

Primary HF:	4.0235 MHz. LSB (0001Z-1400Z)
Secondary HF:	4.0285 MHz. LSB (0001Z-1400Z)
Primary HF:	7.3585 MHz. LSB (1400Z-2359Z)
Secondary HF:	7.3095 MHz. LSB (1400Z-2359Z)
Primary VHF:	143.990 MHz.
Secondary VHF:	148.650 MHz. (East Central Missouri)

Navy

Primary HF:	4.4720 MHz. USB (Night)
Secondary HF:	2.0265 MHz. USB (Night)
Primary HF:	7.3700 MHz. USB (Day)
Packet HF:	4.5150 MHz.

Air Force

Primary HF:	4.5170 MHz. USB (Summer)
Primary HF:	3.3080 MHz. USB (Winter)
Secondary HF:	7.3050 MHz. USB

other networks will be also active. The Missouri Earthquake Plan specifies that all communications agencies work together passing each others traffic on whatever communications resources are left. So, do not be surprised to hear the highway department passing law enforcement traffic or the Water Patrol handling messages for the Department of Social Services.

There is also a communication reserve in Missouri. It will be needed to supplement the surviving telephone network. Much of the communications which routinely would be done via Ma Bell, would have to be done via the communications reserve because of damage to cables and microwave towers. Expect it to be active. Information on it follows:

Amateur Radio Emergency Service: The chairman of the Missouri Earthquake Communications Committee once indicated that hams are the key to reserve communications following an earthquake. There are two reasons for this. First, They have a huge amount of equipment, personnel, frequency spectrum, and "know-how." Second, amateur radio operators staff other providers of reserve communications. Hams are everywhere—the communications division of the highway patrol, the radio officers of the Civil Air Patrol, members of the Military Affiliate Radio System, communications personnel in the emergency management agencies, radio operators for the Red Cross, and so forth. There have been state level earthquake drills in which four or five hundred hams participated just on the ham bands.

In Missouri, the major amateur radio HF work will be done in conjunction with the Missouri Emergency Operations and Weather Net. During past drills as many as four side frequencies have been used. But during the real thing, expect additional side frequencies will be dedicated to welfare traffic, support of the Red Cross, support of the Department of Social Services, and so forth.

There has been an emphasis on the use of VHF PACKET to handle large quantities of traffic following a disaster and there has been some success. However, there is only one VHF packet network in Missouri which is operational over a large area. But many digipeaters will be off the air due to structural failures and loss of power. So, much of the digital traffic from the damaged areas to the support areas will probably have to be done on HF. Missouri hams are reluctant to operate HF baudot with the popular VHF packet—but necessity will probably rule during the emergency. The Missouri Amateur Radio Emergency Service (ARES) has experimented successfully with airborne packet digipeates on discrete frequencies. However, it may be difficult for hams to find aircraft on which to fly missions.

Missouri State Highway Patrol: The State Patrol has many frequencies, but most of them will be saturated with their own traffic. During drills, the Patrol's state-wide computer network has been utilized. However, after the quake, the telephone network on which it relies may be badly damage. Since the Highway Patrol point to point frequency is normally under-utilized, it might be a source for reserve communications.

Civil Air Patrol: The CAP has VHF and HF resources. After the earthquake, their own traffic will increase, but they may also have some reserves. The CAP in Missouri has a couple airborne PACKET digipeaters

State Emergency Management Agency

Primary HF:	5.1400 MHz. USB (fixed) (channel 76)
Other HF Freqs:	2.2360 MHz. USB (interstate) (channel 70)
	2.4110 MHz. USB (channel 71)
	2.4140 MHz. USB (channel 72)
	2.4190 MHz. USB (channel 73)
	2.4390 MHz. USB (channel 74)
	2.4630 MHz. USB (channel 75)
	5.1920 MHz. USB (fixed, interstate coordination only, communications limited to adjacent states of Arkansas, Illinois, Iowa, Kansas, Kentucky, Oklahoma, Nebraska, and Tennessee) (channel 77)
	7.4770 MHz. USB (fixed) (channel 78)
	7.8020 MHz. USB (day only, fixed) (channel 79)
	7.8050 MHz. USB (fixed, interstate coordination only) (channel 80)
	7.9350 MHz. USB (day only, fixed) (channel 81)
Primary VHF:	45.1200 MHz.
HF Call Signs:	WNBE 830—SEOC, Jefferson City
	WNBE 837—EOC, Joplin
	WNBE 824—EOC, Jackson
	WNBE 829—EOC, Springfield
	WNBE 825—EOC, Rockport
	? —EOC, St. Charles
	? —EOC, Hillsboro

Missouri National Guard

Primary HF:	4.950 MHz. USB
NCS Call Sign:	Show-Me Alpha

American Red Cross

Primary VHF:	47.420 MHz.
Secondary VHF:	47.460 MHz. (greater St. Louis area)

Corps of Engineers

Primary HF:	5.015 MHz. LSB
VHF:	163.410 MHz.
VHF:	163.440 MHz.

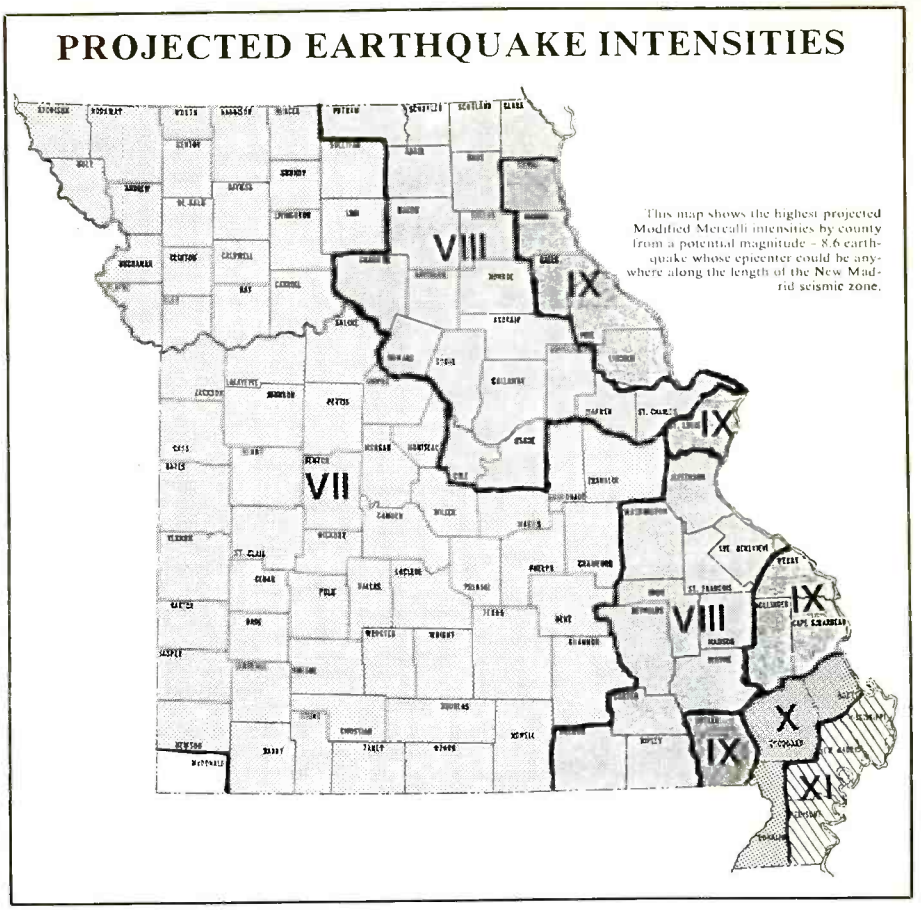
but few, if any, packet stations associated with emergency management agencies. The hams do—the CAP and the ARES need to be working together. The combination could be a winner.

Military Affiliate Radio System (MARS): Members of this organization are the hams with military licenses who handle the welfare traffic between military personnel overseas and their families back home in the states. Following a disaster, they have a role to support the national guard, other military units, and federal agencies. Recently MARS began to get serious about earthquake preparedness. They have one drill under their belt. They are few in number but well trained. In Missouri, most MARS members are associated with the Army.

State Emergency Management Agency: SEMA has a fledgling network on HF. It operates as part of the State Emergency Communications Using Radio Effectively (SECURE) service. The SEOC and only slightly more than half a dozen local EOC's have the SECURE equipment due to its high cost. This service is dedicated to the disaster communications reserve.

SEMA has also been promoting a low band VHF network which utilizes discarded

The New Madrid County Sheriff uses a self-supported tower for his communication center.



A major earthquake would put MSHP troops in Kirkwood and Popular Bluff out of commission. MSHP troop headquarters would expand eastward into the damage area. MSHP headquarters in Macon, Jefferson City, Rolla, and Willow Springs would serve as District Emergency Operation Centers. Communications from the affected area in each sector would pass through the sector's DEOC on its way to the SEOC in Jefferson City.

City hall at New Madrid is constructed of masonry. Don't expect much communications from this facility after the quake.

highway patrol transceivers. A lot of growth will be required before the network becomes viable.

Missouri National Guard: The national guard makes use of extensive VHF frequencies. On HF, the national guard has come along way since the first earthquake drill. They have rebuilt their HF network and each of their locations is now active on HF. The network hopefully will have some reserve capability beyond their own needs.

Federal Agencies: The Feds have some resources in Missouri. The Corps of Engineers has an under utilized HF network connecting each of their major projects. They also have some fixed

Conclusions

Well, are you believers now! I have to live in Missouri, but think I'll stay off those double decker interstates in downtown St. Louis. PC

CB SCENE

27 MHz COMMUNICATIONS ACTIVITIES

BY BILL SANDERS, SSB-295

The letter carrier has been bringing *CB Scene* some interesting mail, so let's dig into the big stack, starting with a rather ambitious proposal sent in by Brian, who should get a lot of support with his idea. Brian doesn't claim it to be his, but notes that he's coordinating the publicity for the idea on behalf of several clubs in his area.

The basics of the eleven-point idea, which was sent to us in the form of a petition to the FCC, is to have CB Channels 36 to 40 immediately designated for exclusive single-sideband mode use. Further to this, within a few years, upper sideband mode would be the only operation permitted on these frequencies, and manufacturers would no longer be permitted to produce standard AM Class D CB transceivers that could operate on frequencies above Channel 35. From 26.365 upwards to then be rechanneled at 5 kHz intervals.

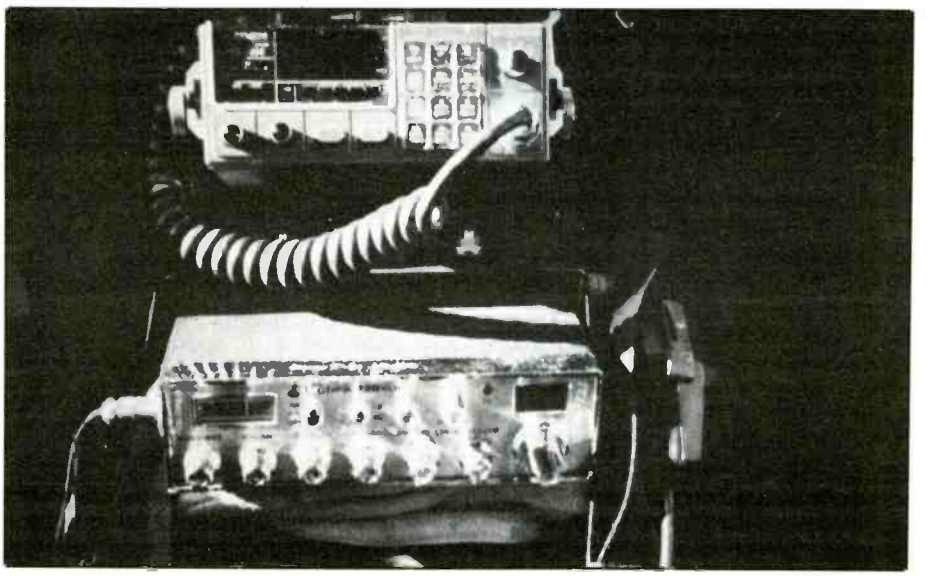
The petition further pleads for all business users to be off CB channels within a few years, and new provisions be added for allowing remote control of CB transceivers by means of 46/49 MHz cordless-telephone type handsets. A person might then sit in their back yard and have access to their base station transceiver located some distance away inside the house.

The proposal also pleads for the FCC to open up 27.410 to 27.970 MHz for hobby CB operation, including legal DX'ing, using 100 watts SSB (USB only) and 30 watt output FM. Channels here would be spaced at 5 kHz increments. The sideband segment of the band would be from 27.410 to 27.695 MHz, with FM from 27.700 to 27.970 MHz.

For those wishing to pursue this concept, we suggest contacting Super Talkers of Pennsylvania, P.O. Box 165, Hatboro, PA 19040-0165.

Our own personal observations are that the FCC has rejected all manner of proposals, plans, and petitions sent in by operators as long ago as the 1970's which sought frequencies designated for exclusive sideband-ing use. The agency has also ignored any number of previously submitted concepts that sought to get skip working sanctioned. It should also be noted that the frequencies between 27.540 and 27.995 MHz are allocated (in the U.S.) for federal government use. As such, the FCC would have no authority to grant them as suggested in this proposal, even if it were inclined to go along with the idea (which, history has shown, it isn't).

Still, what the heck, if you weren't around when many of these things were asked for in the past, and you support these proposals, you are entitled to have your own turn at approaching the FCC and asking. Why not? Maybe this time they'll finally say "yes."



Two rigs, two bands. At the top, the 2-meter ham rig Steve Steffen uses as KAØLTZ. Just below it, his Cobra 138XLR used on 27 MHz as SSB communications.

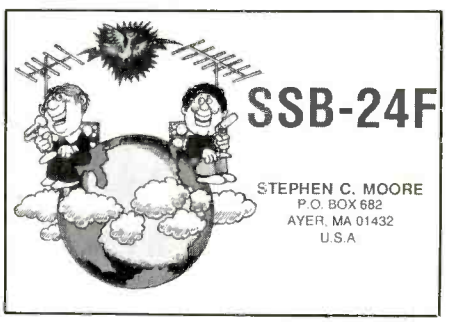
Photogenic

It's a little dark, but we received a photo of the mobile installation of Steve Steffen, KAØTLZ, and SSB Network member SSB-7331A, of Dubuque, IA. This station runs a Azden PCS-2000 2-meter ham FM rig (top) and a Cobra 138XLR AM/SSB transceiver.

From Brenham, TX comes a photo that looks like the operator, Fred, doesn't have to stoke the coal in the fireplace in order to keep the shack warm because the station itself puts out enough heat to thaw out half the county. We can see a Realistic PRO-2020 over on the left, an Astatic D-104 mike, and also a weather radio. In dead center it looks like a Galaxy transceiver perched atop a Golden Eagle afterburner. Say, Fred, looks like the signals from your statio could discombobulate the electronic ignitions in anything but the largest trucks passing by your QTH, as well as any aircraft flying below 15,000 feet. We assume that this good looking, but slightly illegal station isn't presently being used, but is being held in readiness for use the moment Brian's FCC petition is approved. however, we did appreciate Fred's very kind words about this column.

A note for Bill Heine, Jr., SSB Network member SSB-33D, asks us to let all of his friends know that he isn't presently on the

Frank, in Texas, can probably be heard on Neptune with this little communications package. Every time the FCC gets close enough to bust this station, its signals burn out the front end of Uncle Charlie's receiver.



Steve Moore, SSB-24F, sends out this brightly colored QSL.

A QSL received from 50AT101, who happens to be a CB operator in the USSR. (Courtesy, Steve Moore, SSB-24F.)

air, and he hasn't fallen off the end of the earth, although he's only a few miles from the edge. He's presently stuck in the monitoring-only mode in South Korea, which is a long way from Kansas. Bill's home QTH is Salina, KS and over the years he's made many friends as SSB-33D, 2AT159, April 331, WWS-443, 2WW3311, as well as 34D33. He'd like to hear from any old or new friends interested in sidebanding and DX. His present AD in Korea is: William D. Heine, Jr., TJFP Box 716, 501st MI Bde., APO San Francisco 96231.

Steve Moore, SSB Network member SSB-24F, of Ayer, MA passed along our March issue *Overseas QSL of the Month*. The card Steve sent came in from Anatol like to hear for CB'ers in the U.S. and Canada, however the only AD we have for him is the one typed on the QSL in Cyrillic, which we can't translate into anything the post office could ever figure out.

Helping Hands

We do want to acknowledge the numerous cards and letters that arrived in the aftermath of Hurricane Hugo hitting South Carolina, as well as the dreadful earthquake problems that hit northern California. There were many individual operators, local AM and SSB groups, as well as many REACT Teams that swung into action for the benefit of the community at large, many times at considerable personal inconvenience and risk to the operators. There were instances where, in the absence of governmental authorities and even ham communications, CB was the only form of communication available until other lines of communication could be set up.

Although there was some amount of chaos on the CB channels, in the Bay Area, REACT Teams stuck to their guns on Channel 9 and coordinated with local authorities to pass along reports of accidents, lines down, fires, roads, and major damage. REACT also informed motorists of passable highway routes, announced the locations of emergency centers, and informed volunteers where to report. They also relayed messages to love ones.

In all, a job well done by REACT as well as many individual operators and local groups which demonstrated that CB's functions during a state of emergency provide a valuable community service that can't be duplicated by any other radio service.

For information on becoming active in a REACT Team, write to REACT International, Inc., 242 Cleveland, Wichita, KS 67214.

Mount Up

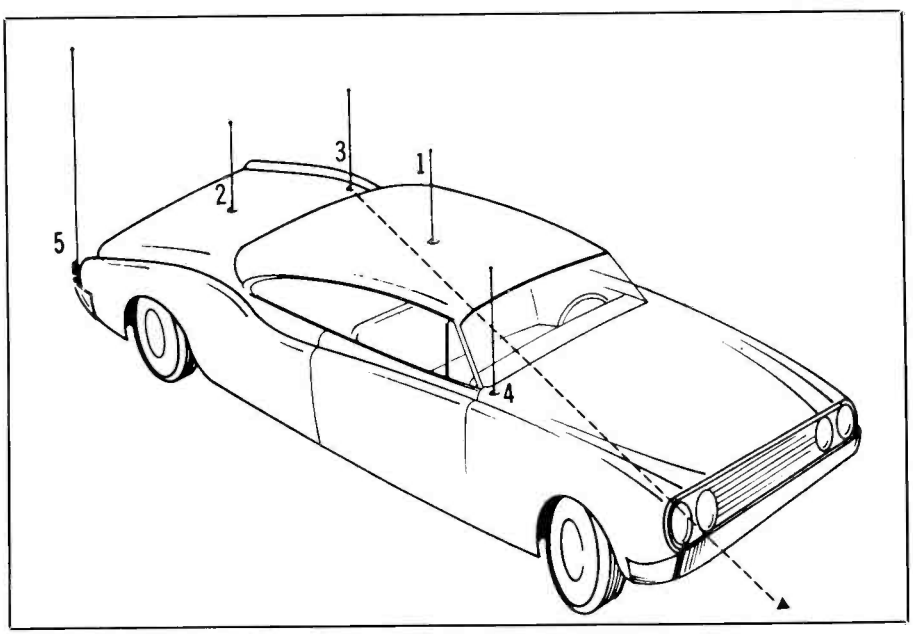
The choice of an antenna location on a car is influenced by such factors as ease of installation, cutting holes in the car body, and overhead obstructions presented by garage. But in terms of electrical performance, there are five basic locations, as illustrated. Consider each of these positions in order of preference:

1. Roof-top. Placed squarely in the center of the car roof, an antenna in this position provides the most signal strength in each direction. Since the roof metal is most equally distributed around the base of the antenna, the pattern is circular or nondirectional. There will be little or no "beam" effect. Even if the car is driven in a circle, a distant receiving station hears no difference in the signal level. Another factor in favor of the roof-top mount is that it permits the signal to clear nearby obstructions. Also, there is no blocking of the signal by any other metal surface of the car.

2. Trunk Mounting. Somewhat less antenna efficiency occurs when the whip is positioned in the center of the trunk lid; for this reason, it is the second-best location. The result of having more metal in front of the car (in the direction of the travel). This increase is at the expense of power transmitted toward the rear of the car.

3. Fender Mounting. This position is on the rear fender, right or left side, next to the rear window. If the right fender is used, the strongest signal is transmitted in the direction of the left front fender. For rear left mounting, the signal is strongest toward the right front fender. The reason for these differences is that the signal tends to be drawn over the longest metal path presented by the car. This is pointed out for the antenna marked 3. Note how the signal runs diagonally across the car roof in its favored direction. There is a corresponding drop in strength in the opposite direction. These effects are most noticeable at longer ranges. This should be taken into account during an emergency call. By turning the car and taking advantage of these directional effect, it might be possible to get the message through under poor-signal conditions.

4. This mounting point, on the front cowl (either side), products the same general effects as already described for the rear-fender mount. Now the favored direction is toward the rear of the car, since the largest mass of metal lies in that direction. A similar diagonal effect also occurs; a left from mounting produces strongest signal toward the right rear of the car.



The five most popular mobile whip mounting positions. They aren't quite all equal, but even the disadvantages can serve a useful purpose. See text.

5. This last case is the bumper mount at the rear. Although this can be the easiest point for mounting the whip, it has certain disadvantages. For one, it places the base of the antenna, where most of the signal exists, extremely close to the trunk. This causes some obstruction in the forward direction. But since the forward direction also favors the signal (most metal lies in this direction) there is also some strengthening in that direction. The net result is that a rear left bumper antenna produces the best signal toward the right front fender; the right bumper mount favors the left front. Another factor which works against the bumper mount is that maximum signal power is placed quite low on the car where it may not successfully clear obstructions close to the car.

Since many CB mobile antennas are *not* mounted on the center of the car roof, they tend to transmit signals more strongly in certain directions than others. This may even occur in roof-top mounting due to unequal distribution of car metal around the base of the antenna.

This inequality can be used to advantage in situations where it is important to obtain communications under poor conditions. Once the direction of the antenna is known, it is possible to position the car accordingly. While this may not be practical on a routine basis, it could prove helpful during a roadside or other emergency.

To discover the best direction of the antenna, you can follow a simple procedure. It requires the assistance of a base station. Drive the car several miles from the base station until your S-reading, read at the base station drops below S-5. (At these levels, differences in signal are more readily seen on the meter.) The car should be in the clear away from overhead power lines and obstacles. There should be sufficient open area to permit you to drive a complete circle, making a tight turn.

Begin by noting the starting point and call the base station and have it take an S-reading. Make the transmission about a half-minute long, to rule out the effects of signal flutter which may occur due to passing cars. Ask the base operator to give you an average S-reading for the half-minute period.

Next, drive the car slowly in a complete circle. Imagine the circle as divided in about eight points. Obtain readings at each point with half-minute transmissions. The complete run will indicate the point, or points, of best signal radiation. For increased accuracy, the car should be driven to another location and the est repeated. This rules out reflections from hills and other obstructions which may give false readings. Once the result is know, you'll know how to point the car for optimum communications.

This column would like your QSL's (your own or those received from overseas stations), station photos, information on coffee breaks, and any thoughts or questions you have on 27 MHz AM or SSB communications. **PC**

LISTENING POST

BY GERRY L. DEXTER

WHAT'S HAPPENING: INTERNATIONAL SHORTWAVE BROADCASTING BANDS

If things went the way they were suppoed to we should be receiving improved signals from Radio New Zealand now. After many years of struggling with antiquated equipment and occasional walks on the edge of oblivion, the station got the go ahead last year for a pair of 100 kW transmitters and the first of these was supposed to have gone on by January. The new installation is at Rangitaiki on New Zealand's northern island. An operating schedule for the new unit wasn't available when this was written, but it's likely that the same Radio New Zealand frequencies will be used, i.e., 9850, 11780, 15150, 15485 and 17705, at various times of the day. Radio New Zealand will welcome reception reports on the new transmitters. Their address is: Radio New Zealand International, P.O. Box 2092, Wellington, New Zealand.

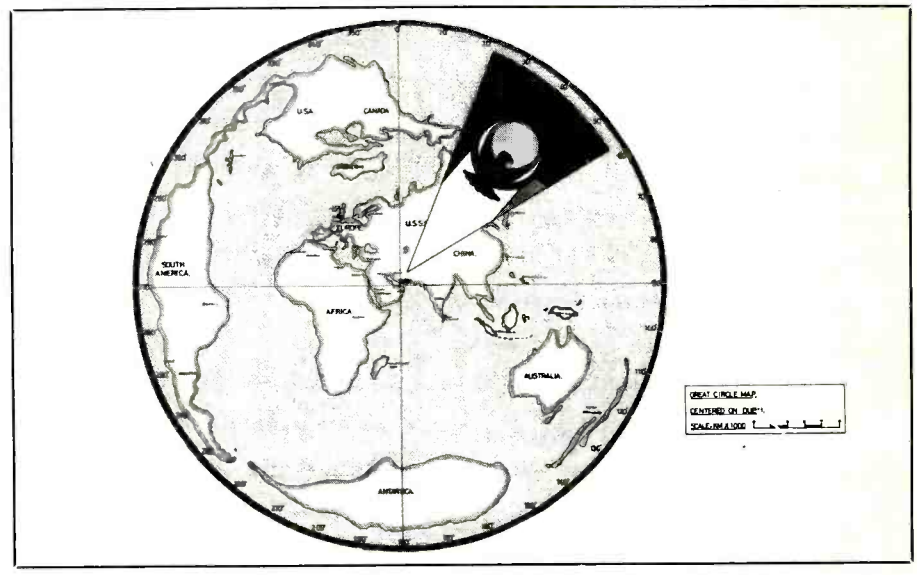
New country watch: The Andaman Islands (actually Andaman and Nicobar) in the Indian Ocean are now on shortwave thanks to an All India Radio regional station at Port Blair. The schedule is still a little hazy and, in any event, it's likely to be an extremely tough catch for most of us in North America. The best opportunity seems to be at 1230 UTC on 4760. Another new AIR regional station, at Leh, also uses this spot.

The Cape Verde Islands are back on shortwave after a considerable silent period. A European DX'er is hearing Radio Nacional do Cabo Verde on 3930 to 2100 sign off. That, too, will be tough for most of us, although east coasters might have a shot at this one during the winter months.

If you're unsuccessful with that station your odds of logging Cape Verde will go way up when a trio of 500 kW transmitters go on the air from there in 1991. A French company is setting up the station and plans to rent time to international broadcasters to use as a relay, a la Africa Number One in Gabon.

We still aren't certain whether the Canary Islands are back on shortwave or not. Once an easy log thanks to the Radio Nacional Espana relay there, the relay went off the air sometime back. Now it may have been resumed. Listen on 17715 from 2200-2300. The Spanish language programming at that hour carries an ID for the Canary Islands but no one seems to know whether this is from a transmitter on the islands or is just a program from the islands, which is being broadcast over transmitters in Spain.

Other news: Radio Surinam International, which broadcasts over the facilities of Radiobras in Brazil, was planning a moderate expansion of its service which would include an increase in the time given to English and the addition of a segment in Spanish. Radio Surinam International airs at 1700 Monday through Friday on 17840.



This attractive, multicolor map QSL is from UAE Radio in Dubai, the United Arab Emirates. (Thanks to Larry R. Zamora)

Your chances of logging Uruguay, which is one of the tougher South Americans to hear, are somewhat better now with the return of station SODRE to shortwave. SODRE's Spanish language programs are on 9620, a spot also used by the powerful Radio Yugoslavia. Some DX'ers have picked up SODRE around 0130.

The BBC has added two more high power transmitters to its compliment on Ascension Island. They'll beam mainly to Africa and Latin America.

The BBC and Radio Netherlands are planning to put up a joint relay station at an unspecified Asian location. This one is a considerable time away.

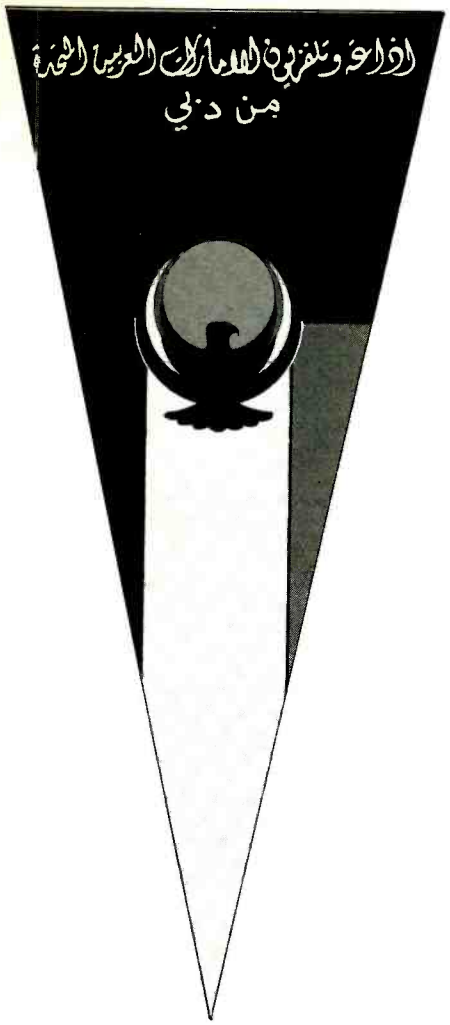
Italy's private shortwave broadcasters may have some clouds in their future. A new communications law is being considered by the Italian government and the proposed legislation makes no provision for private broadcasting on shortwave. Such stations as IRRS and AWR might be affected by such a law.

The government radio in Ecuador is planning to return to shortwave over its own transmitters. For now, however, Radio Nacional is aired for a half hour each day via HCJB (at 1730 on 15270). HCJB not only provides the transmitter but handles the QSL'ing for this broadcast as well!

Radio Antilles in Montserrat, already in trouble after the loss of Deutsche Welle funding, was severly damaged by Hurri-

James Higgins of Saugus, MA keeps an ear on the globe from this shack which includes equipment that provides wide spectrum coverage.

Jesse F. Carroll's 3-receiver shack in Chicago, IL.



. . . and here's the paper pennant UAE Radio sends with their QSL. (Thanks to Larry R. Zamora)

cane Hugo last September and was expected to be off the air for up to six months, if it returned at all. The Organization of Eastern Caribbean States had agreed, in principle, to buy the station but it's not known if that still holds now. (Thanks to Luis Rivera in New York for that item from *Carib News*)

Brent Allred, the popular host of HCJB's "DX Party Line" show has been promoted to the position of Director of English Language programming. DXPL has been cut back to Mondays only. We certainly extend congratulations to Brent but wish there was a way to keep DXPL at its former twice per week level. HCJB is interested in listener reaction to the reduction.

March 12-18 marks the first in what will be an annual observance of "Shortwave Radio Week." All shortwave radio fans, no matter what their interests, are encouraged to help spread the shortwave story by contacting their local media to encourage coverage of various aspects of shortwave listening.

The Mailbag: Tim Johnson of Galesburg, Illinois is the proud owner of a new R-5000 receiver and says "what a difference" compared to the portable he was using. Tim promises a shack photo one of these days.

Luis A. Rivera of the Bronx, New York is a newcomer to shortwave, although he had a radio for sometime before. He says ever since he tuned in his first station (Radio Sweden) he spends most of his spare time listening. Welcome to the gang, Luis. Your questions will find answers in the great amount of shortwave literature that's available. Read as much as you can and you'll be an expert in no time!

Kevin Story of Midland, Texas checks in, wondering about a number of stations and their QSL policies (or lack of same). One of the things to keep in mind is that the QSL picture is in a constant state of flux, Kevin. A station which replies to everybody now may not answer anyone over the next five years—and there's usually no explanation for such goings on! Thus, you find Radio Baghdad tough now, when a couple of years ago they were pretty good. The only answer is to keep trying. Send a good report, return postage (unless you know it's not required) and be prepared to follow up every few months if need be.

Remember, we are looking for your log reports—double spaced and with your last name and state abbreviation after each item, please. Also wanted are shack photos (preferably with you in the scene), spare (non-returnable) QSL's to use as illustrations, schedules, news clippings and your comments and questions. Even though we can rarely reply directly that doesn't mean your efforts are not much appreciated.

Here are this month's logs. All times are UTC and language is English except where otherwise noted.

ASCENCION ISLAND: BBC relay at 0130 on 6005//15260. (Johnson, IL)

ALBANIA: Radio Tirana, 9500 at 0236 and 0630. (Walbesser, NY) 9760 at 2330. (Reynolds, MO) at 0230. (Higgins, MA) Here and 11825 at 2330. (Johnson, IL)

ANGOLA: Radio Nacional, 4953 at 0235-0310 in PP with talk, music. Woman with ID ". . . de Luanda" at 0255. (Mierzwinski, PA)

ANTIGUA: BBC relay at 0130 on 5975. (Johnson, IL)

ARGENTINA: RAE, 11710 at 1000 sign on with multi-lingual ID, then JJ program. (Zamora, ND) 0405 with ID and address. (Johnson, IL)

AUSTRALIA: Radio Australia, 9580 at 0818 and 11720 at 0844. (Walbesser, NY) 9580 at 0923. (Higgins, MA) 9580 1420-1435 (Mierzwinski, PA) 17795 at 0344 and 21740 at 0429. (Reynolds, MO)

BELGIUM: BRT with "Brussels Calling" at 1230 on 17555. (Reynolds, MO)

BRAZIL: Radio Liberal, Belem, 3325 in PP at 0850-0905, ID at 0903. (Mierzwinski, PA)

Radio Nacional Boa Vista, 4875 in PP at 0345 to 0358 sign off. (Mierzwinski, PA)

Radio Brazil Central, Goiana, 4985 in PP 0010-0035 talk, music, ID. (Mierzwinski, PA)

Radiobras, 11745 at 0200 with Brazilain pops. (Johnson, IL) 0237. (Reynolds, MO)

BULGARIA: Radio Sofia, 11735 at 0300-0340 with news, commentary, mailbag, women's rights programs. (Story, TX)

CANADA: CFCX relay of CFCF on 6005 at 1135. (Northrup, CT) 0800. (Hafeli, BC)

CFRX relay CFRB on 6070 at 0004. (Zamora, ND) 0726. (Hafeli, BC)

RCI on 9755//11730 at 2300 with "SWL Digest." (Johnson, IL)

CHAD: Radiodifusion National Tchadienne, 4904.5 at 0435 with central African style music, man announcer taling with listeners on telephone. All FF. (Johnson, IL)

CHILE: Radio Nacional, 15140 at 0030 with SS ID. (Story, TX) 2335 in SS. (Johnson, IL)

CHINA: Radio Beijing, 9690 (via Spain, editor) at 0328 and 15130 (via Mali, editor) at 0035. (Walbesser, NY) 12015 via Xian site at 1145-1215 in CC. (Mierzwinski, PA) 15450 at 1222. (Reynolds, MO)

COSTA RICA: Radio For Peace International, 7375//13660 at 0315. (Johnson, IL) 26945 at 1930 with University of Texas program f/by "WINGS" (Women's International News Gathering Service) program. (Zamora, ND)

CUBA: Radio Havana Cuba on 11760 at 0343 in FF. (Reynolds, MO) 1120 at 0405 and 15180, in SS, at 1800 sign on. (Walbesser, NY) 11890 at 0405. (Higgins, MA)

CZECHOSLAVAKIA: Radio Prague, 5930 at 0300. (Reynolds, MO) Here and parallel 7345//11990 at 0120. Also at 0305 on 15540. (Johnson, IL) 11685 at 0836. (Walbesser, NY) 11990 at 0115. (Hafeli, BC) 21450 at 1450 with address and sign off. (Zamora, ND)

EAST GERMANY: Radio Berlin International, 9730 at 2245 with news. (Johnson, IL) 11890 to Asia at 1020. (Higgins, MA)

ECUADOR: Radio Nacional Espejo, 4680 in SS at 0218 with talk and ID. (Johnson, IL)

Radio Quito, 4920 in SS at 0401 with ID, mentions of Quito. (Story, TX)

HCJB, 3220 at 0236-0305 in Quechua and Spanish. (Mierzwinski, PA) Here and parallel 6050 at 0430 with ID in SS. (Johnson, IL) 15155 at 0329. (Reynolds, MO)

ENGLAND: BBC, 6110 at 2330 with rock program. (Zamora, MD) 7150//7325 at 0800; 9600//9640 at 0700; 15260//17715//17760 at 2100; 15400 at 0600, all World Service outlets. (Walbesser, NY) 6175 via Sackville at 0130; 7325//9915 at 0130. (Johnson, IL) 6195 at 0424. (Reynolds, MO)

FINLAND: Radio Finland International, 11755k//15185 at 0240. (Johnson, IL) 15400 at 1215. (Reynolds, MO) 21550 at 1402 to North America (Sunday EE) (Zamora, ND)

FRANCE: Radio France International, 17650 at 1300 with mailbag program. (Zamora, ND)

FRENCH GUIANA: RFI relay, 11995 at 0330. (Reynolds, MO)

GABON: RFI relay via Moyabi on 4890 at 0400, ID in FF. (Johnson, IL)

Africa No. One, 15475 at 1900 with African music, announcements in FF. (Johnson, IL)

GREECE: Voice of Greece, 9395//9420//11645 at 0130 with news. (Johnson, IL) 9420 at 0338 with news. (Hafeli, BC)

GUATEMALA: Radio Cultural (TGNA etc.) on 3300 at 0304 with "Back to the Bible" (Reynolds, MO) 1120 with ID and music in SS. (Johnson, IL)

Radio Texulutlan, 4835 at 0147 with ID in SS. (Johnson, IL)

Radio Buenas Nuevas on 4800 at 0100 with ID in SS. (Johnson, IL)

HONDURAS: Radio Luz y Vida, 3249 at 0205-0235 in SS mostly talk with some music, program schedule given, ID 0233. (Mierzwinski, PA)

La Voz Evangelica, HRVC 4820 at 0335-0345 in SS with ID 0340. (Mierzwinski, PA)

HUNGARY: Radio Budapest, 9585 at 0235 in Hungarian. (Hafeli, BC)

IRAQ: Radio Baghdad, 9515 at 0135 with news and exotic music. (Johnson, IL)

ISRAEL: Kol Israel, 11605//15615//17630 with music and announcements in presumed Yiddish. (Johnson, IL) Time, Tim? 11605/15130 at 0010 with news and features. (Walbesser, NY)

ITALY: RAI at 0107 with news on 9575//118100. (Johnson, IL)

JAPAN: Radio Japan, 6120 (via Sackville) at 1105. (Northrup, CT) 1151. (Reynolds, MO) 15195//15325//17825 in SS at 0345. (Johnson, IL)

KUWAIT: Radio Kuwait, 11990//15495//15505 at 2310 with exotic music and talk in AA. 11990 heavily QRM'd. (Johnson, IL) 15345 at 0530-0545. (Mierzwinski, PA) 15505 in AA at 2020. (Hafeli, BC)

LIBERIA: ELWA on 4760 at 0625-0649, QRM's by the Mayak outlet on 4764. "Problems of Police" pro-

gram which ended with siren, then gospel song, scripture and into vernacular languages around 0640. (Story, TX)

VOA relay on 15580 at 1744. (Reynolds, MO)

MALAYSIA: Radio Malaysia, Sarawak, 4950 at 1100-1200 with pops, and commentary. Fair to weak. 7160 good but heavy ham QRM. (Story, TX)

MALI: Radiodiffusion de mali, 4783 at 0600 sign on with anthem, ID, mentions of Mali, local African music. FF. (Story, TX)

MALTA: Voice of the Mediterranean on 9765 at 0600 with ID, address, "Reflections and Challenges of the New Libya." (Story, TX)

Deutsche Welle relay, 21680 at 1604. (Reynolds, MO)

NEW ZEALAND: Radio New Zealand, 9850 at 1158 with jazz and news. (Reynolds, MO)

NETHERLANDS: Radio Netherlands, 6020 at 0030 with news. (Johnson, IL) 9770 at 0829 in Pacific Service. (Walbesser, NY) 21520 at 1205. (Zamora, MD)

NETHERLANDS ANTILLES: Radio Netherlands relay, 6165//15315 at 0030 with news. (Johnson, IL)

NIGERIA: Radio Nigeria, Kaduna, 4770 at 0430 sign on. (Johnson, IL)

Voice of Nigeria, 7255 at 0500 sign on. (Johnson, IL)

NORWAY: Radio Norway, 15165 at 1207 with "On The Record." (Reynolds, MO) 17840 with mailbag program at 1615, EE Sundays only. (Johnson, IL)

OMAN: Radio Oman, 17735 at 2100 in AA, all talk with mentions of Oman. Sign off at 2128. (Mierzwinski, PA)

PAKISTAN: Radio Pakistan, 17660 at 0125 with Urdu talks, mentions of Karachi. (Mierzwinski, PA) 21740 at 1610 with ID, news. (Johnson, IL)

PAPUA NEW GUINEA: Radio Milne Bay, Alotau at 1105-1138 with south seas music, announcer with program info, request for letters, song announcements. (Mierzwinski, PA)

Radio East New Britain, Rabaul, 3385 at 1045-1105 talk, local language ID at 1100. (Mierzwinski, PA)

PERU: Radio Atlantida, Iquitos, 4790 at 0920 in SS with music, several "Radio Atlantida" IDs, rooster calls. (Mierzwinski, PA)

PORTUGAL: Radio Portugal, 9680//11840 at 0250 with tourist program. (Johnson, IL) 9705 at 0247. (Reynolds, MO)

SOUTH AFRICA: Radio Orion, 4810 at 0405 in Afrikaans. (Johnson, IL)

Radio Five, 4880 at 0405 with pop and ID. (Johnson, IL)

Radio RSA, 9580//9615 at 0220 with news. (Walbesser, NY) 9615 at 0252. (Reynolds, MO) 11745 at 2225 with IS under heavy QRM. (Johnson, IL)

SPAIN: Spanish National Radio at 0300 on 9630 with ID, news and talk in SS. (Hafeli, BC)

SWITZERLAND: Swiss Radio International, 6135 at 0220 with DX show, into GG at 0230 (Higgins, MA) 9885 at 0110. (Hafeli, BC) 12035 at 0404. (Reynolds, MO) 13685 at 0850. (Walbesser, NY)

TAHITI: Radio Tahiti, 15171 at 0430 with island music. (Johnson, IL)

TAIWAN: Voice of Free China (via WYFR) 9680 at 0330 and 15345 at 2110. (Walbesser, NY)

TURKEY: Voice of Turkey at 0035 in AA on 9445. (Hafeli, BC) 2230 with modern Turkish music. (Johnson, IL)

TUNISIA: RTT Tunis at 0620 on 11550 with Arabic music. (Hafeli, BC) 15450 at 0500 in AA with talk, music, ID 0530. (Mierzwinski, PA)

UNIDENTIFIED: 4915 at 2300 in EE ending "Readings From the Koran" and abrupt sign off at 2300. Ghana? (Johnson, IL)

UNITED ARAB EMIRATES: Voice of the UAE, Abu Dhabi, 13605 at 2330 with news. (Walbesser, NY)

UNITED STATES: WYFR, 7355 at 0725. (Higgins, MA) at 0237. (Walbesser, NY)

WMLK, 9465 at 1140. (Northrup, CT)

BBC via VOA-Bethany, Ohio, 9590 at 0130. (Johnson, IL)

WRNO, 7355 at 0030. (Higgins, MA) 15420 at 2200 with music. (Walbesser, NY)

WCSN on 9455 at 0930 with ID, headlines, letterbox. (Zamora, ND)

KUSW on 9850 weekend frequency at 1158. (Reynolds, MO) 15580 at 2205. (Walbesser, NY)

WWCR on 7375 at 0345, religion. (Johnson, IL)

WHRI at 0520 on 7520. (Hafeli, BC)

WINB on 15295 at 1641. (Reynolds, MO)

Radio Marti, via VOA transmitter at 1135, SS. (Northrup, CT)

WSHB at 0258 on 9455. (Reynolds, MO)

USSR: Radio Moscow, 9720 at 0220, 15135 at 1750. (Walbesser, NY) 15585 at 1537 (Reynolds, MO)

VATICAN: Vatican Radio, 15120 at 1559 in AA. (Reynolds, MO) 21485 at 1212 to Southeast Asia, off 1215. (Zamora, ND)

VENEZUELA: Radio Rumbos, Caracas, 4970 with SS ID at 0400. (Story, TX) 0410-0425 in SS, ID 0425. (Mierzwinski, PA) Here and 9660 at 0158 with SS ID. (Johnson, IL)

Radio Continental, Barinas, 0905-0918 and 0935-1005 in SS with some music, IDs in SS. (Mierzwinski, PA)

Ecos del Torbes, San Cristobal, 4980 at 0357 sign off in SS and national anthem. (Johnson, IL)

WEST GERMANY: Deutsche Welle, 3995 in GG at 0045 with talks, some music after 0115, ID 0128. (Mierzwinski, PA)

YUGOSLAVIA: Radio Yugoslavia, 7215//11735 at 0000 with news. (Johnson, IL)

And a hearty thank you to these good folksk:

Frank Mierzwinski, Mt. Penn, PA; Kevin Story, Midland, TX; Cliff Reynolds, Hazelwood, MO; Mark A. Northrup, Danbury, CT; Ray Hafeli, Mission, BC, Canada; Larry R. Zamora, Grand Forks, ND; James M. Higgins, Saugus, MA; Tim J. Johnson, Galesburg, IL and William F. Walbesser, Ravena, NY.

Until next month, good listening! PC

Abbreviation Used In Listening Post

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

YOU SHOULD KNOW

BY ED NOLL, W3FQJ

INTERESTING THOUGHTS AND IDEAS FOR ENJOYING THE HOBBY

EPI Wideband Active Antenna

The new Electronic Processing, Inc. (EPI) active antenna, Fig. 1, acts as a full quarter wave or longer vertical antenna over most of the VHF/UHF frequency range extending from the FM broadcast band to the 800 MHz band. In fact, it telescopes between 14" and 38". Thus the frequency range between the FM band and the VHF/HI band can be made resonant to a specific frequency as a quarter wavelength and at other frequencies a ¾ wavelength vertical. However, you do as well just extending it fully, because it has an amplifier at its base. For this reason it serves as an all-band VHF/UHF active antenna. It can be used indoors, or it can become a traveling companion. Outdoor mast mounts can be supplied too.

The antenna can be supported with the supplied plastic suction cups, Fig. 2. It does attach well to the inside of a window pane and, the antenna tubing itself is supported 2 5 inches away from the glass.

The amplifier has a gain of 14db and gives quite a boost to a weak signal. However, there is no gain control and you must make certain your receiver does not overload easily, or that you location is too close to the antenna system of a local broadcast station. Often this situation produces troublesome intermodulation distortion components on the low frequency shortwave broadcast bands and on the broadcast band.

The amplifier supplies signal to a 15 foot length of coaxial cable that is attached to a power coupling unit. A short length of cable links the signal to the receiver. The coupling unit supplies power to the same cable for application to the antenna preamplifier. A 50-foot extension cable is available and is ideal for setting up an outdoor installation. In this application the antenna does very well because higher signal levels can be intercepted.

The good preamplifier permits reasonable reception on the lower frequencies such as the SWB bands. In fact, the installation shown did fine on the SWB bands up to the 31 meter band. Nighttime reception was acceptable on the lower frequency SWB bands as well and even on the broadcast band.

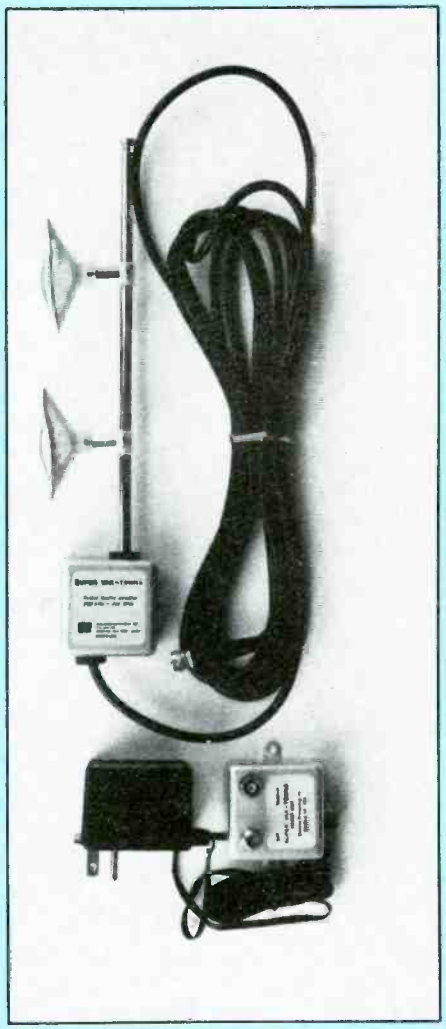


Fig. 1. Components of EPI wide-frequency range active antenna.

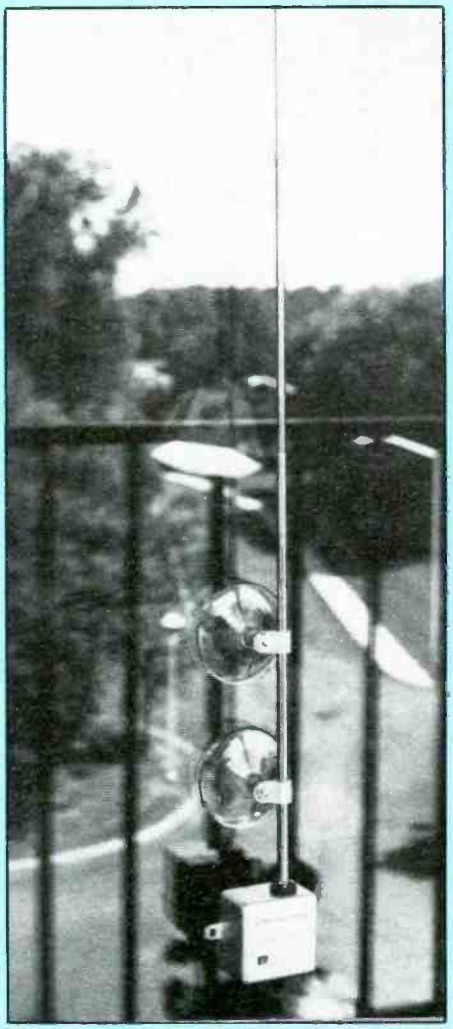


Fig. 2. Active antenna attached to inside of window.

Adding Additional Length

It is possible to improve reception on the SWB bands by adding some additional length. In a typical example, an 11 foot length of #22 insulated wire was added to the top of the antenna. One end of the wire was bared, looped and twisted tightly beneath the ball of the antenna top. Wire was stretched out across the room and tacked to the top of the door at the other end. It made a marked improvement in the lower-frequency signal levels. At night, the band was filled with strong signals up to the 49 meter band. Results were spotty on the lower-frequency SWB and on the BCB bands because of the birdies from the local AM broadcast station and its transmitting antennas within several miles of my location.

In a final test, I positioned the antenna horizontally on the filing cabinet and extended the antenna fully. The end of my indoor long wire was clipped on to its end. This set up a long wire antenna, plus preamplifier for all-band reception. On those frequencies where I had no difficulty with the local AM station there was a decided improvement in signal level. if you have a good location there is no reason why the antenna would not do well on all frequencies.

If SWB/BCB reception is your specialty when you travel you can always take a rolled up length of #22 hook-up wire with an appropriate alligator clip attached. In fact, a good plan is to carry two or three wires of differing lengths depending upon the bands you wish to favor.

(Continued on page 42)

POP'COMM's World Band Tuning Tips

March, 1990

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

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

All times given are in UTC.

Freq.	Station/Country	UTC	Notes
3205	R. Ribeirao Preto, Brazil	0130	pp
3220	R. Morobe, Papua New Guinea	1100	Pidgin/EE
3300	R. Cultural, Guatemala	0330	ee
3339	R. Altura, Peru	1000	ss
3985	Swiss R. International	0600	sign on, GG
4680	R. Nacional Espejo, Ecuador	eves	SS
4750	Xizang PBS, China (Tibet)	1200	CC (2 other Chinese also here)
4753	RRI Ujang Pandang, Indonesia	1100	Indonesian
4755	Sani Radio, Honduras	0150	sign off, SS
4760	ELWA, Liberia	0555	sign on, EE
4783	RTM Mali	0555	sign on, FF
4790	RRI, Fak Fak, Indonesia	1100	Indonesian
4795	Rdf. Aquidauana, Brazil	0100	PP
4820	LV Evangelica, Honduras	0300	SS
4830	R. Botswana	0352	IS, 0400 on
4835	R. Tezulutlan, Guatemala	0100	SS/Quechua
4840	R. Valera, Venezuela	0300	SS
4845	ORTM Mauritania	0700	AA
4870	ORTB Benin	2300	close, FF
4870	R. Rio Amazonas, Ecuador	0100	SS
4875	R. Nacional Boa Vista, Brazil	0400	close, PP
4880	R. Orion, South Africa	0330	
4890	R. France International	0400	FF, via Gabon
4895	LV de Rio Arauca, Colombia	0300	SS
4905	R. Relogio Federal, Brazil	0145	PP, time checks
4920	R. Quito, Ecuador	0200	SS
4920	ABC Brisbane, Australia	0930	
4930	4VEH, Haiti	1000	Creole
4940	R. Continental, Venezuela	eves	SS
4975	Ondas del Orteguaza, Colombia	eves	SS
4980	Ecos del Torbes, Venezuela	eves	SS
5015	R. Pioneira, Brazil	0300	PP
5040	LV del Upano, Ecuador	0205	close, SS
5044	R. Impacto, Costa Rica	eves	SS, alt to 5030
5055	TIFC, Costa Rica	0300	EE
5075	Caracol Neiva, Colombia	0200	SS
5950	Voice of Free China, Taiwan	0500	CC, via WYFR
5975	R. Macarena, Colombia	0930	SS
5980	R. Guaruja, Brazil	2300	PP
5980	Union Radio, Guatemala	00-0200	SS
6010	R. Berlin Int., E. Germany	0130	
6015	R. Austria International	05-0700	EE/GG, via Canada
6025	R. Amanecer, Dominican Rep.	2300	SS
6025	R. Illimani, Bolivia	0900	sign on, SS
6040	Deutsche Welle	0100	EE, via Antigua
6060	R. Nacional, Argentina	0100	SS
6070	CFRX, Canada	24 hrs	
6115	R. Universidad de Sonora, Mexico	eves	SS
6117v	LV del Llano, Colombia	0300	SS
6130	CHNX, Canada	2330	
6135	SRI, Switzerland	0315	
6135	R. Universidad de Concepcion, Chile	1030	SS
6140	RCI, Canada	0530	
6145	Deutsche Welle, W. Germany	0100	
6150	RCI, Canada	0600	EE/FF
6175	KUSW, Utah	0500	
6185	R. Educacion, Mexico	1100	SS
6190	R. Bremen, W. Germany	0745	GG
6575	R. Pyongyang, N. Korea	1100	KK
6724	R. Satelite, Peru	eves	SS
6900	Turkish Meteological Service	0600	TT
7125	AWR, Italy	0630	
7130	R. Yugoslavia	2100	EE
7170	RFO New Caledonia	0700	FF
7190	R. Southwest Africa, Namibia	0530	
7208v	RTV Ivoirienne, Ivory Coast	0600	FF
7235	Deutsche Welle, W. Germany	0400	AA
7255	V of Nigeria	0500	EE
7260	R. Vanuatu, Vanuatu	0800	EE
7270	R. Polonia, Poland	2300	EE
7345	R. Prague, Czechoslovakia	0100	EE
7375	R. For Peace Intl, Costa Rica	0030	EE
7445	Voice of Asia, Taiwan	1100	EE
9022	VOIRI, Iran	1930	EE
9395	V of Greece	0100	Greek
9420	V of Greece	0130	EE
9435	R. Omdurman, Sudan	0430	AA
9445	V of Turkey	2200	
9485	TWR Monaco	0730	
9505	R. Prague, Czechoslovakia	0700	Czech
9515	BBC	1230	EE, via Canada
9515	R. Baghdad, Iraq	0130	EE/N America
9530	R. Moscow/Mayak	1300	close, RR
9535	TWR Bonaire	0300	
9535	R. Moscow	1340	unid lang.
9540	R. Nacional, Venezuela	2100	SS
9545	SIBC, Solomon Islands	0600	
9555	La Hora Exacta, Mexico	24 hr	SS
9560	R. Atlantika, USSR	0400	RR
9580	R. Australia	mornings	
9585	HCJB, Ecuador	0530	RR
9590	R. Netherlands	0427	sign on, SS
9600	R. Beijing	0200	via Spain
9605	Vatican Radio	0100	
9605	Deutsche Welle	0300	to NA
9610	BBC	0430	FF, via Ascencion
9610	R. Vilnius, Lithuanian SSR	2200	
9620	R. Yugoslavia	0015	
9625	CBC No. Que. Service, Canada	0440	
9635	BBC	0442	RR, sign on
9645	R. Finland International	0000	
9655	R. Thailand	1130	
9660	ABC Brisbane, Australia	1140	
9665	R. Moscow	0500	SS
9670	Adventist World R., Europe	0900	via Portugal
9670	Deutsche Welle	0500	No. America
9675	R. Mediterranean, Malta	0600	
9675	R. Japan	0800	JJ
9680	R. Portugal	2345	
9680	V. of Free China	0200	via WYFR
9685	R. Algiers, Algeria	1900	FF
9685	Radio Havana Cuba	2200	
9695	Radio Sweden	0230	N. America
9710	Radio Havana Cuba	0300	
9715	R. Netherlands	0530	via Bonaire
9735	R. Nacional, Paraguay	0200	SS
9735	R. Moscow	1150	unid lang.
9745	HCJB, Ecuador	0800	
9760	RCI, Canada	0600	
9835	Radio Budapest, Hungary	2330	N. America
9840	KNLS, Alaska	0800	
9850	R. New Zealand	1000	
9870	R. Austria International	2130	FF
9875	R. Austria International	0000	SSB xmsn
9885	SRI, Switzerland	2215	sign on to LA
9900	R. Cairo, Egypt	2200	
9925	BRT, Belgium	0030	
9925	RTBF, Belgium	1600	FF

Freq.	Station/Country	UTC	Notes
9955	V of Free China	2200	via WYFR
9977	R. Pyongyang, N. Korea	1100	EE
11100	Taiwan-2, China	1255	CC
11430	New Star Broadcasting Stn, Taiwan	1100	CC numbers
11570	R. Pakistan	2015	sign off, FF
11585	Kol Israel	0330	RR
11620	AIR, India	1300	unid. lang.
11625	R. Omdurman, Sudan	0355	sign on, AA
11645	V of Greece	1530	
11650	R. Beijing, China	0040	SS
11660	Radio Netherlands	1125	sign on, SS, via Bonaire
11660	R. Sofia, Bulgaria	0300	Bulgarian
11665	R. Kuwait	1900	
11675	R. Vilnius, Lithuanian SSR	2300	N. America
11700	R. Moscow International	0000	SS
11705	R. Sweden	0230	N. America
11710	RAE, Argentina	0200	
11720	R. Netherlands	0330	N. America
11734	R. Tanzania, Zanzibar	1745	local langs.
11735	R. Yugoslavia	0100	
11735	Vatican Radio	0050	sign on
11745	Radiobras, Brazil	0200	
11750	Vatican Radio	0200	
11755	R. Finland International	0000	N. America
11755	R. Afghanistan	1830	GG, via USSR
11760	FEBA, Seychelles	1500	
11760	R. Cook Islands	0600	part EE
11765	R. Japan	2100	
11780	Radio Moscow	1340	RR
11785	V of Indonesia	1230	II
11790	VOIRI, Iran	1130	
11790	R. Kiev, Ukraine SSR	0200	N. America
11795	R. Veritas Asia, Philippines	1158	sign on, JJ
11800	RAI, Italy	0100	
11800	R. Australia	1200	
11805	KTWR, Guam	1600	
11815	TWR Neth. Antilles	1055	sign on
11825	R. Tirana, Albania	0330	
11840	R. Portugal	2345	PP
11850	FEBC, Philippines	0900	
11855	R. Beijing, China	1415	
11866v	AWR, Costa Rica	1100	FF
11895	VOIRI, English	1930	
11905	R. Globo, Brazil	0200	PP
11940	R. Singapore	1200	
11945	R. Bucharest, Romania	0200	
11945	RCI, Canada	2200	
11955	R. Jordan	0330	AA
11965	WRNO New Orleans	1500	
11970	R. Havana Cuba	0400	SS
11985	V of the UAE	2200	
11990	R. Prague, Czechoslovakia	0000	
12015	R. France International	1600	
12035	SRI, Switzerland	0330	
12050	R. Cairo,Egypt	1300	AA
12077	Kol Israel	0000	
12085	R. Damascus, Syria	1700	GG
13605	V of the UAE	2200	
13610	R. Berlin Int., E. Germany	1930	
13615	R. Moscow	1125	unid lang.
13635	SRI, Switzerland	2100	
13650	R. Pyongyang, N. Korea	0005	SS
13650	RCI, Canada	2000	
13655	R. Jordan	1420	sign off
13660	R. Baghdad, Iraq	2100	
13655	R. Pakistan	1630	sign off
13665	R. Baghdad, Iraq	2100	SS
13680	R. Moscow	1315	RR
13690	R. Berlin Intl., E. Germany	1130	
13695	KVOH, California	0200	SS
13730	R. Austria International	1230	FF
13745	ISBS, Iceland	1215	Icelandic
15084	VOIRI, Iran	0130	SS
15095	Kol Israel	0400	Hebrew
15100	R. Beijing, China	0230	SS
15105	WHRI, Indiana	1700	
15115	R. Pyongyang, N. Korea	0015	
15140	R. Nacional, Chile	2300	SS
15155	HCJB, Ecuador	0030	
15165	R. Denmark	1100	Danish
15170	R. Tahiti	0300	FF
15180	R. Minsk, Byelorussian SSR	2330	Byelorussian
15180	R. Kiev, Ukraine SSR	0000	
15195	R. Beijing, China	0030	SS
15195	R. Bangladesh	1230	
15205	Voice of America	1830	via Tangier
15215	R. Japan	1200	CC
15225	WSHB, S. Carolina	2000	
15235	R. Moscow	1300	unid lang.
15235	V of the Greater Arab Homeland, Libya	2300	AA
15250	Voice of America	1330	sign off
15265	Radio Moscow	1350	unid lang.
15270	R. Nacional, Ecuador	1730	via HCJB, SS
15270	V of Free China, Taiwan	1300	sign off
15280	Radio Moscow	1400	unid lang.
15295	Voice of Malaysia	1230	
15325	Radio Japan	0300	via Fr. Guiana
15325	RCI, Canada	2200	
15345	R. Kuwait	0530	
15345	RAE, Argentina	2200	EE—not daily
15365	R. Bucharest, Romania	1356	sign off
15375	R. Netherlands	1630	
15390	BBC, England	1300	unid lang.
15400	Voice of America	0255	SS
15410	R. Austria International	1915	AA
15420	SLBC, Sri Lanka	1230	sign on
15435	UAE Radio, Dubai	1600	
15450	RTT Tunisia	0530	AA
15475	R. Peace and Progress, USSR	0100	SS
15475	Africa No. One, Gabon	1900	FF
15505	R. Kuwait	1800	AA
15510	R. Afghanistan	1900	EE, via USSR
15570	R. Netherlands	1630	
15570	R. Rodina, USSR	1300	RR
15580	KUSW, Utah	2200	
15600	R. Moscow	1230	RR
15615	Kol Israel	0300	RR
17580	BRT, Belgium	1630	EE
17612.5	V of Free China, Taiwan	2200	Via WYFR
17620	R. France International	2345	SS via F. Guiana
17625	R. Moscow	1330	sign on, RR
17635	R. Peace and Progress, USSR	1330	
17650	R. France International	1357	sign off
17655	R. Moscow	1250	World Service
17660	Mayak Radio, USSR	1259	sign off
17685	Kol Israel	1100	
17690	R. Vilnius, Lithuanian SSR	2300	N. America
17705	Radio New Zealand	2345	sign on
17710	R. Damascus, Syria	2105	N. America
17715	Radio Nacional Espana, Spain	2200	SS, ancd via Canary Is.
17730	Voice of America	1345	SS, via Bethany
17735	R. Oman	1700	AA
17740	BBC	1355	sign on, via Cyprus
17740	Radio Yugoslavia	1300	N. America
17755	Radio Surinam International	1700	DD, etc., via Brazil
17775	KVOH, California	0030	
17775	R. Japan	0100	
17785	BBC, England	1410	AA via Cyprus
17800	Deutsche Welle, W. Germany	0258	sign on, via Sri Lanka
17805	V of Free China, Taiwan	0000	CC, via WYFR
17820	FEBA, Seychelles	1500	
17840	R. Norway International	1700	EE (Suns)
17845	WYFR	0015	SS
17860	Deutsche Welle, W. Germany	0030	GG, via Rwanda
17870	Vatican Radio	1500	
17910	R. Bangladesh	1230	
21465	R. Berlin Int., E. Germany	1355	
21475	R. Austria International	1100	
21495	R. Nacional Espana, Spain	2330	SS
21520	R. France International	1315	FF
21525	R. Australia	1430	sign off, Darwin site
21565	R. For Peace Int., Costa Rica	0030	USB
21570	R. Sweden International	1305	Swedish
21605	UAE Radio, Dubai	1330	
21610	R. Sweden International	1530	N. America
21610	R. Japan	2345	
21630	R. Moscow	1245	World Service
21635	R. France International	1255	EE/FF
21640	WCSN, Maine	1600	
21650	Deutsche Welle, W. Germany	1300	CC, via Malta
21655	R. Bucharest, Romania	1330	EE to Europe
21655	R. Moscow	1315	unid lang.
21675	R. Kuwait	1830	
21685	R. France International	1340	FF
21690	RAI, Italy	1730	Italian
21695	SRI, Switzerland	1330	
21760	Kol Israel	1600	Hebrew
21790	Kol Israel	1527	sign off
21800	R. Moscow	1600	AA
21810	BRT, Belgium	1330	

(from page 39)

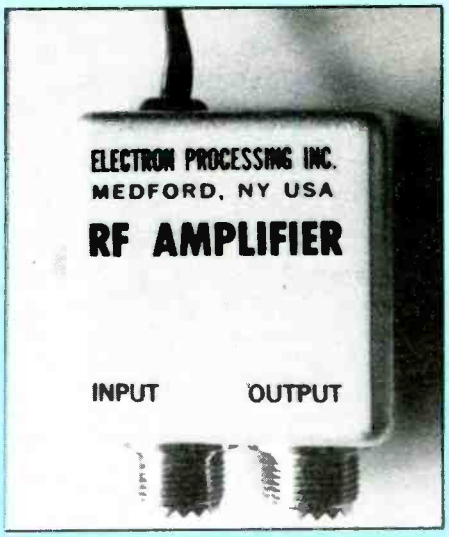


Fig. 3. RFA-20 Signal Intensifier.

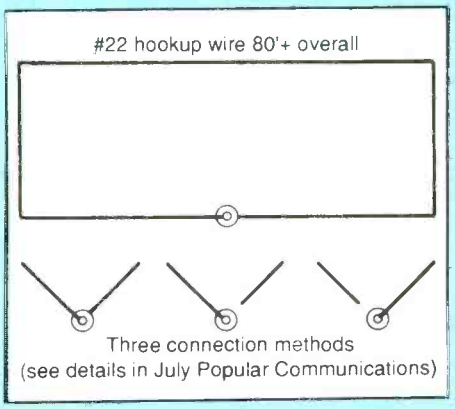


Fig. 4. Indoor horizontal loop.

In an installation of this type you can always change over quickly to scanner operation by removing the clip attached to the antenna. If you are not a scanner fan, there is an alternative. The EPI- RFA-20 signal intensifier, Fig. 3, does very well on the frequencies up to 200 MHz. You can use several different lengths of wire with banana plugs attached for connecting to its input.

B. Freeman wrote in to ask about an indoor loop antenna. I had covered one in a previous issue. Basically, it is a complete horizontal loop positioned along the baseboard of the apartment. Use #22 insulated hook-up wire. Start the wire off on one side of your receiver and return on the other side, Fig 4. it can wind around a bit and it need not be a perfect square or rectangle, but keep it as open as you possibly can.

Provide a means of connecting it in each of three ways as shown. Experiment with it so that you can select the best one of the three connections for each band, or, choose the one position that gives you the best overall results if you don't want to set up a switching arrangement. I've been pleased with the way my own operates. PC

BY GERRY L. DEXTER

CLANDESTINE COMMUNIQUE

WHAT'S NEW WITH THE CLANDESTINES

You can always count on the world of secret broadcasting to be a constant source of odd and inexplicable goings on and here's an item that surely fits into that category. According to a story in September 3 (1989) edition of the *Washington Post* the anti-Angolan government station *A Voz do Resistencia do Galo Negro* (Voice of the Resistance of the Black Cockerel) has deliberately interfered with the broadcasts of the Voice of America. That's ironic, if true, since the UNITA rebels which operate the station are supported by the U.S. government and some reports say their radio station gets CIA support. Anyway, the story says that UNITA may have used its transmitter to jam a VOA broadcast which contained a speech by the Angolan president. On other occasions the UNITA station is accused of cutting in on VOA broadcasts in Portuguese to Africa on 7130 and 9700—two frequencies also used by the Black Cockerel station. In the past both UNITA and the Angola government have accused the VOA of bias in its reporting on the Angolan situation. UNITA has denied any attempt to interfere with the VOA but says it's possible the interfering signals were coincidence. The VOA said it was going to monitor both its program and the UNITA station. Thanks to Michael C. Lewis in Virginia for forwarding this interesting item!

New developments in the clandestine situation in Sri Lanka. There's a report which indicates the Sri Lankan government is now operating a station calling itself *The Independent Voice* (or *Voice of Freedom*) which, according to a Media Network report is operating at 0100-0130 and 1300-1330 on 4360. An additional Sunday transmission is at 0330-0400 on 7010. *Radio JVP*, broadcasting against the government, is operating Tuesday, Thursdays, Saturdays and Sundays at 0130-0215 and 1330-1415 on 4432. The Indian government has also gotten into the act with the *Voice of the Tamil Movement* on Saturdays and Sundays from about 0130-0230 and 1030-1110 on a frequency varying between 7100 and 7150. It's a shame that none of the Sri Lankan clandestine activity can be received in North America.

Vietnamese Resistance Radio has surfaced again, or at least a report that it is active. It's said to be broadcasting on 7300 between 0200-0300, 0600-0700, 1000-1100, 1400-1500 and 2200-2300. The station is said to be operated by something calling itself the National Front for the Liberation of Vietnam. The station went on the air back in 1984, but our information indicates it was not active for a very long time and that, despite occasional reports of a schedule for this one, it has not been active, at least based on the bits and pieces that have filtered into our files in the past. If active with any kind of power the 1000 and 1400 broadcasts would offer some possibility of reception in North America.

An attractive red, white and blue bumper sticker sent by anti-Castro broadcaster La Voz del Cid. (Thanks: Robert Fletcher)

Several clandestines focus on the Kurdish people but are not hearable in North America. There's a newly reported station which just may be within our reach, however. It identifies as the *Voice of the People of Kurdistan* and is reported active in Arabic from 1600-1730 on 15046, a fairly better time/frequency combo for our purposes.

The station supporting democracy in China—*Radio Democracy*—which we told you about last month continued its activity well into the fall, according to Tetsuya Kondo of Japan, reporting to the *DX Spread* newletter. Kondo notes the station was silent between the 10th and 21st of September last year, when typhoon #19 hit Taiwan. Kondo's extensive monitoring indicates the station is active periodically between 1000-1600 (except Tuesdays and Wednesdays) on 7126.1. Broadcasts last around 10 minutes and are in Chinese. US DX'er Bob Hill in Massachusetts recently logged this station on 7125.8 at 1025. So far we've seen no reports of any clandestine broadcasting by the pro-democracy Chinese exile groups.

The Voice of Democratic Kampuchea, which had its broadcasts suspended for a time, has returned to the air. The station transmits from Chinese government facilities and the temporary closedown was thought to be because China wanted to use the transmitters for jamming purposes during the democracy crises last spring. VODK now broadcasts at 0400-0500 on 15110 and 1760; 0900-1000 on 11780, 11870 and 17533; 1300-1400 on 6025 and 9400 and 2330-0030 on 7350 and 940. The pro-Khmer Rouge broadcasts can often be heard in North America.

Clandestine fan Robert Ross in Canada reports reception of *Radio Venceremos* at 0236-0250 on 6460 with an ID "esta es Radio Venceremos, voz oficial de FMLN". He also heard Radio Venceremos on 6240 at 0153 and suspects this may have been a pirate playing a tape. Bob picked up the ELN's *Radio Patria Libre* on 6758 to 0057 sign off, identifying as "Radio Patria Libre, la voz de Colombia." Bob had *Iran's Flag of Freedom Radio* in Farsi at 90500 on 15560 with many mentions of Iran and Khomeini. Thanks for the fine logs, Bob!

One of the steadiest clandestine performers—frequency, schedule, strength and even QSL-wise—is *La Voz de Cuba Independiente y Democratica*, easily heard days and evenings on 9940, slightly variable. Robert Fletcher of New York sends a bumper sticker he received with his QSL from La Voz del CID. He notes the address as: Apartado 3130, San Jose 1000, Costa Rica.

Please let up have your clandestine broadcasting news—whether in the form of actual loggings, schedules, QSL and address info, material received from the groups which operate stations or any relevant news clippings you may run across. As Always, you identity can be protected if you wish.

Thanks. And until next month, good hunting! PC

TELEPHONES ENROUTE

BY TOM KNEITEL, K2AES

WHAT'S HAPPENING WITH CELLULAR, MARINE & MOBILE PHONES

After the January column, in which we spoke of the *GTE Airfone* air/ground telephone system, quite a number of readers wrote to ask about why *GTE Airfone* wasn't set up to operate within the cellular networks, especially since it appears to be utilizing frequencies in the same general (800 MHz) frequency range.

For one thing, cellular phones use FM mode while *GTE Airfone* doesn't. Because of something called "capture effect," which is inherent in FM operation, FM isn't as well suited to airborne operation as is AM mode. This is why AM is till used for aeronautical communications in the 118 and 225 MHz bands. Fact is, cellular telephones aren't even allowed to be used in airplanes, but for a different reason.

Cellular handheld and mobile phones run low power in order to deliberately restrict their transmitting range. If these stations had more than a very limited range, it would defeat the operational concept of how a cellular system works. Each communications cell is designed to cover only a relatively small area. If a mobile station pushed more signal than was adequate for basic coverage, its signals could possible cause interference to operations in cells other than the closest one to the mobile or handheld unit.

On the other hand, even a stock, low powered handheld, or mobile unit, would have a greatly enhanced signal coverage potential once taken aloft in an aircraft. Flying at only 5,000 feet, a person with a cellular would access all cellular systems for 100 miles in all directions from the aircraft. In a commercial jet airliner, systems 250 miles (or more) in all directions would be accessed. In either case, placing or receiving a call would be difficult or altogether impossible, and the signals from the aircraft would wreak havoc on the ground-based systems within range that were accessed

As a sidelight to this, recently I had to take an airline flight to a destination where I felt my transportable cellular phone would come in handy during my stay. My only luggage consisted on a carry-on bag, so I thought it best if I telephoned the airline, the morning of the flight, to ask if there would be any problems with bringing the cellular aboard. Airline security people are (understandably) wary of people attempting to carry electronics equipment on board airlines.

They explained to me that I wouldn't be allowed to use it while in flight, but mostly they told me that I'd have to agree to having the cellular opened up and its innards inspected prior to boarding. I agreed, and they suggested that I show up at the airline security screening area with a few minutes extra to spare.

The Datajack lets you use a PC or FAX with a car phone.

When I arrived at the airline ticket counter, I told the agent about the cellular and was advised that *sometimes* the security personnel want to look inside the units, but that they won't harm the equipment. Showing up at the security gate, I again announced that I had a cellular telephone in my carry-on. I might as well have said I had a salami sandwich; they placed the suitcase on the conveyor belt, it went through the X-ray, they handed it back to me without any further checking or questions. They simply couldn't have cared less! The suitcase was never opened, the cellular was never seen except on the X-ray.

If any readers have had "experiences" one way or the other along these lines, we'd like to hear about them. it does seem that it would probably be wise to check in advance, and then assume that it might be necessary to allow the cellular to be inspected. Either I didn't look like a terrorist to the airport security people, or else security isn't as thorough as it should be at my local airport.

A Clever Idea

In Bowling Green, KY there's a small company that's hit upon a rather clever idea. They furnish portable cellular phones for placement in motels and car rental agencies where they can be offered for daily rental. Called *Travel Phone*, The units can be taken anywhere for business or recreational uses. Rates charged are standard roaming rates. The first motel that signed up for making *Travel Phone* available was the Best Western Motel in Erlanger, which is adjacent to the Cincinnati Metro Airport. It seems that I'm not the only person who would like to have the use of a cellular while spending a few days away from home base. It's less hassle than flying with your own phone.

This company also has a sister operation called *Travel Fax* that makes FAX machines available to guests in motel rooms. Makes it convenient for exchanging all sorts of information with a distant home or office.

Both *Travel Phone* and *Travel Fax* are divisions of Pay Phone Enterprises, Inc., 1004 State Street, Suite 200, Bowling Green KY 42102. We appreciate their letting us know about their innovative services.

On-The-Go-Accessory

While we're discussing being on the go, we'd like to let you know about the Cellabs *Datajack* data adapter. This small device allows transmitting FAX and laptop computer data through cellular and non-cellular (IMTS) car phones, also through full duplex SMR mobile radios. It provides the user with an RJ11 (standard telephone line) jack for connections to the FAX and/or computer.

The small unit provides loop current that many FAX machines require in order to operate, as well as automatic silencing of the

mobile telephone or two-way handset so as not to interfere with FAX or data transmission. Connection is accomplished by simple manual dialing or answering of a call.

The *Datajack* can be used with most mobile and transportable cellulars and also most IMTS and SMR radios. Professional installation isn't required and no modification of the cellular phone is required.

For more information on this interesting and useful device, contact Cellabs, 6433 Topanga Canyon Blvd., Suite 152, Canoga Park, CA 91303, or circle 105 on our Readers' Service.

Lightweight Portable

Hitachi Sales Corp. of America just brought out their Model CR-2121H handheld cellular. It can be cradled in a stationary unit in a car for total hands-free operation, or it can be easily carried in a jacket pocket, purse, or a briefcase. This model has a dual antenna system that permits reception even if the main antenna isn't extended.

Other improvements over earlier models include increased ringer volume, and louder earpiece volume. All pushbuttons have been recessed more deeply in order to decrease the possibility of misdialings and other problems that occur when buttons are accidentally depressed during normal carrying and handling of a small handheld portable.

Other features include 100-minute talk-time and 16 hours of stand-by time on a single charge of the battery. There's 30-number alphanumeric dialing memory, 36-character display for message and number, a muting button, scratch pad memory, DTMF overdialing, illuminated keypad and display, electronic lock, airtime display, and security key.

The Hitachi CR-2121H weighs less than 21 oz., is less than 8 in. high, 1.5" thick, and a sliver over 2" wide. The MSRP is $1295.

To learn more about the Model CR-2121H, contact Hitachi Sales Corp. of America, 401 W. Atresia Blvd., Compton, CA 90220, or circle 106 on our Readers' Service.

Hitachi's new CR-2121H portable cellular phone.

Milestone

Cellular service has been around in the United States for six years, just in case you weren't aware that last October was the official anniversary. it was in October of 1983 that Ameritech Mobile Communications launched commercial service in Chicago.

Present industry stats report that new cellular subscribers are being activated at a rate of nearly 77,000 per month, with 70% of existing users having started within the past 18 months. There are now 2.7-million cellular users in North America, and that number will double this year. Some 50 countries now have cellular service.

Many new customer services are being added to cellular services, or are just on the horizon. Look for breakthroughs such as the development of an "intelligent vehicle" that provides map and traffic info, provides local entertainment updates, allows users to control security and other systems in their homes, provide parking availability data in high density areas, and even warn owners when their vehicle is being broken into.

Perhaps one of the most appealing new aspects of cellular is the beginnings of what may be a movement to reduce air-time costs. Reader Edgar F. Chapell, Byron, NY let us know that the Genesee Telephone Co. and Rochester Tel Mobile Communications (in New York) have both sliced their rates. Rates ranging between 14 and 17.5 cents per minute (including for peak hours) are among the lowest in the nation. Certainly, these are the kind of rates that will attract many who have held off on getting cellular phones.

This column seeks input from our readers; questions, suggestions, new uses for telephones on-the-go, new products, etc. Got an interesting story or your own experiences with a portable or mobile phone? Tell us! PC

EMERGENCY

COMMUNICATIONS FOR SURVIVAL

BY GORDON WEST, WB6NOA

PR For The New Media

As a professional emergency communicator, you will find that the news media will be looking over your shoulder to glean some additional information about the event you are providing communications for. They are looking for a story. They are looking for *any* angle. They are taking notes on everything you say, and everything they hear, over your radio set-up.

As a professional emergency communicator, it's important to consider your role with the news media. Does your organization have a public information officer? (PIO) If so, it is the responsibility of the PIO to handle any questions asked by the news media, and to disseminate statements made to the media. If you indeed have a PIO, let them do the talking—not you.

If you are the only one around providing communications, it's up to you to watch what you say. Never divulge information about another party—this is usually confidential, and is privileged information to those injured by the disaster, or anyone else that you may be helping with your radio set-up. And there are some things you simply don't want to tell the news bureau at all. Let me give you an example of a ham radio operation that went sour when the news media caught on that ham airwaves may also contain a few loonies.

Hurricane Hugo and the great San Francisco earthquake most recently pulled emergency communicators together, manning emergency command posts in the stricken areas. In both disasters, emergency communicators came from several different radio fields:

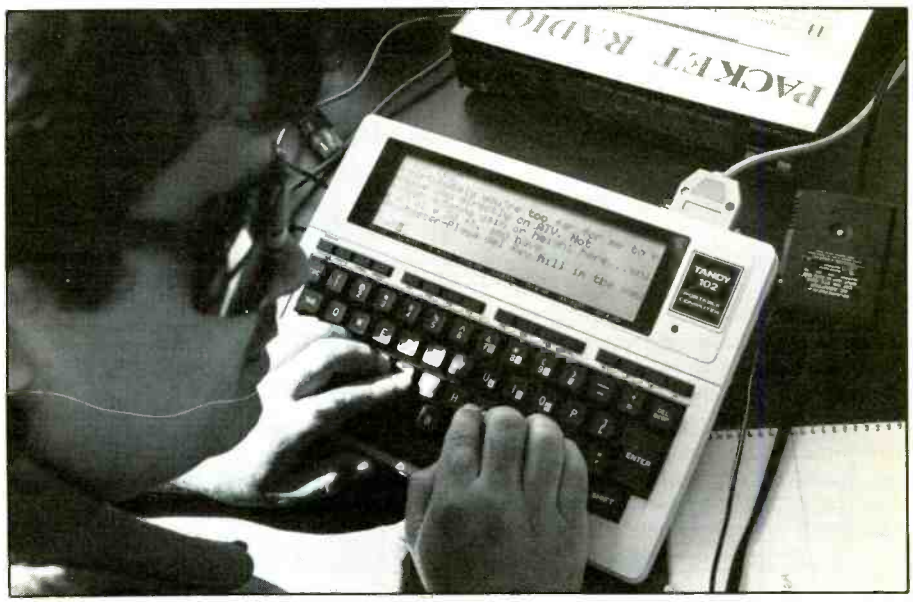
- Amateur radio
- GMRS
- Citizens Band
- Red Cross radio
- Land mobile communications

The best part of the communications scenario was the ability of radio communications to GET THROUGH. Luckily, radio waves are unaffected by spinning hurricanes, and work just as well into earthquake-shattered areas as they do to a modern radio set-up with no damage at all.

The radio communicators were the heroes.

The news media gathered around to interview one of these radio operators, but unfortunately, they picked a radio operator that had no common sense.

"Sure, we can get through on radio, if only the jammers and hecklers would get off our frequencies. You know, our ham radio service now sounds like Citizens Band with all these jammers interrupting our emergency communications . . . " comments a ham radio operator with no street sense.



Emergency communicator using packet to handle San Francisco quake traffic lists. (Photo by Dan Fort)

As expected, reporters homed in on this glitch in radio communications, and many headlines focused on how poorly the radio communications were going, rather than how well emergency communications were saving the day.

If your emergency communications are being disrupted by a jammer, tuner-upper, or illegal operator blowing his nose or burping on the airwaves, change to another frequency. Make no mention of the interference. And above all, don't let the news media, looking over your shoulder, detect that there may be one rotten apple out of a complete stack of healthy apples, carrying on with the emergency communications.

Once you acknowledge a jammer on the air, or in the press, your troubles will multiply. Jammers and radio disrupters are looking for attention. Scream at them, and you have made their day. Talk about them in the press, and now they are further heightened by their illegal operation. They'll track your

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#9070, 13 lines from WS6S 10/22/89 2:09 am
To: ALL @ ALLCA  Re:(B) Disaster Help Needed

R:891022/0253z @:KJ6EO.#SOCAL.CA.USA.NA BURBANK, CA #:6819 O:WS6S

Immediate call for disaster relief volunteers

From:   Federal Emergency Management Agency (FEMA) - Vulcan

Needed: Housing Inspectors (should be familiar with basic homebuilding
techniques) -- will Needed: Data Entry personnel to enter
inspection reports collectedby the Inspectors.

Please respond immediately to Alva Dellano, Coordinator, or Pierre
Goiran
```

Typical packet message sent during San Francisco earthquake.

frequency down and disrupt it, just so they might read about themselves the next day.

Your best offense against jammers is to completely ignore them. Talk over them. Don't acknowledge them at all, and never let on that they are actually being heard over the station you are attempting to contact. Don't even mention that you had any problem at all copying the other station. Even if you didn't get a single word they said, indicate that you heard them clearly, but the lead in your pencil broke, and you'll need to ask for a repeat in a few minutes. Let on that a jammer disrupted the communications, and the jammer will continue.

Let the newspapers and televisions see that your radio service is indeed saving lives. Don't divert their attention to a few bad eggs trying to make life rough for you. Don't use the news media to air out your dirty laundry. Rather, wait until the disaster is over, and then try to figure out who the jammers were.

The news media is always looking for live-action shots of emergency communications in action. If you are a licensed amateur radio operator, it is perfectly legal to let the news bureaus tape-record your radio transmissions and to televise everything that may be coming over your amateur radio fast-scan amateur television system. The laws are clear that amateur radio communications are not covered by the Privacy Act.

However, you are not permitted to engage in news gathering using your ham radio set-up. This means it would be illegal for you to break into emergency communications, and ask for a statement of conditions about the disaster area for the news bureau that is televising your contact. It's sometimes tempting to make that call, and to become the radio star—but don't. However, during your routine conversation with the other ham, if that ham gives you the information about the disaster area, this is fine—as long as it is not directed specifically for news gathering purposes.

You may wish to tear out the following letter that might be sent to your local news bureaus. This lets them know, ahead of time, where to go to get the latest action shots of your radio station in action, handling emergency communications:

Use Live Ham Radio Broadcasts

The amateur radio service can provide your news department with instant coverage to local and distant disasters, local emergencies, or widespread destruction. There are over one-half million licensed amateur radio operators, called ham, who have the capabilities to go on the air, immediately, assisting with emergency radio communications.

The Federal Communications Commission rules permit your news department to use any and all amateur radio communications. The local amateur radio community invites you to "look over their shoulders" and pick up the information LIVE as it's coming in over the airwaves, or over our radio computers and amateur radio television links.

You will hear and see the excitement as it is actually hapening, thousands of miles away, or just down the street. We are not allowed to be hired for news reporting, nor is our amateur radio service allowed to be regularly engaged in news gathering—however, the amateur radio community encourages you to cover the news from our vantage point, and you are invited to call us anytime there's a major news story that amateur radio operations may be involved in.

YOUR LOCAL AMATEUR RADIO CONTACT:

Name:
Station Location:
Hot Line #:

We appreciate your coverage of how amateur radio operators may provide public service communications in times of disaster, emergencies, or widespread destruction—or for that matter, a bicycle race, telethon, or even a parade . . . .

73 (Best regards in ham lingo)

BROADCAST DX'ING

BY ROGER STERCKX, KVT1JH

DX, NEWS AND VIEWS OF AM AND FM BROADCASTING

If you've tuned up past the high end of the AM broadcasting band, you might have noted the recent addition of a new signal on 1660 kHz. This isn't a pirate, but a 400-watt station licensed to operate under the callsign KA2XXB. The licensee of KA2XXB is none other than the National Association of Broadcasters. If you've monitored this station, you could be hearing history in action.

Station KA2XXB, located in Maryland near Beltsville, is using an experimental directional antenna system intended to improve local signal coverage of mediumwave stations while also reducing long-distance skywave transmissions. The antenna system requires a 295-ft. tower, but also has a horizontal element made up of a length of wire running between the tower and one of the tower's supporting guy wires. The phase and current of this horizontal element is precisely tuned to reduce skywave radiation without cutting into local groundwave coverage.

The antenna system, designed by engineer Ogden Prestholdt, is now being given signal measurements to see how well it does what it is supposed to do. Many broadcast stations might be able to adapt to this new system at minimal additional expense (would need an extra feed system) and then be able to operate at night without cutting their power or having to switch over to directional antennas that reduce skywave signals, but also degrade their local signal coverage in the process.

KA2XXB is using a solid state transmitter on loan from Nautel Maine Inc., while the tower (worth $28,000) was supplied by LDL Communications of Laurel, MD. The NAB has put more than $75,000 of its funds into the project, in addition to the expensive equipment furnished by manufacturers including those mentioned plus Delta Electronics, Low Power Broadcasting, Cablewave Systems, Potomac Instruments, and Kintronic Laboratories.

The NAB staff engineer in charge of the project is Kelly Williams. The address of the NAB is 1771 N Street, N.W., Washington, DC 20036. If you happen to receive KA2XXB, you might wish to send Mr. Williams a detailed reception report.

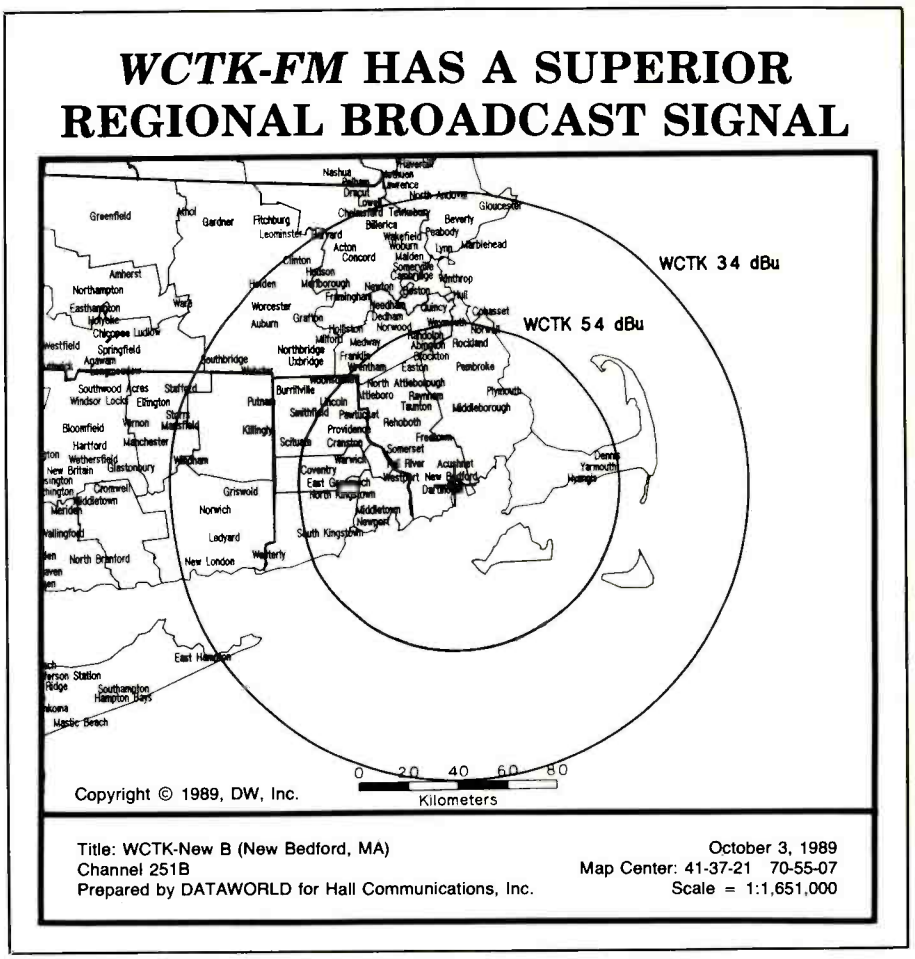
Quick Change

A note from CE Dave MacAdams, and Assistant Engineer Pete Kodis (N1EXA) of WCTK (98.1 MHz) in New Bedford, MA arrived at our desk. They noted that in the October column we had mentioned some format shuffling that took place in eastern New England when Boston's WBOS dropped its country music format and several other area stations stepped in to fill in the gaps. They pointed out that, although we didn't mention it, theirs was one of those stations.

It was a quick change, as they say. The format was switched so fast that the employees didn't even know about it until they showed up for work and were told that there was a new format in effect. The station had been known as WMYS and spent five months in the highly competitive "easy favorites" (soft rock, etc.) format without gaining the audience share they wanted.

The switch to country music was made so quickly that the new call letters (WCTK) hadn't had time to process through the FCC. All of the soft rock music was loaded into more than 700 cardboard boxes, and it was "instant" Hank Williams, Jr. and The Judds as the station plunged into its new format. The new call letters came through a week later.

MacAdams and Kodis told us that WCTK runs 50 kW and has its antenna atop a 600 foot tower. This gives the station coverage of eastern MA, all of RI, as well as eastern CT. Look for them on 98.1 kHz. Wonder if they've got a copy of *Euphoria*, by the *Holy Modal Rounders* in their record library. Wonder if they take requests? We appreciate hearing from the WCTK gang!



Action On 95 Indecency Complaints

The FCC said that it is taking action on a backlog of 95 indecency complaints. This action disposes of all documented indecency complaints pending at the FCC. The complaints were filed over a period of more than two years.

The Bureau instituted enforcement actions against eight stations for broadcasting indecent material.

Four of the eight stations subject to enforcement action were issued notices of apparent liability for monetary forfeitures. These are WIOD, Miami, FL ($10,000); WZTA-FM, Miami ($2,000); KLUC-FM, Las Vegas, NV ($2,000); and KFI-AM, Los Angeles, CA ($6,000).

Four other stations have been mailed inquiry letters seeking their comments on the

AM Facilities Changes Requested

KDFT	Ferris, TX	540 kHz Incr. to 250 w. nites.
KFRS	Sumner, WA	1560 kHz Incr. to 5 kW days.
KMTI	Manti, UT	1590 kHz Incr. to 10 kW days.
(new)	Nashua, NH	900 kHz 910 w. days.
WBSO	Clinton, MA	650 kHz Move to Lancaster, MA, incr. to 1.6 kW nites.
WBUD	Trenton, NJ	1260 kHz Incr. to 5 kW days.
WDBL	Springfield, TN	1590 kHz Reduce to 710 w.
WGNN	Lawrenceville, GA	1360 kHz Move to Grayson, GA.
WPGC	Morningside, MD	1580 kHz Reduce to 400 w. nites.

FM Frequency Changes Requested

KARO	Columbia, MO	101.7 MHz Move to 101.5 MHz
KDNC	Denver City, TX	107.1 MHz Move to 97.5 MHz
KGWB	Wahpeton, ND	107.1 MHz Move to 106.9 MHz
KNIQ	Mason City, IA	93.5 MHz Move to 93.9 MHz
WOVO	Glasgow, KY	105.5 MHz Move to 105.3 MHz
WXTQ	Athens, OH	105.5 MHz Move to 105.7 MHz

FM Frequency Changes Approved

KGRM	Grambling, LA	91.3 MHz Move to 91.5 MHz
KLUA	Kailua-Kona, HI	93.5 MHz Move to 93.7 MHz
KOKX-FM	Keokuk, IA	95.3 MHz Move to 96.3 MHz
KXOZ	Mountain View, CA	96.7 MHz Move to 96.9 MHz
WDAL	Linden, AL	107.1 MHz Move to 98.5 MHz
WKNH	Keene, NH	91.3 MHz Move to 91.7 MHz

AM Facilities Changes Approved

KASH	Modesto, CA	1360 kHz Reduce to 950 w. nites.
KNIM	Maryville, MO	1580 kHz Incr. to 1 kW days.
KNOB	Frazier Park, CA	1050 kHz Incr. to 10 kW.
KUTE	Desert Hot Spgs., CA	880 kHz Incr. to 3 kW/900 w.
WBOW	Terre Haute, IN	1230 kHz Move to 640 kHz, 250 w.
WHGR	Hougton Lake, MI	1290 kHz Reduce to 4.9/4.6 kW.
WJJD	Chicago, IL	1160 kHz Reduce to 5 kW nites.
WJTO	Bath, ME	730 kHz Change to 10 kW/500 w.
WKNV	Dublin, VA	810 kHz Reduce to 600 w.
WMNE	Menomonie, WI	870 kHz Move to 880 kHz, reduce to 210 w. nites.
WMOG	Brunswick, GA	1490 kHz Reduce to 600 w.
WMUU	Freenville, SC	1260 kHz Incr. to 5 kW.
WNYS	Canton, NY	750 kHz Reduce to 2.5 kW days.
WONX	Evanston, IL	1590 kHz Incr. to 3.5 kW days.
WNZK	Westland, MI	690 kHz Use 690 kHz (5 kW) days; 680 kHz (2.5 kW) nites.
WREV	Reidsville, NC	1220 kHz Incr. to 10 kW days.
WSDS	Ypsilanti, MI	1480 kHz Move to Canton, MI, incr. to 750 w.
WYLO	Jackson, WI	540 kHz Incr. to 400 w.
WZAL	McDonough, GA	1540 kHz Incr. to 2.5 kW.

New FM Call Letters Assigned

KAUI	Kekaha, HI
KBCH-FM	Kings Beach, VA
KBEK	Mora, MN
KCZE	New Hampton, IA
KCZQ	Cresco, IA
KEEI	Winslow, AZ
KGBM	Randsburg, CA
KHRA	Mariposa, CA
KIQQ	Lenwood, CA
KJET	Kingsburg, CA
KJFA	Grass Valley, CA
KJIB	South Padre Isl., TX
KJLR	Olney, TX
KJWL	Georgetown, TX
KKAQ	Thief River Falls, MN
KKHJ	Ennis, MT
KLUK	Georgetown, TX
KMCH	Manchester, IA
KMCL	McCall, ID
KMES	Jonesville, LA
KMSD-FM	Milbank, SD
KNOK	Belle Chasse, LA
KNSP-FM	Staples, MN
KOAX	Mason, TX
KOUD	Douglas, AZ
KPFX	Killeen, TX
KQEA	Lake Charles, LA
KQZZ	Silverton, CO
KROU	Spencer, OK
KRRK	Bennington, NE
KRRQ	Lafayette, LA
KSML	Salem, SD
KSMM	Fargo, ND
KSMN	Barstow, CA
KSVA	Corrales, NM
KTCE	Payson, UT
KTCM	Washington, MO
KTIE	Bakersfield, CA
KTJA	Mount Vernon, MO
KTJB	New Boston, TX
KTSS	Aiea, HI
KVAO	Edgar, AZ
KVLC	Las Cruces, NM
KVRD-FM	Cottonwood, AZ
KWCC	Yuma, AZ
KWFL	Roswell, NM
KWMQ	Southwest City, MO
KZAZ	Bellingham, WA
WAJY	New Ellenton, SC
WAXH	Olyphant, PA
WBAN	Linden, AL
WBHA	Hot Springs, VA
WBKQ	Van Buren, ME
WBNV	Barnesville, OH
WCAT-FM	Athol, MA
WCNH	Belmont, NH
WGUF	Marco, FL
WGUY	Dexter, ME
WHBS	Greenville, SC
WHLQ	Louisburg, NC
WHMU	Renovo, PA
WHOR	Roanoke, IN
WHOX	Charlestown, IN
WHTA	Brantley, AL
WIKX	Leesburg, GA
WIYN	Deposit, NY
WIZD	Rudolph, WI
WJCR	Millerstown, KY
WJCS	Bayboro, NC
WJEC	Vernon, AL
WJMD	Hazard, KY
WJNA	Churchville, PA
WKDL	Oxford, AL
WKQC	Canaan, VT
WKXU	Portage, PA
WLFA	Clayton, GA
WLFQ	Bruce, MS
WLFW	Oregon, IL
WLLB	Topsham, ME
WLWR	Brillion, WI
WLZQ	South Whitney, IN
WMEY	Seymout, TN
WMKO	Millen, GA
WMTO	St. Joe, FL
WNSY	Allegany, PA
WOKF	Folkston, GA
WPTG	West Point, GA
WPVM	Howland, ME
WQHI	Lafayette, FL
WRLF	Fairmont, WV
WRLV-FM	Saylersville, KY
WRVE	Watertown, NY
WSAD	Elizabethtown, NC
WSIB	Selmer, TN
WSNV	Nelsonville, OH
WSRG	Edmonton, KY
WVKG	Pentwater, MI
WVPV	Beaver Dam, KY
WVSD	Itta Bena, MS
WWAG	McKee, KY
WWAM	Columbus, WI
WWEG	Fort Valley, GA
WWER	Dryden, KY
WWET	Valdosta, GA
WXDZ	Callaway, FL
WZXA	Sturtevant, WI

New AM Call Letters Assigned

KCUS	Sartell, MN
KHBN	Piti, GU (SWBC station)
KKNC	Sun Valley, NV
KRKL	Yountville, CA
KRKR	Tucson Estates, AZ
KRQQ	Las Vegas, NV
KRQY	Coburg, OR
KRQZ	Dungeness, WA
KWNT	Buckley, WA
KWNW	Santa Fe, NM
WARH	Dayton, VA
WARL	Cloverdale, VA
WARN	Falmouth, VA
WARO	Claremont, VA
WARP	Bangor, ME
WART	Port Orange, FL
WBND	Pensacola Beach, FL
WBNN	Union City, IN
WBYB	Brewer, ME
WCAE	Nekoosa, WI
WCAG	Oviedo, FL
WMPP	Laurel, DE

complaints. These stations are KCCL-AM/FM, Paris, AR; KSD-FM, St. Louis, MO; WWWE-AM, Cleveland, OH; and WXRK-FM, New York, NY.

In letters to 51 complainants against 40 stations (34 TV and 6 radio), the Bureau explained that it currently lacks enforcement authority against indecent material broadcast after daytime hours due to the D.C. Circuit Court's decision in *Action for Children's Television v. FCC* 852, F.2d 1332 (D.C. Cir. 1988). The Commission recently concluded that it was forced to vacate a pending action against a station's broadcast of apparently indecent material at 8 p.m., *Order Vacating Proceeding (KZKC(TV))*, FCC 89-261 (released September 6, 1989).

Fourteen complaints involving 14 stations were dismissed as defective, because they lacked certain elements required to make a *prima facie* case of indecency (i.e., identification of the station, the date and time the allegedly indecent material was broadcast, or a tape, transcript of significant excerpt of the material). The Bureau informed complainants that a re-submitted complaint during the deficiency would be promptly re-evaluated.

One complaint was dismissed as moot because the complaint was withdrawn and the station's license was renewed earlier this year.

The remaining 21 complaints were dismissed because they did not meet the requisite legal standards for indecency as formulated by the federal courts.

Action Regarding Felony Drug Conviction Of AM Licensee's Principal

The FCC took the first step that could lead to revocation of a radio license by requesting comment on whether it should initiate a revocation proceeding against an AM licensee whose principal has been convicted of drug trafficking. The Commission's action involves Williamsburg County Broadcasting Corp., licensee of WKSP(AM), Kingstree, South Carolina.

The Commission stated that the felony conviction for drug dealing raises character qualifications questions under its 1986 Policy Statement on Broadcast Character Qualifications.

This issue came to the Commission's attention during the course of an on-going comparative proceeding for a new FM station in Kingstree, South Carolina. One of the applicants for that FM station is the licensee at issue here, Williamsburg County Broadcasting. In that proceeding, the Administrative Law Judge added an issue regarding the felony drug conviction of Williamsburg's principal, Gregory Knop. FCC 89M-387, released Feb. 7, 1989.

This column seeks AM and FM station bumperstickers, photos, news items, etc.

Applications Filed For New FM Stations

FL	Jupiter	105.3 MHz
FL	White City	104.7 MHz
GA	Blairsville	89.5 MHz
IN	Clarksville	93.1 MHz
IN	South Bend	89.7 MHz
NV	Laughlin	93.5 MHz
NY	Montauk	94.9 MHz
OH	London	106.3 MHz
PA	Millersburg	98.9 MHz
PA	Spangler	97.3 MHz
SD	Martin	102.5 MHz
TN	Paris	94.1 MHz
VA	Farmville	101.3 MHz
VT	Royalton	99.7 MHz

Permits Granted To Build New AM Stations

AZ	Tucson Estates	1110 kHz
NV	Las Vegas	1100 kHz
VA	Claremont	670 kHz

Permits Granted To Build New FM Stations

FL	Beverly Hills	97.1 MHz
FL	Dogwood Lake Estates	91.1 MHz
ID	McCall	91.7 MHz
IL	Lynneville	107.1 MHz
IN	Austin	96.3 MHz
KS	Fredonia	104.1 MHz
KS	Hutchinson	97.1 MHz
KS	Larned	106.9 MHz
KS	Manhattan	104.7 MHz
KY	Millerstown	90.1 MHz
KY	Monticello	93.1 MHz
KY	Shepherdsville	105.1 MHz
MA	Athol	99.9 MHz
MI	Crystal Falls	100.7 MHz
MI	Dewitt	96.5 MHz
MO	Republic	99.5 MHz
MT	Ennis	98.9 MHz
NC	New Bern	94.1 MHz
NE	Hastings	89.1 MHz
NE	Lexington	88.7 MHz
NE	Norfolk	89.3 MHz
NH	Jackson	99.5 MHz
NV	Elko	91.5 MHz
NV	Laughlin	107.9 MHz
NY	Old Forge	94.1 MHz
NY	Plattsburgh	91.9 MHz
PA	Masontown	106.9 MHz
PA	Renovo	93.1 MHz
SC	Greenville	91.7 MHz
SC	Williston	94.7 MHz
TN	Jackson	90.1 MHz
TN	Pittsburg	97.3 MHz
TX	Kilgore	88.7 MHz
VA	Hot Springs	107.1 MHz

Callsigns Deleted, Rescinded, or Withdrawn

KMA-FM	Clarinda, IA
KOUS	Opelousas, LA
KSMP	Newport, WA
WERQ-FM	Dowagiac, MI
WHXT	Orleans, MA
WQLL	Sarasota, FL

Changed FM Call Letters

New	Old	
KAFE	KAFE-FM	Bellingham, WA
KBFX	KENI-FM	Anchorage, AK
KBXB	KQCA	Canton, MO
KCEM-FM	KMYO	Bloomfield, NM
KCMG-FM	KRFI-FM	Mtn. Grove, MO
KCSP	KTKL-FM	Casper, WY
KDAT	KBCY	Merced, CA
KENT-FM	KOFR	Odessa, TX
KFXX-FM	KFXX	Hugoton, KS
KGGO-FM	KGGO	Des Moines, IA
KHEN	KJIB	Caldwell, TX
KJSN	KFIV-FM	Modesto, CA
KKBT	KFAC-FM	Merced, CA
KKLX	KWOR	Worland, WY
KKYR-FM	KOSY-FM	Texarkana, TX
KLZE	KZBR	Owensville, MO
KMGP	KWES	Monahans, TX
KNNN	KCIB	Central Valley, CA
KOLL	KZLR	Pine Bluff, AR
KORD	KZZK-FM	Richland, WA
KQLD	KHAA-FM	Pt. Sulphur, LA
KRBB	KLZS	Wichita, KS
KRKN	KKOW-FM	Pittsburg, KS
KRNO-FM	KRNO	Reno, NV
KRTM	KRRR	Temecula, CA
KRXK-FM	KKQT	Rexburg, ID
KSCO	KLRS-FM	Santa Cruz, CA
KSDO-FM	KSWV	San Diego, CA
KSUV	KXEM-FM	Bakersfield, CA
KTBQ	KTBC	Nacogdoches, TX
KTSB	KVDB-FM	Sioux Center, IA
KVFX	KIZS	Manteca, CA
KXCL	KXEZ	Yuba City, CA
KZKS-FM	KZKZ	Greenwood, AR
WAOA	WVTI	Melbourne, FL
WBUC-FM	WUBI	Buckhannon, WV
WBXX	WMJC	Battle Creek, MI
WCKT	WOOJ-FM	Lehigh Acres, FL
WCZI	WBRE-FM	Washington, DC
WDJR	WLHQ-FM	Enterprise, AL
WDLW	WAFN	Waltham, MA
WDNE-FM	WVHT	Elkins, WV
WDSN	WDDH	Reynoldsville, PA
WEFX	WGMX	Norwalk, CT
WEXT	WQLS	Arlington, NY
WFXS	WYVY	Soddy-Daisy, TN
WGOD-FM	WGOD	St. Thomas, VI
WHXT	WQQQ	Easton, PA
WIMV	WWBA	Madison, FL
WJTA	WIWF	Kosciusko, MS
WKOO	WRCM	Jacksonville, NC
WMNM	WHWB-FM	Pt. Henry, NY
WOMX-FM	WBJW-FM	Orlando, FL
WPIG	WOLN	Olean, NY
WPKO-FM	WBLL	Bellefontaine, OH
WSHX	WSNQ	Danville, VT
WSRZ-FM	WSRZ	Sarasota, FL
WTKT	WMGB	Georgetown, KY
WTXT	WHKW	Fayette, AL
WUBU	WLWJ	Portage, MI
WUFX	WPHD-FM	Buffalo, NY
WUKY	WBKY	Lexington, KY
WWKL	WHKS	Harrisburg, PA
WXCL-FM	WKQA	Pekin, IL
WXFX	WQIM	Prattville, AL
WXTA	WMYJ	Edinboro, PA
WYCL	WBYO	Boyertown, PA
WYFC	WTNZ	Clinton, TN
WZAC-FM	WZAC	Danville, WV
WZIP	WZIP-FM	Akron, OH
WZMO	WVBH	Key Largo, FL
WZRH	WRMH	Picayune, MS

Requests for AM Call Letter Changes

Current	Seeks	
KFRS	KZIZ	Sumner, WA
WBIG	WGNC	Gastonia, NC
WDBS	WKVQ	Eatontown, GA
WJTX	WBCP	Urbana, IL
WPVA	WSTK	Colonial Hts., VA
WYDK	WDIX	Uadkinville, NC

Requests for FM Call Letter Changes

Current	Seeks	
KATD	KYAY	Los Gatos, Ca
KCIB	KNNN	Central Valley, CA
KEPC	KTLF	Colorado Springs, CO
KFRD	KFRC	Rosenberg, TX
KMYX	KKUR	Ojai, CA
KNIS	KRWR	Carson City, NV
KQLH	KFRG	San Bernardino, CA
KSTZ	KSSP	St. Genevieve, MO
KTLF	KEPC	Colorado Springs, CO
KZBA	KWBC-FM	Boone, IA
WGMX	WEFX	Norwalk, CT
WHIL	WSMR	Raeford, NC
WPLB-FM	WODJ	Greenville, MI

Changed AM Call Letters

New	Old	
KBAD	KLYD	Bakersfield, CA
KCMG	KRFI	Mtn. Grove, MO
KDBN	KMEZ	Dallas, TX
KFRR	KRZN	Englewood, CO
KFVR	KEYF	Dishman, WA
KFXX	KSGO	Oregon City, OR
KGGO	KSO	Des Moines, IA
KHBI	KYOI	N. Marianas Isl. (SWBC)
KITH	KOZR	Apple Valley, CA
KJUS	KWIC	Beaumont, TX
KKGD	KWWS	Rifle, CO
KKJZ	KKGO	Hesperia, CA
KKYR	KOSY	Texarkana, TX
KLAU	KNZS	Capitola, CA
KNOW	KSJN	St. Paul, MN
KNTS	KFQX	Abilene, TX
KNZS	KJCD	Montecito, CA
KRNO	KCBN	Reno, NV
KSCO	KLRS	Santa Cruz, NM
KSJK	KDOV	Talent, OR
KSMI	KGDP	Orcutt, CA
KSSR	KSYX	Santa Rosa, NM
KSUR	KKJZ	Soledad, CA
KTUS	KILE	Galveston, TX
KUTR	KEMX	Salt Lake City, UT
KWES	KKCS	Colorado Springs, CO
KXTO	KISK	Reno, NV
KZKL	KNUS	Albuquerque, NM
KZKZ	KACY	Greenwood, AR
WEDE	WWMO	Eden, NC
WEXI	WZIP	Jupiter, FL
WFAB	WRRE	Caiba, PR
WFBN	WWSS	Lynn Haven, FL
WFIN	WSSG	Goldsboro, NC
WFRG	WPIG	Rome, NY
WGOD	WIBA	St. Thomas, VI
WIBS	WBJA	Guayama, PR
WLLF	WFBL	Syracuse, NY
WMNN	WBEE	Harvey, LA
WOMX	WBJW	Orlando, FL
WPHE	WYIS	Phoenixville, PA
WQMC	WFIG	Sumter, SC
WRNB	WSKN	Prattville, AL
WRRE	WFAB	Juncos, PR
WSRZ	WSPB	Sarasota, FL
WVIO	WXLK	Blowing Rock, NC
WWCL	WCOJ	Lehigh Acres, FL
WWOF	WJIK	Camp Lejeune, NC
WZAC	WWBB	Madison, WV

PC

NEW PRODUCTS

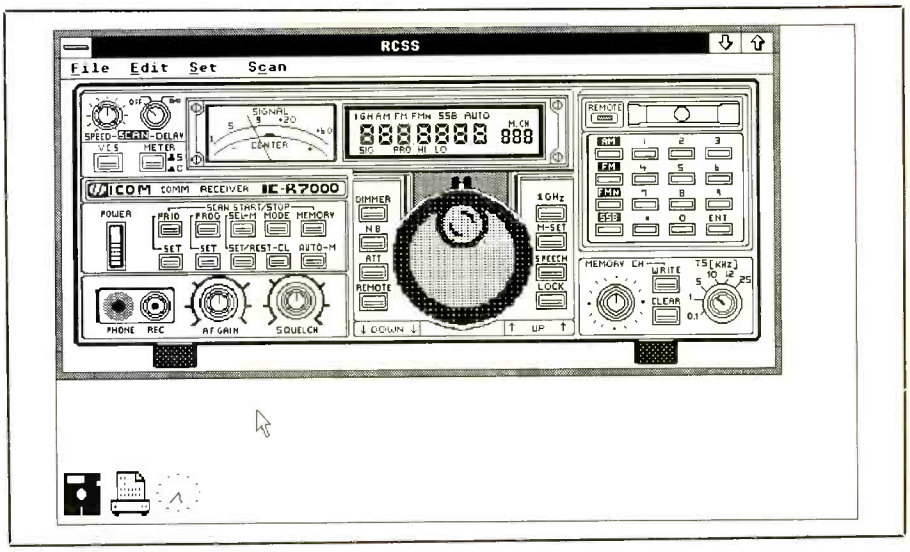
REVIEW OF NEW AND INTERESTING PRODUCTS

Remote Computer Scanning System

Systems & Software International (SASI) will begin shipping the IBM version of their Remote Computer Scanning System (RCSS™). RCSS™ provides computer based intelligent control over the ICOM™ R7000 radio, plus frequency database support.

The RCSS™ runs on any IBM compatible computer with 640K bytes of RAM, EGA or VGA graphics card and monitor, and one available RS-232 communications port. RCSS™ supports operation over COM1 through COM4. The RCSS™ runs under Microsoft Windows and provides complete control via mouse or keyboard.

The Macintosh version of the RCSS™ has been available since August of 1987 and has enjoyed tremendous international success among hobbyists, professional users, corporations, and several government agencies. Custom versions are currently being developed.



Product Description

The Remote Computer Scanning System (RCSS™) is designed to enhance control over the ICOM™ R7000 receiver. The RCSS™ provides fully automated control over all receiver microprocessor functions including: frequency tuning, mode of operation, intelligent scanning, and memory.

Upon start-up, the user is presented with an image on the computer screen identical to the face of the ICOM™ R7000 radio. By using a mouse, the user manipulates the controls on the radio image just as if the radio itself were being operated. This approach allows ICOM™ radio users to become proficient at using the RCSS™ software with minimal effort.

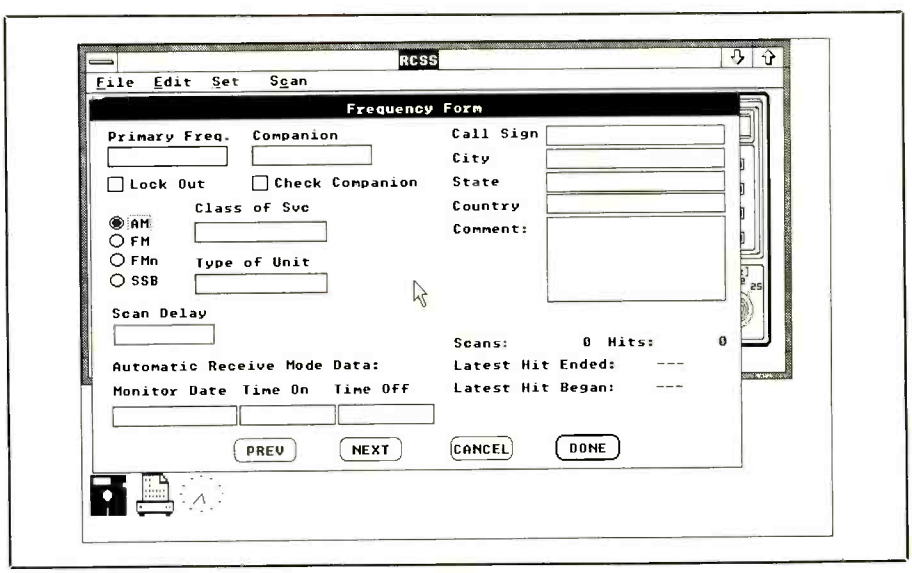
RCSS™ enhancements to the R7000 functions include several modes of intelligent scanning and automatic storage and retrieval of frequency (transmitter) information in the database. Via computer control, the R7000 can be set to automatically scan between any two user supplied frequencies in search of active broadcasts. When the computer detects a broadcast (a hit) it automatically stores the frequency, date, and time of day of the beginning and end of the broadcast into the database. If the frequency has previously been detected and stored, the RCSS™ updates the database by incrementing the hit counter as well as updating the date and time of day of the beginning and end of the most recent broadcast.

RCSS™ can also be set for unattended operation in any of its scanning modes, includes the ability to automatically monitor a specified frequency at a specific time (and companion frequency) for recording on a cassette deck or other recording device.

The user can add additional information to each frequency in the database such as companion frequency, location, callsign, class of service, type of transmitter, and any other personal comments the user wishes displayed when activity is detected again on this frequency. The specification of a companion frequency enables the user to either scan or listen to half-duplex communications that use separate frequencies for receiving and transmitting.

Features

- Automatic detection and storage of active frequencies and other information while scanning.
- Scan any frequency range with a user supplied increment from 10 Hz to 100 MHz.
- Scan by "Mode," Class of Service" or Type of Unit"
- Specify companion frequency for monitoring half-duplex communications.
- Scanning resumes upon loss of carrier with user supplied delay for each frequency.
- Storage of unlimited banks of frequencies (each bank holds up to 1000 frequencies).
- Database record fields: channel, mode, primary frequency, companion frequency, number of scans, number of hits, time latest hit began, time latest hit ended, class of service, type of unit, scan delay, city, state, country, callsign, comments, automatic monitor date, time on, and time off.
- Unattended operation
- Mouse or keyboard driven

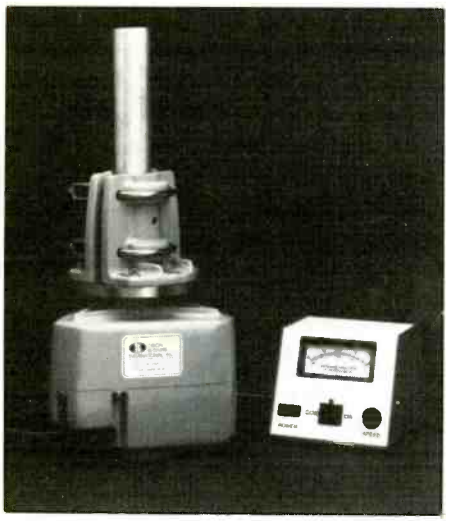


The IBM version of RCSS™ costs $239 and includes: software, user manual, external interface, and all necessary interconnecting cables. A runtime version of Microsoft Windows can be supplied at the customers request. The package is warranted for one year with no charge for maintenance releases to registered users. Enhancements will be distributed to users for a nominal fee.

For further information you can contact Systems & Software International, 4639 Timber Ridge Drive, Dumfries, Virginia 22026; 703-680-3559, or circle 103 on our Readers' Service.

Turn, Turn, Turn

The Orion OR-2300 antenna rotator using a worm gear drive method is rated at 35 square feet. Special compact design allows mounting in most popular crank-up and stacked towers. Control box has large, easy to read direction indicator with variable speed.



Rugged mast clamps incorporating a self-centering guide accept mast diameters from 1¾ to 3⅛". Flex mount clamping method self corrects for misaligned masts and also absorbs windload. Built-in thrust bearing and double bronze bearing decreases friction and load transfer to gear set. U.S.A. made. Available through dealers. Suggested retailprice $859. Orion Business International, Inc., P.O. Box 9577, Canoga Park, CA 91309, or circle 102 on our Readers Service.

1200MHz All Mode Base Station

The age of 1200MHz has arrived and leading the way is the sophisticated IC-1275A, a remarkable new 1200MHz all mode base station with the most asked-for features:

All MOde Capability—The IC-1275A is equipped with USB, LSB, CW, FM and AM modes. You can even operate packet!

Direct Digital Synthesizer—An innovative PLL system designed to meet the high speed lockup times required by packet. The new DDS system ensures overall PLL lockup times of less than 5 msec!

Stable 10 Watts Of Output Power—The IC-1275A puts out a full 10 watts on high power and one watt on low power.

Noise Blanker—The IC-1275A includes an advanced noise blanker circuit to eliminate pulse type noise and provide clear reception.

99 Memory Channels—Featuring 99 memory channels, the IC-1275A allows you to store all your favorite channels.

Versatile Scan Functions—The multiple scan functions include memory scan, selected mode memory scan, memory skip scan and programmed scan.

The IC-1275A is a superb transceiver for serious 1200MHz explorers. This 1200MHz transceiver also includes a CI-V buss for computer control and is great for satellite operation. For more info, contact ICOM America, Inc., P.O. Box C-90029, Bellevue, WA or circle 101 on our Readers Service.

PIRATES DEN

BY EDWARD TEACH

FOCUS ON FREE RADIO BROADCASTING

Scottish pirate station Weekend Music Radio makes occasional test broadcasts on 15043, variable and has been heard by a number of US and Canadian listeners, including Steven Rogovich in Virginia who provides a copy of his WMR QSL.

Pirate radio activity continues to be quite high—to the point where it seem there's at least one new station every week. Certainly this is a prime time to be scouting around the unusual frequencies in search of some action.

Hope Radio 16—is a new pirate reported by several people this month. James G. Malta in New Jersey heard this one at 0300 on 7400, also announcing 1610 and 1620 kHz and giving a power of 100 watts. James says the station is looking for a mail drop. Thomas Martin in Virginia says they're announcing as being 15 miles east of Portsmouth (New Hampshire). Thomas and others heard a talk on how pirate stations can make their broadcasts more appealing and a political "diatribe" on constitutional law. The announcer invited listeners to contact him on 3900 after the broadcast then arrange for QSL's. Ben Fuller, Jr., Massachusetts (who also sent me a tape of the broadcast—thanks!) noted a Bill Cosby record played, readings from this column and mention made of "maritime radio." Nick Grace in Massachusetts had them on 7377 at 0159 announcing 110 watts. Nick notes that the political views of the announcer seemed very oriented to the 1960's. David A. Grubbs of New York had a log, too, and a reference to maritime mobile operation. The station is encouraging reports to this column and that's fine—but as has been noted before—I can't guarantee to print your report and neither *POP'COMM* nor does this column act as any kind of maildrop. David notes there was post-broadcast activity on 3900, though the couple of hams who made contact with the station operator didn't give their calls. Art Kleiner in New York logged the station on 7358 at 2345 and Bob Doyle in Connecticut heard them at 2028 during what the station said was it's premier broadcast (I guess I should have placed your report first, then, Bob!)

Free Radio One continues fairly regular activity and was heard by Robert Ross in Ontario at 0300-0320 on 7415. It was the first pirate log ever for Raymond Witt in Illinois who found them at 0205.

WBST is another new one, found by Pat Murphy in Virginia. This was on 7488 at 0403, suffering interference from a numbers station. Announced as "666 on your dial, WBST, Salem, Massachusetts" and played rock songs and several monster type songs and bits. Address given as Box 40554, Washington, DC 20016. Off at 0456.

The Voice of Doomsday was logged by David Strubbe in Ohio on 7400 at 0501-0511. The program featured Jimi Hendrix music and an announcer who called himself "Gangus John". No address given. David notes that the audio was very difficult to understand.

Radio USA was also heard by David Strubbe. This was at 0403-0415 on 7417 and featured modern rock and woman who said the transmitter was a Heath DX60b. Also a mention of the (now defunct) Hilo, Hawaii maildrop and a siren sound effect just before sign off.

United World Radio was logged by Ross on 7415 at 0303-0320 with rock music, ID, the Tabar-Stonybrook NY address and an offering of a free pennant to anyone who sent them a cassette recording of the broadcast.

The Voice Of The Graveyard—WTNU was another Ross log, on 7416.7 upper sideband at 0356-0358 with a test. Then, at 0405, it was found on 7400.12 with rock, poor audio, ID as the "Voice of the Graveyard—WRNU" and mention that it was a test. Power announced at 100 watts.

WHIP is another one logged by Bob, on 7395.5 at 0416-0450, ID'ing at "WHIP—the Voice of the Hipster" and giving the Beaver Falls Pennsylvania address. Also mentioned pirates WENJ and WKZP.

WLAR was heard on 1620 kHz at 0137 by Nick Grace. Nick says this is a local Massachusetts station. He's talked to the operator who says power is 10 watts, which he hopes to increase to 50.

East Coast Pirate Radio was also logged by Nick, at 040 on 7475 where it suffered severe interference from RTT Tunis on the same frequency. The DJ said this was a test transmission using 100 watts. James Malta also had this one, at 2125 on 7410. Jim caught an announcement to the effect that the station intended to use 26.048 at a later date.

WBRI was logged by Grace on 7482 at 0049-0059 with a man announcer giving out the FCC's Washington, DC address.

The Voice of Stench was another Ross logging recently. This one was heard on 7415.5 at 2225-2239. Address was given as P.O. Box 628, Slanesville, WV 25444. The announcer said the broadcast was part of a marathon. Very appealing station name, wouldn't you agree?

Radio Free Massachusetts was logged by Ross on 7415.5 at 0320-0350 giving the Slanesville, WV address.

QSL's: Samurai Radio, Radio Free Massachusetts and the Voice of Stench sent QSLs to Robert Ross. KNBS, Weekend Music Radio and Radio Caroline replied for Nick Grace, and Art Kleiner has a reply from Radio Free Massachusetts.

Art Kleiner says he recently had reception reports to Radio Clandestine, Radio Moronia and WART Radio returned after sending to the Kingston, New York maildrop. Art wonders if there's a new and workable address for these stations yet. Does anyone have any news on this?

Nick Grace says that Falling Star Radio has a new address—it's now Box 1367 Gracie Station, New York, NY 10028.

As I said at the beginning, these are great times to be scanning for pirates, so I hope you are spending time doing just that and will report your results to this column. And here's another reminder to pirate station operators to send us information about your station—programming, technical and future plans. Pirate radio fans like to know what you are all about! PC

SATELLITE VIEW

BY DONALD E. DICKERSON, N9CUE

INSIDE THE WORLD OF SATELLITE COMMUNICATIONS

Primary communications for Shuttle flights are conducted through the Tracking and Data Relay Satellite (TDRS) system. This three satellite geo-stationary system was completed with the successful launch of TDRS-4 (TDRS-3 was lost on Challenger) in March of 89'.

Before TDRS, all manned space missions used a series of ground stations around the world to relay data and voice communications back to Kennedy Space Center and mission control at Johnson Space Center. The network of ground stations is known as the Spaceflight Tracking and Data Network (STDN). There were not enough stations in the network to provide continuous communications with the astronauts. For this reason, and the fact that satellites are more economical then manned ground stations, NASA developed the TSRS system.

The NASA Communications Network (NASCOM) of Goddard Spaceflight Center in Greenbelt, Md. is responsible for all voice, data and TLM from our manned spaceflights. This includes NASA and military ground stations and satellites. Providing these communications links is no small task. Goddard, Johnson, Kennedy, White Sands and Wallops Is., VA all receive voice TLM and data from the Shuttle.

There are 14 stations in the STDN. In addition nine DOD support stations, run by the US Space Command, and numerous other military communications centers and space sensor facilities, assist NASCOM in collecting Shuttle data. NASA's 14 ground stations each have an 85, 30 and 14 foot dish antenna. These are used for S-Band voice and TLM and C-Band (ranging) radar. The DOD stations use a single 60 foot dish for both S and C bands.

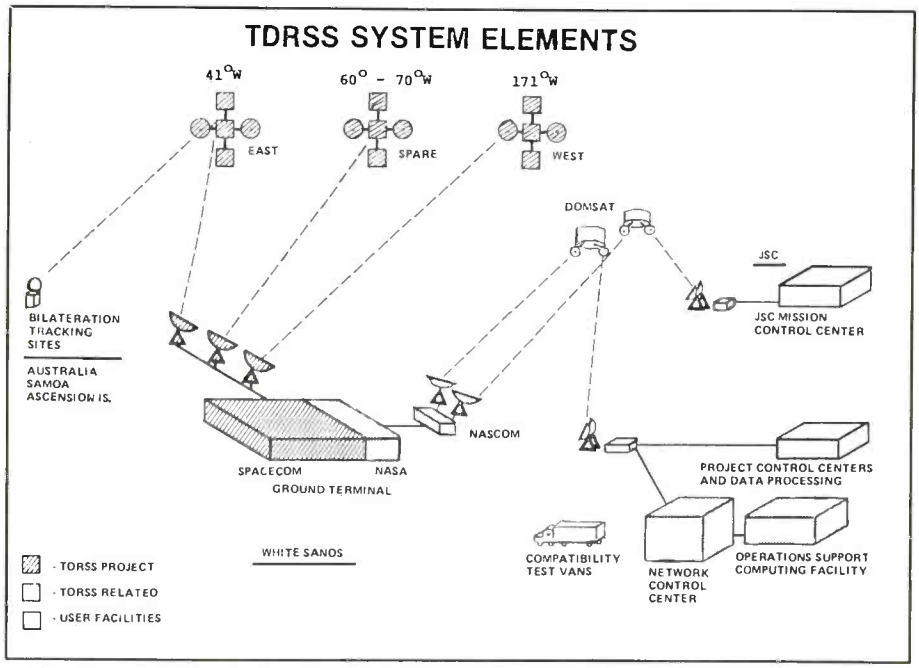
All of these antennas require accurate navigation information in order to track the space Shuttle as it orbits at 17,000 mph at just under 200 miles high. An additional network of computing stations makes these antenna pointing calculations for each ground station and then distributes this information, real-time to STDN. Goddard, White Sands, Vandenberg AFB, Wallops Is. and the Air Force Satellite control facility at Colorado Springs supplies this computer support.

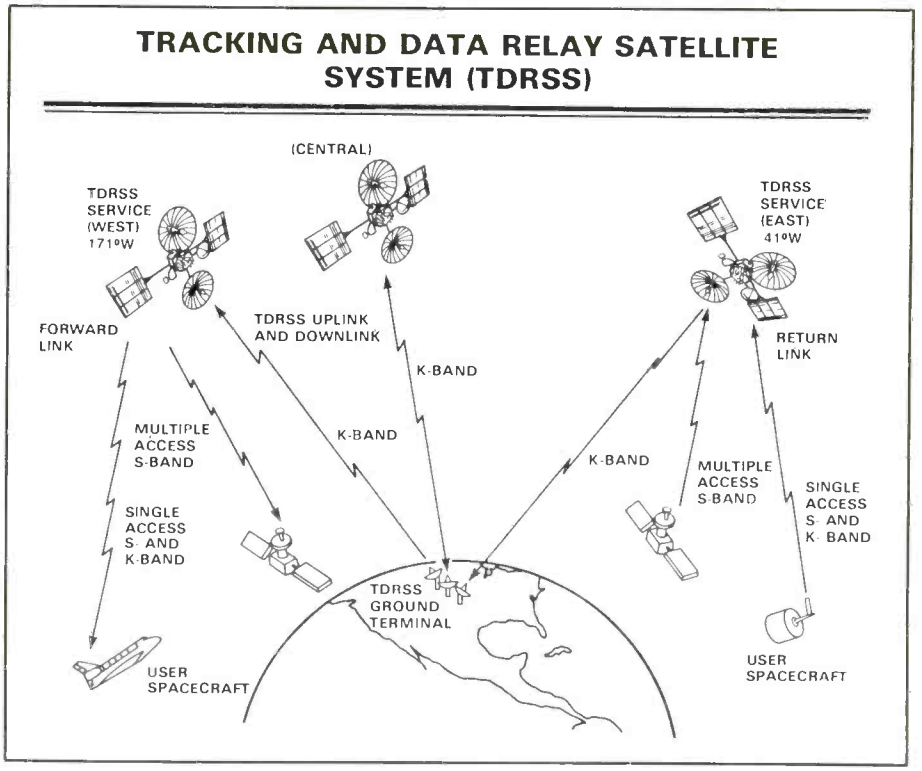
There is an additional navigation system on board the shuttle. It's called TACAN. It is a distance and bearing beacon system that the Pilot and Commander listen to. The tone beacon signal is uplinked to the Shuttle between 962 and 1263 MHz.

Redundent systems have always been a part of NASA's safety provisions for manned spacecraft. This thinking also applies to the communications system. If, for example, mission control at Johnson Space Center should become inoperative for any reason, the White Sands, NM facility could take over their responsibilities. Should White Sands fail, Goddard could take control.

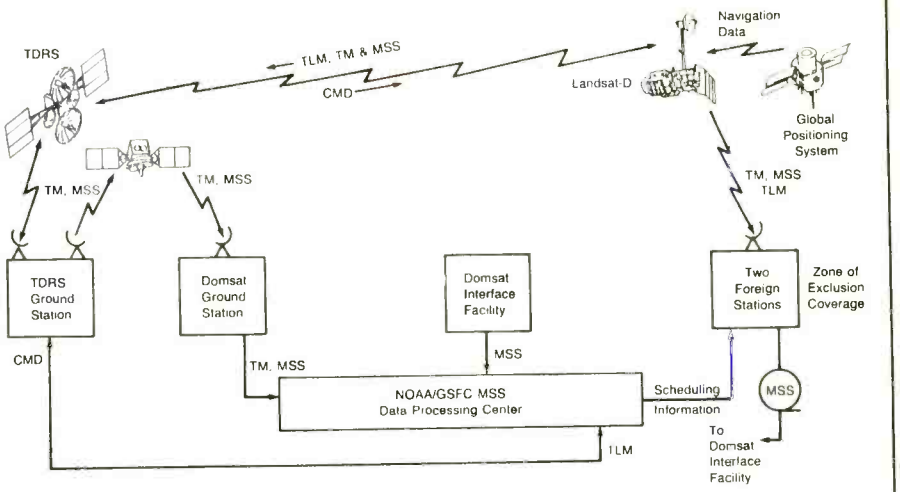
Many of the names of NASA's facilities are no doubt familiar to the space enthusiast. There is, however, a NASA control center for engineering data which may not be as familiar as Kennedy or Johnson. It is called the Huntsville Operations Support Center (HOSC) and is a part of the Marshall Spaceflight Center.

During pre-launch, the countdown, launch





Data Communications to Processing Center Via TDRS



and flight of the Shuttle NASA and contract engineers and scientist man consoles which provide them with real-time data on the Shuttle propulsion systems. This includes the engines, external tank and solid rocket boosters. This information is transmitted directly from the Shuttle to Huntsville. The information is processed by computer and displayed on screens and other specialized instruments at 15 stations in the engineering console room. During their busiest 10-hour period of a Shuttle launch the center will

Military Support Stations

Cape Canaveral AFB
White Sands N.M.
Vandenberg AFB
Grand Turk Is.
Antigua Is.
Mt. Lemmon Az.
Point Pillar Calif.
St. Nicholas Is.
Kwajalein Is.
Seychelles Is.
Botswana, Africa

Shuttle Frequencies

Shuttle Frequencies (UHF)
279.0 MHz
259.7 MHz
296.8 MHz

STDN Frequencies (S-Band)
2106.4 MHz Uplink
2041.9 MHz Uplink
1831.8 MHz Uplink
1775.9 MHz Uplink
2287.5 MHz Downlink
2250.0 MHz Downlink
2217.5 MHz Downlink
2214.0 MHz Downlink
2205.0 MHz Downlink

TDRS Satellites Frequencies
1750.0-2300.0 MHz (S-Band)
15,200.0-17,250.0 MHz (K-Band)

WA3NAN Shuttle Audio
3.860 MHz
7.185 MHz
14.295 MHz
21.395 MHz
28.650 MHz
147.45 MHz

VHF Support Frequencies

Kennedy Operations
117.8 MHz
121.9 MHz
126.4 MHz
148.4 MHz
162.6 MHz
170.1 MHz
284.0 MHz

Aircraft
117.8 MHz
118.4 MHz
120.7 MHz
126.3 MHz
127.8 MHz
164.8 MHz

Ships
148.5 MHz
149.1 MHz
162.0 MHz

Edwards AFB
120.7 MHz
121.8 MHz
162.6 MHz
164.1 MHz
236.0 MHz
290.0 MHz
318.0 MHz
348.7 MHz

assess more that 11-million measurements of the propulsion system. The center is staffed by over 150 specialist. There are 25 direct communications links between Huntsville, Kennedy and Johnson space centers.

Launch

Just prior to lift-off, shuttle communications switch from intercom to UHF, air-to-ground. During ascent, three UHF ground stations provide all voice, TLM and data channels. The stations are located at Merrit Island, Ponce de Leon, Fla. and Bermuda Island. For the first minute and 20 seconds of flight, communications are relayed to other NASAS facilities through Merrit Is. At this point, the exhaust from the solid rocket boosters, which consists of super heated chemicals, block radio communications out completely. The communications are than picked up by the station at Ponce de Leon, which is located 30 north of the launch site. This station will maintain communications for two minutes before Merrit Island again relays for an additional minute and 20 seconds. Approximately six minutes into the flight, Bermuda takes over these responsibilities for an additional 5 minutes. TDRS-East located at 41 East will than take over. (TDRS-Central is located at 79 and TDRS West is at 171 W). After the Shuttle reaches orbit, TSRS satellites will relay all communications to ground stations. On re-entry communications will again revert to UHF air-to-ground.

With the success of TDRS, NASA has closed three stations in the STDN. These are Chile, Hawaii and Ascension Is. In addition, the Senegal, Africa station is scheduled to be closed this December (90). Three other stations in the STDN, Gladstone, California, Canberra, Australia, and Madrid, Spain, have become part of the Deep Space Network which is managed by the Jet Propulsion Laboratory (JPL). These stations could be pressed into service again should the need arise.

The TDRS control center and ground terminals are located at White Sands, New Mexico, This site was chosen because of it's year round low cloud cover. White Sands provides all network links for the TDRS spacecraft data to the NASCOM, DOD and NOAA systems.

TDRS is a large spacecraft 42 by 57 feet. Each satellite has seven antennas. Two of these antenna are 16 feet across and is plated with 14K Gold. This satellite uses frequencies in the 2, 14 and 15 GHz range.

On re-entry, the Shuttle switches back to UHF air-to-ground. The Ames-Dryden flight research facility and the Gladstone facility of the Deep Space Network provide

HF Support Frequencies (MHz)

Aircraft		NASA				Ships
6.693	9.131	2.678	6.740	9.974	13.218	2.625
6.896	10.780	4.510	6.896	10.780	14.615	5.190
6.983	11.205	4.760	6.983	11.104	19.306	5.696
7.461	13.170	4.855	7.675	11.416	20.185	5.810
8.891	15.015	5.350	8.993	11.548	20.390	9.125
9.043	18.200	6.723	9.315	11.805	20.475	11.407

NASA-Controlled Tracking Stations

Location	Equipment
Ascension Island (ACN) (Atlantic Ocean)	S-band, UHF A/G
Bermuda (BDA) (Atlantic Ocean)	S- and C-band, UHF A/G
Goldstone (GDS) (California)	S-band, UHF A/G, TV
Guam (GWM) (Pacific Ocean)	S-band, UHF A/G
Hawaii (HAW) (Pacific Ocean)	S-band, UHF A/G, TV
Merritt Island (MIL) (Florida)	S-band, UHF A/G, TV
Santiago (AGO) (Chile)	S-band
Ponce de Leon (PDL) (Florida)	S-band
Madrid (RID) (Spain)	S-band
Canberra (CAN) (Australia)	S-band
Dakar (DKR) (Senegal, Africa)	S-band, UHF A/G
Wallops (WFF) (Virginia)	C-band
Yarragadee (YAR) (Australia)	UHF A/G
Dryden (DFRF) (California)	S-band, UHF A/G, C-band

The Canberra, Goldstone and Madrid stations are part of the Deep Space Network (DSN) and come under the management of NASA's Jet Propulsion Laboratory, Pasadena, California.

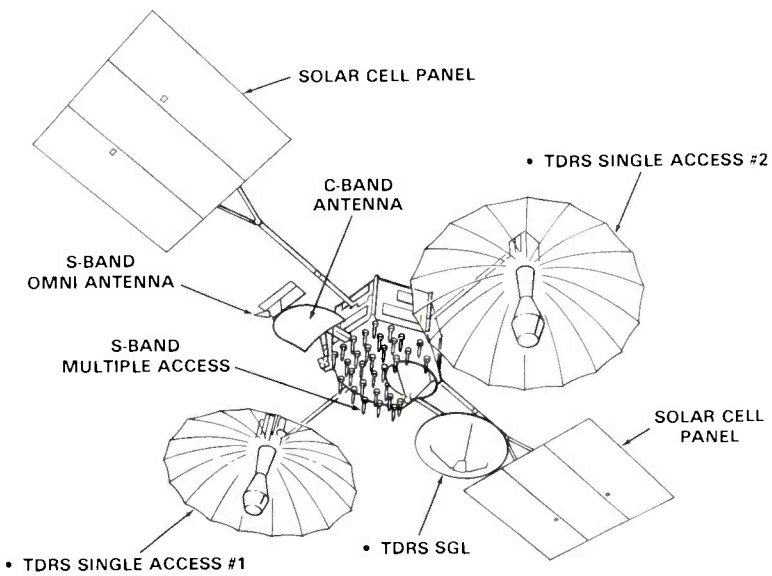
Personnel: Tracking Stations: 1,100 (500 + are local residents)
Goddard Space Flight Center; 1,400

TRAJECTORY SEQUENCE OF EVENTS

EVENT	MET (d:h:m:s)	RELATIVE VELOCITY (fps)	MACH	ALTITUDE (ft.)
Launch	00/00:00:00			
Begin Roll Maneuver	00/00:00:09	165	.15	627
End Roll Maneuver	00/00:00:17	374	.33	2,898
SSME Throttle Down to 65%	00/00:00:34	833	.75	11,854
Max. Dyn. Pressure (Max Q)	00/00:00:52	1,260	1.2	28,037
SSME Throttle Up to 104%	00/00:01:01	1,499	1.49	38,681
SRB Staging	00/00:02:04	4,316	3.91	153,873
Negative Return	00/00:03:54	6,975	7.48	317,096
Main Engine Cutoff (MECO)	00/00:08:27	24,580	22.41	366,474
Zero Thrust	00/00:08:33	24,596	22.17	368,460
ET Separation	00/00:08:45			
OMS 2 Burn	00/00:39:48			
Galileo/IUS Deploy (orbit 5)	00/06:21:36			
Deorbit Burn (orbit 81)	05/01:45:00			
Landing (orbit 82)	05/02:45:00			

Apogee, Perigee at MECO:	157 x 39 nm
Apogee, Perigee post-OMS 2:	161 x 161 nm
Apogee, Perigee post deploy:	177 x 161 nm

TDRS SPACECRAFT



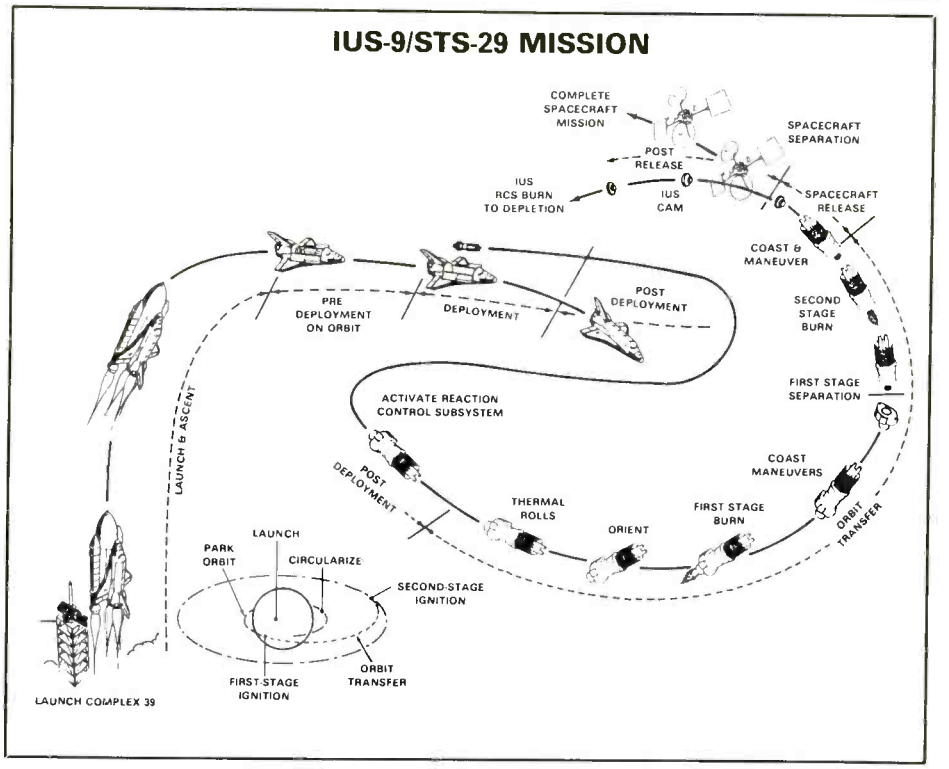
primary communications for the approach and landing at Edwards AFB.

Support Operations

Specially equipped EC-135 aircraft are deployed before every shuttle launch. They are called Advanced Range Instrument Aircraft (ARIA). Based at Wright-Patterson AFB in Ohio, these planes relay launch data on both the Shuttle and any spacecraft it may deploy. They are used for back-up, missile and SDI tests. They can use any frequency in the HF, VHF, UHF band and satellites. (See Jan 89 issue for close-up).

Throughout Shuttle operation, you can find a variety of support communications from chase aircraft, safety ships and more. NASA even has its own fleet of ships to cover Shuttle launches and recover the solid rocket boosters. When looking for this traffic, check known frequencies (see the list provided) and search for new ones in the same portions of the bands as the known frequencies. Let me know your finding.

Live video from the Shuttle is sent to Johnson Space Center through Satcom F-2R located at 72 W NASA feeds are found on transponder 13 (3,960.0 MHz), vertical polarization in monaural audio at 6.8 MHz (audio sub-carrier). A schedule for these broadcast is updated daily during Shuttle missions. This information is yours by simply dialing (202) 755-1788.



Live audio feeds from the shuttle can be heard in the Ham bands. The Amateur Radio Club of Goddard Spaceflight center, There call sign is WA3NAN. I have provided a list of frequencies they use. Be sure to check out this unedited, live audio feed of Shuttle voice communications . . . See you Next Month. PC

SCANNING VHF/UHF

BY CHUCK GYSI, N2DUP

MONITORING THE 30 TO 900 MHz "ACTION" BANDS

The winter mailbag has been dragging through the snow because it's so heavy. Let's check to see who's been writing.

From Chicago, Illinois, Tony Canale writes to inquire about modifications he made to his Realistic PRO-2021 scanner. He clipped diodes D44 and D45 to add 68-88 MHz and 806-960 MHz coverage, but he says he is not hearing anything on these bands, even in the Chicago area where he lives. He says that he can enter the new out-of-band frequencies, but it's zippo on the receiving end. First of all Tony, don't expect to hear anything on the 800 MHz band on your scanner. It just can't handle frequencies that far out of band. Your radio's circuitry was designed to cover only VHF low and high, as well as UHF. The receiver was not designed to cover 800 MHz, which is an entirely different ball game when it comes to receiver design. Your radio probably can cover the 800 MHz band because that portion of the radio's circuitry also was designed to be used in another radio that has the "guts" to scan 800 MHz. But you'll never hear 800 MHz on your unit. If that's what you want to hear, unfortunately, you'll have to invest in a radio that actually can tune in 800 MHz. As far as the 68-88 MHz band coverage on your radio, that's a modification that will allow the radio to be sold in Europe, where 68-88 MHz, known there as "mid-band," covers a lot of two-way radio communications. However, in the United States, that band is used for TV broadcasting, with the exception of the 72-76 MHz band. On this portion, there are paging transmitter links, some industrial use, as well as some aviation use. It's not used too much because of the potential of interference to TV sets receiving on the adjacent frequencies. Although you may be able to punch in these frequencies on your PRO-2021, it's likely the radio would also need to be realigned to properly tune in the 68-88 MHz band. Without this realignment, your radio still is tuned to 30-50 MHz band for proper reception. So without proper alignment, forget tuning in 68-88 MHz, which by the way, would be worthless anyway considering what's on that band. Hope we've steered you straight, Tony.

George Coombs checks in from Henderson, Kentucky, to say he has a Cobra SR925 and a Uniden Bearcat 100XL handheld. George is using only the antennas supplied with the radios, however, he is able to receive 454-MHz mobile telephone signals also in the 470-512 MHz band. He's wondering why this is happening. The simplest way to explain this might be: Your receiver in the scanner actually must mix frequencies together to come out with the frequency you are hearing. Bearcat scanners have what we call an intermediate frequency (IF) of 10.8 MHz (while pre-Uniden Regency products and some other manufacturers have an IF of 10.7 MHz).

Here's the ham and monitoring station of Gene Peters, KB8EZJ, of Riverview, Michigan.

Very simply, if you double the IF, you get 21.6 MHz with an IF of 10.8 MHz. Let's say there is a mobile telephone transmitter near you that is on 454.400 MHz. If you add 21.6 to 454.400, you get 476.00 MHz. Thus, you could also hear the 454.400 MHz signal on 476.000 MHz, with some degradation of signal strength. There's nothing wrong with your scanner, it's just something they all do for those folks who have scanners that won't tune in the 406-420 MHz federal government band, if you add 21.6 (or whatever the proper IF of your receiver is, doubled) to the frequency you want to hear, you'll still hear the signal. Thus, you might be able to hear Air Force One's phone patch channel of 415.700 on the IF of 437.3, or even 458.9 (if you double the IF and add it twice). Try it; it may breathe some life into an old programmable scanner. George also expresses and interest in finding out how to become a registered monitor and obtain a distinctive call sign, such as my own, KPA3CA. For details on the registered monitor program, write CRB Research, P.O. Box 56, Commack, N.Y. 11725.

David Toner of Jacksonville, North Carolina, comments he has heard that the police department in his town plans to start encrypting their communications. He wonders why places with more crime, such as the big cities, don't encrypt their communications, while his town, which uses 155.730 MHz, plans to scramble their calls. Good question, but there's no right answer. In some towns, like LeMars, Iowa, which we reported about here in *POP'COMM*, the police chief gets permission to spend a bunch of taxpayers' dollars and he or she buys an unnecessary play toy. The best bet, David, might just be to raise a stink about it in your town. After all, there's a lot to be said about an informed citizenry.

From Reseda, California, checks in Phillip Cegielski with some interesting military aircraft frequencies:

362.6—Miramar "Paddles" for left runway (24 left).

366.8, 253.1, 322.0, 363.6, 325.2—Miramar Naval Air Station ground controller approach.

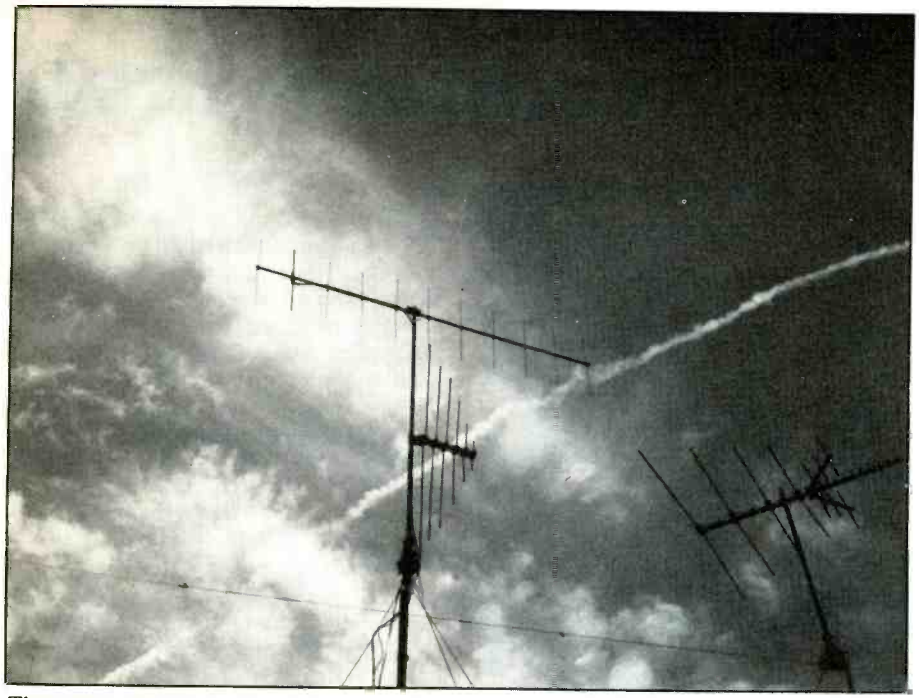
320.4, 348.0, 255.1, 313.7, 349.9—El Toro Marine Corps Air Station ground controller approach.

276.5—Air-to-air refueling over W-291 operating area.

354.4—Air-to-air refueling over Edward Air Force Base area.

273.1, 301.1, 308.1, 354.9, 359.5—Beaver control FACSFAC "discreet" frequencies, used for mock dogfights "Top Gun."

344.1—Discreet frequency for Beaver



The antennas on Gene Peter's home in Michigan are used for both transmitting on the ham bands, as well as monitoring.

control, usually given to S-3 aircraft for anti-submarine warfare exercises.

118.65, 120.85, 266.9, 289.9, 285.7, 314.7—Beaver control check-in frequencies.

272.6—Beaver control check-out frequency.

295.1—Edwards Air Force Base area "Red Flag" frequency, also heavy dog-fighting.

272.0, 294.6, 289.4, 262.5, 267.9, 274.2, 290.6, 291.8—Edwards Air Force Base area frequencies for aircraft testing, spin training and air-to-air tactical training.

Phillip goes on to say he uses a Realistic PRO-2004 and has been monitoring the UHF aircraft band in southern California for three years. He's also still looking for the frequencies for the following: "Strike," Old Salt" and "Mother," as well as frequencies used by aircraft carriers to talk with their aircraft. Anyone have any ideas? If so, let us know, and we'll tell everyone.

Gene Peters, KB8EZJ, of Riverview, Michigan, reports that his town's police department is using some of the new frequencies that are now available in the United States along the Canadian border. Riverview police are using 423.450 as Channel 1 as channel 1 and 423.525 as Channel 2. Gene says he volunteers for the Salvation Army emergency response team (which uses 463.375 MHz), as well as Wayne County Skywarn (145.330) and ARES-RACES (147.140).

Dave Rakos, KC8NQ, of Kent, Ohio, says that he can hear the McDonald's drive-through windows in Twinsburg, Stow and Streetboro, Ohio, on 154.570, even up to 1½ miles from the Stow McDonald's. Meanwhile, the Cuyahoga Falls, Ohio, McDonald's can be heard on 154.600 MHz. Dave notes that it's interesting to tune in these frequencies because when there are no cars in the drive-through, the workers can be overheard conversing among themselves. Dave notes that the conversations often are more exciting then cordless phones. Meanwhile, Dave says Kent police, Kent State University police and Grimfield, Ohio, police share 155.310, with a private frequency of 154.890. Kent fire uses 154.235 MHz, Dave uses a Uniden Bearcat 175 XLT in the house and a Realistic Pro-34 handheld.

Doc Quickmatch of Rockford, Illinois, reports some interesting communications. First, he heard Army war games on 31.70 MHz. As Doc says, no callsigns were used, but "the action was interesting." Then, on 30.67 MHz, Doc heard what he described as a "Middle Eastern prayer chant. Could it have been Arabic, Farsi or Pee Wee in a hormone overload?" I don't know either. Any ideas, readers?

We'd like to hear from you here at *POP'COMM*. We welcome your frequency lists and updates, comments, questions, as well as photos of your listening posts and antenna farms. Write to: Chuck Gysi, N2SUP, Scanning VHF-UHF, Popular Communications, 76 North Broadway, Hicksville, N.Y. 11801-2909. PC

RTTY

BY ROBERT MARGOLIS

THE EXCITING WORLD OF RADIOTELETYPE MONITORING

For at least two years, RTTY hobbyists have reported something peculiar in the TASS and Prensa Latina TTY broadcasts from Havana, Cuba, on 14901 kHz. Various ideas were tossed about as to why the transmissions were garbled, or certain letters, such as "E" were constantly being dropped from words.

Then I read a short news item recently in "Insight" newsmagazine that may offer an explanation about the bad transmissions. It seems that the island's telecommunications system had deteriorated through the years since Fidel Castro took power in 1959, with little maintenance being done. The story was in reference to Cuba's telephone cable system, which was to be replaced by a fiber-optic cable system, along with new telephone lines and more telephone exchanges.

It seems likely that if the telephone system was allowed to become rundown, then maybe shortwave radio transmitters and teleprinting equipment were neglected, too.

We need lots and lots of loggings to help fill out the intercepts section of this column. The more you send to us the better these pages will be. Share your accomplishments with your fellow readers and find yourselves rewarded when you see them in print. Whether you're a novice or a pro, your information is always welcome.

First-time contributors should know that it takes *POP'COMM* a few short months to be published between the time the columns are written to when it appears on magazine racks and in your mailboxes. Therefore, please keep a steady supply of loggings coming in to us without waiting to see if we'll use them. We will, just be sure to have as much information as possible about what you saw. Basic information includes the frequency (the center frequency, not that of USB or LSB), callsign, station name and location, a description of what was transmitted, the TTY speed/shift/polarity setting, and the UTC time of transmission.

Don't forget to put your name and state on each logsheet, so that if the sheets become separated I'll still know who the sender is. And double check to see that all the requested basic information has been entered. Some contributors have been forgetting to list times of reception, and a couple have used only the callsigns without the station ID's or locations, expecting me to fill in that information for them. After a while, it becomes a nuisance and greatly adds to the time it takes to prepare this column.

Here are a couple of hints to add to your monitoring experience. Forget what the books say about when the best time is for monitoring certain frequencies. Many distant stations have been found on the 14 MHz and 16 MHz bands, and even higher ones, during the wee hours of the morning here in the U.S., and on low ones, such as the 6 MHz and 7 MHz bands, during the late mornings and early afternoons. Many stations, including embassies, can be found operating on Saturdays, so try to do some monitoring then. Interesting intercepts have been found occasionally on Sundays, too.

While David Trachtenberg of Burke, VA, is in the shower, his daughter, Kara Rachel, seeks out new RTTY stations for his logbook.

There's lots of stuff out there for you to find, so—go get 'em! Then please send the results of your monitoring experience to me, c/o Popular Communications, 76 N. Broadway, Hicksville, NY 11801.

Received a nice letter from Ronnie Rome of Louisiana, a first-time contributor this month. In it he says, "I'm glad I saved all of my old POP'COMM's. Much valuable info is in there. One never knows when this info will be needed.

"After following your column for a while I decided to get into RTTY monitoring."

He brings up an interesting point. One of the many benefits to be gained from reading POP'COMM is that every month you have a miniature logbook of what can be monitored, whether you're interested in shortwave radio broadcasters, satellite users, pirate and clandestine stations, Morse Code and voice utility stations, or RTTY and FAX stations.

Some readers have told me that every month they copy the information out of the RTTY Intercepts section into their personal notebooks, thereby keeping a ready reference at hand while they're actively monitoring. This way they don't have to wait for publication of the annual frequency guidebooks to see what's been happening.

Others like Ronnie save all their POP'COMM's to research as needed. If you're missing any back issues of POP'COMM or would like to build a collection of past issues from scratch, you'll find a back issue order form elsewhere in the magazine. Back issues cost $2.50 each.

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**

RTTY Intercepts

5158: AFRTS, Los Angeles, CA, w AP/UP nx at about 1500, FDM 75R (Thomas Sundstrom, NJ).

5740: HZN, Jeddah Meteo, Saudi Arabia, w/coded wx, 850/50N at 0334 (Ed.).

5803.5: 9GC, Accra Aero, Ghana, w/RYRY at 0413, 425/50N (Ed.).

6835: GFL22, Bracknell Meteo, England, w/coded wx, 425/50R at 0428 (Ed.).

6943: 5TX, ASECNA, Nouadhibou, Mauritania, w RYRY/QRK 5, 425/50 at 0000 (Fred Hetherington, FL).

7397: RPFN, Monsanto Navrad, Portugal, w foxes, counting, & RYRY, 850/75R at 0325 (Ed.).

7507: Un-ID w/5F grps at 0233, 425/50N. Any ideas? (J.M., KY). None. Although ZRO2, Pretoria Meteo, RSA, broadcasts around here, its 5F coded wx xmsns are at 75 baud—Ed.

7512: TZH, ASECNA, Bamako, Mali, w/aero wx, 425/50N at 0441 (Ed.).

7524: TYE, ASECNA, Cotonou, Benin, w/ID at 0510, and every 10 minutes afterward for more than an hour, TDM-B/96 (Ed.).

7614: 5UA, ASECNA, Niamey, Niger, w/aero wx at 0456, 425/50N (Ed.).

8123: TNL48, ASECNA, Brazzaville, Congo, w RYRY/QJH1, 425/50 at 0020 (Hetherington, FL).

8128: KIT88, FAA, Martinsburg, WV, w/RYRY & test msg to KLD70, FAA, Nashua, NH, at 1435, ASCII 170/300R (J.M., KY).

8707.5: WLO, Mobile R., AL, w a FEC wx BC at 2100, and another at 2241 (Ronnie Rome, LA).

8841.8: CLP65, Cuban Embassy, Managua, Nicaragua, w/tfc to CLP1, 500/50N at 0015 (Hetherington, FL).

9227.5: RPTTA, Portuguese Navy, Ponta Delgada, Azores, w a 5F msg to RPFR, ARQ at 0000 (Hetherington, FL).

9285.7: Un-ID w/coded wx, TDM 425/96, chan-

nels A & B, at 2215. No IDs thru 0030 (Sundstrom, NJ). 'Twas TNL 24, Brazzaville Meteo, Congo—Ed.

10834.5: RCCACP, Canadian Military, Ottawa, ON, w/RYRY, foxes, & counting tape running backward at 1410, FDM 170/75N. Also running backward on 10835.7, 170/75R (Ed.).

10893: WWJ82, FHWA, Grand Island, NE, testing at 1833, FEC/850. KWB405, DOT, Bryan, TX, testing at 1850, 170/45R (J.M., KY).

11080: SANA, Khartoum, Sudan, w/nx in AA, 550/50R at 1416 (Dallas Williams, CO).

11086.2: Un-ID U.S. mil. (could be USAF or USN—Ed.), w/foxes, counting & "TEST", 170/75N at 1500 (Williams, CO).

11420: Y2V59, ADN, Berlin, GDR, w/RYRY, 425/50N at 2053, and nx in EE at 2105. Was beamed to East and Southeast Asia (Ed.).

11494: SOL249, PAP, Warsaw, Poland, w/RYRY at 1454, 425/50R (Williams, CO).

11600: CLN327, RCC, Havana, Cuba, w/telegrams in SS to the U.S., 425/50R at 1452 (Williams, CO).

12223.5: VOA, Tangier, Morocco, w a program schedule "for the AOR/IOR satellites," 425/75 at 2240. I wonder what "bird" VOA is using? (A.J. Carmody, NY). If Donald Dickerson, our "Satellite View" columnist reads this column, maybe he'll give us an answer? —Ed.

12317: NBTX, U.S.S. Guardian, w/foxes for Norfolk SESEF at 1255, 850/75R (J.M., KY).

13081.5: WCC, Chatham R., MA, w a tfc list in FEC at 0024 (Rome, LA).

13089: 9VG95, Singapore Radio, w/ARQ phasing sig & CW ID at 0950 (Hetherington, FL).

13091.5: UAT, Moscow R., USSR, w/ARQ phasing sig + CW ID at 1000 (Hetherington, FL).

13329.4: CLP2, Cuban Embassy, Panama City, Panama, w/tfc to CLP1, 500/50N at 1452 (Williams, CO).

13352: Indonesian MFA with tfc in EE re Indonesia's role in the security of Southeast Asia, 425/50N and off at 1333. "THAIDUTO JKT2" noticed between pages (Williams, Co). Not Indonesian, but the Thai Embassy in Jakarta—Ed.

13581.2: HBD46, Swiss Embassy, Havana, Cuba, w/msg in GG to Berne, ARQ at 1900. Also msg from Guatemala City to Berne. Have no callsign for Guatemala Citypost (Hetherington, FL). HBD68—Ed.

13593: AFRTS, Los Angeles, CA w AP/UPI nx, FDM 85/75 at 1140 (Hetherington, FL).

13872.5: HGX21, MFA, Budapest, Hungary, w/nx briefs from several nx agencies, 425/100 at 1555 (Hetherington, FL).

13925.9-13927.9: MKD, RAF, Akrotiri, Cyprus, w/foxes, counting & RYI's on several channels, FDM 350/50N&R at 2206 (Ed.).

14340: BAF47, Beijing Meteo, China, w/RYRY & coded wx, 755/50 at 1000 (Hetherington, FL).

14356: GFL24, Bracknell Meteo, England, w/coded wx, 425/50R at 1954 (Ed.).

14370.5: HZJ, Jeddah Aero, Saudi Arabia, w/RYRY at 1953, 425/50N (Ed.).

14387.5: KAWN, USAF meteo sta., Elk Horn, NE, w/ship wx obs data, FDM 85/75R at 1853 (Ed.).

14387.7: Un-ID U.S. mil. (USN ?) meteo sta., w/UTA circuit ID & aero wx at 1903, 85/75R. Included service msgs & aero wx from "MUGM," U.S. Naval Air Base, Guantanamo Bay, Cuba. Also NOTAMS that carried the same info on Omega stas heard on WWV & WWVH time sig stas. at 16 mins. past each hour (Ed.).

14387.9: AFRTS, Los Angeles, CA, w AP/UPI nx at 1722 to past 2000, FDM 85/50R (Ed.).

14418: 9KT321, KUNA, Safat, Kuwait, w/nx in EE, 350/50N at 1957. Nx BC in AA runs at same time on 14422 (Ed.).

14419.5: Un-ID U.S. mil. (USAF ?) meteo sta., w/"Eursum" (European NOTAMS summary), 1636-1650, FDM 85/75R, then "NAMSUM" (North American NOTAMS summary), at 1706. This BC runs for several hours until shortly after 1800. NAMSUMNs always run during the 1st half hour, and EURSUMS during the 2nd (Ed.).

14445.5-14446.7: MKK, RAF, London, England, w either encryption or RYI's/foxes on several FDM channels, 170/50N&R (Ed.).

14462: Y7L36, GDR Embassy, Havana, Cuba, w/5F msgs, 425/50N at 2055. QRU SK at 2112 (Ed.).

RADIO STATION WPD
4230 W. ALVA ST.
TAMPA, FL 33614

28 AUGUST 1989

A J CARMODY

DEAR MR. CARMODY:

REF UR NOTE DATED 24 AUG CONCERNING HURRICANE BULLETINS, THIS STATION INCLUDES N.O.A.A. WX INFORMATION IN ITS BROADCAST SKEDS LISTED BELOW.

BROADCASTS INCLUDE WARNINGS SUCH AS TROPICAL DEPRESSIONS, GALES, STORMS AND HURRICANES PRECEDING FORECASTS FOR SOUTHWEST NORTH ATLANTIC, STRAITS OF FLORIDA AND THE GULF OF MEXICO.

IN SITOR MODE (RTTY) ON 8708.5 KHZ AT 1320 AND 2220 UTC.
IN C.W. MODE ON 420 8615.5 13051.5 KHZ AT 1420 AND 2320 UTC.

ADDITIONAL FREQUENCIES IN RTTY MODE ARE BEING INSTALLED FOR USE IN THE NEAR FUTURE.

GOOD LUCK, BEST REGARDS

DON BERGER, MANAGER (W4CQC)

(QSL letter received by A. J. Carmody, New York State, from WPD, Tampa Radio, FL)

14471: NBA, USN, Balboa, Panama, w/RYRY, SGSG, & Now is the time . . ., 850/75R at 1242 (J.M., KY).

14591.2: SOO259B, PAP, Warsaw, Poland, w CQ in FEC at 1747 (Ed.).

14612: PWX33, Un-ID Brazilian Naval site, w/routine msgs to RPFN, 850/75R at 0120. PWX33 also can be found on 24432 kHz at around 1320 (Hetherington, FL). Dallas Williams found PWX33 on 20792, calling RPFN at 1355. So here's three freqs for the as yet to be ID'd sta—Ed.

14638: VOA, Greenville, NC, w QRA/standby tape, 75 baud at 2010 (Rome, LA).

14700: REB24, TASS, Moscow, USSR, w/nx in EE, 425/50R at 1827 (Ed.).

14719: OST, Oostende R., Belgium, w/tfc list, sports scores, lotto winning nos., and "joker" results, i.e., JOKER 3,137,743. Was FEC, 0329-0334 (Ed.).

14760: BAT93, Xinhua, Beijing, China, w/nx in EE, 350/50R at 0340 (Ed.).

14901: CLN451, TASS, Havana, Cuba, w/nx in EE, 50 baud at 1545 (Rome, LA).

15710: RED52, TASS, Moscow, USSR, w/nx in FF, 425/50R at 1715 (Ed.).

15752.7: CNM66/X2, MAP, Rabat, Morocco, w/RYRY & Xmsn schedule, 425/50 at about 1145 (Carmody, NY).

15731: SUNA, Khartoum, Sudan, w/nx in AA, 170/50N at 1730 (Ed.).

15752.5: CNM66, MAP, Rabat, Morocco, w/nx in FF at 1733, 425/50R (Ed.).

15934: PWZ33, Rio de Janeiro Navrad, Brazil, w/RYRY & SGSG to YWM. 850/75N at 2255, then msgs 2300-2308 (Ed.).

16041.2: RPTIH, Portuguese Navy, Horta, Azores, w/foxes & RYRY. 0925-0930, 575/50 (Hetherington, FL).

16062.9: AFRTS, Los Angeles, CA, w AP/UPI nx at 2006, FDM 85/75R. Faster xmsn speed than that of BC on 14387.8 (Ed.).

16226.5: TLO, ASECNA, Bangui, Central African Republic, w a service msg at 0002, ARQ-E 405/72 (Hetherington, FL).

16302: DFZG, MFA, Belgrade, Yugoslavia, w/nx in SC, 425/75N at 1530-1538 (Ed.).

16260: REM57, TASS, Moscow, USSR, w/nx in FF, 425/50R at 1557 (Ed.).

16970: NMF, USCG, Boston, MA, w/CQ and wx in FEC at 1700 (J.M., KY).

17206: OXZ, Lyngby R., Denmark, w/FEC tfc in Danish at 1135 (Sundstrom, NJ).

17207.5: WCC, Chathan R., MA, w a FEC wx BC at 1659 (Rome, LA).

17435: Y2V37, ADN, Berlin, GDR, w/nx in EE at 1300, 425/50 (Hethrington, FL).

17456: MFA, Berlin, GDR, w/nx in GG, 425/50R at 1955 (Ed.).

17492: SOR249, PAP, Warsaw, Poland, w/nx in EE at 1700, 425/50 (Hetherington, FL).

17529: EBA, Madrid Navrad, Spain, w/TEST de EBA, foxes, counting, & RYRY, 850/75R at 1820 (Hetherington, FL).

18215: VOA, Greenville, NC, w/nx in EE at 1822, 75 baud (Rome, LA).

18654: CLP1, MFA, Havana, Cuba, w/circulars for CLP4, Bissau, Guinea-Bissau, at 1248, 850/50N (J.M., KY).

18930.5: Y2V38, ADN, Berlin, w/nx in EE at 1518, 425/50N (Ed.).

19105: RPT34, TASS, Moscow, w/nx in FF at 1253, 425/50R (J.M., KY).

19225: FDY, French Air Force, Orleans, France, w/RYRY at 2033, 425/50R (Ed.).

19529: JMG5, Tokyo Meteo, Japan, w/plaintext wx in EE, including warnings for typhoons Angela & Colleen. Was 850/50R at 1445 (Ed.). Same w/coded wx at 0325, 50N (Randall Reese, Thailand).

19729: CAI7E, Pascua, Aero, Easter Island, w/RYRY at 0015, 850/50N (David Judkins, KE5RV, NC).

19821.5: 4UZ, UN, Geneva, Switzerland, w/ARQ tfc in EE at 1930 (Hetherington, FL).

19860: GYA, Royal Navy, London, England, w a test xmsn at 1415, 850/75R (Ed.).

19865.5: YZJ4, Tanjug, Belgrade, Yugoslavia, w/nx in SS at 1405, 425/50R (Ed.).

19915: VOA, Tangier, Morocco, w/nx in EE, 425/75R at 1305 (J.M., KY).

19980: 9BC33, IRNA, Teheran, Iran, w/nx in EE, 50N at 1700 (Reese, Thailand).

20075: Un-ID w/VVV's in CW at 1500, switching to RTTY at 1506, w/RYRY & no ID, 425/50N, for about 30 seconds, and then going off the air (Ed.).

20109: CLP1, MFA, Havana, Cuba, w/Prensaminrex nx at 2300, 960/50N (Hetherington, FL).

20139: DFZG, MFA, Belgrade, w/uncoded & coded msgs to embassies at 1820, 600/75 (Hetherington, FL).

20286.5: SPW, Warsaw R., Poland, w a telex in Polish, ARQ at 1715 (Ed.). SPW w/FEC tfc list & nx in Polish at 1800 & 1900 (Hetherington, FL).

20350: NBA, USN, Balboa, Panama, w/RYRY & tfc to CXR, 8d50/75N at 1300 (Judkins, NC).

20402L YWM1, Maracaibo Navrad, Venezuela, w/"futbol" results to HDN, OBC, 5KM, CXR & PWZ33. Was 850/75N at 2016 (Williams, CO).

20450.4: CLP1, MFA, Havana, Cuba, w/5F grps to Embacuba Congo. 500/50N at 2014 (Williams, CO).

20783.4: CLP1 w/Prensaminrex nx at 2215, 510/50 (Hetherington, FL).

20840: Y7A82, MFA, Berlin, GDR, w/nx in GG, 425/50N at 1510 (Ed.).

20901: ZRH, Cape Town Navrad, RSA, w/RYRY & foxes, 850/75N at 1321 (Judkins, NC).

21833: NBA w/test xmsn to CCS. Santiago Navrad, Chile, 850/75R at 1342 (J.M., KY).

21849: Un-ID American diplo sta., possibly RUES, DOS, Washington, DC, with AFRTS, Los Angeles, Ca, BC of UPI sports nx that was 3 days old, and with unclassified telexes from the American Embassies in Nassau & Grenada. Was 850/75N at 1227-1305 (Ed.).

21863: Un-ID sta w tfc in a Far Eastern language, ARQ, 1500-1523. Words included: advineur, benn, berpom, dkomiog, doejk, donke, erhol, faen, foekmoistetsonok, oka, omet, oraelan, selitreat, skersvaeg, su, taken, talor & terionn. Last words at s/off were, "kt foerhe onhan do tia." Can anyone help? I don't think it was the next item (Ed.). A North Korean diplo post w/5F grps at 1749, 1000/50 (Williams, CO).

21876: MFA, Bangkok, Thailand, w a nx summary in EE from "Post" and "Nation" newspapers, to Washington, DC, New York City, London, Paris, Bonn, Moscow, and Ottawa. Was 350/100N at 1606 (Ed.).

21882: DFZG, MFA, Belgrade, w/nx in SC at 1240, 425/75N (Ed.).

22410: UNQ, Novorossisk R., USSR, w a telegram in RR, 170/50N at 1432 (Ed.).

22450: UDK2, Murmansk R., USSR, w/nx in RR re "drugie organizacionnye," 170/50R at 1434 (Ed.).

22454.5: GYA, Royal Navy, London, England, w a test xmsn at 1440, 850/75R (Ed.).

22464: UFB, Odessa R., USSR, w/telegrams in RR at 1442, 170/50N (Ed.).

22560: URL, Sevastopol R., USSR, w/a lengthy text in RR, 170/50N at 1327 (Ed.).

22564: VPS97, Victoria Island R., Hong Kong, w/ARQ phasing sig & CW ID at 1335 (Ed.). SPB91, Szczecin R., Poland, w an ARQ msg at 1705 (Hetherington, FL).

22566.5: HEC52, Berne R., Switzerland, w an "HEB CH" indicator, ARQ at 1339 (Ed.).

22771: NBA, USN, Balboa, Panama, w/IAWG-89 wargame tfc to 5KM, 850/75R at 1617 (Ed.).

22810: NBA w IAWG-89 pre-wargame msgs to various S. American navies, 850/75R at 1630 (Ed.).

22900: GPA7, Portishead R., England, w/ARQ phasing sig & CW ID at 1321 (Ed.).

22904.4: DMK, MFA, Bonn, FRG, w/encryption at 1348, ARQ-E/96. Meanwhile, on 22905.5, DMK was sending a service msg to its embassy at Conakry, Guinea, also ARQ-E/96 (Ed.).

22947.3-22948.7: MKD, RAF, Akrotiri, Cyprus, w/foxes, counting, & RYI's on 5 FDM channels, 170/50N&R at 1713 (Ed.).

22950: Y7A86, MFA, Berlin, GDR, w/nx in GG, 425/50N at 1313 (Ed.).

22973: "GPV8," possibly British, w/ARQ phasing sig at 1540 & a CW ID w the V & 8 sent as one charac, making for a tentative ID on my part (Ed.).

22990: Possibly SDK96, Stockholm, Sweden, w/"TEST THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG," counting, & RYRY, but no ID. Was FEC-A/192, 1413 to past 1540, when I finally changed freqs (Ed.).

23369.5: HZN50, Jeddah Meteo, Saudi Arabia, w/coded wx, 250/100N at 1340 (Ed.).

23381-23383: MKD, RAF, Akrotiri, Cyprus, w/RYI's & foxes on several FEN channels, 350/50N&R at 1520 (Ed.).

23405: SPW, Warsaw R., Poland, w/tfc list & Nx in Polish, FEC at 1345 (Ed.).

24077: CLP25, Cuban Embassy, Maputo, Mozambique, w/tfc to CLP1, 500/75 at 1415 (Hetherington, FL).

24318: Possibly MFA, Sofia, Bulgaria, w/msgs to Washington, DC, and New York City, 490/75 at 1340 (Hetherington, FL).

24432: PWZ33, Rio de Janeiro Navrad, Brazil, w/foxes, RYRY & SGSG at 1315, 850/50R (J.M., KY).

25160.8 & 25161.2: VOA, Rhodes, Greece, Calling VOA, Greenville, NC, FDM 85/75 at 1400. Next day at 1330 it was VOA, Kavalla, Greece, calling Greenville (Hetherington, FL).

25221: PWZ33, Rio de Janeiro Navrad, Brazil, w/aero msgs at 1544, 850/75 (Hetherington, FL).

25255: UDK2, Murmansk R., USSR, w/nx in RR, 170/50R at 1421 (Ed.).

25320.6: DMK, MFA, Bonn, FRG, w/nx in GG, // 26441.6, FEC-A/96 at 1415 (Ed.).

25390: GKY2, Portishead R., England, w/ARQ phasing sig & CW ID at 1410 (Sundstrom, NJ).

25437: OXZ, Lyngby R., Denmark, w/a telex to OZC2, Mercadian Globe, ARQ at 1333 (Ed.).

26142: MFA, Sofia, Bulgaria, w/nx in Cyrillic characters & crypto after DDDDD to Washington, DC, 425/75R at 1453 (Ed.).

26441.6: DMK, MFA, Bonn, FRG, w/nx in GG from several nx agencies, FEC-A/96 at 1351 (Ed.).

26450: MFA, Berlin, GDR, w/nx in GG, 425/50N at 1405 (Ed.). PC

THE HAM COLUMN

KIRK KLEINSCHMIDT, NT0Z
AMERICAN RADIO RELAY LEAGUE HQ

GETTING STARTED AS A RADIO AMATEUR

Your First Week on the Air

How many of you hams remember your first few QSOs? If you've been a ham for a while, your memory might be a little rusty. I was paging through my first log book the other day, and I was amazed at how many of the QSOs were strongly etched into my memory. With a little prodding, the excitement of my first solo contact (a ham in Minnesota), and my first DX QSO (DA1KV, an American stationed in Germany) came pouring through.

This month's Ham Column is written by a Spokane, Washington, ham (and *POP' COMM* reader) who is a relative newcomer to Amateur Radio. It's the story of his first few weeks on the air. And it brought back a lot of memories:

It took three weeks to fill up my first log page after my Technician-class ticket arrived in the mail. That page is a major triumph for me in many ways, because it represents not only many exciting QSOs with other hams, but the culmination of years of waiting.

I was introduced to Amateur Radio almost 30 years ago by a relative who was an active ham. He taught me the jargon and started me on the road to mastering the theory. (Remember tubes? Selenium rectifiers? Command sets?) For one reason or another, I never got around to getting a license. At that point in my life, it seemed as though everything began to conspire to keep me away from radio. College, girls, grad-school, marriage, career and family, more or less in that order, kept me off the air.

Then, last spring, I realized that the time had come to do something about my dream. I began studying again in earnest, having missed most of the solid-state revolution. I bought an ancient Yaesu transceiver at a hamfest (it has nothing but tubes!). Selectivity on CW is marginal, but it was good enough to get me started.

I though I'd never make the 5 WPM Morse code requirement. But I did, at least on paper. (On the air was something else.) When it came time to take the test, though, I found I could easily copy the perfectly sent, recorded code test. The written tests were so easy, I didn't stop until I had passed the elements for Technician class.

The license took forever to arrive, but I'll never forget that first day. I came in the house and fired up the rig, waiting a full hour to allow everything to warm up! I listened carefully on 15 meters, which was in chaos at the time, and tried responding to some CQ's. I sent my best code on the hand key, but came up empty. It would be almost a week before I learned that my old set has such a wide passband that every signal comes through twice, on either side of zero beat! To tune the other guy at just the right offset is no simple trick!

Victor Tkachenko, UA6LA, a Soviet ham who lives near the Black Sea, is shown manning the helm of Ralph Dage's station, W8PHZ. Tkachenko, one of the first Soviet radio amateurs to visit the US, toured several parts of the Midwest on his month-long October 1989 visit to Dage's home town, Southfield, Michigan. The two hams met on the air a couple of years ago, and their friendship sparked Dage to sponsor Tkachenko's visit. It looks like Glasnost is alive and well in mid-America!

My first QSO was with an N4 who answered my CQ. At precisely the same moment, my two boys, who had been watching TV downstairs, came into my shack (formerly my study) to have a knock-down, dragout fight. I managed to dig a name (Clay) and a QTH (Lexington, Kentucky) out of the background din before shutting down.

The radio stayed on all the next day to ensure it would be warmed up when I could get back to it. My second QSO was with a KA0 in Missouri named Bob. The contact was actually inadvertent. I had intended to run a quick test of the rig to find out which TV channels were about to be wiped out. I signed off and was startled to hear Bob coming back to me! I kept the notes on that exchange: lines like "FB JOHN SO LN PY MOPOK UR 599 QTH G RDE." My CQ copy obviously needed some work. Bob was an encouragement, though. I got "U DO FIN JOB," and "KEEP UP THE GUD WORK ON UR CW." That was precisely what I needed to hear.

My first DX QSO came about a week later. Okay, so it was PY1ALS. I know everybody else has Brazil already, but at the time it was an absolutely heart-stopping event for me. My adrenalin was definitely pumping. My fist turned spastic and I could hardly crank out my own call, let alone understand what the op at the other end way saying. But I got the data in the book. After spending most of my life as a communicator—writing and public speaking is my thing—I was a little surprised at my own stage fright and my inability to come up with anything to say.

The next night there were about a million Japanese stations on 15 meters. I picked out a slower one, but still couldn't make out much except my signal report.

I started practicing QSO's with deadly seriousness. I learned to use the RIT to tune around QRM. I spent most of my time listening, copying the code, and learning procedures. A week later I was back on with a vengeance.

I found that much of the routine of operating was becoming automatic. Tuning no longer took all my intelligence. The format of a normal QSO started to make sense. Even the code started sounding like something meaningful! It shocked me a few days ago when I noticed, in the midst of a contact, that I was writing down characters without translating them in my hear. Instead of "dah-dah-dit ". . . let's see, that's a "G," it was as though the headphones were connected directly to my fingers and the characters just flowed through.

More and more information found it's way—intact—onto my scratch sheet. On my next JA (Japan) QSO, I got everything! It was JI3ICY, Kou, in Kyoto. He prefers to exchange QSL cards through the "BURO," (which I now know is not a small mule, but an abbreviation for QSL bureau).

I just now worked a fellow in Kentucky who was just starting out. It was his second QSO and he needed everything sent three times, slowly. When he sent "TNX FER QRS ES ENCOURAGEMENT," I choked up. "FB OM ES KEEP UP GUD WORK," I sent back; "WELCOME TO HAMMING."

There's no question I have a lot to learn—but I feel like I am on my way. There's a contest coming up next weekend, and I'm planning to be on the air. I've got a new filter coming in the mail, and I'm collecting parts to build a keyer. The antenna farm could use some cultivation!

Holy smokes! I'm a Ham!—*John McMath, N7NOG, N3710 Dowdy Road, Spokane, WA 99204*

Well, it's that time of the year again—time to put out the call for interesting topics you'd like to see covered in The Ham Column. I'm open to suggestions. Drop me a line in care of ARRL, Department PCN, 225 Main Street, Newington, CT 06111, and let me know the kind of things you'd like to see. PC

BY DON SCHIMMEL

COMMUNICATIONS CONFIDENTIAL

YOUR GUIDE TO SHORTWAVE "UTILITY" STATIONS

We lead off the column this month with some very enlightening information which provides the answer to the mystery of the sweeping signals heard by your Editor and reported by many *POP'COMM* readers. S.R. Hays, FL advised "The sweep sound heard by Mr. Hubbard, Guam (Oct 89 Communications Confidential) going through the bands at regular intervals is from a Chirpsounder. This instrument transmits a signal starting at 2 MHz sweeping up to 30 MHz at a linear rate with a sweep time of about 5 minutes. The transmitter power is 10 or 100 watts.

The receiver is synchronized with the transmitter, it measures the amplitude and phase of the incoming signal and displays it on a CRT as a spectrum analyzer.

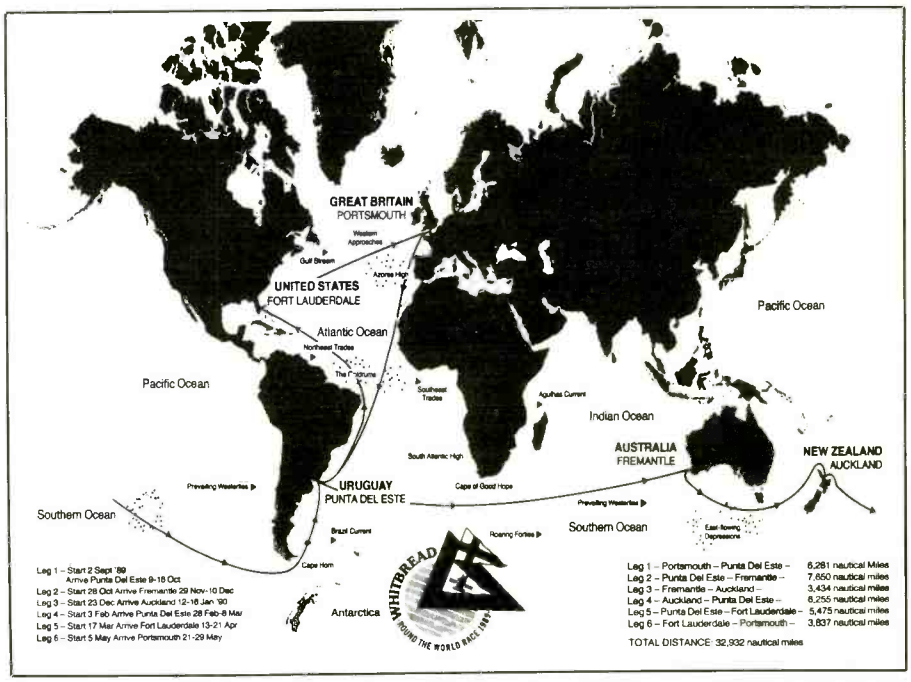
Enclosed is a list of stations (see Tables 1 & 2) that are on the air 24 hours a day. The Operating Segment refers to the number of minutes after the hour the process starts and how often it is repeated. Start Delay is the number of minutes and seconds added to the Operating Segments. Therefore Norfolk, VA will transmit every 15 min. starting at 1 min. 50 sec., 16 min. 50 sec., 31 min. 50 sec., 46 min. 50 sec. after the hour. As the list shows, no two stations start transmissions at the same time." Many thanks to Mr. Hays for his detailed report.

A note from Alain Charret indicates he has moved back to France from the FRG. He offered a clarification for the unidentified language heard by George Osier on 3325 kHz (*POP'COMM* 07/89.) Alain identified it as being Czech. "The ten numbers (0-9) are: Nula (null), jedna, dva, tri, ctyri, pet, sest, sedm, osm, devet. The same language was heard by contributor McDonald on 4883.5 kHz (*POP'COMM* 08/89). Another Czech frequency is 5450 kHz." We appreciate the clarification Alain.

Bill Such, PA wrote asking for information on schedules and frequencies to be used by the participants in the Around-the-World Yacht Race which commenced September 2, 1989 from Great Britain and is scheduled to end there at the end of May 1990. I had nothing on the subject, so I queried Simon Mason, England and he came through as he always does and sent some interesting background details which I passed on to Bill. See Figure 1 for the itinerary.

The article about the race did not however contain any schedule or frequency data. It is quite possible that the ship/ship and ship/shore communications will be conducted on the following International Simplex Voice frequencies:

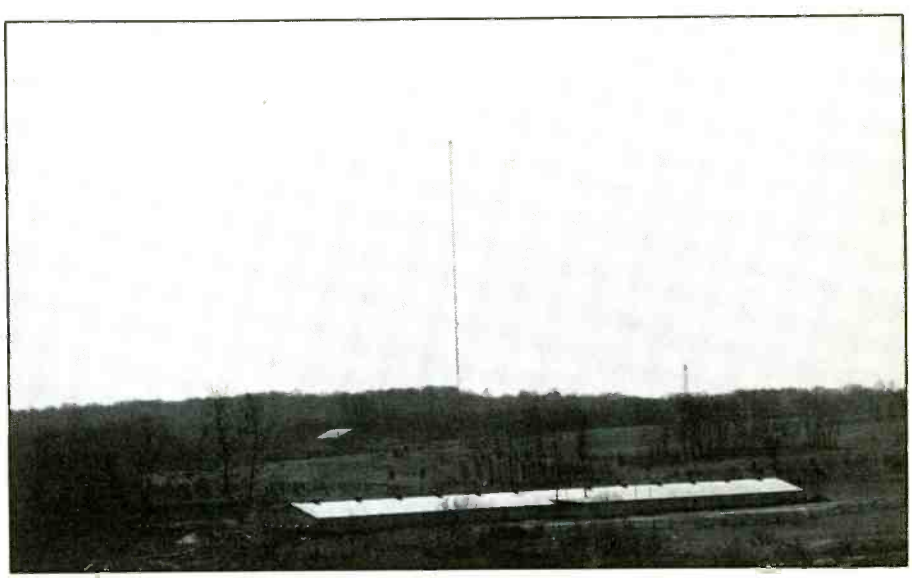
4143.6, 6218.6, 6221.6, 8291.1, 8294.2, 12429.2, 12432.3, 12435.4, 16587.1, 16590.2, 16593.3, 22104.0, 22127.1, 22130.2, 22133.3, and 22136.4 kHz.



Itinerary for the Whitbread Yacht Race. Whitbread is a UK Brewery which sponsors the race. The illustration appeared in "Seahorse," a British Yachting magazine and was provided by Simon Mason, England.

As a footnote to the foregoing, an item in the Washington post indicated that Alexei Gryshenko, skipper of the Russian entry, Fazisi, hung himself near Punta del Este, Uruguay. The Fazisi had finished in 6th place out of 23 boats for the first leg (England to Uruguay) of the race. Suicide notes left by Gryshenko gave no reason for his action.

Simon Mason, England also forwarded comments relating to a YL/GG "Numbers" transmission he observed which appeared to be an out-of-normal-sequence schedule. Here is what he wrote: "I often listen to the



Gwen site at Lappans, MD. (Photo supplied by Charley McAtee, WV.)

Table 1

Chirpsounder Transmitters

TX Location	Start Delay*	Operating Segments
COMCANLANT, Mill Cove, Canada	1:02	00 15 30 45
NAVCOMSTA, Isabella, PR	1:40	10 25 40 55
NAVCAMSLANT, Norfolk, VA	1:50	00 15 30 45
COMICEDEFOR, Kevlavik, Iceland	1:56	10 25 40 55
CINCNORTH, Helgelandsmoen, Norway	2:21	Every Five Minutes
USA Boeblingen, Germany	2:32	00 15 30 45
USAF Ramstein, Germany	2:34	05 20 35 50
COMIBERLANT, Coina, Portugal	2:36	00 15 30 45
Incirlik, Turkey	2:38	05 20 35 50
USA Bremerhaven, Germany	2:40	10 25 40 55
NAVCAMSMED DET -1, Sigonella, Sicily	2:42	00 15 30 45
USA Nellingen, Germany	2:44	10 25 40 55
NAVCOMSTA, Rota, Spain	2:46	05 20 35 50
USA Edingen, Germany	2:48	00 15 30 45
NAVCOMSTA Nea Makri, Greece	2:50	10 25 40 55
DCS Permassens, Germany	2:54	05 20 35 50
DCS Croughton, England	2:58	10 25 40 55
NAVCOMSTA Diego Garcia	3:04	10 25 40 55
NAVCOMSTA Exmouth, Australia	3:08	05 20 35 50
NAVCOMSTA, Hawaii	3:10	00 15 30 45
NAVCOMSTA, Guam	3:24	10 25 40 55
BR Communications, Utah	1:45	05 20 35 50

Table 2

Other Possible Chirpsounder Locations

RAF Port Stanley	2:01	Every 5 minutes
RAF Wildenrath, Germany	2:03	05 20 35 50
RAF Ascension Island	2:05	Every 5 Minutes
RAF Cyprus	2:09	00 15 30 45
HMS Inskip, England	2:12	Every 5 Minutes
RAF Chelveston, England	2:14	Every 5 Minutes
School of Signals, Blandford, England	2:17	00 15 30 45
RN Gibraltar	2:18	Every 5 Minutes
RAF Milltown, Scotland	2:19	10 25 40 55
RSNF Riyadh, Saudi Arabia	3:52	00 15 30 45
RSNF Jedda, Saudi Arabia	3:55	05 20 35 50
RSNF Jubail, Saudi Arabia	3:58	10 25 40 55

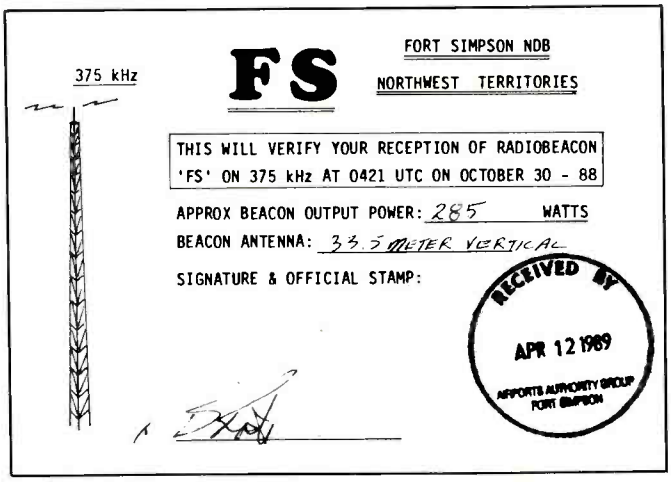
utility bands at various times during the night. Recently, at 0550 on 3820 kHz, I heard a YL/GG with 5F groups. Nothing strange about this except that this particular station has a very rigid schedule normally with broadcasts at 2000, 2100, 2200, and 2300. The YL says a 5F group followed by 'trennung' (separation) and then a 2F group. This schedule is a direct repeat of broadcasts on 3215 kHz as shown by the following:

Freq KHZ	Schedules 1	2	3	4
3215	1800	1900	2000	2100
3820	2000	2100	2200	2300

These skeds were considered 100% predictable, so it was very unusual to hear this 0550 transmission. I think perhaps it was a test broadcast?"

A particularly intriguing item was received from William Walbesser, NY who wrote: "I am a recent subscriber to *POP'COMM* but have been an avid SWL'er since 1964. I use a Sangean ATS-803A receiver and for an antenna I have a trap-dipole.

Although I will probably be contributing more to Gerry Dexter's "Listening Post" column, I have been running into a number of broadcasts which may be of interest to "Communications Confidential" readers so I am forwarding a short list of recent loggings. Note the one heard on 7527 kHz. This YL/SS broadcast commenced at 0800 with a callup of Atencion 95302 which was repeated until 0802. Then 02 25 repeated until 0803 and into 5F groups. At the end of the message, 'Final' was repeated several times at 0807. The carrier remained on the air. Within a minute of the termination of the



375 kHz

FS

FORT SIMPSON NDB
NORTHWEST TERRITORIES

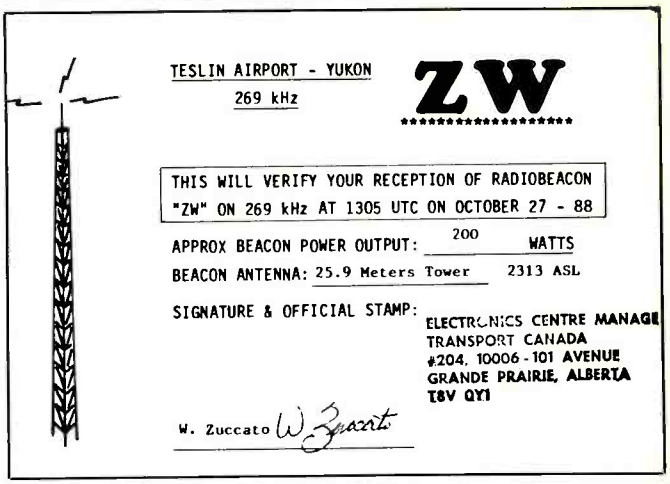
THIS WILL VERIFY YOUR RECEPTION OF RADIOBEACON 'FS' ON 375 kHz AT 0421 UTC ON OCTOBER 30 - 88

APPROX BEACON OUTPUT POWER: 285 WATTS

BEACON ANTENNA: 33.5 METER VERTICAL

SIGNATURE & OFFICIAL STAMP:

RECEIVED BY
APR 12 1989
AIRPORTS AUTHORITY GROUP
FORT SIMPSON



TESLIN AIRPORT - YUKON
269 kHz

ZW

THIS WILL VERIFY YOUR RECEPTION OF RADIOBEACON "ZW" ON 269 kHz AT 1305 UTC ON OCTOBER 27 - 88

APPROX BEACON POWER OUTPUT: 200 WATTS

BEACON ANTENNA: 25.9 Meters Tower 2313 ASL

SIGNATURE & OFFICIAL STAMP:

ELECTRONICS CENTRE MANAGE
TRANSPORT CANADA
#204, 10006 - 101 AVENUE
GRANDE PRAIRIE, ALBERTA
T8V 0Y1

W. Zuccato

Beacon stations also verify reception reports as evidenced by these two forms from Steve McDonald, BC, Canada.

broadcast, there were several static clicks followed by a USB transmission by a OM/EE with an American or possibly Canadian accent—'IS IT READABLE? IS IT READABLE? (pause) OK.' Very strange indeed."

We were joined by first-time contributors D.P., NC who uses a Yaesu FRG-88 with a 55' longwire; Paul Haskins, OH who monitors with a DX-440 connected to a 60' longwire; and Jim Deardorff, OH whose setup consists of a Kenwood R-2000 and a 8' copper rod for an antenna. "Perhaps a crude one but I've managed to pick up Navy MARS Station NNN0ICE at McMurdo Station in Antartica."

And from Gifford Mead, FL, another first-time contributor, we received this note. "I have been reading *POP'COMM* for about two years but I have never submitted anything until now. My intercepts were made using a Sony ICF-PRO70 and a 25' (approx) longwire hung out of a second story window, so it goes to show that you don't need a room full of exotic equipment to hear some interesting things on the SW bands."

For the monthly update of USN activity we turn to Andy Gordon, CT who advises that the USS Midway (CV 41) MARS station (NNN0CQQ) was up for the first time in years. New MARS callsign assignments are: NNN0CAR for the USS Carr (FFG 52) and NNN0CBU for the USS Klakring (FFG 42)."

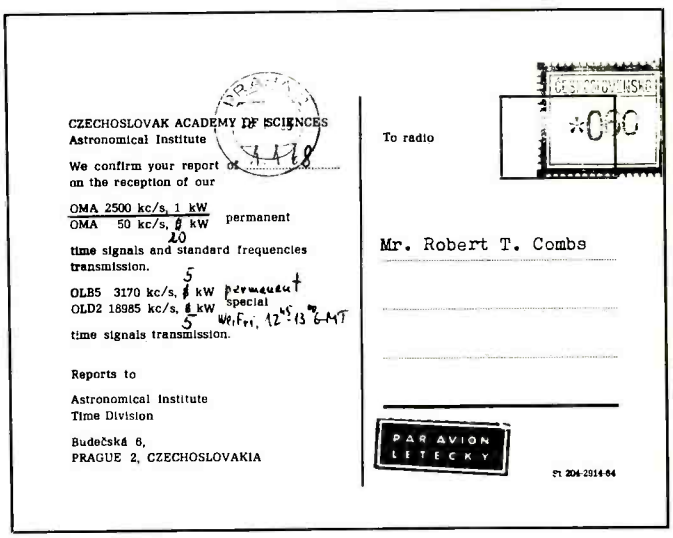
Andy continued his report "Unidentified callsigns MADHATTER, LONGWOOD, MAILTRUCK, BIG DITCH and FANG TOOTH were heard with quite a bit of 'Green' (scrambler) traffic intermixed with 'Red' (plain) radio checks on 7535 kHz. There was so much activity that Norfolk SESEF, who had been working with USS Ponce (LPD 15), callsign NSBJ, had to secure its transmissions for the continuance of the secure 'Green' traffic."

"Calls TR 841, Snapper 841, Foreclose, Range Rover, Range Master, MV Deer Island, and Monol were all observed in connection with Autec Operations. Each unit reported its hourly position to Autec Ops using local time instead of Zulu time."

To expand on the Autec information, your Editor checked several references and found that Autec is the abbreviation for "Atlantic Underwater Test and Evaluation Center" in the Caribbean for the Naval Underwater Weapons Research and Engineering Station, Newport, R.I. My information which is dated 1987 shows that the Deer Island was acquired on March 15, 1982 and classified as YAG 62 and retained her commercial name. The craft is used for sound testing by the David W. Taylor Naval Ship Research and Development Center (NSRDC); she was based at Port Everglades, FL. The Monol may be the Monob One (Mobile Noise Barge) YAG 61 which is assigned to Port Canaveral, FL and is used for acoustic trials of Navy ships.

At the conclusion of his report, Andy stated he now has logged a total of 400 USN ships and had QSL'd 275.

209: Beacon SYS, Somerset, PA at 0231. (Ed.)
216: Beacon CLB, Wilmington, NC at 0232. (Ed.)
258: Beacon YXR, Earlton, Ontario Canada at 0236. (Ed.)
265: Beacon AG, Atsugi, Japan at 1017. (Hall, Japan)
278: Beacon LW, Atsugi (Chigasaki), Japan at 1018. (Hall, Japan)



CZECHOSLOVAK ACADEMY OF SCIENCES
Astronomical Institute

We confirm your report of 4.4.88
on the reception of our

OMA 2500 kc/s, 1 kW
OMA 50 kc/s, 1 kW permanent
20
time signals and standard frequencies transmission.

5
OLB5 3170 kc/s, 1 kW permanent
OLD2 18985 kc/s, 1 kW special
5
We/Fri, 12^h5^m-13^h6 GMT
time signals transmission.

Reports to

Astronomical Institute
Time Division

Budečská 6,
PRAGUE 2, CZECHOSLOVAKIA

To radio

Mr. Robert T. Combs

PAR AVION LETECKY

While stationed in England, Robert Combs, CA received this QSL from time signals station OMA.

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)

Your file Votre référence

Our File Notre référence
6819-27-2

May 1, 1975

Mr. Vince Rey

Dear Mr. Rey:

This will verify your report of our weather broadcast made on 4-15-75 at 0120 hours Greenwich Mean Time on frequency 5652 KHz.

The following information may be of some interest to you:

Gander Radio is a Canadian International Aeradio Station, set up primarily to provide communication services for aircraft flying North Atlantic routes.

One of the services provided is the broadcast of weather forecasts, and actual weather for a number of Canadian International Airports. These broadcasts are made simultaneously on four frequencies - 3001 KHz, 5652 KHz, 8868 KHz, and 13272 KHz. The times of the broadcasts are: hour plus 20 to 30 and hour plus 50 to 60.

Thank you for your interest.

Yours truly,

for/ C.J. Anstey
TELECOMMUNICATIONS AREA MANAGER

Vince Rey, NY shares another QSL from his collection.

289: Beacon TG, Tsurugi Saki, Japan at 1021. (Hall, Japan)

313: Beacon TM, Shioya Misaki LS, Japan at 1304. (Hall, Japan)

317: Beacon CBE, Cumberland, MD at 0237. (Ed.)

341: Beacon YYU, Kapuskasing, Ontario, Canada at 0239. (Ed.)

379: Beacon GKQ, Newark, NJ at 0240. (Ed.)

401: Beacon DF, Zama, Japan at 1034. (Hall, Japan)

426: Beacon IZS, Montezuma, GA at 1015. (Ed.)

429: Beacon COG, Orange, VA at 0248. In June 1988 this was listed for 206 kHz. (Ed.)

500: Coastal sta JNV, Niigata, Japan in CW at 1318 clg unid PRC vessel. (Hall, Japan)

2094: Stations AX, G, & others w/radar tracking ops & refs to a/c w/callsign BEEFSTEAK-702. USB at 0455. (Sabo, CA)

2714: NHTE, USS Elrod, FFG-55 (off freq) clg Charleston Navy Tug Control at 0855; NSVN, USS Nicholas, FFG-47 using call "Inbound Navy Unit", clg Charleston Navy Tug Control at 1015; NNAC, USS Ortolon, ASR-22, Pigeon class Sub Rescue ship using call "Navy Unit 22" clg Charleston Navy Tug Control at 1045; NMYO, USS James Madison, SSBN-627 using ZERO LIMA FOXTROT & clg FOUR QUEBEC FOUR (Canaveral Control) at 0930; US Merchant Ship Bovengure, WRA-4560 (contracted by US Navy) carrying supplies to Norfolk wkg Navy Bermuda Control & Navy Tug Pulatka, YTB-801 at 0915; FISHER (usual call for Cape Radio) making radio check w/Canaveral Control at 1010. It is rare that FISHER uses Cape Radio as call, usually opting for the lesser known FISHER callsign; NGMV, USS Semmes, DDG-18 clg Mayport Tug Control at 1040. Mayport however doesn't monitor HF, only VHF bridge-to-bridge. (Gordon, CT)

3039: Stations FW, G, J, and P in USB at 0326. Similar to activity noted on 2094 kHz. (Sabo, CA)

3345.4: In Here on high speed xmsn which stops, foll by hand sent CW. Heading-QRA DE A1Y-P-101000Z OCT 89 GR 40 BT. Then into text of 5L grps. (Ed.)

3464.1: Unid stas exchanging signal reports. Noted calls AWA, QJE, BPE, YYA. CW at 0008. (Ed.)

3487.8: XBC, Veracruz, Mexico in CW at 0401 sending wx in SS for various locations in Mexico. (Ed.)

4000: NNNOMSD, USMC MARS, Camp Pendleton, CA announcing RTTY tfc upcoming. USB at 0402. (Sabo, CA)

4027.5: YL/SS in AM at 0505 w/095-01, then 195 3x and into 5F grps. Same YL w/5F grps on 9450 at same time but not //. (Sabo, CA)

4066.1: USS John Young, DDG973 w/patch thru San Diego CSS-1 in USB at 0122. QSX 4360.5 kHz. (Sabo, CA); NOKI, USS Okinawa LPH-3 attempting patch thru San Diego CSS1 at 0120. (Gordon, CT)

4143.6: USNS-D Tiger w/calls to NATIVE ECHO at 0318 but answered by 12-OSCAR who relayed from NATIVE ECHO. Believe "D" suffix means "deployed", but can't find vessel USNS Tiger in any reference book although have prev hrd them her and on 4481.5 kHz. NATIVE ECHO prev hrd wkg other similarly unid ships on this channel also. Possibly some Naval Reserve units? All USB mode. (Sabo, CA)

4369: WLC, Rogers City, MI in USB at 1415 wkg Tug Thorney Burton. (Symington, OH)

4585: KIDDY CAR31, 40, 19 & others clg each other for rdo checks. Only placename refers to "Florence Repeater." KC311 is mobile. Net control is KC40 who closed the "South Carolina Wing Net" at 0029. (D.P., NC) This is a CAP net. (Ed.)

4625: Pulse every 3 sec. No ID on the hour just a alternating tone on the 59th min. VEB2 rptd here at 0201. USB. (Scalzo, PQ, Canada)

4627: CAP Gulf Coast Hurricane net. MAGNOLIA 30, Louisiana is net control. Also hrd was BLUECHIP 39, Tennessee. SSB at 0012-0030. (Mead, FL)

4637.5: Offshore petroleum units. OM's talking about CG inspection in USB at 0308. (Balogh, ON, Canada)

4670: YL/SS w/4F grps in AM at 1119. (Ed.)

4675: RAF w/British aero wx in USB at 0252. (Hamlin, NY)

4694.5: Unid calls WAE, PDN, NTP, exchanging QSA reports. Chatter in SS and noted several refs to practice tfc.

4818: Three note rising scale 1900-1905. Then YL/GG w/Achtung x2 and into 5F grps rptd twice. At 1908 Ende x2, Achtung x2 and rptd 5F text. (Mason, England)

5063.5: 9MB, Georgetown, Pinang I, Malasia in auto CW at 1051 w/5L grps. Completes msg then mkr of VVV 9MB 6 9 13 16 19 VVV. (Ed.)

5080: W4F to PLEAD Control at 2323 (Pt. Mugu NAS, CA) w/advisory re entering PMTC Zone and request for playground & alligator parameters, foll by D2H to PLEAD Control w/encrypted tfc. On another evening, PLEAD wkg GOJ at 0409 w/instructions to stay on circuit & notify when transit of PMR complete. All USB. (Sabo, CA)

5228.7: Unid CW (hand sent) sta at 2318 w/SS texts. Per msg contents this is Argentina Gendarmeria Nacional. Org is primarily a Frontier Guard Force & is under the jurisdiction of Commander-in-Chief of the Army. (Ed.)

5257.8: CMU967, Santiago de Cuba, Cuba clg UCNX, unid Soviet vessel in CW at 0644. (Ed.)

5310: CW sta w/EDB 2000-2005. Then 3 long dashes and into 5F (cut nbrs) using AUV4E6NDBT. (Mason, England)

5500: YL/EE rptng 288 oblique zero zero (actually said oblique). At 2005 End then off. Same voice as GG which says 3F "stish" zero zero. Also exists RR version which has sent a msg, unlike EE and GG which have not. (Mason, England)

5544: Boyeros Radio hrd in SSB at 0350 wkg Cubana 479 who is reporting his position over JESSE. Then at 0351 Boyeros wkg another Cubana flight (Cubana 471) who gives a Havana ETA at 0648. Havana & Camaguey wx given. All in SS. This is Cubana LDOC freq. (Halstead, WV)

5555: CQ DE KA1UJQ Name is Danny AAA in Rindge, NH

(Ed.) I don't think he belongs here.

5696: Bravo 6 Tango (airborne) hrd 0212 establishing guard w/USCGCommsta New Orleans, LA. (O'Connor, NH)

5696: USCG Commsta Portsmouth wkg Mobile Central 1 and Comsta Portsmouth re helicopter maintenance kits and transportation for rdo equip set-up team. 0157. (M ead, FL)

5696: USCG Rescue 1490/Elizabeth City Air via pp thru Portsmouth re helo problem w/fuel transfer while in-flight, gauges showing increase in fuel since take-off. Helo returning to base because of this problem at 2210. At 2233, helo 1475/Boston assuming rdo gfuard while helo on way to vessel taking on water. (Fernandez, MA)

5749.6: Tfc in SS in CW at 2033. Unid LA Country, possibly naval net. (Ed.)

5789: 5L grps in auto CW at 0656, pause at end of each ten grps. (Ed.)

5897.6: Unid sta w/auto CW at 1311 w/5L grps. Went down with AR AR AR SK SK SK. Rather weak sig. (Ed.)

6200: USS Ticonderoga wkg NMA, USCG, Miami, FL at 0524; NODZ, USCGC Woodrush wkg NOJ, USCG Kodiak, AK at 0734; NP1N, USCGC Chilula wkg NMN, USCG Portsmouth, VA at 0749. All USB and QSX 6506.4 kHz. (Sabo, CA)

6379: 4XZ, Haifa Naval Rdo, Israel in CW at 0110 sending 5F grps, Preamble "NR 191 LW 0I4N 820011 J13M GR 11 BT"-After msg went into callup tape at 0115 "VVV DE 4XZ BT". (D.P., NC)

6430: CFH, Halifax, NS, Canada in CW at 0144 sending iceberg bulletins then into callup tape. (D.P., NC)

6506.4: Hrd on a single evening between 0118 and 0200: NMC, USCG CAMSPAC San Francisco wkg WTEJ/NOAA ship Miller Freeman. All USB, vessels hrd answering on 6200 kHz. (Sabo, CA)

6515: WCM, Cincinnati, OH in USB at 1626 wkg unid tugboat wk/pp from Company. (Symington, OH)

6518.8: USCGC Bear in comms w/NMN, USCG Portsmouth, VA in USB at 2112 re pp to TV network re news about Hurricane Hugo. (Deardorff, OH)

6577: KEA5, New York aeradio at 0115 QSL'ing position report from American 689. USB mode. (Walbesser, NY)

6604-07: Gander VOLMET, Newfoundland, at 0828, LSB. (Walbesser, NY)

6640: Florida West 101 hrd in SSB at 0558 wkg New York w/pp to Operations. Ops told Antigua Customs closed, reopens 0600. Ops replied they to proceed to alternate, San Juan. (Halstead, WV)

6640: New York Radio wkg Cubano 249 in USB w/wx & flt data at 0247. (Hamlin, NY)

6673: GULL 43, Hurricane Hunter a/c to NOAA Hurricane Center in Coral Cables, FL. Ref'd this freq as Delta channel. Gulf 43 was onroute to take measurements on Hurricane Hugo and Tropical Storm Iris. Coral Gables advised rdo opr that "The gentlemen on board is a Congressional Aide and that they should insure he was wired into the a/c intercomm so he would know what was going on." Initially hrd at 1706 w/several other position reports, etc. throughout the mission. (Mead, FL)

6675: CW station from 2100-2110 sending VVV DE 3Z60. At 2110 '54808.' 3 mins later rapid dots then 28 28 / and into 5F grps. Ended w/SK. (Mason, England) At 2000 trumpet tune similar to 'Last Post.' Played until 2020. This is the signal that CZ 4L bcst is coming up later on. (Mason, England)

MUGGER: w/Alfa tfc in USB at 0610 on PACAF A2. (Sabo, CA)

6734.5: SLHFB "X" sent continuously in CW at 0127. (Scalzo, PQ, Canada) Also hard at 0705. (Ed.)

6753: OM/EE w/item corrections in mixed F/L grps of various lengths at 0240 foll by mixed grps to R2D. USB mode. (Walbesser, NY)

6753: Halifax Military w/aviation wx by OM/EEin USB in USB at 1041. (Balogh, ON, Canada)

6761: Shiva 14, 15, 16; a "cell" formation of 3 B-52G a/c each separated by 6 miles. Hrd first on UHF interplane freq 303.050 Mhz in AM. Were preparing to enter training route IR-075. Switched to 6761 kHz (Sierra 391) at 1734 where Shiva 15 reported they had "20 scope" problems and no defense against SA-2. Separation had decreased to 1 mile on exiting the route. Quite a sight since they were only about 2000 ft. altitude. (J.M., KY)

6765: CW station from 2100-2105 w/count 1-0 then three slant (oblique) signs and into 5F grps. (Mason, England)

6812: AF-1 comms w/Andrews AFB & CROWN w/ETA and signal reports at 0130 in USB. (Scalzo, PQ, Canada)

6824.4: YL/SS at 0707 w/Atencion 721 07, rptd, then 07 30 x2 and into 5F grps. Very muffled audio so couldn't get clear reception in any mode selection. (Ed.)

6825: YL/SS w/5F grps in AM mode at 0502. Not only did she have weak signal but audio was also weak. (Balogh, ON, Canada)

6840: YL/EE w/3-2F grps foll rpt of 925 & count 1-0 at 2309. (Walbesser, NY)

6998.7: US Army MARS network in LSB at 1402 w/stas checking in. (Ed.)

7305: USAF MARS net in USB mode at 0259 w/AFA5NM, AFF5C, AFF50, and AFA5GL (Bremerton, WA). (Sabo, CA)

7311: AAR4USC, Ft. Bragg wkg AAR3USC, Ft. Indiantown Gap in LSB at 1415 w/Emergency Hurricane net tfck; AAR4USG, Ft. Knox in LSB at 1933 wkg AAR4USC, Ft. Bragg. (Symington, OH)

7391.4: USN MARS w/NNN0NRJ wkg NNN0CWY (NCVV, USS Carl Vinson, CVN-70) w/pp in USB at 0335. (Sabo, CA)

7482: YL/SS (in here on bcst) sending 5F grps in AM at 2308. (Ed.)

7527: YL/SS w/5F grps at 0800. (Walbesser, NY)

7530: YL/GG in AM at 1936 w/Charlie Tango & 3 + 2F grps. (Charret, FRG)

7532: YL/GG in SSB at 0736 w/3 + 2F grps. (Charret, FRG)

7535: NEQB, USS Vulcan AR-5, wkg Norfolk SESEF at 1930. Both receiving QRM from HAMPSHIRE AND BARBARIC which SESEF explained to Vulcan were the USN stas Rosey Roads and Gitmo; NIJA, USS Coral Sea CV-43 making rdo check w/Norfolk SESEF at 1810; USS Gunston Hall LSD-44 wkg Norfolk SESEF at 1745. LSD-44 is brand new ship and I hrd them right after commissioning. (Gordon, CT)

7635: CAP stas EAGLE-46 and BEAVER FOX-94 in USB mode at 0353. (Sabo, CA)

7773.4: CG Cutter Point Bear to CG Cutter San Juan w/position report of vessel in distress. Cutter San Juan fired flare but not visible to the vessel. Was mentioned that vessel was not leaking oil. USB at 0539. (Scalzo, PQ, Canada)

7846: YL/SS in AM at 0507 w/5F grps. (Balogh, ON, Canada)

7887: YL/SS w/5F grps at 0803. (Walbesser, NY)

7905.5: SLHFB "K" every 4 sec. Reportedly located Khabaroosk, USSR. In synch w/sig on 12150.5 kHz. (Scalzo, PQ, Canada)

7930: US Military stas I89, Y1M and E89 checking comms in USB at 1425. (J.M., KY)

8069: YL/EE in AM mode rptng 17462 between 2100-2105, then Ready Ready 23 23 and into 5F grps. (Mason, England)

8072: YL/EE in USB rptng 453 2000-2007, then Number 107 Groups 28. Tape jammed 2009. 453 again until 2011 when into 5F grps. Ended w/000. Next night same msg. Same YL also does Mil-style RR 5F. (Mason, England)

8186: YL/SS in AM mode at 0458 w/5F grps. Descending tones preceeding transmission. (Balogh, ON, Canada)

8195: NNAS, USCGC Escanaba wkg USCG Atlantic Area Ops & Rescue Center, Norfolk via NMN between 0438-0513 re diverting for SAR ops for missing pleasure craft w/2 POB. Cutter and NMN also tried wkg frequency pairs 8195/8718.9 and 6212.4/6518.8 kHz before finally settling on 8195 for Cutter and 6518.8 kHz for shore xmtr. All USB mode. (Sabo, CA)

8241.5: NKZI, USS Pensacola LSD-38 hrd 0203 in USB clg USCG CommSta Portsmouth, VA then wkg USCG CommSta Boston, MA w/msg for Roosevelt Roads, PR. (O'Connor, NH)

8247.7: USS Okinawa wkg San Diego CSB-2 in USB mode at 1741. QSX 8771.6 kHz. (Sabo, CA)

8291.1: WYK5167, the tug Pilot, at 0422 w/position report to WPE, Tug Communications, Jacksonville, FL: WIT9769, fishing vessel Cascade at 0437 checking in with WHF995, Seattle; WYK4684, tug Patriarch, at 0522 wkg WGW, Tug Communications, San Juan. All USB mode. (Sabo, CA)

8294.2: WJK, Belcher Towing, Miami, FL hrd 0323 clg Belcher Port Everglades. (O'Connor, NH)

8314: YL/GG in AM at 1804 w/callup of 824 1-0 count. (Charret, FRG)

8326: OM/RR in AM at 1804 w/callup of 824 1-0 count. (Charret, FRG)

8395: UDZR, Soviet M/V Pamyat Ilicha hrd in CW at 0713 w/ETA msg for Callao (wkg OBC3). Has frozen fish on board, all cargo for Murmansk. Requested arrangements for immediate departure. (Halstead, WV)

8399: M/T Vayudoot of Indian registry, CW call VWZY, hrd in CW at 0551 wkg WLO w/msg for Bombay. Advised in chatter w/WLO vessel's QTH was approaching the Southwest Passage. Then sent AMVER msg to Mobile, AL indicating position. (Halstead, WV)

8408: USLG, Soviet M/V Cherkassy hrd in CW at 0536 wkg OBC3, Callao, Peru. Vessel sailed Havana & gave ETA for San Nicolas w/crew of 32. Has on board 22000 metric tons of Pyrite. Msg inquired re specialist for repair of gyro-compass. (Halstead, WV)

8418: Strange warbling before 1-0 count from 0340 then YL/SS at 0402 w/295 all in AM mode. // w/6802 kHz. (Balogh, ON, Canada)

8558: YL/GG in AM at 1740 w/4F grps. (Charret, FRG)

8562: YL/GG in AM at 1908 w/576 & 1-0 count. (Charret, FRG)

8562.5: YL/GG in USB at 1940 w/3 + 2F grps. (Fernandez, MA)

8719: NZNG, USS Paiute ATF-159 making rdo check w/NZPU, USS Papago ATF-160 at 1400. These are the last 2 remaining Achomawi class Fleet Tugs in service, belonging to Combat Support Squadron 8, Little Creek, Norfolk, VA. (Gordon, CT)

8825: Navy JB237 (P3C a/c) hrd 0319 w/position report to San Juan aeradio, Puerto Rico. (O'Connor, NH)

8846: US Air flight 1190 (Reg nbr N645US) hrd 1445 in US B wk/position report to NY Aeradio. (O'Connor, NH)

8867: AM Tran 882 hrd in SSB at 0725 wkg Nandi, Fiji w/position report over KABAR. Gave estimate for LANIS as 0735 w/ IDEMU next. Nice sig from S. Pacific. (Halstead, WV)

8876: Hurricane Hunter a/c Gull 43 clg NOAA Hurricane Center, Coral Gables, FL on "Foxtrot Channel." Unable contact due heavy QRM from Cuban sta. Switched to 6673 kHz. USB at 1700. (Mead, FL)

8891: Express 121 high above arctic circle hrd in SSB at 0614 wkg Cambridge Bay w/position report. Gave ETA for Shingle Point at 0723. A/c advised to contact Edmonton Center on 132.4 MHz at Shingle. (Halstead, WV)

8912: Anti-smuggling ops w/SLINGSHOT wkg OMAHA-42 in USB at 0122. (Sabo, CA) Anti-smuggling ops wk/CRUMPET & AMBUSH clg SLINGSHOT in USB for rdo checks at 0258. (Hamlin, NY)

8968: GULL 26 in USB at 0157 w/pp thru Macdill to Miami Monitor. (Symington, OH)

8989: McGuire AFB comm w/a/c 944 w/pp to Travis AFB Command Post in USB at 0306. (Hamlin, NY)

9020: GOLD EAGLE (NCVV, USS Carl Vinson CVN-70) tried get pp thru McClellan but line busy. USB at 1917. (Sabo, CA)

9023: NORAD exercise. ROTE flight in CAP requesting picture from BURLY BOY who respondd that ground radar is clear. ROTE 11 and 15 air refueling. BULLS-EYE at 19000 feet. A Lear jet simulating a BEAR-D flying at mach .75 off US Atlantic coast. Hrd at 1403. (Willmer, MI)

10045: 4XZ, Haifa, Israel w/call tape at 2315 in CW. (D.P., NC)

10112: AFI2, McClellan AFB, CA wkg GOLD EAGLE (see 9020 item) w/pp in USB at 2212. (Sabo, CA)

10134: YL/GG in AM at 1926 w/3 + 2F grps. (Charret, FRG)

10177: YL/GG in USB w/3 + 2F grps. (Charret, FRG)

10180: YL in Swedish? W/034 in AM at 0403. I hrd it as Nulla, Tray, Fuef-rah. (Balogh, ON, Canada)

10297: FSB, Interpol, Paris, France w/CW mkr at 0420. (Walbesser, NY)

10315: YL/GG in AM w/callup 288 x3 1-0 count rptd until 1910 when 10 identical tones sent foll by 3 + - 2F grps. (Fernandez, MA)

10374: YL/GG in USB w/3 + 2F grps. Callup of 579 w/210 grps. Same format as YL/EE 3 + 2F and SS 4F. Hrd 0200. (Willmer, MI)

10390: FSB, Interpol Paris, France w/CW mkr at 2350. (Walbesser, Ny)

10460: YL/GG in USB at 0243 w/3 + 2F grps. (Willmer, MI)

10493: APARATUS, BLUE EYES and WGY900,

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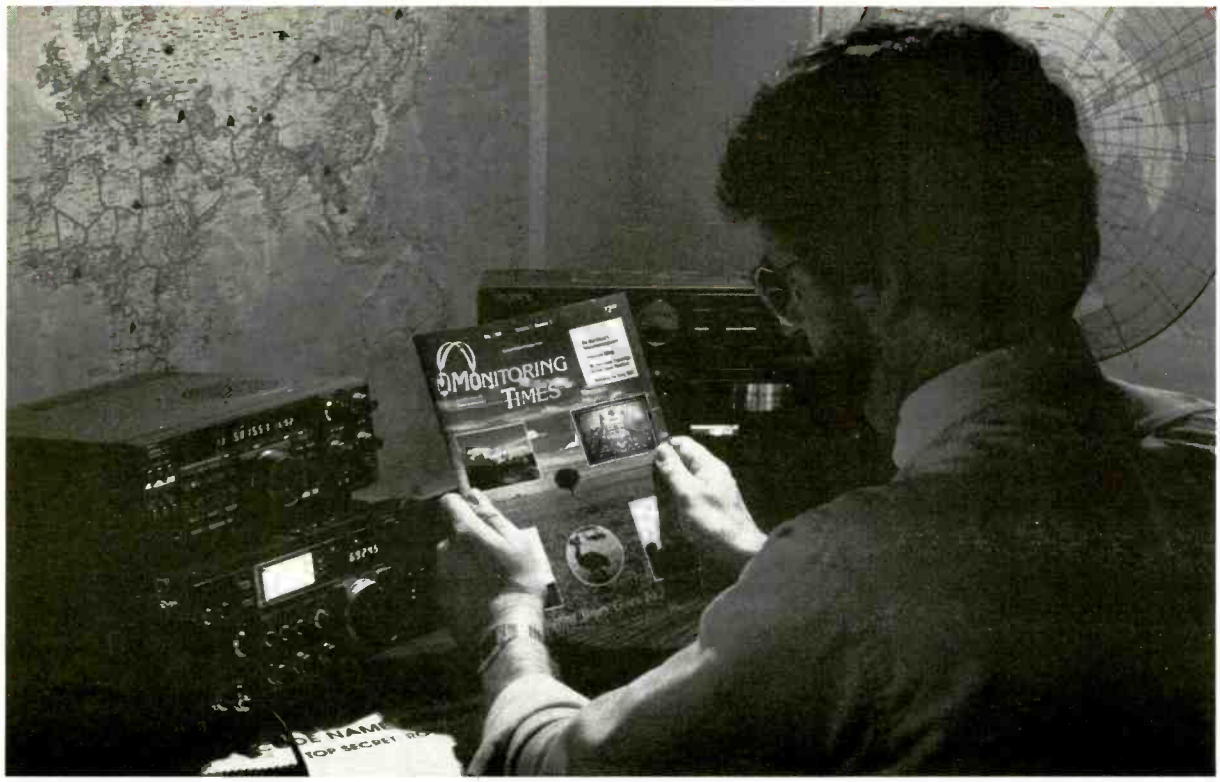

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CIRCLE 60 ON READER SERVICE CARD

FEMA Hq. Washington, DC hrd in USB at 1435. (J.M., KY) FEMA stas WGY 901 and WGY906 w/comms at 1606 in USB. (Scalzo, PQ, Canada)

10502: YL/GG w/5F grps at 0705. Each grp read twice. Same YL hrd on 11110 kHz. LSB w/heavy tonal QRM. (Walbesser, NY)

10620: Two Latin OM conversing in EE re diver in the water and three security teams present. Hrd 1715. (Willmer, MI)

11055: SAM 203 in USB at 1324 wkg Andrews AFB w/comm check. (Symington, OH)

11108: Nbrs sta in GG ending xmsn at 0015. Carrier off at 0017. (D. P., NC)

11220: TROUT 99 enroute Hawaii in USB at 1413. In contact w/Andrews AFB. This is SAC channel Bravo. (Willmer, MI)

11226: GULL 26 to Miami Monitor w/hurricane obs in USB at 0605. (Sabo,CA)

11233: A/c 6185 wkg Trenton Military in USB at 2040 re tactical ops and pp to Goddard Ops re landing schedule at Trenton. 6185 later Id'd as United Nations 6185 when in comms w/Air Force 6298. (Fernandez, MA)

11243: PUSHCART (Opr OM/EE) in USB at 1848 w/alpha-numeric msg bcst. (Fernandez, MA)

11246: Gull 17 wkg MacDill on 11246 & 18019 USB. MacDill advised mvoe to 18019 as they having trouble copying. They QSY'd to 18019 kHz where passed info re Hurricane Hugo to Nati'l Hurricane Center. (Haskins, OH) CG 1718 to MacDill AFB w/request for pp to Clearwater Air. This same a/c hrd later same night in Charleston, SC and seen on network news report unloading relief supplies. USB at 2018. (Mead, FL)

11267: THREE UNIFORM NOVEMBER and other similar calls in USB at 2038. This was a training net. (Fernandez, MA)

11491: YL/SS in AM at 1837 w/5F grps. (Fernandez, MA)

11494: Anti-smuggling ops at 1740 in USB w/ GHOST RIDER and OMAHA-81; Station INDIA w/practice alfa-numeric tfc at 0509, upon completion advised NOVEMBER to QSL. This is SAC LIMA channel. (Sabo, CA)

11565: YL/SS w/5F grps at 0720. (Walbesser, NY)

12255: Apparent US Military net in USB at 2044. Net consisted of stations HQ24, 25, 26, & 27. (J. M., KY)

12429: WFPJ, ship American Eagle in comms w/ Houston sta (WBD?) in USB at 1220. (J.M., KY)

12595: Norwegian vessel Mosbay w/ CW call LAMS2 hrd in CW at 0731 wkg PCH Scheveningen, Holland w/ETA msg for Rotterdam. (Halstead, WV)

12856: 6WW, Dakar, Senegal w/VVV mkr in CW. (Walbesser, NY)

13113.2: NMO, USCG CommSta Honolulu wkg Army vessel Klinger in USB at 0502. Vsl hrd answering on 12342.4 kHz. (Sabo, CA)

13230: GHJ, TBA, IDR, ICM, SZZ, and ODPI in USB net. Conducted many rdo checks. American, British, and possible Italian oprs. Hrd 0051. Later at 0155 hrd on 18082.5 kHz USB. (Willmer, MI)

13244: SAM 204 thru MacDill in USB at 1723 wk/pp to Andy meteo; SAM 30502 in USB at 1706 thru MacDill w/pp to Andy meteo; AirEvac 67954 in USB at 1724 w/attempted pp to Lajes. (Symington, OH)

13274.3: Unid CW sta at 1144 w/5L grps. Very bad echo to sig. Foll msg sent chatter which appears be Vietnamese. (Ed.)

13291: Gander ATC Sta in USB at 1832 wkg several commercial a/c re flight data. (Fernandez, MA)

13300.3: Unid CW sta at 1814 w/cut nbr system I had not hrd before. System seemed be AU34567KNT for 1-0. Ltr K may have been a D but it sure sounded like K. (Ed.)

13333: London ATC, Heathrow Airport in USB clg SPEEDBIRD 306 via pp thru London ATC re 2 generators out, needing repairs before next flight. LSB at 0105. Also hrd MARS net on this freq. (Fernandez, MA)

13426: YL/EE w/3 + 2F grps in AM at 0521. (Sabo, CA)

13471.4: In Here on Xmsn. CW sta at 1150w/5 character grps. Noted ltrs A-Z, figs 1-0 and spec charac IM AA OE OT. (Ed.)

13572.6: CW link at 1153 w/PT Portuguese msgs. From texts this appears be Brazilian Air Force, 2nd Regional Command. (Ed.)

13629: KDM45, FAA San Juan, PR wkg KDM49, FAA Atlanta, GA. This was during Hurricane Hugo and San Juan was advising that all airports closed, radar down, VHF aero freqs down and can't contact FAA on St. Thomas or St. Croix. Satellite dish also down so this freq is only means of comms with US. Hrd at 1822. Later at 1955 hrd San Juan advise that Eastern Terminal gates at airport were destroyed. (Mead, FL)

13630: KDM45, FAA, San Juan, PR & KDM49, Atlanta, GA w/LSB Hurricane Hugo emerg tfc at 2008. WHX50 (unlocated FAA sta) clg KUU97, FAA, St. Croix in USB at 2052. (J.M., KY) Various stas hrd in USB from 1754-1945 in major SHARES exercise net included AA8USB (MARS Ft. Carson, CO), KDM50 (FAA, Hampton, GA), KEM80 (Washington, DC), Camp Dodge (no c/s used), WHX44 (FAA, Mt. Kaala, HI), KCP63 (FAA, Longmont, CO), N9D (possible a/c), KIA21 (FAA, Oklahoma City), AIR (USAF MARS, Washington, DC), KIT88 (FAA Martinsburg, WV), REDFIRE-4 (Indiana CAP), KDM53 (FAA, Anchorage, AK), WWJ63 (FHWA, Nashville, TN), and WIGWAM-109 (Nevada CAP). KCP63 seemd be net control and several stas also wrkd this freq LSB. Also ref'd 7 and 14 MHz freqs. (Sabo, CA)

13744: YL/SS w/5F grps at 0905. (Walbesser, NY)

14325: Amateur "Hurricane Watch Net" in operation during Hurricane Hugo relaying wx reports and emergency tfc. NX5R net control in Austin, TX. VP5VNF in Turks & Caicos Islands relaying much of tfc. Other Amateur nets on 14313 kHz (Maritime) 14283 kHz (Food & Supplies), 14275 (Carribus), 14303 (Health & Welfare), 7165 and 3815 kHz. (Mead, FL)

14380.5: Two OM/EE conversing in USB at 1205 re relief efforts. Perhaps cleanup after Hurricane Hugo. Talking about sending down some roofers and laborers. One sta booming in while other barely readable. Strong sta told other end to try and get to a phone to call in because they can't hear anything he saying now. (Ed.)

14441.5: NNAL, USS Abraham Lincoln CVN-72 (NNNONAL) clg any Norfolk area MARS station at 2350; USS Tinosa SSN-606 clg Any Stateside MARS station at 2300, Tinosa is working with several South American fleets on the UNITAS cruise. (Gordon, CT)

14458: Canadian Forces Amateur net. CIW91, Lahr, W. Germany; VXV9, Golan Heights, Syria; and unlocated stas VXVW, CIW638 and VEV9. Stas having trouble hearing each other. Refs to freqs Foxtrot and Delta. 14458 kHz is Delta. Also found stas on 14461 kHz making mention of Foxtrot and Delta. USB at 2000. (D.P., NC)

14467: NCAR, USS Carr FFG-52 before MARS call assigned was using NCAR in making patches. Note: New MARS call is NNNOCAR; NRQW, USCGC Sweet Gum WAGL-309 using its regular call wkg NNN0ZPI at 2350. Sweet Gum will be out for months, repairing Navigational Aids ripped out of their moorings by Hurricane Hugo. (Gordon, CT)

15000: BPM, Xian, China hrd 0159 w/CW ID under WWV/WWVH. (O'Connor, NH)

15035: Edmonton Military w/OM opr giving aviation wx at 1526 in USB. (Balogh, ON, Canada)

15875: USCG Northern Pacific LORAN net hrd in USB from 0605-0615 included NRT/Yokota Monitor to NRT3/Iwo Jima, NRV6/Marcus Island, and NRT2/Gesashi (Okinawa). All stars hrd except NRT2. (Sabo, CA)

16463.1: GQXC, H.M. Yacht Britannia hrd 1739 in USB w/pp thru GKT62, Portishead, England. In event of war, Royal Yacht can be converted into a 200-bed hospital ship. (O'Connor, NH)

17050: 4XZ, Haifa, Israel in CW w/5L grps at 0020 then into call tape. (D.P., NC)

18594: GHOST RIDER wkg OMAHA-81 in USB at 1751. Was anti-smuggling ops. (Sabo, CA)

18981.4: Unid auto CW sta at 1205 w/PT tfc that appeared be in the Indonesian language. (Ed.)

19177: Sounded like CW time signals at 1711, about 1 per sec, off a few mins later. (J.M., KY)

20350: Something like "Contra Cat Control" by YL/EE w/numerous call-ups and comms to BCS CAR KIC in LSB mode from 0037. She called this channel K9 and advised other sta to QSY back to K8. Also, was apparently duplex wkg since other sta not hrd and she made several ref's to her transmit and the other's receive. This is a NASA allocation. (Sabo, CA)

20885: FOX 4, AHF4/Howard AFB, Panama wkg unid sta w/pp on South American MAG daytime secondary in LSB at 1922. (Sabo, CA)

20936: NIIW, USS Midway CV-41 (NNN0CQQ) wkg NNN0NRD at 2350. (Gordon, CT)

21390: Amateur Hurricane net. KP4BQM/Portable KP4, Ham Op at Navy Underwater Tracking Center in St. Croix w/emerg tfc. Need security support to NAS Roosevelt Roads PR. Apparently all comms out at this facility and the Ham opr was only contact to US. Msg had to be relayed to PR by N4VGF via CG Miami as Hams could not establish comms to PR. SSB at 1837. (Mead, FL)

23227: AGA8, Clark AB, Philippines w/alfa tfc in USB at 0353. (Sabo, CA)

23402.4: ATLAS wkg unid sta w/pp in USB at 1925. (Sabo, CA)

25262.1: OXZ, Lyngby, Denmark in CW at 2012 w/CQ mkr. (Scalzo, PW, Canada)

26703: WWJ49, FHWA, Petaluma, CA & WWJ82, FHWA, Grand Island, NE testing on FHWA freq F61. USB at 2042. Hrd 2100 on FHWA freq F56 (22926 kHz), also USB. (J.M., KY) PC

HOW I GOT STARTED

Popular Communications invites readers to submit, in not more than 125 words, how they got started in the communications hobby. Each month, we'll select one and run it, and award its sender with a one year's subscription or subscription extension. We'll accept them (preferable) typewritten, or otherwise easily legible. If you have a photo of yourself taken recently, or when you got started, please include it with your story. We can't return or acknowledge material whether we use it or not. You need submit your story only once, we'll keep it on file and consider it for future issues. All submissions become the property of Popular Communications.

Entries will be judged taking into consideration if they tell a story that is especially interesting, amusing, or otherwise unusual. We reserve the right to make any necessary syntax, spelling, or grammatical corrections, or minor wording changes to improve style.

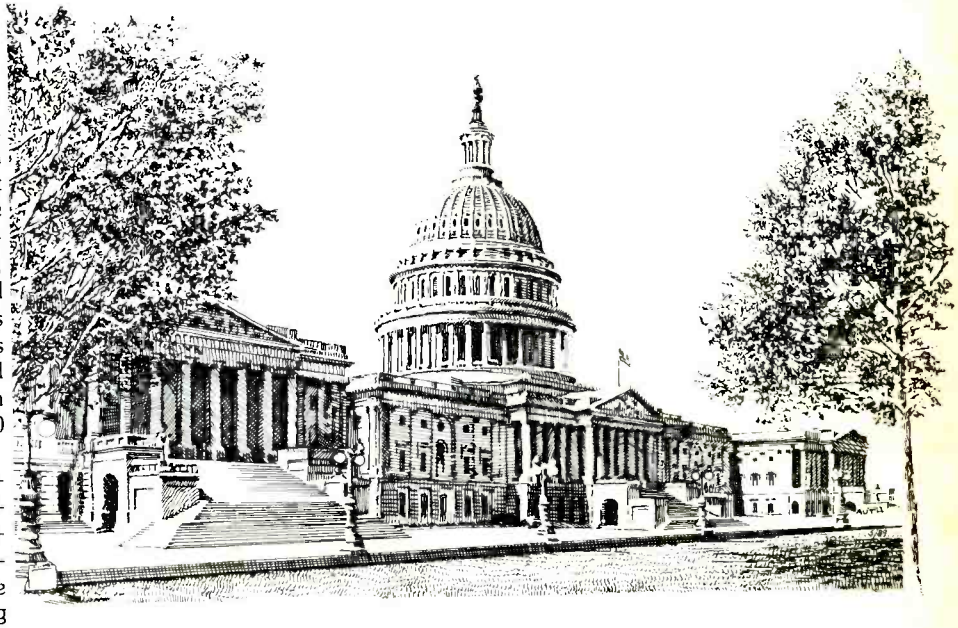
Address all entries to: How I Got Started, Popular Communications, 76 North Broadway, Hicksville, NY 11801.

The winner for March is Roger W. West, of Amery, WI. Roger's tells us: "I began monitoring 17 years ago with a 7-band tunable that had a VHF police band. It was almost impossible to locate my local police department's main channel. One evening there was a robbery followed by a 20-hour manhunt. They called in outside law enforcement agencies for help, and many additional frequencies were in use. I got left out in the cold. The next day I went out and bought a scanner. Today I own four scanners (PRO-2020, -2021, -2004, -2005), a preamp, and a discone. I still own my first 10-channel crystal-controlled scanner."

Roger says he doesn't miss any of the action. He has an AC adapter on his tractor so that he mount his PRO-2020 on the hood to keep an ear on things while he's doing yard work. This is a guy we can sympathize with!

WASHINGTON PULSE

FCC ACTIONS AFFECTING COMMUNICATIONS



Illegal CB Equipment Seized In Mississippi

The U.S. Marshal's Service, with the assistance of staff from the FCC's Atlanta and New Orleans Offices, seized an estimated $75,000 worth of electronic equipment from Andy's Place, aka A&M Wholesale Supply. A&M is owned by Andrew H. McAdams, Jr. and is located in Pass Christian, Mississippi. Mr. McAdams is facing criminal prosecution. Willful and knowing violations of the Communications Act and FCC Rules are misdemeanors for first time offenses and felonies for subsequent violations. Maximum penalties include fines of up to $100,000 and imprisonment for up to one year.

The seized equipment consisted of non-type accepted CB transceivers and CB linear amplifiers. The transceivers were capable of operating on unauthorized frequencies with excessive power. Some of the linear amplifiers were capable of increasing CB power to over 2,000 watts. CB stations are limited to 4 watts of power.

The search warrant was applied for by the FCC in cooperation with the U.S. Attorney, George Phillips, Southern District of Mississippi. The case is being handled by Jay Golden, Assistant U.S. Attorney, Biloxi, Mississippi.

Convicted For Selling Illegal Radio Equipment

Richard Harrison, owner of COM-TEK, an electronics store in Manassas, Virginia, was convicted of willfully and knowingly offering for sale and selling illegal radio equipment. He was selling CB linear amplifiers and non-type accepted CB transmitters.

Mr. Harrison was found guilty by a six-member jury in the United States District Court for the Eastern District of Virginia, Alexandria Division. He is scheduled for sentencing on January 16, 1990. He could receive fines of up to $100,000 and /or one year in prison.

The marketing of CB linear amplifiers and non-type accepted radio devices is prohibited by the Communications Act and the Commission's Rules and Regulations.

New York Pirate Station Shut Down

U.S. Marshals, with the assistance of staff from the FCC's New York Office, seized radio equipment in the Borough Park section of Brooklyn, New York. The equipment was used to operate an unlicensed radio station on 91.9 MHz. The callsign used was "WJPL."

This is part of the continuing effort by the FCC to shut down pirate radio broadcasters. In July 1989, the pirate radio station WHOT located in Brooklyn was shut down and the equipment seized. Pirate high frequency (HF) radio stations WNPR and WENJ were also shut down in 1989. They were located in Massapequa, New York and New Brunswick, New Jersey, respectively, and operated on 7415 kHz.

Unlicensed radio operations are a violation of the Communications Act and FCC rules and regulations. Penalties for such operations include seizure of the equipment and fines up to $100,000 and/or one year in prison for the operators.

Civil action against the radio operator of QJPL is being pursued by Andrew J. Maloney the U.S. Attorney for the Eastern District of New York. Christopher G. Lehmann, Assistant U.S. Attorney is handling the case.

Pirate FM Station Shut Down and Operator Fined

The FCC Detroit, Michigan staff located and shut down an unlicensed broadcast station in Erlanger, Kentucky. The station was operating on 90.5 MHz. The operator was identified as Thomas Cason. Mr. Cason voluntarily surrendered the radio equipment at the time of the investigation.

Conditional Authorization For Private Land Mobile Radio

In an effort to encourage greater and more effective use of radio by allowing applicants to immediately fulfill their communications needs, the Commission has amended its rules for for Private Land Mobile Radio (PLMR) stations, effective June 30, 1990. Specifically, the Commission will allow applicants for new land mobile stations in frequency bands below 470 MHz and on one-way paging frequencies in the 929-930 MHz band where frequencies are assigned on a shared basis to commence operations under a conditional permit if their applications meet certain conditions.

In these frequency bands, this procedure will apply to applications for new stations and for modification, assignment, or transfer of control of existing stations. The Commission said that this system of licensing will expedite communications service to the public without compromising the Commission's authority to determine whether the applicant is eligible to receive a permanent license grant, or if permanent authorization of the proposed station would pose a risk of harmful interference to existing stations.

Under the new rules, the applicant may operate on a conditional basis if the applicant certifies that its proposed radio station meets certain specified conditions which demonstrate that the application can be routinely granted because it raises no special issues. These conditions are: 1) the proposed station does not require frequency coordination with Canada; 2) no rule waivers are necessary; 3) the proposed antenna or tower does not create any FCC antenna clearance issues; 4) the proposed station has no environmental impact in accordance with FCC rules; 5) the proposed station protects radio "quiet" zones and monitoring facilities; and 6) the required frequency coordination procedures have been completed

and an application has been submitted to the Commission stating the frequency the applicant expects to use.

Currently, applicants are prohibited from operating until the Commission completes the application process and grants a license. This process takes approximately 20-45 days. The Commission believes that the concept of conditional authorizations will be in the public interest because it will allow license applicants with immediate communications needs to commence operations upon filing with the Commission a properly completed and coordinated application.

Investigation Into Illegal Satellite Descramblers Leads FBI To Escaped Convict

In 1988, FCC San Diego accompanied U.S. Marshals in the execution of a search warrant against United Satellites, Las Vegas, Nevada, for selling devices used for the unlawful interception (piracy) of satellite pay TV programming. The owner of record of United Satellites was Susan E. Hawkes. Another principal involved in the operation of the business was Michael Connors. Michael Connors fled Las Vegas after the search warrant was executed.

On October 30, 1989, the FBI arrested Michael Connors in Phoenix, Arizona, on the satellite piracy charges. His true identity and a past criminal record was discovered after he was arrested and fingerprinted. He was identified as escaped convict Richard N. Nickl. In 1961, Nickl was convicted and sentenced to a life sentence plus thirty years for the murder of a deputy sheriff and the wounding of another officer near Milwaukee, Wisconsin. Nickl escaped on July 25, 1974, after serving 13 years at the Wisconsin Federal Correctional Institute.

On October 27, 1989, Susan E. Hawkes was sentenced in U.S. District Court, Las Vegas, to a $2,500 fine, three years probation and 200 hours of community service work.

As a result of the United Satellites investigation, 26 additional search warrants have been executed by the FBI in Las Vegas in a number of new investigations concerning satellite piracy.

The marketing of technology or devices intended to be used for the unauthorized interception of satellite pay TV programming violates federal statutes. Violators are subject to criminal prosecution, imprisonment, fines and/or civil suits. PC

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Advertising Rates: SCAN members and *POP'COMM* subscribers are entitled to one FREE 30-word, non-commercial classified ad per year. Enclose subscription name label with ad copy. For those people not in the previously mentioned groups, non-commercial ads are 30 cents per word, including abbreviations and addresses; minimum charge $6.00 per issue. Ads from firms offering commercial products or services are $1.00 per word; minimum charge $20.00 per issue. Boldface words are $1.20 each (specifiy which words). Leading key words set in all caps at no additional charge. All ads must be prepaid in full at time of insertion; a 5% discount is offered for prepaid 6 time insertions. All ads must be typewritten double spaced.

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CABLE TV CONVERTERS. Scientific Atlanta, Jerrold, Oak, Zenith, Hamlin. Many others. "New" MTS Stereo Add-On. Visa, M/C & Amex **1-800-826-7623. B&B Inc., P.O. Box 21-327, St. Paul, MN 55121.**

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Advertiser's Index

Beaming In

(from page 4)

The appeal was still pending as this is being written, however, this basic argument was used by Fata's attorney even prior to the conviction. The hope was to get the tape tossed into the trash because it violated state and federal laws. The judge of the Rockland County court that tried Fata was less than impressed. He denied that any laws were broken and ruled that cordless telephones weren't protected under state and federal laws. He stated, "those who use cordless telephones do so at their own peril."

It does seem that the public, ranging from good guys to the bad guys, has been totally thrown off balance by a technology as simple and basic as the cordless telephone. The manufacturers and sellers of cordless phones perhaps are reluctant to sufficiently explain the potential lack of privacy, resulting in most people using them in a fantasy world where the phones are perceived as assuring the same security as any hardwired telephone (such as *that* privacy may be).

It's estimated that one million Americans work for companies that regularly monitor calls made and received on telephones in their offices, often without their personnel's consent, usually without their knowledge. The payoff is that my indignant friend with the vulnerable cordless telephone heads one of the larger corporations doing this type of employee telephone-call surveillance.

There's a great irony in there, somewhere.

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100 Channel Digital Programmable Hand-Held Scanner

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$129.99

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RD9XL has been rated best radar detector for 1990 by Car & Driver Magazine. Better than Passport, Whistler and all others. RD9XL includes cigarette lighter cord, mute/audio switch, city/highway switch, mounting bracket, carry case, signal strength meter, dual tone audible alarm, bright warning lamp, plus the very small size of only 2-5/32" W x 3½" D x 11/16" H

—SPECIAL— MX-3000

Special Regency®

$139.99 *($7.00 shipping)*

30 CHANNELS — MOBILE/BASE

Features include simple programming of the following frequency ranges: 30-50 MHz, 144-174 MHz, 440-512 MHz. Digital display, priority, search, lockout, delay, dim control, top mounted speaker, one year factory warranty. Includes AC & DC cords, mobile mounting bracket, telescope antenna. All for only $149.99 plus $7.00 shipping (optional extended warranty: 3 years $39.99; 2 years $29.99.) MX3000 Service Manual $5.00.

REGENCY R-2066

$109.99

($7.00 shipping)

Digital programmable, 60 channels, AC base scanner, 30-50 MHz, 144-174 MHz, 406-512 MHz. Size: 7½" x 3" x 9". Turbo-Scan scans 40 channels per second, 4 channel banks, weather alert, search, priority, lockout, AC cord, telescopic antenna, plus much more.

UNIDEN Bearcat BC-600 XLT

$199.99

($7.00 shipping)

Digital Programmable 100 Channel Scanner

BC 600 XLT covers the following frequencies: 29-54 MHz, 118-174 MHz, 406-512 MHz. Features compact size of 6-5/16"Wx1 5/8"Hx7 3/8"D, scan delay, priority, memory backup, channel lockout, bank scanning, key lock, AC/DC power cords, telescopic antenna, mounting bracket supplied, one year factory warranty, search, direct channel access, track tuning, service search including pre-programmed frequencies by pushing a single button for police, fire/emergency, aircraft, weather and marine services plus exclusive optional features never available on any scanner before. First is an RF receive amplifier for boosting weak signals for only $24.99 plus a CTCSS tone board is available for only $59.99 to make this the number one scanner available in the USA. Optional cigarette lighter plug #600MPC $4.99

BEARCAT BC-950 XLT

Same features as BC—600XLT but also receives 800-954 MHz *(Excludes cellular)*

$249.99

($7.00 shipping)

Regency TS-1

$149.99

($7.00 shipping)

Same style Scanner as MX3000. But also includes Turbo-Scan, Aircraft, and a total of 35 channels.

BEARCAT 70XLT

20 CHANNEL HAND-HELD SCANNER

SPECIAL PACKAGE DEAL **$169.99**

($7.00 shipping each)

Small size 6"Hx1"Dx2¾"W, full digital readout, priority, search, channel lockout, scan delay, key lock. Covers following frequencies: 29-54 mhz, 136-174 MHZ, 406-512 mhz. Package includes rubber antenna, rechargeable Ni-Cad battery pack, AC adapter/charger and carry case.

Uniden Bearcat Scanners Programmable

BC-55XLT	Hand-held 10 channel	$119.99	($6.00)
BA-5	Ni-Cad batteries for 55 XLT	$15.99	(*)
AD-100u	AC adapter/charger 55XLT/50XL	$12.99	(*)
BP-205	Rechargeable battery pack for 100 XLT/205 XLT	$34.99	(*)
BC-70 XLT	Hand-held, 20 channel	$169.99	($7.00)
BC-100 XLT	Hand-held, 100 channel	$199.99	($7.00)
BC-140	10 channel, AC/DC L/H/U	$94.99	($6.00)
BC-145 XL	16 channel, AC/DC L/H/U	$99.99	($6.00)
BC-175 XL	16 channel, AC/DC L/H/U/Air	$139.99	($7.00)
BC-200 XLT	Same Scanner as BC 205 XLT		
BC-205 XLT	200 channel, hand-held, multi band	$259.99	($7.00)
BC-210 XLT	40 channel, AC/DC L/H/U/Air	$189.99	($7.00)
BC-400 XLT	16 channel mobile L/H/U	$99.99	($7.00)
BC-560 XLT	Same Scanner as BC 400 XLT		
BC-590 XLT	Same Scanner as BC 600 XLT		
BC-600 XLT	100 channel, L/H/U/Air, AC/DC	$199.99	($7.00)
BC-760 XLT	Same Scanner as BC 950 XLT		
BC-950 XLT	100 channel, AC/DC multi-band	$249.99	($7.00)
BC-800 XLT	40 channel, AC/DC multi-band	$264.99	($7.00)
BC-One	Pre-programmed information radio mobile	$129.99	($7.00)

Regency Scanners and Two-Way

R-4010	10 channel, hand-held, L/H/U	$106.99	($7.00)
MX-3000	30 channel mobile AC/DC, L/H/U	$139.99	($7.00)
TS-1	35 channel mobile AC/DC, L/H/U/Air	$149.99	($7.00)
Z-60	60 channel base, AC/DC L/H/U/Air	$119.99	($7.00)
MA-917	Ni-Cad battery for HX 1000, HX 1200	$24.99	($3.00)
RH-256B	High band two-way with antenna	$329.99	($9.00)
RH-606B	High band two-way with antenna	$469.99	($9.00)
UC-102	High band hand-held two-way	$109.99	($5.50)
WHS-1	Synthesized hand-held two-way High Band	$459.99	($9.00)

We Also Stock CB Radios, Radar Detectors, Cordless Phones, Antennas, and Accessories

All merchandise new in factory sealed cartons

SCANNER WORLD EXCLUSIVE UNIDEN BEARCAT BC205XLT

$259.99

($7.00 shipping each)

Digital programmable 200 Channel hand held portable scanner with raised button keyboard for easy programming of the following frequency ranges: 29-54MHz, 118-174MHz, 406-512MHz, 806-956MHz.* Features include: Scan delay, memory backup, key pad lock, sidelit liquid crystal display, channel lockout, 10 twenty channel banks, direct channel access, automatic search, full one year factory warranty, 10 priority channels, Ni-Cad battery pack, AC adapter/chapter, flexible rubber antenna, carry case are all included. Size is 2 11/16"Wx1 3/8"Dx7 1/2" high(Optional extended 2 yr. warranty $29.99, 3 yr. extended warranty $39.99) *(Excludes Cellular)

ORDERING INFORMATION

Call (518) 436-9606 to place orders by phone or mail orders to Scanner World, USA 10 New Scotland Av. Albany NY 12208. Orders will be shipped same day received by United Parcel Service. Scanner World accepts Visa, MasterCard (COD shipments by United Parcel will be cash or certified checks only). Mail orders with personal or business checks will be held 4 weeks for bank clearance. Orders with cashiers checks or money orders shipped same day received. Prices, specifications and terms subject to change without prior notice. If items are out of stock we will backorder and notify you of delivery date. All shipments are F.O.B. Scanner World warehouse in Albany, NY. We are not responsible for typographical errors. All merchandise carries full manufacturers warranty. Bid proposals and Purchase orders accepted only from Government agencies. Free full line catalogue available upon request. New York State Resident add 7% sales tax. Any claims must be made within 7 days of merchandise receipt.

(*) Add ($) per scanner and $3.00* for all accessories ordered at same time. C.O.D. shipments will be charged an additional $3.50 per package. Full insurance is included in shipping charges. All orders are shipped by United parcel Service. Shipping charges are for continental USA only. Outside of continental USA, ask for shipping charge per scanner.

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NEW RZ-1 Wide-Band Receiver.

Hear it All!

R-5000
R-2000
High performance receivers.

Scan the entire frequency range from 100 kHz to 905 MHz with Kenwood's R-5000, R-2000 and RZ-1. Listen in on foreign music, news, and commentary. Monitor local police, fire, and other public safety services, as well as the Marine channels, and the many other services 50 MHz and above.

(The VHF converter options must be used in the R-5000 and R-2000.)

R-5000

The R-5000 is a high performance, top-of-the-line receiver, with 100 memory channels, and direct keyboard or main dial tuning—makes station selection super easy! Other useful features include programmab e scanning, large, built-in speaker, 110 volt AC or 12 volt DC operation (with optional DCK-2 cable), VHF capability (108-174 MHz) with the VC-20 option, dual 24-hour clocks with timer, and even voice frequency readout with the VS-1 option.

R-2000

The R-2000 is an all band, all mode receiver with 10 memory channels and many deluxe features such as programmable scanning, dual 24-hour clocks with timer, all-mode squelch and noise blankers, a large, front-mounted speaker, 110 volt AC or 12 volt DC operation (with the DCK-1 cable kit), and 118-174 MHz VHF capability with VC-10 option.

Optional Accessories

R-2000:

• **VC-10** VHF converter • **DCK-1** DC cable kit for 12 volt DC use.

R-5000:

• **VC-20** VHF converter • **VS-1** Voice module • **DCK-2** for 12 volt DC operation • **YK-88A-1** AM filter • **YK-88SN** SSB filter • **YK-88C** CW filter • **MB-430** Mounting bracket.

Other Accessories:

• **SP-430** External speaker • **SP-41** Compact mobile speaker • **SP-50B** Mobile speaker • **HS-5** Deluxe headphones • **HS-6** Lightweight headphones • **HS-7** Mini-headphones.

RZ-1
Wide-band scanning receiver

The RZ-1 wide-band, scanning receiver covers 500 kHz-905 MHz, in AM, and narrow or wideband FM. The automatic mode selection function makes listening easier. One hundred memory channels with message and band marker, direct keyboard or VFO frequency entry, and versatile scanning functions, such as memory channel and band scan, with four types of scan stop. The RZ-1 is a 12 volt DC operated, compact unit, with built-in speaker, front-mounted phones jack, switchable AGC, squelch for narrow FM, illuminated keys, and a "beeper" to confirm keyboard operation.

Optional Accessory

• **PG-2N** Extra DC cable

Specifications, features, and prices are subject to change without notice or obligation.

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