

# S9

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**NATIONWIDE 10-13  
CHANNEL ROUNDUP**

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**WARNING:** INDIVIDUALS INSTALLING CB OR OTHER ANTENNAS ON THEIR HOMES SHOULD BE CAUTIONED THAT CONTACT WITH POWER LINES MAY CAUSE SERIOUS INJURY OR DEATH. READERS ARE ADVISED TO HANDLE ANTENNA INSTALLATIONS WITH GREAT CARE, AND TO WEAR INSULATED BOOTS AND RUBBER GLOVES WHILE WORKING NEAR POWER LINES.

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The ideal  
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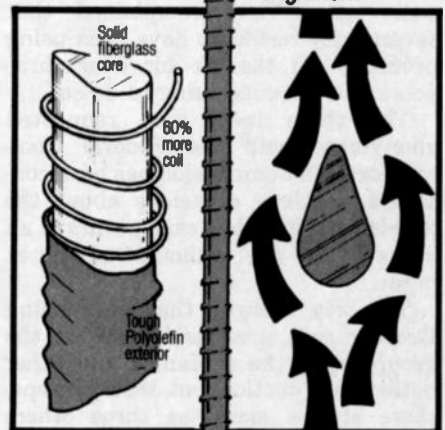
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 erect at  
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 wave  
 performance

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# CB NEWSWIRE

YOUR CB NEWSPAPER

SEPTEMBER 1981

## CB Profanity Gives Indiana City Bad Name

Does Decatur (Indiana) carry the tag of "Septic Tank City" because of a few CB'ers using profane language and other bothersome tactics?

That was the charge leveled by a trio of Decatur men, all of whom operate radio sets. They complained that several city residents have been using profanity on the air for over three years and are continuing to do so.

The three men, who requested anonymity, said the Federal Communications Commission has been contacted on three occasions about the problem, which, they said, occurs at all hours of the day, although mostly at night.

The trio charged that two young Decatur men are the leaders of the group using the profanity and other bothersome tactics, but that perhaps, there are as many as three others assisting them.

The three men said the suspects:

—Curse continually at any and all people using the airwaves, even those who are just passing through town;

—They use illegal high-powered systems to boost their transmissions;

—They lock their microphone switches in place so that the broadcast channel is jammed;

—They use the names, call letters and addresses of local people to send messages on radio sets on wrong frequencies.

One of the men said that on a recent trip he made through the south, he found some people do not want to talk to anyone from Decatur on the radio because of the bad reputation the city has gotten from this problem. The three men stated that, to their knowledge, no place else in the United States has a problem as serious as that which exists in Decatur, Indiana.

The men said they want all local radio operators—those with CBs and

with hams—to help monitor the future broadcasts of these suspects.

They noted that there are over 80 amateur radio operators in Adams County and hundreds of CB operators.

A young Decatur man—John Martin—was given a 20-day term at the Adams County Jail after he pleaded guilty to a charge of harassment, admitted that last September 25, he used profane language over his citizen's band radio.

Martin, 18, was given a 180-day jail term by Adams County Court Judge Lorren Caffee, but the judge suspended 160 of those days, Martin was also fined \$104.

A second charge, for criminal mischief, was dismissed.

## Calif. Trucker Switches CB at Wrong Moment

About 7,500 gallons of crude oil burned on the Ventura Freeway at California 33 when a tanker-truck driver overturned his rig while adjusting his citizens band radio, the California Highway Patrol said. Northbound lanes were closed for three hours and southbound lanes for four hours while early morning traffic was rerouted through the city of Ventura. The CHP said the driver, Lonny Conklin, 25, of Lompoc, was driving northbound on the freeway when he lost control of the truck while reaching to adjust his CB radio. The truck overturned, causing the oil to spill and burn. Conklin, who sustained lacerations, was treated at Ventura County General Hospital and released.



These cards won't be part of the cargo for a future space shuttle mission, but they are going to MARS. Senior Master Sergeant Harold R. Collins, director of the Air Force Military Affiliate Radio System, received the first QSL cards honoring the Air Force Communications Command's 20th anniversary from Bill Cox, an offset pressman at the 375th Air Base Group's field printing plant. The special 20th anniversary QSL cards are being sent to Air Force MARS stations contacting the MARS display by radio during 1981. MARS is an organization of military members and volunteer civilian amateur radio operators who provide the Air Force a back-up emergency communications capability. (U.S. Air Force photo)

### ARE YOU A GOOD OPERATOR? BE ONE— IT'S EASY!

Best communications practices dictate that, whenever possible, AM and SSB transmissions be isolated from one another on different frequencies. Sidebanders predominantly utilize the following channels (although there are local variations): 16, 17, 18 and 31 through 40.

AM operators are requested to avoid use of these channels, and, likewise, Sidebanders are requested to confine their operations to those frequencies which are normally used for Sideband operators. It is only through voluntary mutual cooperation in matters such as these, that maximum usefulness of both modes of operation, AM and SSB, can be achieved.

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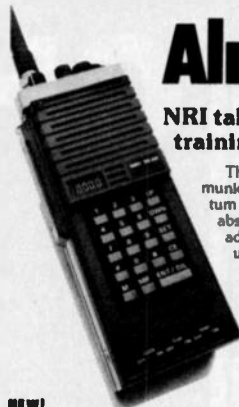
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## Big 10-13 Channel Roundup!

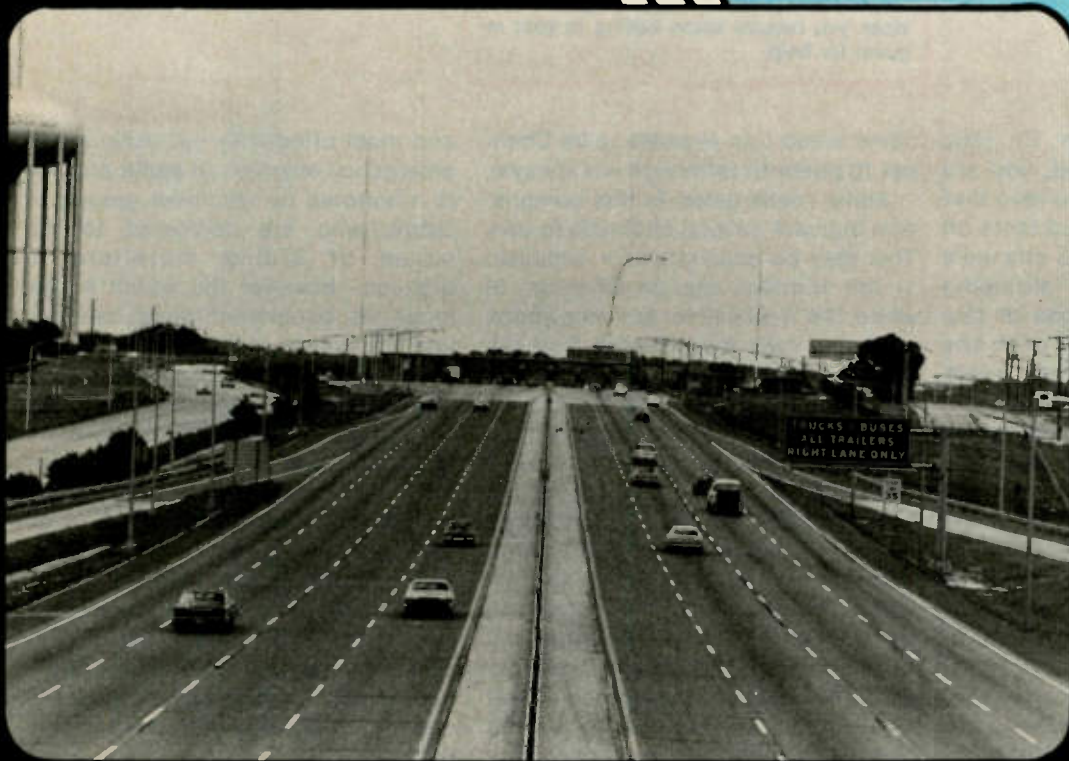
# HERE CHANNE WHEN ANYW

**W**hile mobiling in your own local area may be as easy for you as wandering from the TV room into the kitchen, when you aim that front bumper into distant areas you'll definitely realize that it's a totally different scene—that operators in various areas have established their own crazy patchwork quilt of operating customs and channels and many of these things are 90° out of phase with all you know to be good, wholesome, right, moral, ethical, honest, and rational.

You're fully aware that not only do none of these strange customs make any sense at all, there is nobody around at this point who can even hope to explain how or when they began, whose brainstorm it was to vary from Channel 19—or why everybody doesn't simply pack up and switch back to Channel 19!

Now that we understand these things, let's face the fact that in order to get maximum usefulness from

**ARE THE  
LS TO MONITOR  
TRAVELING  
HERE IN THE  
U.S.A.!**





Medical assistance can be summoned via CB, but be specific in explaining what services you require when calling in your request for help.

your communications on 27 MHz while you're roving around, you are going to have to accept the idea that it is necessary to have hard facts on all of the many local 10-23 channels outside of your home stomping grounds. That's the purpose of this listing, and we like to run it (with any necessary updates) about once a year or so.

Base stations are requested to avoid using any of the following channels for ratchet jawing if they are located within about 15 miles of the roads indicated. Taking into account that skip locations can transport a signal for thousands of miles, maybe it would be best for base stations to totally avoid some of the more popular 10-13 channels. In any case, base stations should never use Channel 19 and then switch to another frequency to complete the exchange of communications).

In some areas the use of Channel 19 by 18-wheelers is often so heavy that 4-wheelers have established alternate or secondary channels. In

some areas this appears to be Channel 10 primarily (although not always).

Some roads listed in this compilation indicate several channels in use. This may be accounted for because, 1) the truckers are on Channel 19 while the 4-wheelers are elsewhere, or 2) channels may change over different sections of the road in question. When in doubt, give a shout on 19 or 9 and ask for information on the proper channel to use while you're driving on a given road. You'll find that someone will be only too happy to set you straight. And don't forget that Channel 9 is *not* exclusively for emergencies—many people seem to be unaware of the fact that the FCC rules stipulate that it may also be used for traveller assistance. That means that in addition to asking about the local 10-13 channel, you can also use it for making inquiries to road directions, motel or hotel accommodations, recreational facilities, tourist attractions, or where to find food or fuel.

Channel 9, however, is best known

and most effectively set aside as an emergency channel. In some areas it is monitored by volunteer groups or teams who are dedicated to the cause of aiding motorists in distress—however the watch hours, locations, equipment range, courtesy and efficiency of these groups can hardly be considered universally good. Some are great, others are less than great—and in some areas there is no coverage at all. In fact it is *not* possible to be assured of getting help on Channel 9 'round the clock in all areas of the U.S. and Canada. Don't overlook the possibilities of trying other frequencies if you draw a blank on Channel 9. Try Channel 19 or other 10-13 channels, or start off on Channel 1 and work your way up the band channel-by-channel until you can find help.

When shouting for help on the road, be sure to clearly give a specific and easily understood description of your location, direction of travel, nature of the problem, description of your vehicle (make, year, color), and if





There are lots of base stations on the air, and if you can't raise one on Channel 9 when you need help, try any other channel.

you need the police, fire department, a tow truck, or medical assistance. Also give your callsign or other identification and inform the base station with whom you are communicating that you are standing by on the frequency for further advice as to what aid they are sending you.

If all of this takes place in some relatively isolated area, or at night, your best bet is to stay in the vehicle. Keep the doors locked (windows shut) and make certain of the identity of anyone who shows up to offer you aid unless they are in an official vehicle of some sort, like a police or sheriff's car. In fact, it's a good idea to ask the base station to monitor for you until help arrives, and when it does to check with the base station if the vehicle which has appeared to "help you" is the one which is supposed to be there. All these precautions are because there have been instances of muggers and other unsavory clowns monitoring Channel 9 for reports of vehicles in distress and then showing up ahead of the police or other authorized services with the intention of relieving the stranded motorists of cash, jewelry, luggage, and even CB rig! Physical harm has also been used in connection with these activities.

If the vehicle which shows up is not the one you expected—keep your



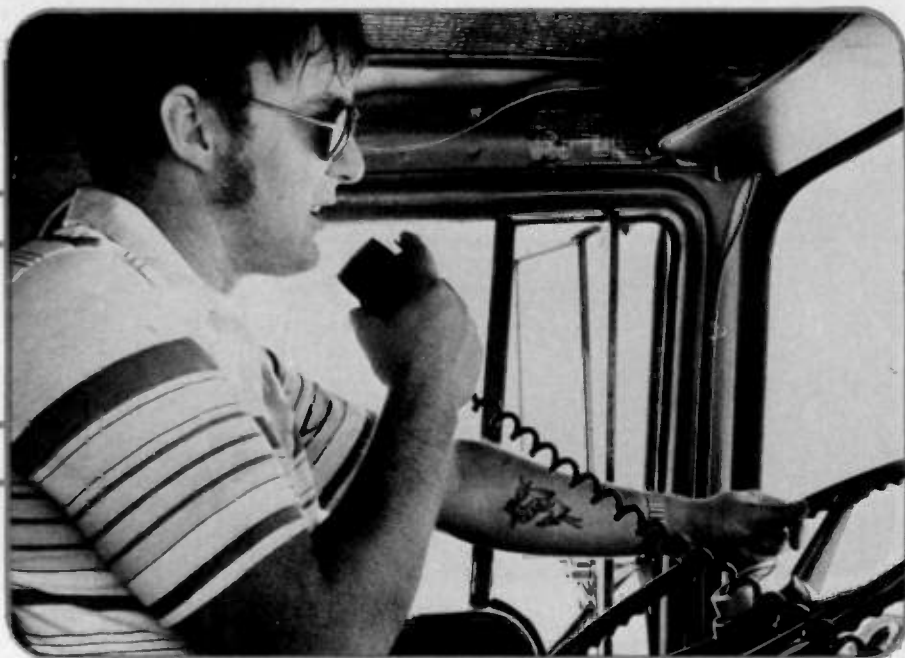
These days there are many local, county, and state police agencies monitoring on Channels 9 or 19. If you've got a problem you may find that help can be summoned via CB—and it's only a mile or two away!

doors locked, your windows rolled up, and start blowing your car's horn and shouting for help on the CB rig, announcing the license plate number of the other vehicle and repeating your location.

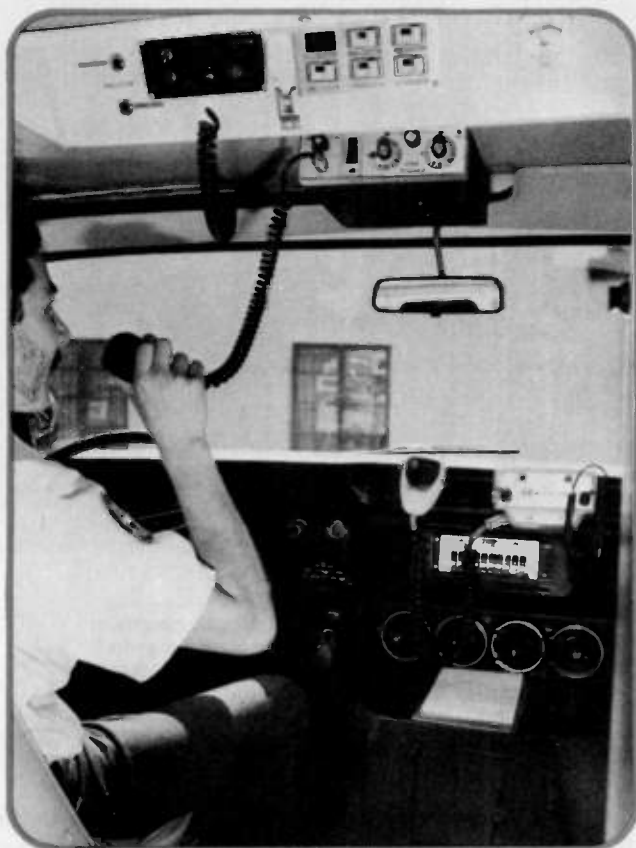
Anyway, here's the 10-13 Channel Roundup. If you've got some addi-

tional or corrected information, please be sure to send it along to us here at S9/Hobby Radio. We will continue to issue updated current additions from time to time.

Listings in *italics* are the names and numbers of highways and interstates.



Truckers, in some areas, hold such a tight grip on Channel 19 that 4-wheelers have shifted over to secondary channels. Of course, Channel 19 is still the best place to hear about "picturetakers."



For the record, Channel 13 seems to be unofficially used nationwide as a channel for RV's as well as recreational boats.

**ALABAMA** All roads 19 and 21.  
**ALASKA** All roads 19 and 21.

**ARIZONA**

8 14, 19, 21  
 10 19, 21  
 17 21  
 40 17, 19, 21

**ARKANSAS**

30 11, 19  
 40 19  
 55 19

**CALIFORNIA**

5 5, 6, 15, 17, 21  
 8 19, 21  
 10 19, 21  
 15 17, 19, 21  
 17 21  
 40 5, 19, 21  
 80 17, 19, 21  
 99 12, 15, 17, 19  
 101 17, 18, 19  
 395 19, 21

**COLORADO**

25 19, 21  
 70 19, 21  
 80 19  
 287 19, 21

**CONNECTICUT** All roads 19.

Merritt Pky. 15  
 W. Cross Pky. 15

**DELAWARE** All roads 19.  
**DIST. OF COLUMBIA**  
 All roads 19.  
 Canal Rd. 4 ("Low Road")  
 McArthur Blvd. 4 ("High Road")

**FLORIDA**  
 10 19  
 11 15  
 75 11, 15  
 95 19

**GEORGIA**  
 19 11  
 20 11, 19  
 75 11, 15, 19  
 95 19

**HAWAII** All roads 19.

**IDAHO**  
 15 11, 19  
 80 19, 20 21  
 90 17, 19

**ILLINOIS** All roads 19.

**INDIANA** All roads 19 and 21.  
 64 12, 19

**IOWA**  
 29 19  
 35 19  
 69 11, 19  
 80 13, 19

**KANSAS**  
 35 3, 7, 19, 20  
 50 20  
 70 5, 21

**KENTUCKY** All roads 19.  
 75 12, 19

**LOUISIANA** All roads 19.  
 20 11, 17

**MAINE** All roads 19.

**MARYLAND** All roads 19.

**MASSACHUSETTS** All roads 19.

**MICHIGAN** All roads 19.

**MINNESOTA** All roads 19.

**MISSISSIPPI** All roads 19.

**MISSOURI**  
 14 15  
 29 14, 15, 19  
 44 19  
 55 19  
 66 19  
 70 19, 20

**MONTANA** All roads 19.  
 94 11, 15, 19

**NEBRASKA**  
 17 19, 20, 21

**NEVADA**  
 15 17, 19, 21  
 80 3, 11, 17, 19, 21

**NEW HAMPSHIRE** All roads 19.

**NEW JERSEY** All roads 19.

*Palisades Pky.* 15

**NEW MEXICO**  
 10 17, 19, 21  
 25 19, 21  
 40 19, 21  
 54 15, 17, 19

**NEW YORK** Most roads 19.  
*Hutchinson Riv. Pky.* 15  
*Palisades Pky.* 15  
*Sprain Brook Pky.* 15  
*Taconic State Pky.* 23  
 N.Y. City

*West Side Dr.* 15, 19  
*Bronx River Pky.* 15  
*FDR Drive* 19  
*Belt Pky.* 10  
*Cross Isl. Pky.* 10  
*Gr. Central Pky.* 12, 19  
*Interboro Pky.* 12

*Wantagh Pky. & 135* 10  
**NORTH CAROLINA**  
 40 11, 19  
 85 11, 12, 19  
 95 11, 19  
 421 11, 12, 19

**NORTH DAKOTA**  
 All roads 11 and 19.

**OHIO** All roads 19.  
 70 & 75 15, 21

**OKLAHOMA** All roads 15 and 19.  
 35 15, 19, 20, 21  
 40 15, 19, 21

**OREGON**  
 5 6, 19, 21  
 80N 11, 19

**PENNSYLVANIA** All roads 19.  
 22 5, 19  
 30 5, 15, 19

**PUERTO RICO** All roads 19.  
**RHODE ISLAND** All roads 19.

**SOUTH CAROLINA**  
 20 11, 19  
 26 19  
 85 11, 19  
 95 11, 19

**SOUTH DAKOTA** All roads 19.  
**TENNESSEE** All roads 11 and 19.

**TEXAS** All roads 19 and 21.  
 10 17, 19, 21  
 20 19  
 24 11, 19  
 30 15, 19  
 35 15, 19  
 40 11, 19  
 45 15, 19  
 65 11, 19  
 75 11, 19  
 78 11

**UTAH** All roads 17, 19 and 21.  
**VERMONT** All roads 19.

**VIRGINIA** All roads 19.  
 81 11, 12, 19

**VIRGIN ISLANDS** All roads 19.  
**WASHINGTON**

*2E* 3, 14, 19  
*2W* 3, 14, 15  
 5 17, 19  
 10 17, 19  
 12 17, 19  
 90 17, 19

(Logging trucks—14)  
**WEST VIRGINIA** All roads 19.

**WISCONSIN** All roads 19.  
 94 11, 19

**WYOMING** All roads 19.  
 25 19

80 19, 20, 21  
 90 19

**CANADA** All roads 1 and/or 19.  
*Quebec (W. of Montreal)* 10

*Maritime Prov.* 10  
**MEXICO** All roads 10.



You never can tell what kind of clown is liable to show up to help you when you send out a shout for road assistance.

*Long Island*  
 25 12  
 25A 10  
 27 & 27A 10  
 347 12  
 454 10, 12  
 495 19  
*Sunrise Hwy.* 10  
*N. State Pky.* 12  
*S. State Pky.* 10  
*N/S Parkways* 10

# Cutting

# A

# COAXIAL



**A**s any apartment-bound CB operator knows, CB and apartments just don't seem to mix. Usually, the landlord won't let you put up an antenna, and if you are lucky enough to convince the landlord, then other problems may arise. Those problems usually include being blamed for every bit of interference your neighbors may be suffering in their TV sets.

Whether the fault lies with the rig itself or with the general TV popula-

tion of the apartment complex doesn't matter—although most TV sets don't have the filtering they did 20 years ago—if someone sees an outside CB antenna on a roof the operator is automatically singled out and blamed.

The solution, then, is putting up an antenna that's efficient, but out of sight and therefore out of mind.

In the last few issues, I have described various antenna alternatives for the apartment-bound CB operator. Those examples included the Gold Line Intenna and the Barker and Williamson 370-10, window-mount antenna. And, last year I described

how to cut your own dipole antenna for 11 meters.

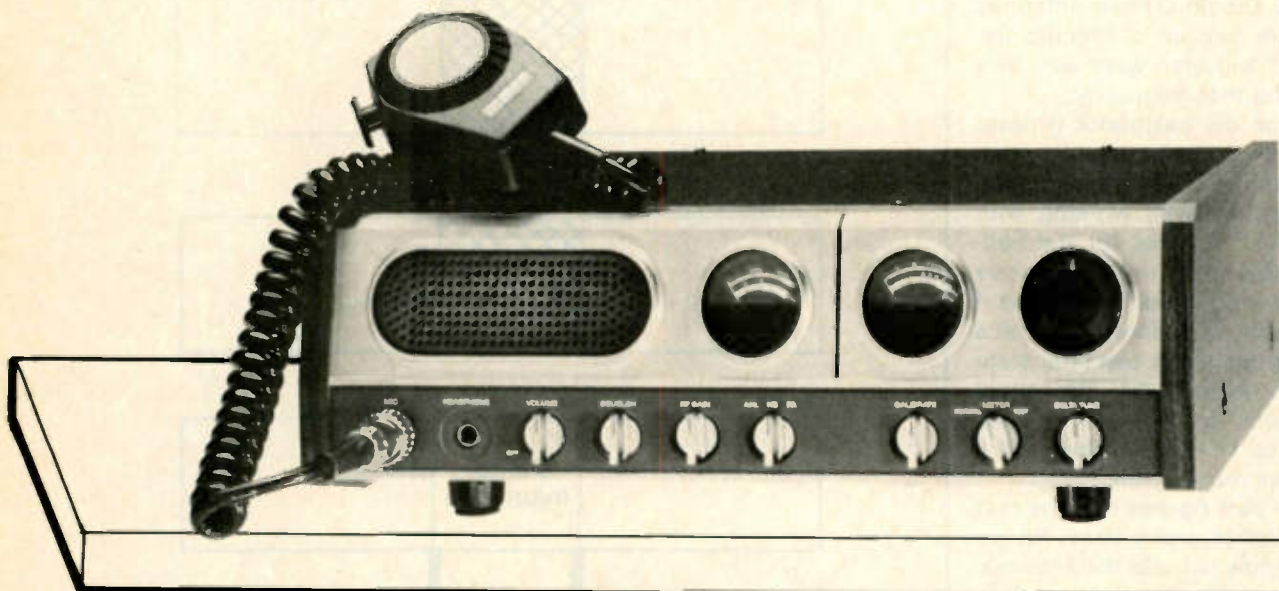
This time around, I'm going to tell you how to make what is called a coaxial antenna. That's right, a **COAXIAL** antenna. If it sounds like you'll be using antenna feedline for the antenna, you're right, that's exactly what we will be using for this project.

Most people probably think of coaxial (cable) as much like a water pipe. It's meant to funnel the signal to the antenna and is meant to keep the signal from leaking out. This is a job it performs admirably.

Now, in a perfectly tuned antenna

# DIPOLE

By Marc Stern, KBFS-8072/SSB-0A71



system this is exactly how the coaxial feedline works. But, you may have noticed something else when your antenna system is out of tune, the coax also radiates some of your signal. Thus, it becomes a leaky pipe carrying the signal.

No matter how well tuned your antenna system is, some of the signal will still "leak" out. It's a function of the coax. There is a certain amount of loss that is unavoidable. And, where does that loss go? It's radiated by the line itself. When your system is out of tune, the problem is made much worse by the bad mismatch.

So, in this month's project, we'll ac-

tually be taking advantage of the coaxial cable's ability to also act as a radiator. It will also act as an efficient antenna and get your signal out of your apartment. This way no one but your XYL (who may raise the roof when she sees it) will know you have an antenna.

To start with, how long should the antenna be. There's an easy formula for figuring this out. First, look at the manual which came with your rig. Somewhere in it you will find the 40 CB channels listed and their corresponding frequencies listed. (You can also find this in the CB rules and regs published by the FCC.)

Okay, now that we've got the frequency chart, find the center channel. This is where you want the SWR lowest on your antenna. The SWR will naturally rise toward the ends of the CB band.

If you graph this out, the SWR curve will look like a fruit bowl, with the highest SWR at the sides and the lowest SWR at the middle. You should also find even though this is the case, there will be a more-than-acceptable match at the low and high ends of the band, once you've adjusted the center SWR for the lowest match. But, we're running a little ahead of ourselves here.

Since we looked up and found the center frequency of the CB band, we can determine the length of the antenna and it works out just fine. It only takes about three-quarters of an hour to do the whole project.) The center frequency of the CB band is 27.185 MHz. And the way to determine the length is by using the simple formula I mentioned. Simply divide 468 (it doesn't matter how the figure is arrived at) by 27.185 and you'll find the length in feet of a half wave. Then divide this number by 2 and you'll know the length of the two quarter-wave sections with which you'll be working. (For those who may not remember, a dipole antenna is a half-wave, wire antenna that is split at the center into two quarter-wave sections. Since it has two poles with opposite charges, a north and a south, it is called a Dipole. These antennas usually work best at a specific frequency, but will also work well in a range around that frequency.)

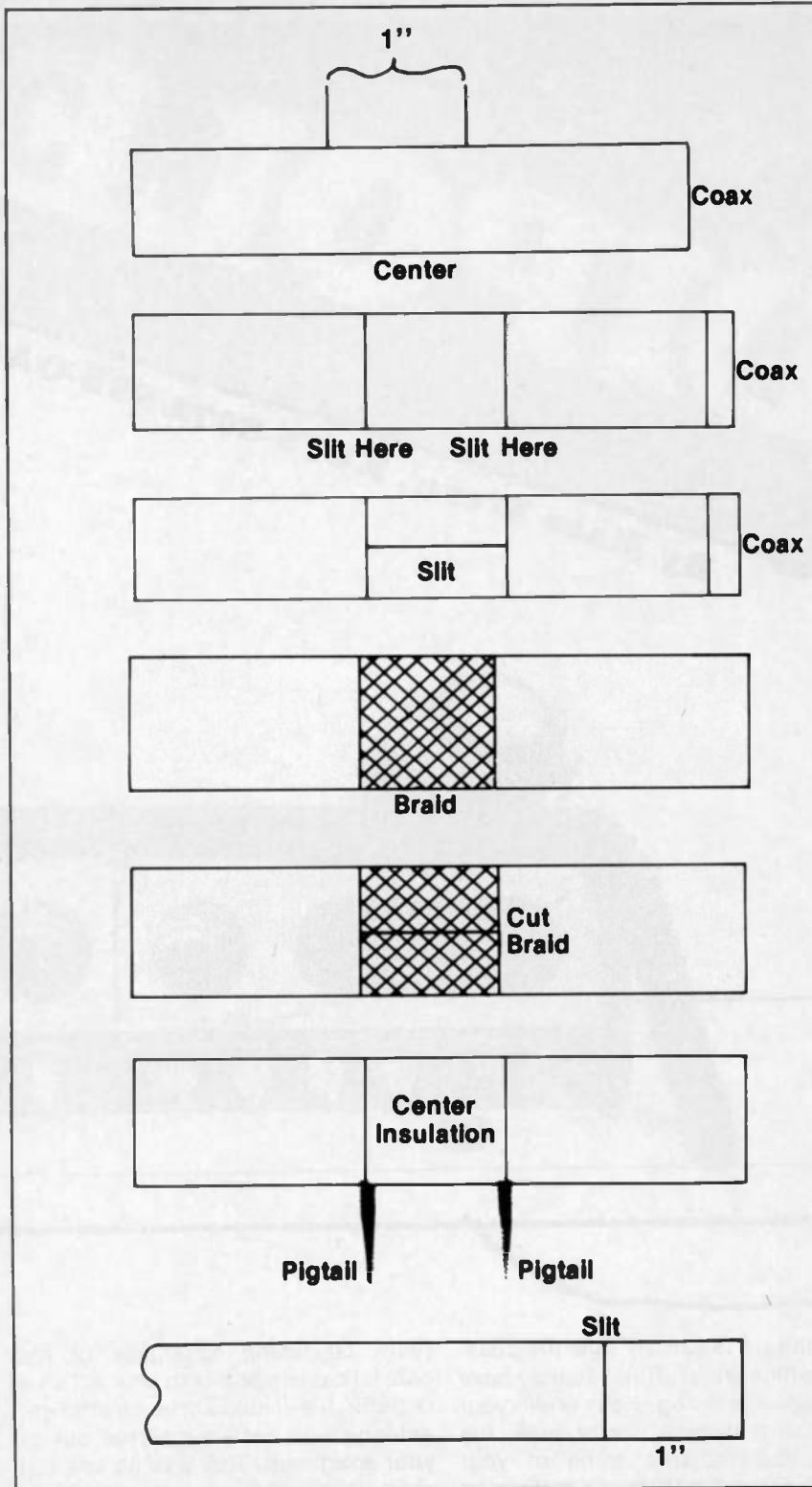
Turning on my calculator (I never said I was a math expert, just a practical operator) and doing the figuring, the numbers we'll be working with look like this 17.2 feet for the half-wave and 8.6 feet for the quarter-wave sections. Okay, I know I've worked it out in 1/10ths of a foot, but that's because my calculator can't translate things into inches. So, the exact measurements in feet and inches look like this 17 feet 2 inches and 8 feet 7 inches respectively.

With this part figured out, the rest of the project is pretty easy. All we have to do now is build the antenna. One thing you'll notice about this antenna when we begin is that it's actually a sectional antenna. But, instead of talking about it, let's get on with it and you'll see what I mean.

For this project, you're going to need two good-sized lengths of coax, one for the antenna itself and the other for the feedline.

The first step is taking the first piece of coax and measuring the 17-foot figure. At that point cut the coax. Then, off of this section of coax, measure roughly 8.2 feet. This will be the center section of the antenna. Now, snip off this 8.2 feet and put the rest of the cable aside for a few minutes because we won't be working with it yet.

Once you have done this, take the 8.2 feet of coax and find the center



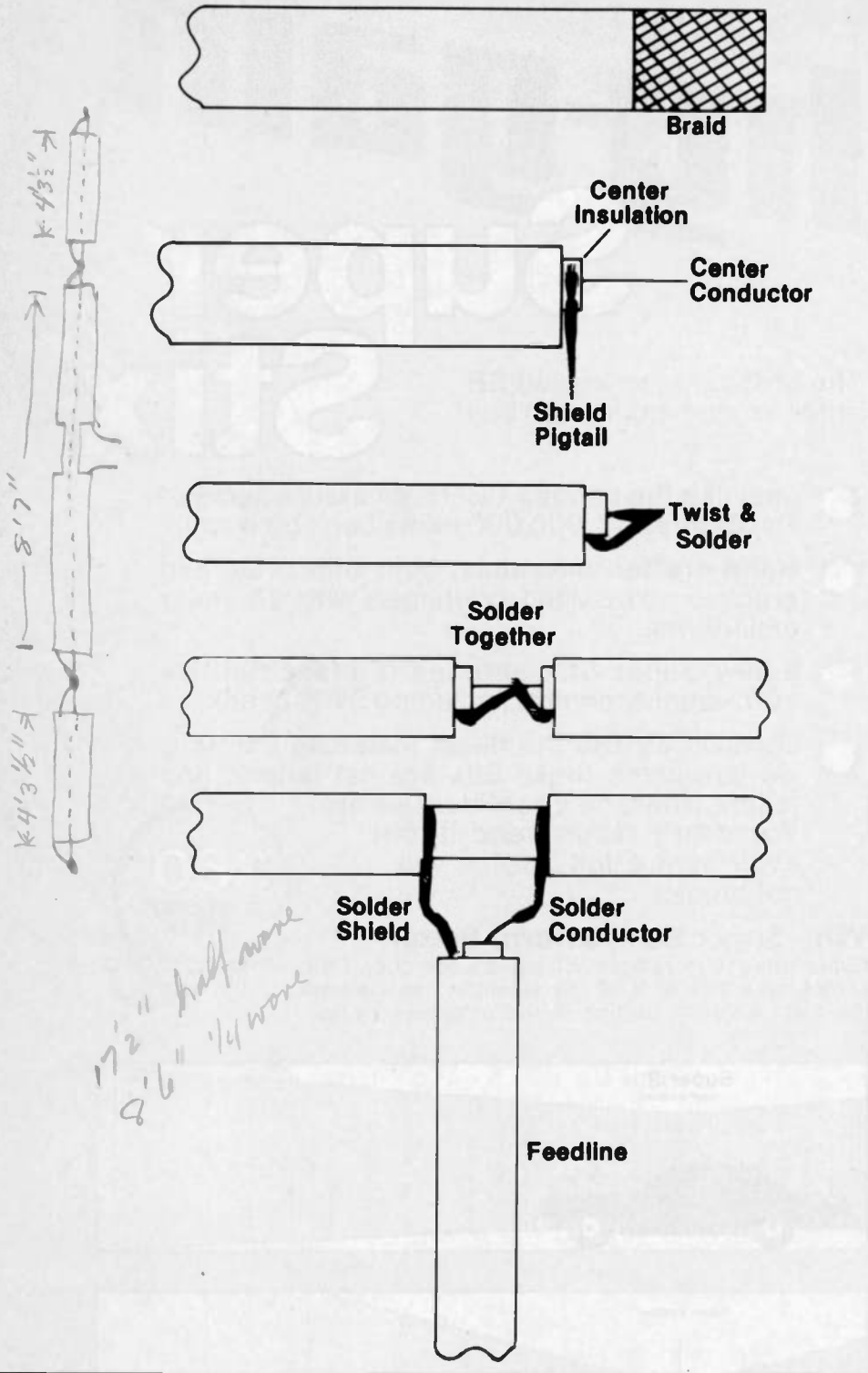
point. From this point measure one-half-an-inch on either side and lightly score the outer covering of the coax with a sharp knife at each point. This should give you a total of one inch at the center.

Gently continue the coax at this point and cut through until you see the shield braid underneath the covering. Be sure not to cut too deeply or

you run the risk of breaking the shield where you don't want it broken.

After making those two scores around the coax, take the knife and gently score the coax in a straight line between the two cuts. Continue this until you can see the braid at this point because you can mess up all the work you've done.

With this step done, simply peel



away the outer cover and you should have exposed the shield braid beneath the outer covering of the coax. Now, gently wiggle this braid to loosen it. This is for the next step in preparation, cutting this shield in half lengthwise down the cable.

To cut the coax lengthwise, you're going to need a hole through which to

insert either wire snips or a sharp pair of scissors. Use the point of your knife or an awl and gently make a hole in the loosened shield braid. Once you've completed this, gently insert your cutting tool and slice through the shield braid lengthwise. I'd suggest doing this in one direction at a time. Also, be careful not to cut

into the insulating material below the braid. With this lengthwise cut made, find the center of the shield area that is exposed and cut it crosswise. You should have two neatly separated pieces of coax hanging down and a clean piece of insulating material with the center conductor of the coax running through it.

The next step is gently twisting these two pieces of braid into two pigtailed. We'll come back to this section in a few minutes, but for now we'll put it down and move to the ends of the piece of coax with which you have been working.

Moving to one end of that piece of cable, take your knife and gently score and remove one inch of the cable's cover material. This should expose another section of the cable's braid. Do the same at the opposite end of the cable.

The next step is debraiding the ends. This is easily done with the awl or the point of the knife. All you have to do is follow the contours of the braid and you should quickly be able to separate the strands. It doesn't have to be a super neat job, by the way, just make sure you don't cut any of the strands while you're working on it.

Once you've separated the strands, your next move should be twisted them into a tight pigtail. With this done, take your knife and remove the insulation covering the center conductor of the coax. Then twist the center connector and the braid together.

Moving on a bit, the next move is to then take a soldering iron—every well-equipped shack should have one because you never know when you're going to need it—and solder the twists together. Repeat this process at the other end of the main cable you are working on.

The reason this is important is really simple. As you know from reading the manual that came with your rig, for it to work correctly it must see the correct load. These two twisted ends insure that.

Take the other piece of coax—remember you separated this long piece into two shorter pieces earlier—and cut it in half. You now have two sections of coax that are roughly four feet long. All you have to do to these is strip one inch of the vinyl covering off each end—leaving you with four exposed ends—debraid

the shield, remove the insulation covering the center conductor and twist the various strands together. The important point here is that you should end up with four twisted ends on the pieces of coax. Don't attach these cables together, leave them separate for the moment.

Now, take one of the cables and twist one of the ends together with the already-soldered end of the main cable. Then, take your soldering iron and solder this joint together. Repeat the same process at the other end of the cable. Leave the unsoldered ends alone.

At this point, you may be asking yourself, "Do I solder anything else?" The answer is yes, but we have to wait a bit. Even though we have the major part of the antenna finished, it still needs a line to attach the antenna to your rig.

This feedline is easily furnished. Take the other length of original coax, making sure it has a PL-259 plug attached, and making sure the other end of the coax has no fittings at all, and use it for the feedline.

What you are going to do with this is make the feedline so that the signal gets to the antenna. This feedline is easily made. First, score the outer covering of the coax about an inch from the side without the fittings. Then remove this covering.

Remember what you did to deraid the ends of the other pieces of coax? Well, you're going to have to do the same here and carefully deraid the shield. Again, be sure not to nick the braid. Then, twist the braid into still another pigtail. Next, remove the insulation from the center conductor of the coax.

At this point, we're nearly ready to attach the feedline to the antenna itself, but we have to go back to the part of the cable with which we first worked.

At this section, you'll remember we just left two twists of center shield hanging there with nothing attached. It is to this point where you will attach the feedline. All you have to do is solder the center conductor to one of the pigtails and the shield braid to the other pigtail. This is all there is to it.

The only thing that is left now is attaching an SWR bridge to the back of your rig and then attaching the feedline to the bridge. After this, put up the antenna somewhere in your apartment. You can hang it from a

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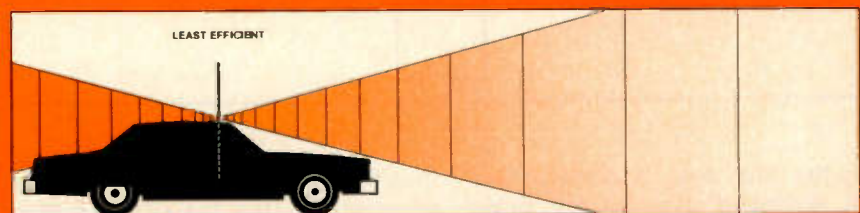
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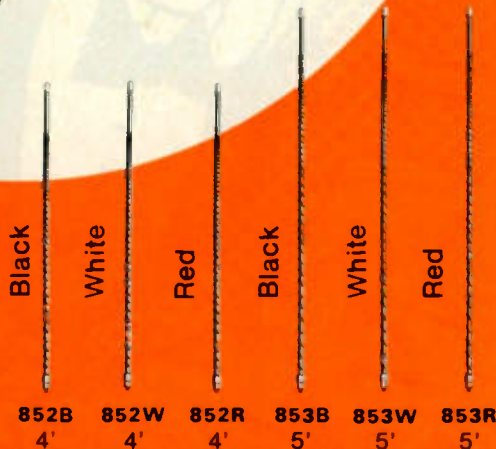
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central point and let the ends droop down at a 45 degree angle or you can run it from point to point horizontally. This will give you horizontal polarization which is good if you're working with Single Sideband. If you want to work mobiles, then try to hang it vertically so that the radiation pattern is vertical.

There are as many ways of putting this antenna up as your imagination and room in your apartment allow, but I'd recommend mounting it on an outside wall, well away from electrical outlets or metal objects. You can use staples for this, but remember, DON'T pierce the outer covering of the antenna. And, you can hang it at any of the angles I've mentioned. You can also mount it from wall to wall, if you have the room.

Remember the SWR bridge that's already in place? Well, this is the instrument with which you will be making your SWR tests. Remember, too, that outer ends of the antenna weren't soldered? The reason for this is so that you can shorten the antenna and bring down the SWR. Simply keep trimming the cable until you get an acceptable match.

Once you've achieved a low SWR, then twist the free ends in place and solder them, too. That's all there is to it.

This is an antenna which works well and has been proven time and time again. It's worked for me and has kept my station out of sight and out of the minds of my neighbors. They may know I like scanners, but they don't know there's a CB rig in the shack, too.

If you want to be adventurous, there is one modification that can be made to this antenna and that is attaching an SO-239 female connector directly to the main part of the antenna. This goes in place of the direct connection between the feedline and the antenna. Simply solder one side of the braid to the nipple on the rear of the SO-239 and solder the other side to the plate which holds the screws. Then all you have to do is run a piece of coax with two PL-259 fittings to the rig and the connector. It really does make it a little less cumbersome and a lot more convenient.

This about wraps it up. Remember, if you want some peace of mind in your apartment, then try this antenna. You'll probably like it.

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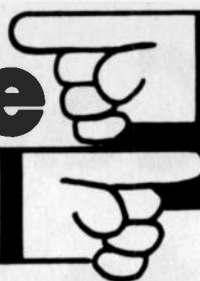
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# Alternative Radio



Pirates-Spies-Clandestines

According to the *Unofficial Radio Bulletin*, "Jolly Roger Radio" was one of the new breed of listener-oriented stations to take to their airwaves which received the attention of many AM and FM listeners, and DX'ers in general. Most folks commented on its rather responsibly-oriented management and its programming format which consisted of lots of Irish folk music and a sprinkling of punk rock tossed in for good measure. Mixed between the platters were comedy features, interviews, and even "live" phoned-in requests (a randomly selected neighborhood pay phone did the honors).

JRR was operating simultaneously on 3 frequencies, FM at 90.7 MHz with a big 100 watts; AM on 1570 kHz with another 100 watts; and SW at 6.210 MHz with 50 watts. None of this had gone unnoticed by the FCC, mind you, in fact the engineer in charge of JRR, the FCC had been looking for the JRR studios (in the Chicago area) for about a year. The search was not successful because the transmitting site was constantly changing in order to avoid detection. The FCC's *pink slip* (violation notice) was really starting to gather dust, however the JRR staff paid homage to the FCC by composing and broadcasting a song called "The Pink Slip Song," which taunted the FCC and challenged them to track down JRR.

Maybe they played the song once too often. We say that because one morning at 4 AM time ran out for JRR when an FCC engineer from the Chicago FCC office traced the JRR signal to an apartment house. Peering into the early morning darkness he could make out long-wire antennas running from a balcony to a tree. Later, the FCC, supported by

members of the local police, closed down JRR and brought to a close 5 years of programming which had been heard throughout the world. Yes, JRR's little 50 watt SW signal had generated a faithful worldwide audience.

That was an example of a station which attracted a wide audience. It is contrasted with one of the least effective stations on record. That would be a north American station called "Radio Poon International." This station operated on 9.430 MHz at 0430 GMT and one of its features was "The Fredish Brown Program of the Air." That consisted of a collection of country music records played at a high speed, interspersed with wild and rambling announcements from a howling DJ. Despite its operating frequency, which should have sent its signal throughout the world, it never seemed to be effective past its own local transmitting area, and sank slowly into the oblivion where most listeners felt it belonged.

## BITS & PIECES

If anybody from station WAMI reads this, please offer some information to your listeners as to where to send reception reports; this column has received many inquiries about your QSL'ing address and we have no information to pass along...WPOT seems to be doing better on the shortwaves than they were doing on 1625 kHz; guess that those frequencies at the high frequency end of the broadcast band are getting a bit crowded these days...Another mystery station is WIMM/WFRC—nobody knows where to send the reception reports...The ex-operator of station KVHF, better known as Bruce, offers to give advice to free broadcasters on improving their modulation and sound quality and also some insights he has regarding the FCC. The offer applies only to actual "free radio" broadcasters and those wishing to get this service should contact Bruce via Scott McClellan, 127 N. Broad St., Battle Creek, MI 49017. Be sure to include your landline number and Bruce will call you (collect).

The popular *Jolly Roger Radio*, of Indiana fame, wants to raise a minimum of \$1500 in order to apply for a low power FM license and to pay any fines with

Ahoy Mate,

Jolly Roger Radio confirms that You did indeed hear us broadcasting illegal on 6,210 KHz SW. The FCC visited our Pirate Party on Nov 10 and it seems they stumbled over our cord as they made their way out the door.

Jolly Roger Radio was 30 Watts SW and 100 Watts on AM and FM frequencies. We hope You had Fun listening.

Bruce Quinn

which they might be snagged by the FCC for prior operation; readers will recall that RX4M (*Voice of Cliperton*) was fined \$750 recently. As of this writing, JRR had not been fined. Neither have they (or KVHF) applied for the authorization to operate on low power FM—although the 150 page application forms are on hand. Anybody wishing to donate some *greenstamps* to Jolly Roger Radio can contact them as follows: JRR, P.O. Box 2414, Bloomington, IN 47402. We wish them luck.

FREE RADIO, saying that they were off the coast of the U.S. (in the northeast) monitored on 1616 kHz; is this the same as VOICE OF FREE RADIO on 1620 kHz announcing similar location?...PIRATE RADIO NEW ENGLAND still going strong on 1620 kHz after midnite (EST)...RADIO INDIANA being reported on 7355 kHz running 200 watts around midnite; same frequency used by the VOICE OF THE AMERICAN REVOLUTION at about the same time on other nights...RADIO CLANDESTINE holding down 9648 kHz around sunrise EST although they appear to be playing frequency hopscotch...MIDWEST RADIO on 6912 kHz in the early evenings (EST) and you can try sending your report to them care of Scott McClellan...RADIO CONFUSION, that ever-popular station, heard on 7405 and 7550 kHz in the early evenings EST...SYNCOM, under its various "number

ID's" (SYNCOM 40 & 81) monitored on 6225 and 6265 kHz around midnight (EST). They run 25 watts and really get that signal out a long way!...On FM, WFPR (Floral Park Radio) located on Long Island (N.Y.) noted on 108.3 MHz.

Our thanks to Free Radio Campaign-USA for their kind cooperation. Those interested in contacting the FRC-USA, which publishes a nifty bi-monthly newsletter, can send an SASE for more details to: PV2 Al Muick, 3rd Operations Batt. USAFSA, P.O. Box 1912, APO New York 09458.



Crazy Charlie, as he calls himself, at the controls of RADIO CONFUSION.

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## THE LAJES CIRCUIT

From a reader who asks us to withhold his name comes the inside story on those unexplained 7577 and 9929 kHz American Forces Radio and TV/SSB Service transmissions mentioned in the February column. They are part of a communications circuit which begins in the NYC area, is fed to West Germany by satellite, to the Royal Air Force base at Barford St. John (about 25 miles north of Oxford) by microwave, and then the Lajes Field in the Azores via shortwave.

At Barford the circuit consists of two transmitters—normally one below and one above 10 MHz—each transmitter with a pair of independent sidebands 3 kHz apart. AFRTS is normally on the lower lower sideband with the next channel up (eg. 7580 and 9932) used for “buzzsaw” radioteletype. AFRTS has no control of the circuit and many not even be aware of it which probably explains their failure to send a proper QSL.

North American DXers are not likely to hear AFRTS broadcasts from the Azores islands themselves but USAF transmissions from Lajes field are easily heard. Try such air to ground channels as 6750, 8967 and 11226 kHz.

## PROPAGATION

In an earlier column we noted that with the exception of stations atop mountains, aboard aircraft or satellites, antennas did not radiate much skywave below 5 degrees. Another important exception to this rule are stations located on, at or near an ocean when that salt water body is in the direction of propagation. This explains why the Panther station (XEQM) at Merida on the Yucatan peninsula is better heard in North America than most other Mexican 49M domestic relays. It also explains why ships using relatively low power and

modest antennas in terms of height are sometimes heard at surprising distances.

The lower the radiation angle, the fewer hops between ionosphere and earth signals needed to reach their destination. If a signal path is entirely over salt water, maximum hop via the E layer becomes 1250 miles and via the F2 layer 2500 miles (compared to the normal 900 and 2000 mile limits). On shortwave, the difference will be most apparent while logging comparatively low powered transmitters within 2500 miles of your receiver, and almost any station above 20 MHz beyond 900 miles. But very long Medium Wave paths (eg. Trans Atlantic and Trans Pacific) are probably the most effected of all DX by this salt water factor. More on MW when the static level drops later this fall.

## INDIANA

The hoosier state is best known to SWLs as the home of famed pirate Jolly Roger Radio. JRR is presently in a state of limbo, but DXers can still log “coast” station WFN at Jeffersonville. As mentioned in this column a little over a year ago, WFN is part of the Mississippi and Ohio Rivers ship to shore system which operates on almost exactly the same frequency as did Jolly Roger - 6209.3 to be precise.

Other SSB channels used by the system include 6515.7 and 4115.7 kHz. For novice DXers, let's review the procedures needed to log a station like WFN. Check each of these three frequencies periodically until you hear river traffic (indicating that the signal path to your location is “open”) then stay on that channel until either WFN is logged or until no further signals are heard for about a half hour. It may take several days but any DXer in North America should eventually be able to pick up the Jeffersonville station.

Meanwhile an aura mystery now surrounds the FCC's anti-pirate campaign last fall. Although Jolly Roger Radio was one of those stations raided, it used a comparatively busy marine frequency; and even though Uncle Charlie had supposedly been after

them for years, Washington chose not to prosecute JRR. In light of this, it seems possible the FCC was not conducting a general campaign against pirates but instead was after a more specific target.

According to our information, one group of pirates had set up an extreme right wing organization—in fact confidential sources describe it as something approaching neo-Nazi. That may or may not be an exaggeration but Jolly Roger Radio, as we (and presumably the FCC too) subsequently learned, was definitely *not* part of that group. On the other hand, while innocence by non-association seems okay, guilt by association is not exactly a sound legal approach to the American pirate radio subculture. Of course it's unlikely the FCC will ever either admit or deny they were after such a group (although one FCC spokesman did publicly state that the crackdown was aimed at pirates broadcasting *internationally*). A court case might have forced such a politically loaded revelation and Jolly Roger (unlike most busted pirate stations) had set up a defense fund.

### HIGH SEAS QSLs

Quite a while back in DXK we noted that the process of obtaining addresses for ships was both complicated and very expensive. An exception to this rule are vessels belonging to the U.S. and Coast Guard. Reception reports for American naval vessels in the Atlantic and Caribbean should be addressed to: Communications Officer, Radio Unit (call letters if known), name of ship, FPO New York. For vessels in the Pacific use FPO San Francisco. There's always a chance of running into a sticky USN postal clerk who'll insist on an exact ZIP code number but that should be the exception rather than the rule. FPOs should not be used for CG cutters. Instead send your reception report c/o the Coast Guard base with which you hear the vessel in contact.

A self prepared QSL (U.S. postcards are ideal for this purpose) should be included with each reception report. Merely ask the Communications Officer to sign, fill in (if necessary) and mail the card back to you. Do not ask a naval vessel for its power but if regular call letters and ship's name (rather than a typical call) are announced on the air then its location is probably not classified information—at least not by the time they receive your reception report.

Probably the best frequencies on which to hear USN vessels transmitting their names and non-tactical call letters are the 2 MHz ship-to-shore

telephone channels where, surprisingly, many Navy transmitters still use old fashioned standard AM. In this frequency range, the USN also uses 2150 kHz for harbor control purposes and no attempt is made to conceal the ship's identity on that frequency either.

Moving up, in past columns we've already listed a number of Coast Guard frequencies but a few more, used only by ships, include 4081.6, 4106.4, 4134.3, 6212.4, and (for daytime DXers) 12342.4 kHz. During rescue operations you will occasionally hear USN vessels on CG channels.

Meanwhile Figure 1 contains a selection of three self prepared cards from CG and USN vessels including the atomic submarine "Triton" (NDBR). But the Triton was on 2716 kHz when we heard them and at that frequency a submarine must at least partially surface in order to be heard. Only Very Low Frequencies (VLF) will penetrate water: for that purpose the lower the frequency the better. Interestingly, the ionosphere has its own natural currents flowing in it, heating or cooling of the ionosphere alters these currents producing signals in the VLF or even lower ELF range.

The USN has been artificially heating up the ionosphere and producing such signals. A transmitter near Arecibo, Puerto Rico with an effective radiated power of 100 million watts beamed vertically at the ionosphere's plasma frequency. The plasma freq is the highest vertical signal which would be reflected back to earth by an ionospheric region in the absence of a magnetic field. The plasma freq of the (uppermost) F region is almost always between 3 and 30 MHz. For the normal E region it varies from about 300 kHz (at night) up to roughly 5 MHz. These experimental transmissions from Arecibo were specifically aimed at the E region.

By turning on and off the plasma frequency transmitter, USN scientists can cause the ionosphere to generate coded signals between 4 and 5 kHz. But in the past, plasma freq experiments have produced artificial sporadic E layers as well as effects detrimental to shortwave propagation. This means, among other things, that if you were receiving a SW signal (eg. CB) via artificial sporadic E, the signal would appear and disappear as the plasma frequency transmitter was turned on and off.

ARIZONA & NEW JERSEY - Although many present day DXers are unaware of it, shortwave broadcast transmissions once emanated from both these states. Arizona is of course well known for its Fort Huachuca installation—headquarters of the U.S.

Army's Communications Command as well as its Psychological Warfare operations. In 1963 the latter tested a portable SWBS station at Yuma—relaying Voice of American programs to the Panama Canal Zone. Other more recent and considerably more arcane Fort Huachuca activities have included tests of an airborne TV jamming system and the (presumably accidental) destruction of a nearby FM station's (KAVV Bensen) antenna tower. Undoubtedly there are many non-broadcast shortwave transmissions from Fort Huachuca but they all apparently use secret IDs. On the other hand, SPEEDX reports that Luke Air Force Base uses the tactical call *Arizona Pete* and has been heard on 9023 kHz.

Up until and into the 1960's New Jersey was the home of two permanent VOA transmitter sites; at Boundbrook (WBOU) and Wayne (WDSI)—the second twin of yet another defunct VOA site at Brentwood, Long Island. However, what you may not know is that AT&T's "New York" high seas telephone terminal (WOO) in fact transmits from New Jersey. The site, known as Ocean Gate, is near Manahawkin. Therefore New Jersey continues to be a much easier state to log than Arizona. Try 13107 and 17245.3 during daylight hours.

TURKEY AND POLAND are two countries very much in the news these days and both have utility stations which can be logged in North America. The U.S. Air Force operates a base at Adana, Turkey and it has been heard with voice marker ID tapes on 9972 and 11112 kHz. Meanwhile the Turkish government's own coast station, Izmir Radio, sometimes airs Morse Code on 6395 kHz where the call is TBA3 (-.-...-.-) and 4260 which is TBA2 (the cw is ...-). In Poland, Gdynia Radio operates a ship to shore telephone service on 8753 kHz and has been logged with a cw ID marker on 8480 - call SPH (...-.-...-.-). Another Polish coast station, Saczacin Radio has been logged with a SPB9 cw ID marker (...-.-...-.-) on 22351, and just plain SPB on 22505 kHz.

U.S.S. FORT <sup>11/11</sup> RANDAN  
 CALL NZGL  
 KC/S 2714  
 LOCATION near Bermuda  
 This will confirm your reception on  
 28 January 1958  
 By Lawrence J. Mason Radioman Second Class  
 S.R.: WE WERE SUPPOSED TO BE TRANSMITTING ON 2716 KES ON THAT DATE. THANK YOU FOR SENDING US WORD OF RECEPTION. LJM

ATOMIC SUBMARINE  
 T R I T O N  
 ACKNOWLEDGING RECEPTION-14 November, 1959  
 KC/S 2716 CALL NDBR  
 BY Jos. P. Walsh, etc

Three self-prepared QSL cards from USN & USCG vessels.

U.S.C.G. <sup>Box 484</sup>  
**SPANISH** <sup>SRA 7041</sup>  
 APPROXIMATE LOCATION 18.24N, 69.13W <sup>PUERTO RICO</sup>  
 CALL NODR  
 RECEPTION CONFIRMED  
 December 2, 1958  
 BY Kenneth Sawyer S03 <sup>R.J. McNally</sup>  
 OPERATOR ENS R. MCNALLY  
 COMMUNICATION OFFICER  
 LAT CORRECT — LONG 69.16 W — — PUTTING OUT!

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For Information About Our Advertisers . . .



# HELLO SKIPLAND!

By Craig, VX-42/Unit 342-X-ray/SSB-7042

Readers of this column are requested to let us know any overseas addresses they come across or hear on the air. We would also like to receive copies of any DX cards received by our readers so we can run them in the Hello Skipland Column. Since we don't wish to be responsible for the "safety" of any rare DX QSL's we request that readers send in copies (Xeroxes or other office type copying machine prints are fine) and not the original cards.

## OVERSEAS ADDRESSES

SSB-0115, Jorgen Hansen, P.O. Box 614, Caracas, Venezuela 1010-A  
 HN-3289, Bruce Warrender, RD 3, Matamata, New Zealand  
 GS-461, Mark Petherick, 116 Lytton Rd., Gisborne, New Zealand  
 QAT-511, James N. Hay, P.O. Pindi Pindi, Qsld. 4741, Australia



SAW-242, Frank Thornton, 20 Sugg St., Whyalla Norrie 5608, Australia  
 OLYMPIC 52, Brian, P.O. Box 227, Seaford 3198, Vict., Australia  
 SSB-0109, John R. Salandy, 1 Quarry St., Diego Martin, Trinidad  
 KENN, Wilh.-Holzmeier-Str. 7, 2800 Bremen 61, West Germany  
 PAPA YANKEE, Bart, Polderweg 3, 2267-bt Leidschendam, Netherlands  
 DOGGE, Bernd Batjer, Arster Heerstrasse 75, 2800 Bremen 61, West Germany  
 LADA MOBIL, Wolfgang Saal, Wilh.-Holzmeierstrasse 70, 2800 Bremen 61, West Germany  
 MOCKE & ALFA, Friedhelm Kaspari, Sickingmuhlerstr. 57d, 4370 Marl, West Germany  
 SSB-0113, John Brown, 1 Dublin Rd., Portlaoise, Laois, Ireland

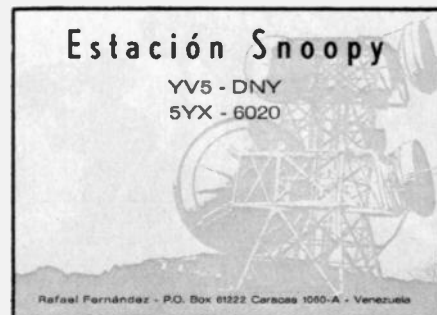
OMEGA 54, Evelio, P.O. Box 69, Chiva, Valencia, Spain  
 SCIUSCIA, Claudio, P.O. Box N. 69, 57100 Livorno, Italy  
 RO-386, Maitu Edwards, 16 Matai St., Murupara, New Zealand  
 NURSIE, Wayne Togwood, Ravensthorpe Hospital, Bombay, New Zealand  
 HN-3528, Gordon Pearson, Storey Road, RD 1, Te Awamutu, New Zealand  
 25-E-35, Hiroshi Yamada, 856 Nishishimojo Kofu 400, Japan  
 DW-03, Paul Verschueren, Route de Bastogne 104, B-4071 Harze, Belgium  
 BIZON, Julien Buysse, Loodsenstratt 20, 9000 Gent, Belgium  
 LSO-059, P.O. Box 753, Luxembourg

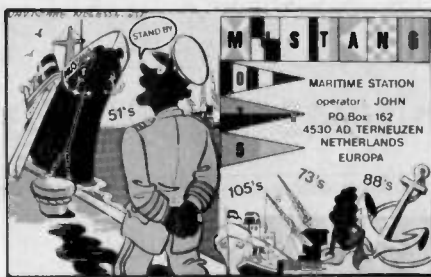


SSB-0106, A.J. du Toit, P.O. Box 2167, Primrose 1416, Rep. of South Africa  
 INDIA SIERRA, Ivan Salvesen, P.O. Box 23, Big Bend, Swaziland (Africa)  
 MIKE ALPHA, P.O. Box 83, Candelaria 96930, Brazil  
 LSO-425, Hübner Val, 8993 Keispelt, 10 rue du Meispelt, Luxembourg  
 LYNN, John, 9401 Vianden B.P.O., Luxembourg  
 SILBERFUCHS, Postbox 1132, D-5568 Daun, West Germany  
 ECA-339, Dieter Kuhn, Gerther Str. 107, 4690 Herne 1, West Germany  
 KIT-403, Boris Chuistov, P.O. Box 20, Yalta, Crimea, U.S.S.R.  
 Knut Sjonneson, Olaf Schous vei 14, Oslo 5, Norway  
 OLD VIC, Artur, P.O. Box 5172, Lisboa 1704, Portugal  
 5YX-6020, Rafael Fernandez, P.O. Box 61222, Caracas 1060-A, Venezuela

KOFU		JAPAN		ZONE-25	
<b>2 5 E 3 5</b>					
RADIO	DATE	Confirming Our QSL	QSO	2 WAY	QST
	25 FEB 1981				
By	Ant:				
From	Kofu 690				
Trans	OP: Hiroshi Yamada				
Proc	QTH: 856 Nishishimojo Kofu 400 Japan				

SSB-0114, William Ziepniewski, Half & Half Cottage, Middle Road, Warwick 7-09, Bermuda  
 ZWARTE WOLF, Peter, Hinthamereinde 54, 5211-pn Den Bosch, Netherlands  
 NU-2020, Ian Thompson, 20 Monmouth Rd., 24 RD, Stratford, New Zealand  
 WG-1486, Kerry O'Connor, 6-F Rissel St., Fielding, New Zealand  
 MS-1186, Ray Val, 14 Tararua St., Masterdon, New Zealand  
 IN-1303, Gerry Christoe, 37 Garnet St., Gore, Southland, New Zealand  
 MS-516, John Hart, 17 Christian St., Dannevirke, New Zealand  
 WG-1869, George Moulin, 21 Maire St., Wanganui, New Zealand  
 INTERNATIONAL 407, Bob, P.O. Box 4341, Melbourne 3001, Vic., Australia





1E-3085, Harold, P.O. Box 1497, 13100 Campinas, Sao Paulo, Brasil  
 1E-330, Hugo, P.O. Box 8056, 90.000 Porto Alegre RS, Brasil  
 BOURISSIA 46, Uwe, P.O. Box 1212, D-5810 Witten, West Germany  
 RMS-145, Oiva Pirjola, Ryydyinkatu 64, SF-33400 Tempere 40, Finland  
 RMS-3, Joe Safranik, Box 5516, APO New York 09057  
 RMS-5, Warren Smiley, Box 4919, APO New York 09057  
 RMS-74, Curt Thiele, P.O. Box 1369, D-7889 Grenzachl, West Germany  
 RMS-91, Knud, Kroger 3, DK-8900 Randers, Denmark  
 RMS-92, A.A. Loggers, P.O. Box 9102, 3301-AC Dordecht, Netherlands  
 RMS-93, Rene Berchem, Rue de Sanem 59, Soleuvre, Luxembourg  
 RMS-114, Giovanni, Box 13, Campino Airport, Rome 00040, Italy  
 RMS-202, B. James Vangeert, P.O. Box 2, B-2680 Bornem, Belgium  
 47-WW-217, Kim, Box 2035, DK-8900 Randers, Denmark  
 SSB-052, Wilhelm Johannes, Sekip L-4, Yogyakarta, Indonesia

ANNAMARIA, Juan Aleany, 409 App. 404, Assunsion, Paraguay  
 Francesco, Box 121, San Salvador, El Salvador  
 Lino, Box 1, Dogana 47031, Rep. of San Marino  
 Giuseppe, Box 361, Scuintla, Guatemala  
 Alexis, Box 3031, Ampelopiki, Athens, Greece  
 UNIT 04, Gudmundor, P.O. Box 1, 802 Selfoss, Iceland  
 SUPER TACK, E.D. Smith, P.O. Box 14, Lansdowne 7780, Capetown, Rep. of South Africa  
 UNIT 626, John Smith, R.S.D. 475, Poolaijelo, Vic. 3312, Australia  
 ARP-582, Stefano, Box 10, Monteverchi (Arezzo), 52025 Italy  
 ARP-471, Heltor, Av. B Goncalves 523, Porto Alegre, 90000 Brazil  
 KIT-002, Pedro, Box 5172, 1704 Lisboa Codex, Portugal  
 KIT-004, Reggie, Box 2295, Paramaribo, Suriname  
 KIT-009, Pascal, Box 17, 78380 Bougival, France  
 KIT-016, Paulo, Box 53, 61420 Trbovlje, Yugoslavia  
 SANDCASTLE 426, Andy, P.O. Box 2271, Nelspriut 1200, Rep. of South Africa  
 BRUMMI 14, P.O. Box 160162, 8500 Nurnberg 16, West Germany  
 Gunter Joerissen, Postbox 100 136, D-4060 Viersen 1, West Germany  
 YANKEE ZULU, Guy, P.O. Box 6, Esneux, Belgium 4050  
 YANKEE, Dietmar, P.O. Box 1467, Bad-Pyrmont 3280, West Germany  
 JUMBO 1, P.O. Box 32, Sligo, Ireland  
 SSB-0116, R.L. "Tex" Skinner, P.O. Box 784, Townsville, Qld. 4810, Australia  
 BRAVO DELTA, Abraham Devenier, 52 Nagtegaal Rd., Daggafontein, Springs 1560, Rep. S. Africa  
 UNIT 075 (MUSTANG), John, P.O. Box 162, 4530 AD. Terneuzen, Netherlands  
 PINK PANTER, Peter, P.O. Box 162, 4530 AD Terneuzen, Netherlands  
 Don Scott, P.O. Box 158, Melville 6156, Western Australia, Australia



# TURNER<sup>®</sup> CB BASE LOADED Antennas

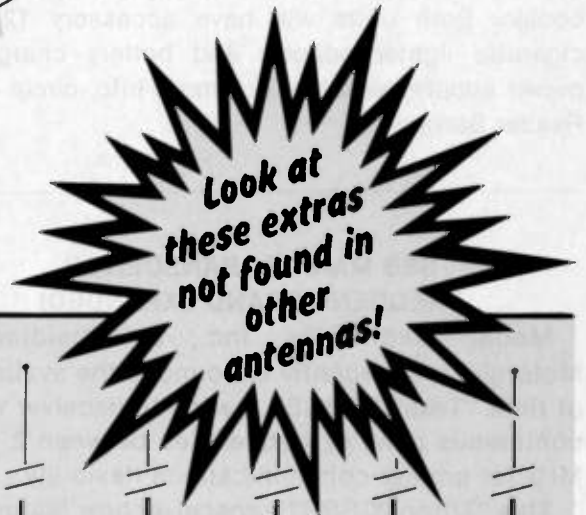




- Spring-loaded, pure brass coil contact pin assures solid, corrosion-free cable connection.
- Exclusive screw-in antenna cable connector (patent no. 4,090,030) provides simple, low loss solderless connection.
- Weather resistant Noryl coil cover is impervious to the elements. Outlasts others, even in salt spray areas. Holds like-new appearance longer.
- Base plate triple chrome plated for corrosion-free, attractive appearance.
- Double thick trunk lip bracket will not break.
- Entire antenna is at d.c. ground for super, low noise reception.

- Three grippers adapt mount to any hole 3/8 to 3/4 inch in diameter

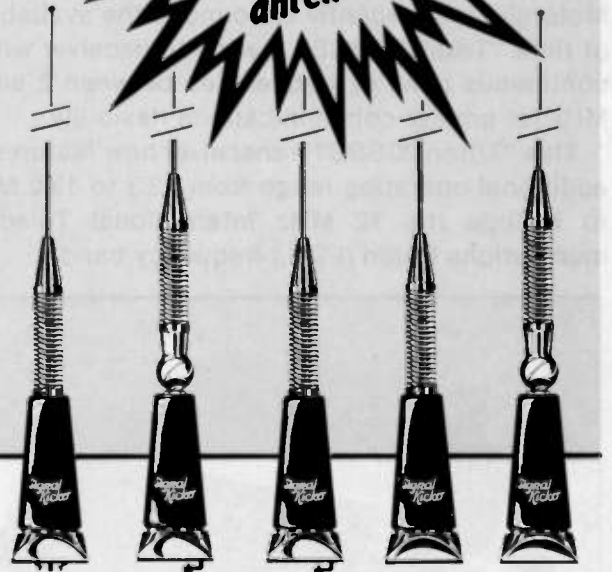
Exclusive roof top mount (patent no. 3,492,769) allows quick, solid mounting on vehicle surface.



Turner outperforms others on the four most important factors: power, performance, quality and engineering. When choosing your next CB antenna - check us out.

- ✓ **500 watt power capacity**
- ✓ **1.1:1 SWR**
- ✓ **Built to last**
- ✓ **Easy to install**

Turner Base Loaded Antennas are available in five different models including swivel ball models for slant backs. Convenient combination mount models include mounting brackets for both trunk lip and roof mount in one antenna.



**SK110** Roof  
**SK210** Trunk lip  
**SK211** Trunk lip with swivel  
**SK260C** Combo. trunk & roof  
**SK261C** Combo. trunk & roof with swivel

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# ON THE COUNTERS

## S9'S MONTHLY PRODUCT REVIEW

### FANON RE-ENTERS WALKIE-TALKIE MARKET

Fanon has announced that shipment of its new Walkie-talkie line will commence in May. Their introduction will include two models.

Model T-355 is a 6-channel, 5-watt 27 MHz hand-held transceiver for use on any of the 40 channel CB frequencies. It will include a carrying case, and have additional features of: S/RF meter, battery monitor meter, switchable 1-watt—5-watt battery saver, belt clip and hi-lo mike gain control. It will operate on 8 alkaline "AA" penlight cells or 10 nickel cadmium batteries.

Model T-352 is a 3-channel, 2-watt unit and will have all the same features as its more powerful T-355 cousin. Both units will have accessory 12 VDC cigarette lighter adaptor and battery charger/AC power supply available. For more info, circle 46 on Reader Service.



### SSB MARINE TRANSCEIVER FREQUENCY BAND EXPANDED!

Modar Electronics, Inc., a subsidiary of Motorola, Inc., recently announced the availability of their "Triton 20 SSB" marine transceiver with a continuous band of frequencies between 2 and 9 MHz for greater communications flexibility.

This "Triton 20 SSB" transceiver now features an additional operating range from 12.3 to 13.2 MHz, to include the 12 MHz International Telecommunications Union (I.T.U.) frequency band.



Additional performance features include constant SINAD squelch for effective noise elimination between messages, electronic channel switching for operator convenience and long term reliability, plus a dimmer switch for effective nighttime viewing of channel selector. For convenient viewing and operation, the speaker and controls are located on the front of the unit. The transceiver is enclosed in a rugged, splash resistant metal housing, and weighs 17 lbs. It measures 14" x 10 $\frac{3}{8}$ " x 3 $\frac{3}{8}$ ".

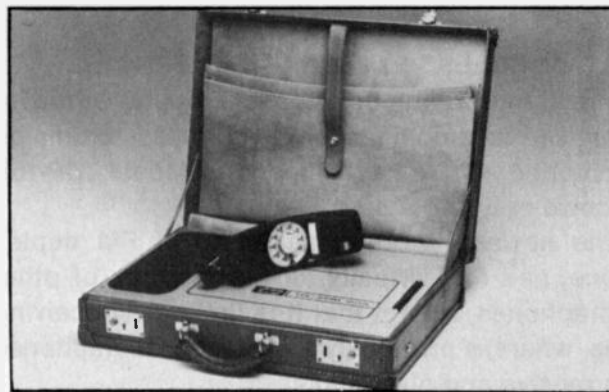
Motorola's recently introduced Automatic Antenna Tuner (T1961A) can support this unit by providing these frequencies without any additional modifications or adjustments! Simply selecting a channel enables the tuner to bring it in automatically. This dramatic reduction in adjustment time can result in immediate turnkey operation capability. The tuner is also compatible with Motorola's full line of other award-winning "Triton SSB" marine transceivers.

For additional information about the "Triton 20 SSB" transceiver and T1961A Automatic Antenna Tuner, write to Pat Schod, Motorola Inc., Communications Group, Public Relations Dept., 1301 E. Algonquin Road, Schaumburg, IL 60196, or indicate 62 on our Reader Service Card.

## ELECTRONIC COMMUNICATIONS INTRODUCES TEL-COM 150A "AMBASSADOR" FOR EXECUTIVE USE AND INTERNATIONAL MARKETS

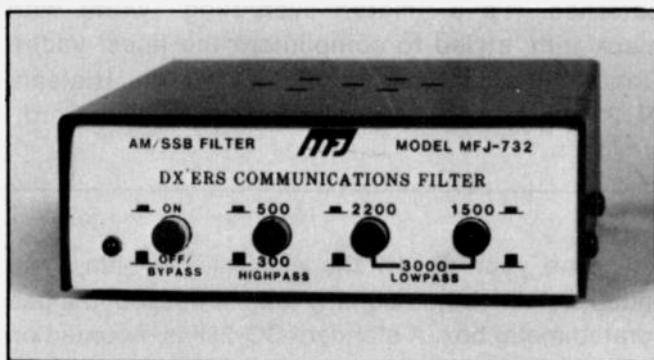
Electronic Communications' patented and exclusive portable dial radioelectric is now available in the "Ambassador" version featuring an exclusive Hartmann "Knock-About" top-grain leather "attache" case. The full duplex automatic dial IMTS (improved Mobile Telephone Service) VHF-FM unit is completely self-contained with built-in antenna and nickel cadmium rechargeable batteries.

The beautifully designed 3" Hartmann case is recognized all over the world by discriminating travelers and businessmen. This case in combination with the high technology portable radiotelephone provides a new dimension of mobile radio service for the busy executive or diplomatic user. Now you can place or receive telephone calls to or from anywhere in the world provided you are within range of anyone of over 2,500 IMTS terminals.



The TEL-COM 150A weighs only 16 lbs. and may be easily carried and also transferred from one vehicle to another providing up to 100% more usage of mobile channels over the conventional trunk mounted units.

For more information contact Department CM, INTERMARK, INC., P.O. Box 401114, Dallas, Texas 75240 or mark 47 on Reader Service.



### COMMUNICATIONS FILTER

The new MFJ-732 DXer's communications puts more presence into SSB, AM and FM voice communications, to bring more signals out of the noise.

The MFJ-732 is easy to use; just push up to 4 buttons to bring in different filter stages. It utilizes an all new 10 pole, 5 stage circuit with chebyshev superfast rolloff (up to 58 db/octave). Select upper frequency cut offs at 3,000 Hz, 2,200 Hz, or 1,500 Hz with lower frequency cut offs at 300 Hz or 500 Hz.

It has a built-in 3 inch speaker with a 2 watt amplifier. A red LED indicates ON. The MFJ-732 measures 1 7/8"H x 6"D x 5"W. The all aluminum cabinet provides RF shielding top and sides. The MFJ-732 operates on 9-18 VDC or 110 VAC with optional AC adapter (\$7.95).

The MFJ-732 is available from MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762.

### RFI FILTER

Clifford Industries has announced an RFI filter to prevent radio RFI from causing power supplies to shut down. Circuits in the VISTA power supplies have overvoltage protection (OVP) current-limit and fold-back circuits. These circuits were being affected by voltage spikes caused by RFI transmission in close proximity to the power supply.

VISTA's line of power supplies from 10 amps through 55 amps has an adjustable output voltage of 13.2 to 14.4 volts. Metered units—20RM, 30RM and 50RM—can be adjusted from 3 to 15 volts by using an external knob. The RFI filter is an option and is not included in the basic price.

For more info, contact Clifford Industries, P.O. Box 436, Camarillo, CA 93010, or mark 48 on Reader Service.



## "RECEIVE ONLY" CORDLESS EXTENSION TELEPHONE

The Cobra Communications Product Group of Dynascan is adding a third cordless extension "Cobraphone" to its line, the Model CP-15S "receive only" phone.

The newest Cobraphone is a full FM duplex phone, and has virtually all the features of other Cobraphones, except that it is limited to receiving calls, whereas previously introduced Cobraphones can receive and place calls.

"Since in most instances, it is the incoming call that is missed when you are away from conventional phones, the new CP-15S enables you to receive all such calls no matter where you are inside or outside your home -- as with our other cordless phones," commented Dennis Burke, Cobra's general sales and marketing manager. "It also fills out our line with a model that lists for considerably less than our other Cobraphones," he added.

The CP-15S features a trimline-style handset and a base unit that can be used on a table or counter top or may be mounted easily on a wall. The base unit measures 9 x 2 $\frac{7}{8}$  x 7" wide and weighs 3 pounds. The remote handset is approximately 2 $\frac{1}{2}$  x 8 $\frac{1}{4}$  x 2" deep, and weighs 12 ounces. It is supplied

with nicad batteries. Both units are U/L listed and FCC-approved.

Controls include talk/standby switch, volume hi/low switch, power on/off switch (on remote) and battery charge LED indicator, power indicator and call pushbutton (on base unit).

For more information, contact Cobra Communications, 6460 W. Cortland St., Chicago, IL 60635, or indicate 64 on our Reader Service.

## NEWPORT D FROM PEARCE-SIMPSON

Loran it isn't, but it sure is a darn nice substitute. Brand new from Pearce-Simpson division of Gladding Corporation is the Newport D automatic direction finder.

Automatic it is. Tune in the station and the motor driven antenna automatically aims right at it with no 180° error. Frequency information is displayed on big back lighted LCD's that can be easily read at night or in the brightest sunlight.

Newport D is completely portable and will operate equally well from ship's power or flashlight batteries. It's a "match everything" white with black trim, styled to compliment the finest yacht. Contact Pearce-Simpson, 1051 East 32 St., Hialeah, FL 33013, or mark 60 on our Reader Service Card.

## "DRY" 300 WATT AND 1 KW DUMMY LOADS

The NEW MFJ-262 and MFJ-260 "Dry" Dummy Loads use no oil. They are strictly air cooled, so you never have to worry about leaky dummy loads spoiling your ham shack again.

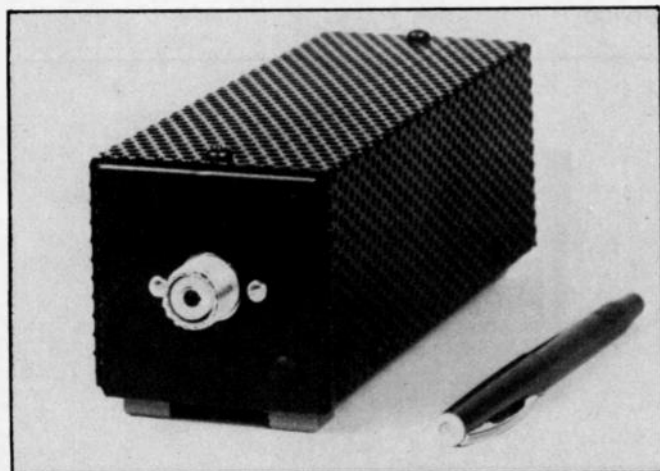
The NEW MFJ-262 1 KW "Dry" Dummy Load lets

you tune your rig off the air. This 50 ohm, non-inductive, air cooled dummy load is housed in a perforated metal box. A standard SO-239 is mounted on one end for connection to your rig. The 262 handles one KW for 30 seconds which is much longer than the recommended key down time for most rigs. A derating curve is included to tell you power handling capabilities for up to 5 minutes. Maximum VSWR is 1.5:1 up to 30 MHz. The MFJ-262 is black and measures 3 x 3 x 13 inches.

The NEW MFJ-260 is a 300 Watt "Dry" Dummy Load similar to the 262. Maximum VSWR is 1.1:1 up to 30MHz and 1.5:1 from 30-160 MHz. It measures 2 $\frac{1}{2}$  x 2 $\frac{1}{2}$  x 7 inches.

Either the 300 watt or the 1KW model allows you to tune up off the air. Run tests without interference to other hams. *They use no oil so you will have no spillage or leakage to spoil your floor or desk.* Refund (less shipping). MFJ also provides a one year unconditional warranty.

These dummy loads are available from MFJ Enterprises, Inc., P.O. Box 494, Mississippi State, MS 39762.



## HATCHBACK TRUNK MOUNT

Valor Enterprises, a leader in the personal communications industry, has announced the development of a new hatchback trunk mount and kit. Designed for use on most American and foreign hatchback or trunk mount installations, it is the ultimate in looks and quality.

The trunk mount kit is made of polished stainless steel for durability. In addition, the kit is available in two models, one with no-drill mount featuring a moisture prevention seal and hardware. Valor's trunk mount kit comes complete with 18' RG58/U cable with PL-259 connector and inline mini-connector.

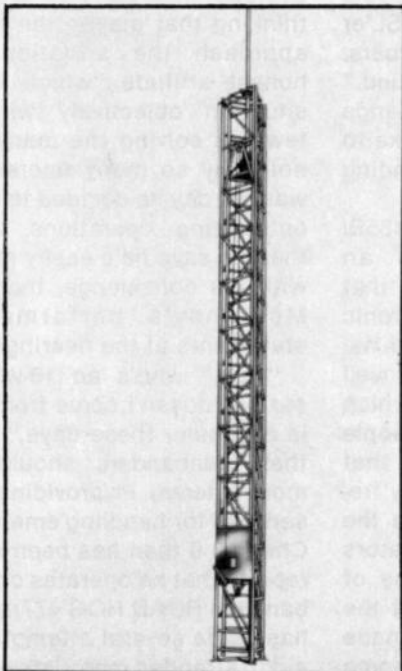


## HEAVY DUTY TOWER

Designed especially with the communications operator in mind, Aluma Tower's new extra heavy duty aluminum tower meets the special needs of that group. All uprights and cross braces are 1" seamless drawn aluminum tubing with stainless steel aircraft cable connecting the telescoping sections. The mast is 2" diameter x 8 ft. long and supplied bolted in place.

Aluma Tower's telescoping construction and tilt-up style enables it to withstand any weather conditions.

Contact Aluma Tower Company, 1639 Old Dixie Highway, Vero Beach, Florida 32960, or mark 70 on Reader Service.



For complete product information on antennas and accessories, contact Valor Enterprises, West Milton, Ohio 45383, or circle 45 on Reader Service.

Wafer termination mount is easy to install and fits standard lightweight 3/8 x 24 antennas up to 48". Valor's mount is also available in Dial-A-Match hatchback kits.

## CB Usage Tips From S9

(CUT OUT & PLACE AT OPERATING POSITION)

### Preferred & Designated Channels

- Channel 8 Agricultural operations
- Channel 9 Emergencies and travel info.
- Channel 13 Maritime and RV's
- Channels 16 to 18 Single Sideband only
- Channel 19 Trucks/Vehicles in transit\*
- Channels 31 thru 40 Single Sideband Only

\*Note that in many areas there are also 1 or more additional channels designated and/or normally used for in-transit vehicles, often Channels 10 and/or 12. This is especially true in metro areas and their suburbs where Interstate Highways are on 19 and secondary roads such as parkways are on alternate channels. Base stations are requested to avoid using all area in-transit vehicle channels in order to permit their full, free, unobstructed and exclusive use by in-transit vehicles.

Stations using power mikes should be cautious that their audio levels are set to a level which will not cause voice distortion, over modulation, or splashover on adjacent channels.

Single sideband stations now generally operate on Channels 16, 17, 18, and 31 through 40, although this may vary in specific areas. Stations using standard AM transmission are requested to avoid use of local Sideband channels, likewise Sidebanders are requested to confine their transmissions to those channels established locally for their use.

# ON THE SIDE

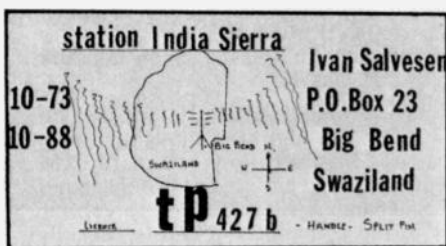
S9'S MONTHLY COLUMN FOR SIDEBANDERS  
BY BILL SANDERS/SSB-295, KW-5304, KBAH6794

## FIXEM-UP: GETTING NATIONAL NUMBERS

Single Sideband operators don't use "handles." Instead we identify by special sideband numbers. Those many readers who write to us asking how they may obtain a set of these numbers are advised that we recommend obtaining a set of permanent national numbers from the SSB Network, which is the largest, most prominent, and oldest Sidebanding organization in the world. There are no dues! We suggest that ALL Sidebanders now avail themselves of the opportunity to become part of the vast network—future sidebanders, new sidebanders, and even experienced old-timers with "this many" local and regional numbers. A self-addressed stamped envelope sent to The SSB Network, P.O. Box 908, Smithtown, N.Y. 11787, will bring you information on how you can become a vital and important part of the national Sidebanding movement, and at last obtain a number which is part of the uniform international Sideband identification system, recognized throughout the world.

As promised, here are some of the comments which arrived along with the response forms we received in our recent Sideband Survey.

Helen, ST-905, of Honolulu, Hawaii, said, "Thanks for letting the little guy speak up. You have guts." Helen felt that while her opinions might not follow the majority of operators, they are hers and she says that she'll "have to live with them." Her basic feelings are that operators should stick within the confines of the regulations, but all of us should continue to get the regulations changed and not give up because of any setbacks along the way. Helen adds that we should keep on reporting and that it isn't necessary for her to agree with everything she reads in order for her to continue to enjoy this column and the entire magazine. Her letter ended

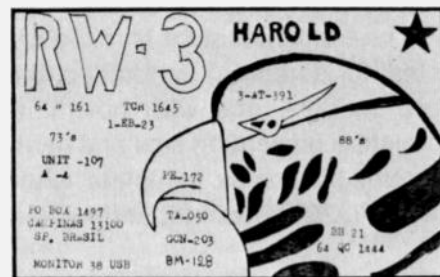


with "Aloha ke akua."

Bob, AZ-640/PW-2713/SSB-6023A, of northwestern Arizona, says that he's in favor of opening up all frequencies between 26.325 to 27.965 MHz with 5 kHz spacing between authorized frequencies. Being a man of few words (except when he's on the air), Bob strongly lashed out at Part 95 and even offered a very interesting (however not too original) storage place for the FCC to stow their CB regulations. His main interest is working skip and he's worked all 50 states, all of Canada, and 30 overseas nations—most of them with the "barefoot" (17 watts PEP) Cobra 142-GTL he runs into an Avanti PDL II (modified reglector) mounted atop a 40 foot tower. He's also got a Hy-Gain Super Penetrator mounted 60 feet up, plus a ground plane. Although Bob has the capability to push up to 150 watts he says that he usually runs *barefoot* and only once in a while runs 25 or 50 watts.

Dave, SSB-0859, of Philadelphia, Pa., said that he is disabled and finds that Sidebanding just can't be beat for filling his time with talking to lots of great folks. He's a 100% QSL'er and has been an S9 reader for 4 years. He says "S9 is the best I've found." Dave is also known on the Sidebands as PSA-001 and PW-527. He's like to see S9 sponsor some Sidebanding contests.

Arnie, DM-421/WJ-6452/SSB-2485B/SAK-1141, reporting from an unspecified location, mentions that all 27 MHz operators are "electronic ambassadors" for their respective nations and that 27 MHz radio may well be the only direct contact which operators may ever have with people from other areas. He asks that operators not forget this as they frequently hop as it could well be the most important way distant operators will ever have to form opinions of various nations. Arnie asks that the Hello Skipland column be made larger and that we feature some photos and stories of different *outlaw*



or *outbanding* stations each month.

Stuart, DX-2663, told us that the addition of Sidebanding equipment to his 27 MHz operations is what did the trick, turning him from "just one more shouting voice" into "somebody with discipline, direction, and dignity communicating with others who are similarly oriented." Stu, who hails from Hannibal, Mo., says that he waited patiently for the FCC to approve and legalize the Sideband use of the upstairs frequencies. He waited, and he waited, and he waited some more. When, after all the delay and stalling, as he put it, "they made a mockery of the hearing, complete with blatant lies, and then put the whole idea on indefinite *hold*," he decided that he was a chump for thinking that maybe the FCC would approach the situation with an honest attitude "which viewed the situation objectively with an eye towards solving the many problems noted by so many operators." That was the day he decided to commence *outbanding* operations, and since then he says he's easily made peace with his conscience, thanks to Jim McKinney's performance and statements at the hearings.

"Hud," who's an 18-wheeler and sez he "doesn't come from anywhere in particular these days," comments that Sidebanders should take far more interest in providing Sideband services for handling emergencies on Channel 9 than has been noted. Hud reports that he operates only on Sideband (as ROAD HOG 477) and that he has made several attempts to call in aid to stranded motorists only to have his transmissions "cursed and



screamed at by AM groups who think they have the exclusive right 'to handle traffic on Channel 9.'

One other comment of particular interest was received from Ken, no ID yet, from Cincinnati, Ohio. He says that he follows the *On The Side Column* each month and expects to get a Sideband unit for his birthday (we hope his XYL sees this!). Kenny feels that those Sidebanders he's met in person and also heard on his communications receiver are really the type of folks he was looking for when he first got into 27 MHz about 2 years ago. He thinks that, like many newcomers getting into CB, he had a lot of fun on the AM channels but after a while he came to feel that Sidebanding had ever so much more to offer in the way of communications potential and enjoyment. He's now in the process of obtaining a Sideband number, getting his radio room set up to accept what he hopes will be a new addition, and looking forward to what he sees as a "great adventure on the Sidebands." I ran Ken's comments because it reflects so much sheer enthusiasm from someone who is *chomping at the bit* to join our ranks. It's like getting a breath of fresh air to see someone so turned on with Sideband, and it makes us all recall that we really do have something pretty special going for ourselves. Let's make sure that we all do our part to keeping it "special" and something which others will perceive as some sort of an accomplishment when they join our ranks—and not something to flee from! Your help in these matters would be appreciated!

That letter, and a couple of others written along similar lines, reminds us all that there really is an actual responsibility connected with being a part of the Sidebanding fraternity. Getting all of the enjoyment you can out of the Sideband frequencies is fine, but you've got to put at least a little something back into them along the lines of attracting newcomers

and helping them to get started properly. The future of Sidebanding greatly depends upon a steady inflow of responsible new operators. Without them Sideband stops growing, then starts to mark time, then slowly sinks into the sunset.

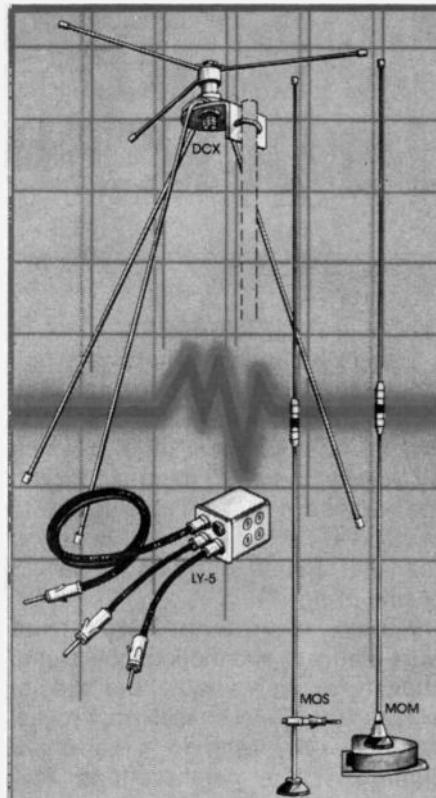
#### IN THE AFTERMATH

In the aftermath of the FCC's attempt to impede the continuing growth and enjoyment of 27 MHz Sidebanding, this column has received copies of many letters written by concerned individuals and groups to various Washington-type agencies and legislators.

Amongst the groups which informed us that they didn't let this go by without raising a defiant shout looking towards changing the tide were the Utah Sideband Organization Committee, the Washington (D.C.) area based Metropolitan Area Sideband Association, and also the SSB Network. The basic thrust of these efforts is, ultimately, to get the FCC to start making their decisions based upon hard facts instead of the personal and biased opinions of its employees—opinions which are (at best) unsupportable and distorted, and (at worst) appear to be riddled with deceit.

Those who were kind enough to send us information as to what they are doing along these lines almost universally vowed to push this issue as long and as hard as necessary, and bug as many officials as possible, in order to get the FCC to get some positive regulation established for the isolation of Sideband from AM operation and the expansion of operating privileges which is commensurate with the normal operational range and capabilities of Sideband equipment used at 27 MHz.

So far, nobody at the FCC has offered any *real* reasons to justify the problems which have ensued in modifying the regulations. Nobody has said what actual harm might be caused to anything or anybody should SSB'ers be permitted to use sliders, work skip, or be authorized for operation between 27.405 and 27.540 MHz. Thus far all we've gotten is suppositions, lies, distortions, doubletalk, and a runaround. If you agree, then you too should write to your Congressional representatives, and/or to the FCC itself in order to get some answers and some action!



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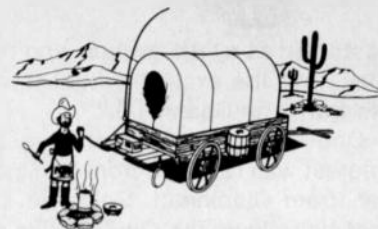
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# THE CB PIONEERS' CORNER



By Judy, SSB-99/PCBS-99

## TOGETHERNESS

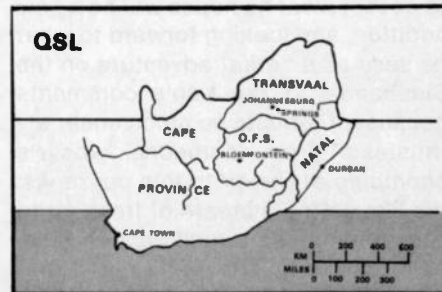
I don't know what the latest fad-language word for it is but we used to call it "togetherness" and that pretty much said it all about the ties which held many operators together back in the early days of CB. There seems to have been far too little of this during the past couple of years since CB "came of age."

For one thing, in the 1960's there were plenty of channels to go around; enough for everybody with a special interest or whatever their thing was. When people living in a particular community or neighborhood laid claim to a specific channel as being for their local use there were few who were interested in making a fuss over it since there were plenty of other channels and getting all of the locals onto that one channel helped to clear out the other ones! Not only were there those who didn't make a genuine fuss about not having the use of the channel, there were very few poor sports and crackpots in evidence—the ones who would deliberately interfere with your QSO or toss a dead carrier on the frequency just to be irritating. As a result, almost all localities had a well established and almost inviolate claim on one or another channel, as did Sidebanders, and others such as emergency teams.

Sure, today there are local channels, just as there are frequencies used predominantly by Sidebanders, plus Channel 9 officially set aside for emergency use but the togetherness and mutual respect for these arrangements leaves much to be desired. Local channels exist on only the most tenuous level in populated areas and appear to fair game for anybody who is rude or dumb enough to "feel like" using them despite the availability of other frequencies and the pleas of those who have tried to establish at least one area frequency for the local crowd—often members of one club. Same with Sidebanding frequencies! When Sidebanders

elected to confine their operations to a select and limited number of specific frequencies it included the consideration that the SSB operations were incompatible with regular AM operations on the same local channels and that self-exile to "their own" frequencies would lessen conflicts on the other channels normally used by AM operators. Their reward has been only limited respect from AM operators for those Sidebanding frequencies, lots of grumbling from AM operators about nobody having

I don't overlook the fact that during the 1960's there were far fewer operators around to divide up the 22 slices of the pie, and that the millions of folks who poured into CB during the mid-to-late 70's now have only 40 slices to chew upon. Maybe now's the time to realize that it's all the more important to try to figure out how to get some of the rumples and ripples out of what we are doing with these frequencies; especially since the chances look slim for Uncle Charlie to do much more than sit there and



exclusive rights to such channels, and from the FCC only disdain or disinterest.

And have you bothered to listen to Channel 9 of late? On the one hand we have a channel which has proven far less expensive than *Ma Bell* for placing long distance calls between the U.S. and Latin America; on the other hand we have the all-too-frequent spectacle of well-meaning emergency groups squabbling over which one has the "right" to handle emergency calls in a specific locality.

Sure, within the various little sub-groups and sub-culture of CB radio there is a certain amount of this *togetherness* of which I spoke, but when it comes to the concept that there is an overall or wider concept of 27 MHz, and that we're all stuck here on a finite number of frequencies—like it or not—well, there's far more of an adversary relationship between operators than any feeling of (or attempt to generate) anything which could be remotely described as *togetherness*.

watch us elbow and knee one another.

Together? Well, I'm all for looking forward to the future and trying to cast off the chains of the past. But as CB now celebrates its 22nd birthday I can't help but think that maybe the feeling of togetherness which existed those many years ago really had something to be said for it. Happy birthday CB radio!

## THAT "LAST" CHANNEL

By now some of you have noticed that I made reference to the early CB as consisting of 22 channels. Certainly you know that it really had 23 channels and I wished to point this out before the several dozen readers who always write to correct me begin making a mad and hysterical dash for their mailboxes.

I made references to only 22 channels because Channel 23 (27.255 MHz) was, at that time, only in very limited use with the CB crowd. The reason for this is that it was then shared with several other radio ser-

VICES, not the least of which included radio control (*beep-boop-boop-beep*) running 30 watts or more. These *beer tone* stations, as they were called (I don't know why), served their purpose in making Channel 23 virtually useless for voice communications in many areas of the nation, although it was fully authorized for regular CB use.

### MAILBAG

A reader from Shabbona, Ill., who asks that I don't use his name in print wrote to ask about a "card or tag" which someone told him the FCC used to require CB'ers to attach to their CB rigs. He wants to know what that was all about. I presume this inquiry refers to the FCC's "Transmitter Identification Card" requirement which existed all through the 1960's and into the 1970's.

This was a requirement that all CB rigs have a label attached which contained certain information including the call sign of the station, the name of the licensee, and the frequencies with which the transmitter was equipped. Although licensees could simply type this information onto a piece of paper and attach it to the rig with tape or glue, many manufacturers of CB gear printed up cards containing spaces for this information and then packed the cards in with their equipment. The FCC also had their own printed-up version and it looked like a shipping tag—cardboard and it attached to the rig with string.

At some point in the 1970's the FCC ended their requirement for these tags in the CB service. They ended the practice without any explanation; just as they had begun the practice. Most people couldn't figure out why it was started and there were few who bothered to comply with the regulation.

Ed Bloomburg of Austin, Texas, wants to know why there aren't any claimants to the title of being the "first" CB'er in the world. He says that it seems there is a "biggest," "smallest," "first," and "oldest" of just about everything and he's surprised that nobody has stepped forward to say that they were the "first" CB'er.

Actually, someone did! In fact, two people did! One claimant is Al Gross of Ohio who says that a small hand-held transceiver of his design and

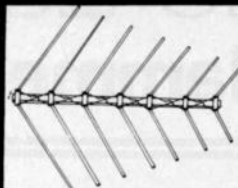


manufacture was the first piece of equipment approved by the FCC for use in the old Class B CB service which was authorized on 465 MHz about 35 years ago. The other contender for the honor is John Mulligan of New York State who, also in the 1940's, was the first person authorized by the FCC to explore the possibilities and feasibilities for actually using a "short-range personal 2-way radio service." Both men had been issued experimental licenses, however Mulligan's actually stated that it was for the Citizens Radio Service while Gross' license did not, although Gross' license was issued slightly before Mulligan's. While Gross and Mulligan had different types of authorizations (Gross to develop the hardware and Mulligan to develop the service itself), both men lay claim to being the world's first CB'er, and far be it from me to attempt to pick one over the other based upon their claims.

Mulligan is a rather quiet and low profile person who is seldom in the spotlight, however Al Gross has made some effort over the years to court the media with his claim and, as a result, has appeared on TV programs and in the general media. He has therefore achieved more public identification as the "first CB'er" than has Mulligan, although Mulligan's claim is certainly of considerable merit. In a future column I'll explore in detail the contributions of both of these interesting pioneers.



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CIRCLE 7 ON READER SERVICE CARD  
S9 • September 1981 • 37

# The Radar Column

## by "Jammer"

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### POLICE GET SURPRISE IN CARMEL COURT

Four months prior to last February's court session in Carmel, summonses for speeding were issued to two persons in separate incidents. Officer Joseph Lages issued one, and George Eckhard issued the other. In both instances the radar was operated by officer Larry Miller.

Open and shut case you say! It was until Justice Ronald Martin asked Eckhard if he could identify the defendant to whom he had issued the summons. Eckhard said he could not.

A short time later, Miller returned with Lages for a repeat performance with the second defendant. Lages admitted he could not identify the defendant. Both cases were dismissed.

Miller said that if this positive identification of traffic violators was to be an ongoing requirement, perhaps the police should take each traffic violator to headquarters to be photographed and fingerprinted.

The judge said he wasn't about to tell the police how to run their department, but he did think they ought to be able to come up with some way by which they could make a positive identification in court.

### SPEED LIMIT CONTROVERSY

Legislators around the country are filing bills to abolish the 6-year-old "double-nickel" speed limit.

Most of the states moving against the federally mandated speed limit are in the West, where wide open spaces make the limit "about as popular as having mumps," according to one Wyoming legislator.

States with repeal bills on file include Connecticut, Indiana, Nebraska, Colorado, New Mexico, California and Wyoming. Arizona is also planning to introduce legislation before the summer.

The GOP platform has a plank calling for repeal of the 55 MPH mandate. Drew Lewis, Ronald Reagan's choice for Transportation Secretary, said in his confirmation hearings last week, "I believe the states should state their own speed limits." One major concern is that if one state takes the plunge, others will follow.

Senator Ernest Chambers (Nebraska) believes that the original 55 MPH speed limit was a hoax... "it was part of an over-all plan to generate public acceptance of an 'oil shortage' so that price gouging at the gas pump could occur without much public outcry."

This year Senator Chambers has also introduced a bill which contains strict guidelines for radar's use.

### SPEED PREVENTOR GOING TO COURT

The Cambria County, Pennsylvania County Court will be forced to make a ruling on the legality of a controversial device known as an Excessive Speed Preventor, or ESP.

Some Pennsylvania district justices have been acquitting drivers arrested by local police using the equipment, which measures the time a vehicle takes to cross two strips that are six feet apart, and converts that time into miles per hour.

Consequently, some municipalities that bought the equipment have been forced to set it aside, rather than lose every time their speeding arrests are heard before the magistrates.

When the legality of ESP is argued in court, the central questions will be whether the device is electronic and hence barred from use by local policemen, and whether warning signs must be erected where ESP is used.



## **SPEEDERS SEND PARTING SHOTS WITH FINES**

Although no one likes to pay speeding fines, most do! Some, however, cannot resist taking a last opportunity to state their cases in letters which accompany the fines they mail to the judge.

Most letters received by County Court I in Valparaiso, Indiana contest the writers' ticket. One even quoted Thomas Jefferson, the Bible, and several other sources, and another was six pages long.

The fine of one ticketed motorist was accompanied by a pasted-together judge's letter. The offender had apparently ripped it up, then had second thoughts.

Following are excerpts from not received by County Court I in Valparaiso:

- "Sir, I am greatly let down that an officer of the law, the state of Indiana, and the taxpayers, hidden behind a snow pile, and in an unmarked car...to me, all the officer needed was a bandana over his face, to be Jesse James. I would expect this in Illinois or Michigan, but not here."
- "I was not cruising at 67 MPH as charged by the officer, simply because my car will shake vigorously at 60 MPH."
- "Please find enclosed a money order for \$36.50. I owe you \$35.00. Use the extra \$1.50 for the extension of the officer's education and towards a better pair of eyeglasses."
- I feel the scare of the red light, etc., has cured me of the speeding problem. If you feel merciful, you may send my \$37.00 check back to me."
- "On advice of her husband's counsel, she (my wife) elected to pay the fine, although she is not adverse to returning to Valparaiso for more social reasons."

## **PERHAPS OLD NEWS?**

### **MICHIGAN SUPREME COURT HEARS RADAR DETECTOR CASE**

In December the Michigan Supreme Court heard oral arguments in a case challenging the constitutionality of the 1929 statute interpreted by a lower court as a prohibition of radar detectors. This case marks the first time the state's highest court has addressed the radar detector issues.

In Lansing, on December 10th, the firm of Bacalis and Associates addressed the seven-judge panel in the case of People vs. Gilbert. The arrest was made under statute MCLA 750.508 which was enacted in 1929 by the Michigan legislature.

The constitutional issues and other legal points presented in the Michigan case have been the source of litigation in Virginia as well. Virginia's

law, which has been rendered virtually unenforceable as a result of earlier court rulings, has been challenged in the federal courts and a decision is expected in the near future.

We will keep you posted as we receive the decisions.

## **POLICE PROUD OF SPEED TRAP**

The village of Mount Morris, New York has a bad reputation; and village Police Chief Charles DiPasquale is proud of it!

The Livingston County village of 3,044 is known as a speed trap for motorists and truck drivers.

"At night, as many as 50 trucks an hour pass through the village on Main Street, Route #36, shaking houses, harassing pedestrians, and making conversation outdoors impossible," DiPasquale said.

The vibrations from passing groups of trucks used to regularly sound the vault alarm at the Security Trust Bank branch on Main Street, officers said. The bank has since switched to a different type of alarm.

So, in response to complaints from Main Street residents. Mount Morris' three full time and six part time officers strictly enforce the village's 30 mph speed limit.

Local police use radar an average of 10 hours a day to clock motorists speed through the village.

## **TICKET BRINGS 6 WEEKS IN JAIL**

The Milwaukee, Wisconsin public defender searched for an answer as to why his client had spent almost six weeks in the county jail on a speeding citation with a maximum penalty of a \$200 fine.

"It appears that Mr. Williams was lost in a paper shuffle," said Peter Goldberg recently.

Donnie Williams, 26, was a Louisiana resident who was in Milwaukee in 1975 to visit his family and look for a job. In September of that year, he got a speeding ticket for going 96 mph in a 55 mph zone.

Williams missed his initial 1975 court appearance on that charge and was in Louisiana until last year. In September, 1980, Williams was stopped while driving and a deputy sheriff found a warrant had been issued for his arrest on the 1975 speeding charge.

Williams appeared before Court Commissioner Frank Liska on September 25th and pleaded not guilty to the speeding charge. Liska then set \$200 bail for Williams, an amount he could not pay.

Williams then sat in jail for six weeks before being able to contact the public defender. When Williams finally appeared again in court on the speeding charge, the case was dismissed.

## **FLORIDA RADAR COMMISSION SEEKS STRICTER CONTROLS THAN FEDERAL MINIMUM**

Florida has been at the forefront of the national movement aimed at the reevaluation of police radar Legislature in connection with its passage of a new police radar law. Among other provisions, the law seeks to upgrade radar equipment performance standards and officer training.

During its two day public sessions the five member commission heard testimony from numerous experts in the field in the process of developing guidelines and minimum standards for Florida's use of speed radar. The new law, which originated from a bill introduced by Representative Ron Silver, was enacted by the legislature during its last session.

Florida has been at the forefront of the national movement aimed at the re-evaluation of police radar use growing out of increasing evidence of equipment fallibility and operator errors. Ron Engle of the National Highway Traffic Safety Administration, the largest federal funding source of police radar, outlined before the commission the federal government's new standards on radar equipment. NHTSA's commissioned study into traffic radar conducted over a three year period by the National Bureau of Standards recently published its findings which substantiate the growing concern over the reliability of radar devices and their operation.

While the three year NBS study, federally subsidized at a cost of approximately \$400,000, dealt only with the technological shortcomings of radar units in use today, it also focused attention on the inadequacy of instruction for traffic officers. Engle indicated that the administration will follow-up the technical findings published in the Federal Register last month, with the publication of a mandatory training program consisting of 24 hours of classroom instruction and 16 hours of on-the-road practical instruction. Following this, NHTSA plans to compile and publish a Qualified Products List (QPL) which will include only those radar units which will meet the Federal specifications established by the NBS findings.

Addressing the technological aspects of police radar and the development of the QPL was Lee L. Nichols, Professor and Head of the Department of Electrical Engineering for the Virginia Military Institute. Nichols contends that although there are approximately 70,000 radar units in use, "There are no radar units on the road today that will meet the specifications set down by the federal study."

Nichols' testimony included recommendations to the commission of specifications which might be

adopted to insure the reliability of a radar unit. These recommendations encompassed the circuitry changes in existing radar which would be necessary to correct the errors pointed out by the NBS. Among the most common of errors on which Nichols based his testimony were tracking errors caused by adjacent vehicles and road conditions, mathematical errors inherent to the devices, interference errors brought about by a number of sources including CB radios, scanners, AM & FM transceivers, ignitions, alternators and other mechanical vibrations, and calibration and maintenance errors. One major concern—the misinterpretation and/or misidentification of a target vehicle—has implications for the upgrading of radar usage equipment standards as well as those for operator instruction.

Florida State Police Officer, Sgt. Vincent, has to date trained approximately 850 of Florida's police in the use of radar. Sgt. Vincent suggests that if there is any doubt as to target identification, no enforcement action should be taken. Currently, Florida's training program corresponds to the one supplied at the national level.

Commission member Judge Alfred Nesbitt of Dade County, reflects the commission's determination to revamp the state's standards for radar use, even if it means adopting guidelines more stringent than those developed by the federal government. Nesbitt has been recognized as the "Maverick" judge since a 1979 case in which he dismissed over 80 speeding citations on the basis of radar's unreliability. One of Nesbitt's main concerns posed to the committee, "Isn't it true that there is a possibility the public has been ripped off by radar for 30 years?"

It is anticipated that the committee will reconvene again soon to finalize the specifications which will become Florida law. Florida's progress in radar legislation should be of major concern to legislators throughout the nation.

### **ADDITIONAL RADAR SEMINARS OFFERED**

In addition to Florida, Michigan, Texas and Utah have started offering training courses in radar. Conferences are being held statewide with topics including hands on sessions in setup, calibration and operation, typical errors, and legal questioning.

The training courses now offered in various states are in accordance with the Federal Standards soon to be published in the Federal Register. In order for individual states to be eligible for federal funding on radar equipment, they will be required to comply with both the training requirements and the equipment specifications.

## BEARS IN THE AIR ARE WATCHING

If you drive on I-80 in Pennsylvania or in Florida on I-95, US 27, or State Rt. 84, beware of the bears in the air.

In Florida, 11 planes patrol that state's highways in what is apparently the nation's largest airplane based traffic patrol. It is a program that nearly doubled in size last October, from six to eleven planes. The airplane program began in 1964 and was expanded in October with the purchase of five \$40,000, four-seat Cessna 172s.

Officers use stop watches to time how long it takes drivers to cover a marked quarter mile distance of highway. They then relay the information on how fast the vehicle is traveling to the nearest patrolman in a car on the road who then makes the arrest.

Is the program successful? You bet it is. The five new planes alone in just the last three months of last year netted approximately \$115,000 in extra revenues.

## STATE POLICE MAY CHANGE TACTICS

Kentucky State troopers checking for speeders on the highways will probably soon take their cruisers and radar guns out of the thickets and from behind trees and billboards, reports a state official.

The officials including Gov. John Brown, Jr. and Justice Secretary Neil Welch, said they expect to approve a policy of making the cruisers more visible.

The reasons for the change, Brown said, include apparent public desire for a more visible, less sneaky police presence—and thinking in law enforcement circles that the sly approach may not be any more successful than the standard road patrol.

## NEBRASKA TO "DEBATE" RADAR

The radar devices used to detect speeders on Nebraska's highways are so unreliable that the State Patrol should "junk" them, Omaha Senator Ernest Chambers said last month.

Chambers said his proposal to set stricter guidelines for the use of radar devices would prevent innocent persons from having to fight expensive court battles over speeding tickets. He said, however, he wasn't trying to abolish the use of all radar devices, just trying to improve the quality of the ones being used on Nebraska highways.

Bill LB413 would allow radar to be used to corroborate a visual observation that an officer makes of a speeding violation but could not be used as the sole evidence to establish guilt. The bill would also require on-site testing of the device before and after a citation was issued to insure accuracy.

# Here it is!

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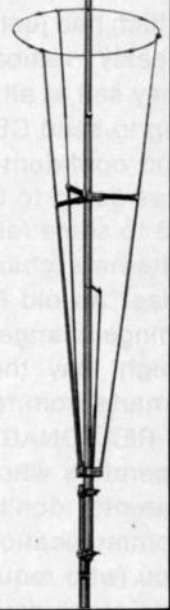
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GAIN

AVANTI HAS  
APPLIED FOR  
A PATENT ON  
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Static Suppression:  
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R.F. Safety Factor:  
2000 Watts  
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No Rotor Required  
Height: 27'  
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\*Patent Pending

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# TOMCATTIN' WITH TOMCAT!

ACROSS THE CHANNELS WITH S9'S EDITOR  
TOM KNEITEL, TOMCAT/SSB-13



**G**REAT IDEA DEPT. A few issues back the S9 "Pioneer CB" column discussed how before the FCC finally decided to recognize (in the CB Rules & Regulations) that there were channel numbers associated with CB frequencies, that there were many "unofficial" (and often conflicting) systems being used by CB'ers for specifying the different available operating channels for CB operators. We discussed some of the more popular systems around in those days, even gave some examples which used numbers or colors to designate the channels.

Only a month or so after that issue appeared several readers sent me copies of a classified ad which had just commenced running in one of those weekly national movie-star-gossip newspapers they sell at all the supermarkets. The ad was offering to send CB'ers a new way of obtaining privacy and confidentiality in their communications. This was going to be granted upon sending the sum of \$3 to some fellow who would then provide a set of alternate channel identifications for CB frequencies! An old French proverb states that the more things change the more they stay the same. Some might say that this enterprising fellow got his smarts from reading S9!

**REASONABLE CAUSE DEPT.** Lou and Tina, two operators who live in a large midwestern city, apparently don't appreciate slurs on their favorite communications hobby—operating on 27 MHz. Lou (who requested anonymity if I decided to tell this story) says that he and his XYL had casually been considering taking a ham ticket out but kept putting things off because of various things lacking, mostly including time, specific information on ham radio and how to study for the exam, and sufficient motivation. When Tina saw a notice in the newspaper saying that a licensed ham would be offering a free lecture at a library, she decided that it

would probably "do the trick" in giving them the final inspiration and momentum to go for the license exam. The lecture was to cover all of the things they wanted to know and even give them a chance to see some "real life" ham equipment close up. So, Lou reports, Tina dragged him to the library.

Lou says that the lecture was conducted by a young fellow who seemed to know a lot about his topic and had even gone through the trouble of running some very colorful slides to help explain ham radio. There was one problem, says Lou, and it was a major one—not only did this fellow refer to CB'ers very often throughout the entire course of his lecture, he continually called CB'ers "Chicken Banders," "Crummy Banders," "Crud Banders," and "Citizen Bandits." Sadly, Lou confides, "at least 40% of his lecture was centered around putting down those who operate on 27 MHz, and he was quite nasty in what he had to say, as if it was necessary to develop an intense dislike for CB as a prerequisite for being let into the ham radio inner circles." At least a quarter of his audience walked out while the guy was doing his little act, but Lou and Tina stayed—however Lou says that he could see that this guy had "long since surpassed her boiling point." At the end of the lecture, Lou said "she was in a state of total rage, being especially sensitive to hearing female operators referred to as 'beavers,' which was another oft-heard word sprinkled throughout the lecture."

The expert then invited the audience to the front of the room where several receivers and ham transceivers were piled on to a card table for view. Lou says that was Tina's cue to go storming out of her seat, ahead of all others, and loudly confront the lecturer. Shaking her finger in his face and talking in a voice which Lou says he (thankfully) hadn't heard her use very often before, she angrily asked,



"Look guy, just why do you hate CB'ers so much—c'mon and answer me!"

The guy was startled, to say the least. Sheepishly he grasped for something to say—obviously not expecting any reaction of that nature; this lecture had probably been successfully given many times before. He stammered, "Uh—no reason I suppose." Lou expected Tina to commence beating him around the head and shoulders with her purse, but that wasn't on her mind. No way!

Upon hearing his answer, Tina stormed over to the card table with the radios on it and kicked the table leg as hard as she could. The table, already groaning under the weight of the tables, reacted poorly to this gesture—in fact the leg instantly collapsed and tilted the card table so that all of the equipment promptly slid to the floor with a sickening *thud*. Tina spun around and glared at him, amidst the loud cheers of many members of the audience, Tina loudly announced—"I just gave you a reason—Lou we're goin' home now!"

Lou says he left, in a hurry, and was followed by a goodly percentage of the remaining audience who tossed many unprintable epithets at the lecturer as they left en masse. The next day Lou advises that he called the head of the library's lecture program and left his name and phone number in case there had been any damage done to the radio equipment. A week later the library called back to say that the radios were OK but the poor card table had seen its last lecture. Lou promptly replaced the table with a new one—but says that he thinks that maybe he's been taken to his last lecture too!

He and Tina are now studying for their ham tickets, by book, and at home!

**ONWARD TOWARDS 1984 DEPT.:** Sen. Barry Goldwater, of Arizona, recently composed a bill which he introduced to the senate (S.929) which holds much promise as a new extension of FCC powers and blow-the-whistle-on-your-neighbor policy. Amongst the several things which this proposed legislation seeks to establish is the FCC's right to say that a person must prove that he or she has a valid radio license before they can purchase a transmitter—that would place a radio transmitter on about the same level nationally as handguns are regarded in several states, however (in that respect) it would give the FCC more power to regulate sales of communications products to the public than any federal agency has in a similar regard to handguns!

Next, Senator Goldwater proposes to let the FCC

turn loose volunteer monitors to steer the FCC's enforcement personnel to those persons the vigilante monitors suspect may be violating various FCC rules and regulations.

Goldwater states that unlicensed operation "adjacent" to allocated ham frequencies is a "severe problem" in that it "interferes with legitimate citizen's and amateur transmissions." No explanation was offered as to the process by which this curious effect could take place, or how it has been a matter of fact for many years that stations in various radio services throughout the world have operated adjacent to amateur (and other) bands without any problems—and I'm talking about stations running tens of thousands of watts.

This is really a poorly conceived piece of legislation and it would indeed be a disaster if it gets a life of its own. What next—the *thought police*?

"SECRET TESTS" DEPT. *The Washington State CB Radio Association* says that the FCC conducted tests intended to compare the interference potentials of 3rd harmonic AM and SSB transmissions to TV Channel 6 inasmuch as there had been some discussion (in connection with the possible expansion of CB above Channel 40—27.405). These tests were conducted by a branch of the FCC's Office of Science and Technology (formerly the Office of The Chief Engineer).

The tests were made using Cobra, Jet Sound, and Radio Shack *Navajo* CB rigs and a GE TV set. While the LSB output of the Cobra was said to have caused less QRM, and actually more QRM was caused by the LSB output of the Jet Star, the *Navajo* did not exhibit increased QRM which favored either mode. The FCC's test reports stated, "The data given here for three CB transmitters does not permit a general conclusion as to whether third harmonics due to an LSB fundamental have more or less interference to television than a third harmonic due to an AM fundamental."

They concluded that the only advantage expansion of the CB channel allocations would have if made exclusively SSB would be in the number of channels created and that expansion in either AM or SSB mode "can cause "that a potential for increased interference" exists which can "cause new interference problems for millions of television viewers."

When one considers that only 3 CB rigs were tried (one of them being an obscure off-brand) and only 1 single TV receiver was used you can get a handle on the validity of these so-called tests! As the WSCBRA pointed out, "the tests were so poorly

conducted that there could be no valid conclusions concerning a comparison of AM and SSB or the degree of potential interference to TV channel 6."

WSCBRA pointed out that the engineers made no attempt to either investigate or explain the inconsistent data and irregularities in the tests. For instance, one document said that QRM from SSB is worse than AM due to "the random nature of single side-band interference compared to the more continuous—and thus more tolerable—interference from an undesired AM signal." What that says is the continuous interference from an AM carrier would be *less* annoying than even the type of occasional interference which might be encountered via SSB on highest voice peaks. Makes sense, no? Furthermore there was no evidence presented, based upon tests conducted with 3 rigs and 1 single TV receiver, that any valid claim could be made regarding "interference problems for millions of TV receivers." Such a conclusion was far beyond this unscientific quick-and-dirty rush job which was so unprofessional and superficial as to be preposterous. There was, of course, a *fudge factor* in all of this tomfoolery—the two authors of the test report (themselves FCC engineers) pointed out that the recommendations were their own personal opinions and did not necessarily reflect the views of the FCC or the Office of Science and Technology. Based upon the fact that one of the FCC engineers who made the recommendations holds *two* Extra Class ham tickets one can only guess at the motivations which prompted the curious conclusions and recommendations behind these flaws and partial tests.

C'mon, Uncle Charlie, you aren't going to get anybody to buy *that* kettle of fish! It smells like a mackerel in the moonlight!

NEW FCC CHIEF: By now you've probably heard that Mr. Ferris, formerly the *big wheel* (I've always wanted to say that) has left the FCC and was replaced by Mark S. Fowler as Chairman of the Commission. Mr. Fowler has been a communications lawyer for about 12 years and prior to that he spent 10 years working in the broadcasting industry, primarily as an announcer at small stations in Florida. Born in Canada of Canadian/American parents, Fowler's career also included his being the legal counsel for communications for the Reagan campaign in 1975-76 and during the 1970 campaign for Reagan-Bush. Let's hope that Mr. Fowler's regime produces better results for 27 MHz interests than did Mr. Ferris' which seemed to be far too easily dazzled by whatever cockeyed "facts" were tossed into the ring

by FCC personnel.

BORN AGAIN: It's no secret that the CB industry has been less than jubilant about the amount of business to be had for the past 3 years or so. After about 3 years of "boom," things deflated rather rapidly and eventually levelled off at a point which was hardly guaranteed to assure wealth or bounding happiness to very many companies. The past several months, insiders say, have been a different story. Commencing in the early part of this year, manufacturers and dealers have been noticing a startling upswing in sales of CB equipment; shortages have been noted in respect to several lines of rigs and now there is even some fear that the shortages could grow worse (even become serious) before the year is out!

There appear to be several reasons for this, not the least of which is the growing overseas market for this equipment which has diverted much equipment from the American/Canadian scenes as well as producing new revenue for the industry. This is coupled with a distinct shortage of chips which are used in the manufacture of CB gear; most seem to be gobbled up for use in computers, calculators, games and VCR's. On the other hand, many dealers say that people who bought CB's in the 1975-77 period are now looking for replacement rigs and that these people are hobbyists who want SSB stations. *Consumer Electronics*, an electronics industry publication, recently observed that, "renewed interest on the part of CB hobbyists and replacement buyers" have produced increased sales and then the publication quoted one supplier as stating, "hobbyists continue to show buying strength." The influence of the hobbyists, as we noted here in S9 several months ago, predominates the CB scene. Those who have written off the hobbyist market as being secondary to the so-called "serious" (emergency use only) may have some re-evaluation to do—just as we've been saying all along!

*T. Orca!*

# Cardswappers Unlimited

## S9's Column for QSL Cardswappers

Conducted By: Dorothy Ferrentino



The Cardswappers Unlimited Column is dedicated to the hobby of swapping or exchanging CB QSL cards (wallpaper). The below listed CB'ers have submitted their names to this column to indicate that they invite other CB'ers to send them QSL cards for swapping purposes, and will respond to all who do so with a QSL of their own. Those readers wishing to swap cards with these people, should mail QSL cards directly to the addresses indicated, and NOT to the offices of CB RADIO/S9. Readers wishing to be listed as Cardswappers are requested to obtain a copy of our rules and standards for becoming a part of this column. These rules were outlined in the December (1979) issue of CB RADIO/S9; a reprint is available for 25 cents and a self-addressed stamped envelope. Address all requests to: Dorothy Ferrentino, Cardswappers Unlimited, CB RADIO/S9, 14 Vanderventer Ave., Port Washington, NY 11050.

- KEY 2443 M. Spranger, Jr., Rt. 1 Perry Lake, Fairview, Mich. 48621
- KMV-2120 Jim Thompson, Rt. 6, Box 90A, Ada, Oklahoma 74840
- KBDO-4310 Michael Ray, 200 W. Carney Ave., E. Herkimer, N.Y. 13350
- KBRE-9298 Claudia Mitchell, Box 2607, Providence, RI 02907
- UNIT 124 Dale & Judy Berry, Box 187, Lupton, Mich. 48635
- KAAE 2986/
- KBBV 1422 Loys & Rosemary Marsh, 4971 Hwy. H, Kewaskum, WI 53040
- KRW-9077 Ethel Gomez, 24 Woodland Dr., Wappingers Falls, N.Y. 12590
- Mr. Coffee Michael Ray, 200 W. Carney Ave., E. Herkimer, N.Y. 13350
- KACS 1517 Vernon & Reine Ferguson, P.O. Box 183, Henderson, Texas 75652

- Chameleon/  
ZSI-295 L.C. Corrin, 165 Visser Street, Peerless Park, Kraalfontein 7570 South Africa
- SSB-451 2000 Center, Box 1134, Berkeley, Ca. 94704
- Red Devil 2000 Center, Box 1134, Berkeley, Ca. 94704
- KAST-6919 Mildred S. Bugbee, Rt. 1, Box 39, Pennville, IN 47369
- UNIT 776 Jerry Willis, FMC TMC 1 Box 43, APO 09710 NY
- KBGD-5575 Patrick Clinch, 22 Division St., Brick Town, NJ 08723
- UNIT-451 11632 Las Lucas, Santa Ana, CA 92705
- UNIT 803 John Jesse, 727 Webster, Mexico, MO 65265
- KQL 5845 John J. Vinsko, 34 Weston Place, Shenandoah, PA 17976
- UNIT 197L Mike Zimer, 2917 Coventry Blvd., N.E., Canton, Ohio 44705
- UNIT 714 P.O. Box 9266, Phoenix, AZ 85068
- KBPL-7464 Walt Hilkemann, 711 E. Bluff, Norfolk, Nebraska 68701
- KSC 6872 Cecilia & Wayne Roberson, Box 11014, Parkwater Station, Spokane, Wn. 99211
- SSB-9718 Jack B. Richter, 23 E. George St., Yoe, PA 17313
- KPM-0221 Hazel Gettinger, 78 Hudsons Dale St., Weatherly, PA 18255
- KPM-0221 78 Hudsons Dale St., Weatherly, Penna. 18255
- Mr. Magic Harold Martin, 101 Diplomat Plaza, Morton, Illinois 61550
- KAPZ 7857 Jay Ehret, P.O. Box 173, Oaklyn, NJ 08107

- Big Dollar United State of Texas QSL Swap Club, Vernon Ferguson, President, P.O. Box 483, Henderson, TX 75652
- KAIF-3799 P.O. Box 509, Gig Harbor, WA 98335
- KAOZ-9736 Herman & Mamie Daley, 22 Teetsel St., Saugerties, NY 12477
- KES-1734 Walter Cummings, 106 Haskell St., Westbrook, ME 04092
- KBLX 6051 P.O. Box 14786, Philadelphia, PA 19134
- KBL 6250 Jerry Willis, FM TMP 1, Box 43, APO 09710, NY
- KLF-8464 L.P. Sell, Sr., 9423 Waverly Dr., El Paso, Texas 79924
- KHN-4892 Mike Zimer, 2917 Coventry Blvd., N.E., Canton, Ohio 44705
- Mr. Magic Harold Martin, 101 Diplomat Plaza, Morton, Ill 61550
- KAPZ 7857 Jay Ehret, P.O. Box 173, Oaklyn, NJ 08107
- KDO-0025 Jean M. Delphart, 160 Smith Street, Buffalo, NY 14210

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# WASHINGTON OUTLOOK

## WHAT'S HAPPENING AT UNCLE CHARLIES'

### FCC RENEWS SMITHSONIAN AMATEUR CALL SIGN, NN3SI

The FCC's Private Radio Bureau has authorized the Smithsonian Institution Radio Club to continue using the call sign NN3SI for its amateur radio station for another five years. That renewal is newsworthy because NN3SI is not a typical amateur station.

It was set up in 1976 as part of a bicentennial exhibit called "A Nation of Nations" in the National Museum of History and Technology. The FCC issued the call sign NN3SI as a one-year authorization for a special event station, but later extended it to a full five-year term when the Smithsonian made the station a permanent exhibit.

Since then the Commission changed its amateur radio rules to eliminate special event call signs so the renewal of NN3SI required special action by the Private Radio Bureau before the term expired in June 1981. The bureau acted April 29 to renew the special event call sign as an exception to the rules because of the station's unique position as a national historical exhibit, which may be viewed in operation by museum visitors, and heard by other radio amateurs throughout the world.

Cards and letters received by the Smithsonian radio club acknowledge the unusual call sign NN3SI representing amateur radio in the United States. The Private Radio Bureau agreed that it was in the public interest to keep that call sign on the air.

### UNLICENSED STATION OPERATOR PAYS FINE

The FCC Field Operations Bureau announced that Akton Olson Miller Whittier, CA, submitted full payment of a \$750 fine for violation of Section 301 of the Communications Act of 1934, as amended.

The violation resulted from unlicensed operation of a radio station on a frequency authorized for use only by the United States Government.

The Notice of Liability was issued by the Bureau's Special Enforcement Facility at Long Beach, CA, after completion of an investigation. The forfeiture was assessed pursuant to delegated authority in Section 0.311(d)(1) of the Rules.

### FCC SIMPLIFIES RADIO CONTROL RADIO SERVICE RULES

The Commission has simplified its Radio Control (R/C) Radio Service rules as part of its continuing effort to write personal radio service rules in "plain English."

On February 11, 1980, the Commission proposed a simplified version of the R/C rules with no substantive changes. The R/C rules followed closely the question and answer format of the Citizens Band Radio Service rules.

The revised rules became effective July 20, 1981.

### FCC REVISES POWER LIMITATIONS FOR AMATEUR RADIO STATIONS IN 1800-2000 KHZ BAND

The Commission has revised the power limitations for Amateur radio stations operating in the 160 meter band (1800-2000 KHz).

The action resulted from a request to delete Sections 97.61(b)(1) and (b)(2) of the rules which place transmitter power and geographic restrictions on Amateur operations in the 160 meter band to prevent interference to long-range aid to radio navigation (LORAN-A) operations. It was claimed that since LORAN-A is being phased out, the 160 meter band should be made fully available to the Amateur Radio Service.

The Commission said it would revise Section 97.61(b)(2) to reflect

new power limitations for Amateur radio operation in the 160 meter band. In addition, it would amend the Table of Frequency Allocations, Footnote NG15(a)(4) to reflect these power limitations. However, since other countries would not be terminating LORAN-A operations until December 31, 1982, Section 97.61(b)(1) would remain in effect.

It cautioned Amateur's *not* to invest heavily in equipment which can be used *only* for the 1850-2000 kHz band because there was no guarantee as to final international provisions for the Amateur Radio Service in the 160 meter band.

The amendments to Parts 2 and 97 became effective June 10, 1981.

### FCC RECEIVES \$4,950 IN FINES FROM CB RADIO RULES VIOLATORS

The FCC reported \$4,950 in fines has been paid by Citizen's Band radio operators for violating the Commission's rules governing the Citizens Band radio service. The fines were imposed by FCC field offices in behalf of the Private Radio Bureau.

Following is a list of those fined and the amounts remitted:

James D. Stephens, Horn Lake, MS,  
KAZT-4457, \$50  
Wayne D. Crawford, Memphis, TN,  
KAUX-3895, \$200  
Robert Brown, Bakersfield, CA  
KAPI-8185, \$25  
William G. Beauvais, Manchester,  
NH, KAGI-7759, \$125  
Rickie L. McClellan, Sr., Indianapolis,  
IN, KBMH-5624, \$50  
Leonard A. Waldman, Miami, FL,  
KAXM-4784, \$100  
Chester L. Fisher, Rossville, GA,  
KZK-0736, \$100  
Alfred N. Handley, Birmingham, AL,  
KSX-1679, \$75  
Richard J. Taylor, Long Beach, CA,  
KAFK-6198, \$225

Randell Ball, Indianapolis, IN, KQO-3576, \$50  
 Donald E. Boyington, Revere, MA, KBCG-3070, \$100  
 Glenn R. Gerstemeir, Jenkintown, PA, KALX-6217, \$100  
 Mose Turner, Little Rock, AK, KBOO-5707, \$50  
 Robert Williams, Jr., Harvey, IL, KBBM-6486, \$25  
 Edward R. Hannah, Joplin, MO, KARA-5366, \$100  
 Joe S. Sawukaytis, Villas Park, IL, KZF-4700, \$100  
 Clifford C. Pena, Crowley, TX, KSY-5427, \$50  
 Diann E. Wolf, Ft. Lauderdale, FL, KOO-6987, \$25  
 Lillian C. Thomas, Pensacola, FL, KAPC-1858, \$50  
 Barbara A. Martin, Gaffney, SC, KBJO-9735, \$50  
 Jerome D. Kennedy, North Plainfield, NJ, KAWZ-4806, \$100  
 Robert C. Heald, Sr., Arlington, TX, KXI-9860, \$50  
 Arthur G. Rogers, Harrison, TN, KYV-9569, \$50  
 Jerry D. Frady, Gaffney, SC, KGF-0806, \$50  
 Danny E. Denson, Winona, MS, KARI-6425, \$25  
 Thomas W. Smith, Sanford, NC, KJM-2701, \$225  
 James A. White, Savannah, TN, KOH-4249, \$50  
 James E. Fairley, Jackson, MI, KAAS-5491, \$25  
 Douglas E. Mosley, Dallas, TX, KBOH-3727, \$50  
 Davis L. Ahmann, Rochester, MN, KBHX-1255, \$125  
 Charles Allen, Cantonments, FL, KDJ-8518, \$50  
 Tony E. Appleton, Memphis, TN, KQU-8085, \$125  
 Clifford L. Branham, Signal Mountain, TN, KAEK-8747, \$100  
 James W. Brewer, Muscle Shoals, AL, KAOV-1127, \$100  
 Earl Ellis, Milwaukee, WI, KSW-6973, \$25  
 Robert W. Ferguson, Martinez, CA, KAXB-1566, \$50  
 Edward L. Hines, Dayton, OH, KAUY-9831, \$150  
 Bernard K. Kish, Johnson City, TN, KYY-4747, \$175  
 Richard L. Leon, Phoenix, AZ, KALX-2653, \$50  
 Allan D. Minder, Toledo, OH, KBOB-2654, \$25  
 Melvin Small, Columbia, SC, KNS-4927, \$125

William A. Smith, Bloomington, CA, KAHZ-8729, \$100  
 Mary E. Thomas, Cleveland, OH, KAAG-5440, \$100  
 Mildred R. Tucker, Taylors, SC, KCC-2431, \$100  
 Rocco E. Velletri, Miramar, FL, KAYM-0879, \$100  
 Cecelia M. Wescoat, Williamstown, NJ, KAFY-0648, \$225  
 Darnell E. Wilcox, Carol City, FL, KAXG-1877, \$100  
 Ronald A. Young, Joplin, MO, KNZ-6338, \$150  
 Neal L. Duvall, Lakewood, CO, KGI-5023, \$200  
 Walter D. Snyder, Memphis, TN, KSW-4405, \$25  
 George J. Freain, Manteca, CA, KOE-9700, \$100  
 Erasto Rosario, Rio Piedras, PR, KAZU-3495, \$25  
 Gilbert B. Gilbert, Sacramento, CA, KDK-2656, \$150  
 Ted R. Jenkins, Indianapolis, IN, KNN-7882, \$50  
 George E. Diletto, Denver, CO, KBKK-7930, \$50  
 Willie Griffin, Jr., Kansas City, MO, KOU-1566, \$50  
 Junius L. Heah, Washington, DC, KKL-9139, \$25

# coming events

## SEPTEMBER

**Bowling Green, Kentucky.** Mid-America March of Dimes Jamboree, September 19-20. Sponsored by the Bowling Green-Warren County C.B. Radio Club, Inc. For more information write the club at P.O. Box 376, Bowling Green, Kentucky 42101, or call (512) 843-8911.

## OCTOBER

**West Seneca, New York.** 11th Annual Jamboree organized by the International Dial Twisters Citizen Band Radio Club; held Sunday, October 11, 11 a.m. to 6 p.m. at the Ironworkers Hall Local #6, 196 Orchard Park Rd. (Rt. 240). Cash prizes, drawings, trophies, displays, refreshments and an auction. For more information write to club chairman Leonard Perrino, 110 Richfield Ave., Buffalo, NY 14220.

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# Tomcat's Mailbag

By S9 Editor  
Tom Kneitel



Tomcat answers some of his more interesting mail in this column from time to time. Address your letters to Tomcat's Mailbag, S9 Magazine, 14 Vanderventer Ave., Port Washington, N.Y. 11050.

## PROBLEM SOLVING DEPARTMENT

My CB whip klanks into my overhead garage door every night when I park at home. You'd think that by now some clever person would have come up with an idea for how to be a CB operator without having to worry about this problem any longer.

Skitch Skittelman,  
Kenosha, Wisc.

*For a change, leave your car parked overnight on a downtown street corner. Chances are that by the next night when you take the car home you'll be a CB'er who won't have to worry about this problem any longer.*

## A SCANNER BY ANY OTHER NAME

I've asked a number of scanner dealers about a scanner made by a company called "Kinor," but nobody has ever heard of this company and it's not listed in any records kept by dealers. How can I find out about this scanner? I'm interested because someone says it covers CB frequencies.

H. van Leeuin,  
Poughkeepsie, N.Y.

*Indeed it does, but it's doubtful that you'd ever find any dealer anywhere in these parts who'd know what you were talking about. Actually "Kinor" appears to be a brand name stamped on the front panels of J.I.L. brand scanners which are going to be shipped off to Europe for sale, although the model number (SX-200)*



*is identical under both brand names. In this country you'd have to ask for a "J.I.L.," and no doubt there would be few enough dealers who would still know what you're asking for, or who would sell these bombs if they did know. The SX-200, however, covers 16 channels in the following bands in AM and FM: 26 to 180 MHz and 380 to 514 MHz. The previous model, the J.I.L. SX-100, which covered only FM and over a far less ambitious frequency range, was a cumbersome disaster with a separate power supply and no ability to "limit" the upper frequency end when the set was in "search" mode. The new model has a "limit" feature added but they left the idiotic "slide" type controls for "fine tuning," squelch and volume and I would suspect that, ultimately, this is still little more than a slight rehash of the absolutely awful SX-100. The ability to scan the 40 CB frequencies*

*is nothing to be said for it at all, however, and if it can't unravel Sideband signals it will be of minimal value elsewhere below 30 MHz. Forget it and look for a standard brand of scanner where you can get 50 channel coverage, and in a better designed rig covering roughly the same range of useful frequencies.*

## ASSAULTED BY BATTERIES

I've got a hand held transceiver which works well but it's used 6 batteries in about two months. I use the thing only about 4 or 5 hours on weekends. The present batteries are giving out. This thing eats batteries like they're going out of style. What's wrong?

THE FISH HERMAN,  
Naples, Fla.

*It's obvious. Batteries are going out of style. Sorry about that.*

### THE MOUSE THAT SCANNED

I have long noticed that radio lingo seems to be especially partial to making heavy use of words relating to various non-human life forms, such as rubber *duckie*, *bug*, *beaver*, etc., and aren't you a *Tomcat*, and was that used CB rig I bought at the CB jamboree correctly called a *dog* or a *lemon*? Next question; I overheard 2 CB'ers talking about getting a *mouse*. That's a new one on me! What's a *mouse*?

Mike Coraddi,  
Idaho Falls, Idaho

*A mouse, in the communications sense, is a hand-held scanner. The name came from the appearance of the unit which is small in size, usually dark in color and has a long flexible tail-like antenna protruding from it.*

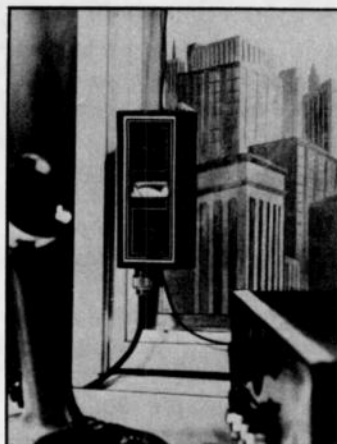
### IT'S NOT WHAT YA SAY...

### IT'S THE WAY THAT YA SAY IT!

Not long ago I purchased a scanner covering the VHF aero and, armed with your spectacular AIR-SCAN directory, I've been spending a lot of time monitoring the airline "company" frequencies. I note that all pilots of overseas-based airlines use English when speaking to the ground stations. That made me wonder if American pilots must learn languages other than English so they can communicate with ground controllers in the various countries to which they fly, or do they use an international language such as French?

Lou Roficale,  
Dallas, Texas

*While French may be beautiful to hear spoken and while it still may be the official language of international diplomacy, you'll probably be surprised to learn that English is used universally for air traffic control. Although it may come through heavily accented, English is what American pilots hear from control towers and other ground stations throughout the world and it is the same language that pilots of foreign-based aircraft use when communicating with American airports. According to the FAA, there are two probable reasons for this. The first is that the United States has the world's largest commercial aviation fleet and second, that English is taught more often as the required second language overseas than any other single language taught in American schools.*



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# DANGER!!

## FERROEQUINOLOGIST AT LARGE



Hi, I'm Dick Cowan. I'm the publisher of S9. I'm also one of the country's most ferocious ferroequinologists. You don't recognize the word? It translates out to "collector of old toy trains."

Anyway, I have bought hundreds of old trains from S9 readers in the past six years, but my hunger for a bigger collection keeps growing. That's why I want you readers to know that I'll pay enormous prices to add good trains to my collection.

What am I looking for? Primarily Lionel, and that includes O gauge or standard gauge. But I'll also consider old Marklin, Ives, pre-war American Flier, and several others. No HO or N gauge, please. I wouldn't know what to do with them.

How much will I pay. Perhaps a few hundred dollars, perhaps a few thousand. It depends on what you've got and what condition it's in. Just as an example, a Lionel 5344 engine can bring a thousand dollars or more, and lots extra for the freight or passenger cars. A 400E will bring at least as much. Complete sets, especially in the original boxes and set cartons can be worth as much as \$5,000. In other words, I'm very serious about this whole train collecting thing.

If you've got old trains stored away in the basement or attic, just jot down the numbers on the engines and cars. A polaroid picture will help, but it isn't all that necessary. I want those trains and I'll go to any lengths to get 'em. Why not drop me a line, or better still, give me a call.

Richard Cowan, Publisher  
S9 Magazine  
14 Vanderventer Ave.  
Port Washington, N.Y. 11050

Tel. (516) 883-6200

## FOLLOWING SINGLE FILE DOWN THE PATH

CB got off to a long and slow start in the United States but finally in the mid-1970's everything seemed to go crazy. The following few years (Phase 2) resulted in a rather hysterical outburst of CB-consciousness during which time a whole new language (CB lingo) was created, CB songs accosted our ears, and every product under the Sun which bore the letters "CB" could be sold to the public. Eventually CB here went into a Phase 3 during which time things got rather subdued and much of the hype and phony tinsel stripped away. We how seem to be in the early stages of Phase 4, in which the CB service is regrouping and stabilizing in a manner which shows a healthy aspect, minus most of the kookiness which was around a few years ago. Has CB gone a different route in the various nations other than the United States where it has caught on?

Randall Winters,  
Memphis, Tenn.

*There are some similarities, however only the United States and Canada went through the first of your Phases, everywhere else the whole thing started out in your Phase 2. Interestingly, each of the various English speaking nations which "discovers" CB appears forced to go through very similar patterns in the sense that right now in England they are being deluged in that awful CB music we were hearing in 1976, and they are very much into calling one another "goodbuddy," and talking about "beavers." The majority of that type of stuff went out of date in North America about 1978 or so!*

## SHOWING THEIR APPROVAL

What with the FCC requiring that most communications licensees now use equipment which the FCC has certified as being "type accepted," it seems to me that there should be some sort of book or dictionary which lists all of the equipment which the FCC considers acceptable. Would certainly come in handy when planning a communications system, or buying/selling one, especially with used equipment or with newly designed models. Why doesn't someone publish such a directory?

Edwin Fischesser,  
Lexington, Ky.

*There is such a directory and it's called the FCC Radio Equipment List. Covering just about all radio services, and copies are available for reference at all FCC Field Offices. You can actually buy your own copy from an FCC duplicating contractor in Washington for \$30 to \$40 per copy, however unless you intend making heavy and almost daily use of the publication, the price is pretty steep for what you get in return; and it doesn't even cover CB and broadcast equipment. The current FCC Radio Equipment List is current up to January, 1981.*

## ALL CHARGED UP

I've got a neighbor who insists that he can charge flashlight batteries by leaving them near the loop antenna of his table radio. Howzat grab ya?

Doug Brownson,  
Williamsburg, Va.

*Big deal. I just charged a car battery and a set of tires at Sears.*

## FREEBIES

A friend of mine says that over the years he has received outrageous membership cards and certificates from S9 - each one intended as a spoof or put-on. He showed me his Badbuddies International and Small World Society "memberships" and they were great. Please send me these and all others you send out.

SLEEP'N EAT,  
Lewiston, Me.

*For the record, a roundup of those which we created include "The A.C.B.A.—Armenian Corn Bread Ad-dicts," this was whipped up in the mid-1960's and I'm afraid that we are about 15 years past the last time we had any of those to offer. More recently (mid-to-late 1970's) we offered a membership card in "Badbuddies International" (the supply of these cards was exhausted -- we gave out more than 8,000 of them); then a certificate in "Shrivelled Defense" (no more of those either). About the only thing remaining from these efforts are a relatively few individually numbered certificates offering Charter Membership in the "Small World Society." The SWS certificate is a true work of art; very ornate and fancy. SWS is dedicated to the premise that the actual measurement of the planet is and therefore insuffi-*

*cient to cause any operator to violate the FCC's distance limitations for CB communications.*

*The only way the SWS certificates are ever offered (and which I can offer those which still remain) is if each person who wants one sends me a stamped, self-addressed return #10 envelope to send it out. None have ever been offered in any other manner.*

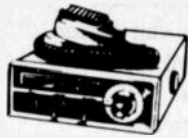
*While I'm on the subject, I might mention that despite these instructions, a surprisingly large number of people who have requested our various freebies have declined to include an SASE (self-addressed stamped envelope) and eventually write me nasty letters complaining that they never received anything in response to their request. So, for the record, let me (again) point out that any time something you want is offered in return for an SASE, if you refuse to enclose the SASE, you should not expect anything to be sent to you in return. Furthermore, stamps issued by nations other than the United States are not accepted by the U.S. Postal Service for returning things to you, so persons outside the U.S.A. will have to obtain American stamps or else purchase an International Reply Coupon at their local post office; apparently lots of folks are under the wrong impression that the letter will go through so long as it carries a stamp from its nation of destination (such as placing a Canadian stamp on a letter going from the U.S. to Canada).*

*One more thing when sending an SASE, please send at least a #10 (about 4 by 9 inch - a "long" or "business sized") envelope since anything smaller than that will seldom be large enough for whatever-it-is-you-want to be sent to you, unless it is folded into a crumpled-up pretzel. Frankly, I've always felt that anything which won't fill up a #10 envelope isn't worth sending in the first place. Save those small and odd-sized greeting card envelopes for other purposes than being offered as SASE's.*

*You might find these general guidelines handy whenever you are requesting a reply from any person or company, even if they don't specifically request an SASE. If you want to be amongst the last remaining Charter Members of the Small World Society you'll have to send that SASE!*



# CB SHOP



## TWO WAYS TO ADVERTISE YOUR PRODUCTS & SERVICES IN THIS SECTION

- 1. By-The-Word Ads**  
Commercial, Clubs, Organizations, \$1.00 per word (\$40 minimum per issue).
- 2. Display Ads**  
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**Closing Date**—All advertising in this section will now close the 10th of the third preceding month; i.e., January 10th for the April issue.

**PAYMENT** — All ads must be pre-paid by check or money order (payable to Cowan Publishing Corp.), or through Bank Americard (Visa) or MasterCard. On charge orders, include card number, expiration date and inter-bank number.

Permanent address and phone number must be supplied if not identified in actual ad copy. Publisher reserves the right to refuse any advertising deemed unsuitable or inappropriate. Because advertisers, services, and equipment contained in CB Shop have not been investigated, the publisher cannot vouch for the merchandise or services listed therein. Direct all orders and correspondence to: Eileen Lucey, S9/Hobby Radio, 14 Vanderventer Avenue, Port Washington, N.Y. 11050. Phone: (516) 883-6200.

**ASSOCIATE MEMBERS WANTED** to join American CB Radio Club. Receive membership card, permanent club ID number, QSL card, 10-code, CB language, bumper sticker, etc. Associate membership only \$10.00 a year—mail check to: American CB Radio Club Inc., PO Box 321, Bronx, NY 10469.

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## YOUR DOUBLE GUARANTEE

### GUARANTEE I:

The K40 Speech Processor is guaranteed to outperform any microphone it replaces or return it for a complete and full refund within 7 days from the K40 Dealer that installed and tuned it.

### GUARANTEE II:

Unconditionally guaranteed for 12 months. Guaranteed against cracking, chipping, or rusting. Guaranteed against mechanical failure. Guaranteed against electrical failure. No exclusions. No gimmicks. For a full 12 months.

**\$44.50** Suggested Retail

AMERICAN ANTENNA  
ELGIN, ILLINOIS 60120  
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... Sold exclusively by **3500** American **K40** Dealers throughout the U.S. & Canada.

CIRCLE 4 ON READER SERVICE CARD