MAY 1996

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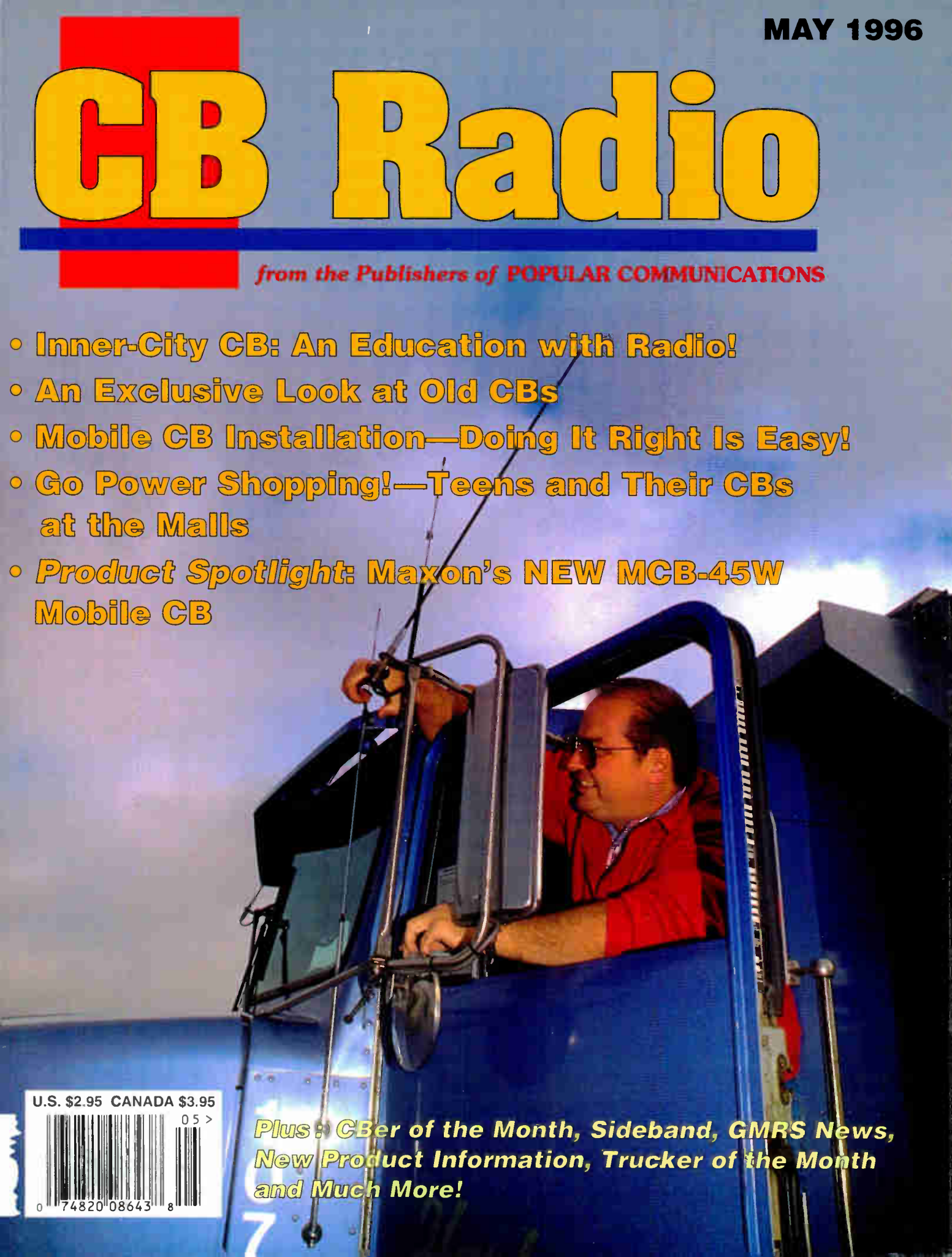

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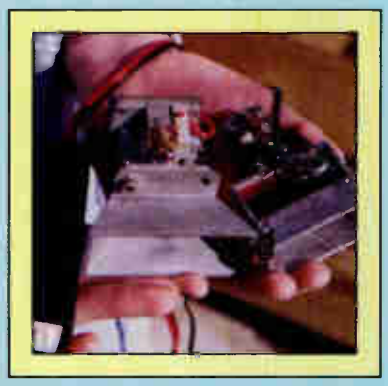

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This month's cover: Gary L. Hart "Watermelon" of Kernersville, North Carolina adjusts his truck antenna. Photo by Larry Mulvehill, WB2ZPI.

CB Forum

EDITORIAL

Spread the Word—But Keep it Clean!

Response to our annual 1996 *CB Buyer's Guide* and the *CB Radio* magazine has been excellent, thanks to you, our readers and subscribers. When the idea of a monthly CB magazine was first conceived, it was even met with offers from longtime writers to lend a hand. Once again, like they have with our annual *Popular Communications Guide* and *CB Buyer's Guide*, they've gone above and beyond the call!

Now, fellow CBers, it's your turn to help out. How, you ask? By telling people about CB radio.

Our amateur friends (they are your friends, aren't they?) learned the hard way that unless more ordinary folks like you and me become hams, the ham radio community can fade away. They learned that new blood was needed in the hobby. We must do the same.

Ok, so CB sales aren't what they were in the '70s and every car isn't sporting a steel whip on the bumper these days, but you don't need an Ivy league degree to realize that CB really is alive and well—but from time to time it needs a good kick in the pants.

But before you spread the word, it's imperative we clean up our act. You shouldn't be surprised, but many would-be CBers (and, in fact, current CBers, too) have had it up to here with the foul language. After all, who wants to subject grandma and the neighbor's kids to street language while you drive them to the mall?

It's truly unfortunate that laws don't mean as much as they once did. Truth is, there are some days that I'd prefer living under the FCC's constant stare! Think about it for a minute. At least during the "good old days" you could take comfort knowing that it seemed that even though linears, language and bad radio manners were prevalent, there was always a day or two every now and then when you could talk (and hear) clear across the county. Those were the days when Uncle Charlie was "reported" to be in town. Most folks feared getting caught doing anything contrary to the rules, so most heeded the news and either didn't use the CB or followed the rules to the letter. Then again, you could count on it; the really loudmouthed nasty operators who cursed on and on, would eventually be rounded up, fined, their equipment seized and sent off to some scrap metal pit in Outer Mongolia. Good news for the rest of us.

Unlike many of the CB rules that were a lot like many politicians—out of touch with reality—the rule governing the use of profanity on the airwaves is here to stay. It's rule 95.413 (Rule 13) no. 2 that states, "You must not use a CB station . . . to transmit obscene, indecent or profane words, language or meaning." But, despite the FCC's rule, (isn't it strange how people actually NEED a rule to tell them not to use profanity on the radio?) and despite that fact that using language you wouldn't use in front of your mom or the kids, the cursing and profanity is still around. I suppose it's partly because those who shout obscenities over the air never learned right from wrong. Maybe they think they're entertaining us. They aren't. Maybe they believe other CBers think they're tough guys. They aren't.

They've certainly caught our attention. And while they're busy thumbing their noses at the rest of the civilized world, we're busy changing the channel. Like Dad said, "ignore 'em and they'll go away."

In the meantime, make it a point to tell people about the GOOD points of CB radio—the fun, the roadside help and oh yes, the rules too.

Next month we'll talk more about what you can do to get people involved in your Citizens Band. As usual, we welcome your ideas and suggestions.

73's.

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Mail Call

LETTERS TO THE EDITOR

The Questions You Ask . . .

Dear Editor:

I'm never able to get a good SWR match on my mobile CB. My radio is a Midland and the antenna is a 102-inch steel whip mounted on the side of the car.

B. Wellington, Ottawa.

Okay, B., first things first. Without actually putting an eyeball on your mobile setup, it's hard to tell precisely what's wrong. Assuming the SWR is higher than 2.1, try checking all cable connections. Is there a good solder connection at the ball-mount in the vehicle fender? How long have you had the antenna on the same vehicle? It's possible that in time, rust and corrosion could deteriorate your SWR and signal. Check the SWR with another meter and jumper cable. Sometimes the meter is at fault—although not that often. But the proverbial jumper cable can be bad. Also, don't forget to check the length of the coax where it enters the inside of your vehicle; is it crimped or has it been crunched (especially if it runs near a door edge or under a seat or carpet). Let us know your success with the problem!

Dear Editor:

Many times I've tried to charge my NiCd batteries in my walkie-talkie, but the radio only works for an hour or so. How can I correct this problem?

P. Wilson, Oregon.

Well, P, there are a few things you can do. First is to remember that NiCd batteries (*most* folks agree on this fact) develop a sort of "memory" when they're used and re-charged. They're really designed to be fully used, then fully re-charged. If you only use the walkie-talkie for a while, put the radio away, then a week later use it again, and repeat the process, only to re-charge the batteries a couple of months down the road, you'll steadily render them almost useless. They'll end up with a much shorter life span and give you far less operating time than if you'd simply charge them fully, use them till they nearly quit, then fully re-charge them again.

Remember too, that most NiCds, even when fully charged *do* lose their charge at the approximate rate of one percent a day, so if its been three months since you last charged them, they'll be nearly completely discharged.

Dear Editor:

Last week I picked up a copy of the *CB Buyer's Guide* and am now interested in getting a base and mobile CB. Your reviews were great, but haven't helped me decide which ones to buy. Any recommendations?

J. Stweeter, Pennsylvania.

Thanks for your letter J. This is probably a good time to point out that what many folks think are "reviews" in our *Buyer's Guides*, really aren't; they're actually basic product information write-ups of features and specifications that manufacturers have provided, along, of course with the suggested retail prices.

I'd be lying if I said all radios are created equal—they aren't! Our best advice is to take a few moments and assess your needs and how much you want to spend. As a rule of thumb, I usually find buying the best one you can afford gives the best overall performance. Ask yourself a few questions, like: how many features do I need on the CB? Will I need a sideband rig? Once you've determined your ideal CB radio, look at the specs and do some comparison shopping.

Of course we aren't able to recommend one radio over another, but from time to time we'll be "reviewing" various CB radios, both base and mobile, along with accessory items in this magazine. In the meantime, why not contact one of our advertisers about something you've read here? J, don't forget to send us a photo of your radio installations.

Dear Editor:

In your first issue of *CB Radio* there was a picture of Ed Barnat in his shack. Are you sure this is really Ed or have you hired someone that looks like him to appear in that photo? Although he's in New York state and I'm in Montana, he does look very familiar.

Helen W., Butte, MT.

Dear Helen:

You've stumbled on something that frankly never crossed my mind. Is he real, or is he a stand-in for the real Ed? He certainly looks honest enough, though.

Dear Editor:

Thanks to Mr. Yoder for bringing to my attention the many uses of CB radio. I've owned several base stations over the years since the 1960s, but it was his article on Skiing and CB in your first issue that convinced me to get a couple of walkie-talkies. I use them when going for walks around town. My wife isn't so energetic, but at least I'm able to talk with her when I'm out. Thanks.

R. Applegate, Tampa, FL

Dear R.,

We're glad you enjoyed our first issue of *CB Radio*. There's lots more where the Skiing and CB column came from. Andy is into all the outdoor fun anyone could ever imagine, and he'll be giving us lots of practical uses for CB radio over the coming months.

Dear Editor:

There's a guy over on the other side of town who says he can "peak out" my radio to 50 watts for $50. But I'm a bit leery about the guy.

Ben, Chicago.

Ben:

You're a smart lad, Ben. I'd like that guy's customer list. Have we got some real estate deals for his customers with some really good Florida swampland. The FCC limits CB radios to four watts output. The factory designs the radio to put out about five watts. Now even the "dogs" will still put out 4.0 watts when they get to the end of the assembly line. So they sell a five watt radio tuned back to four watts. High power transistors cost a lot more than five watt transistors. The AM modulator would also have to handle twice as much power and cost twice as much. A bigger heatsink to dissipate the extra heat, and more cost, and more cost and more cost. In the market place it's cost, cost, cost. That $69.95 radio will out sell a $79.95 radio. So most CBs can be re-tuned (a technical violation of FCC regulations) to five, maybe six watts. But 50 watts of AM in that little tiny CB case would require air blowers and liquid cooling.

A good example would be an old Volkswagen engine. From the factory they ran about 50 horse power. Tuned up by a good mechanic, you'd get maybe 60 HP. But tuning it up to 500 Hp by just tweaking the carb . . . yeah, sure!

Dear Editor:

Congratulations on the *CB Radio Buyer's Guide*. It was great, #1 in my books. I called a fellow CBer in Martiansville, Sask., who just happens to run a CB shop out of his house. He loved it. I hope there will be a #2 Buyer's Guide. It was also nice to see several of my contributions in there as well.

Trevor Fletchor, Alberta, Canada.

Common Sense Mobile CB Installation Guidelines

Thinking about putting a CB in your vehicle? Here's some help . . .

BY BILL ORR

No doubt about it, mobile CB radio is very, very popular, even with the advent of cellular phones. There are plenty of places in the country not yet covered by the cellular network. It is in these areas that CB radio is of the greatest help.

CB radio has important advantages over cellular radio. CB can summon help from a fellow motorist. CB can establish good friendships on the road, get advanced traffic information and even provide recommendations about eating and motel information when you enter a new town. Cellular radio is merely an adjunct of your telephone; very helpful for business purposes, but designed for an entirely different purpose than CB radio.

CB comes in a handheld format—a low-power unit designed for casual, short-range communications. It also comes in a more effective 5-watt base/mobile radio that can be permanently installed in a vehicle. That's the style of equipment this article is all about.

Where can you put the CB radio? In many of today's vehicles, mounting that new rig can be a challenge. It's not impossible, but requires some planning.

Installation Affects CB Performance

In some instances the CB radio, or the way it is installed, may adversely affect vehicle operations, such as engine performance, or battery charging. It may also create interference to the stereo gear and/or microprocessors in the vehicle. Conversely, the vehicle's electrical system may cause reception interference to the CB equipment.

The following common sense guidelines help to solve such problems before they develop. They are intended to supplement, but not be used in place of, detailed operating instructions for a particular radio, or installation data provided by the vehicle manufacturer.

And, as with everything else in life, a good dose of common sense is a great asset in installing your CB radio!

Where Do You Put The CB?

Installation space for the CB seems to grow smaller with each new generation of cars and trucks. Placement of the radio can be a puzzlement; however, as car space has shrunk, the size of a good CB (thanks to modern circuitry) has also decreased. Gone are the bulky boxes filled with radio tubes! Integrated circuits have saved the day.

Generally speaking, the base/mobile CB should be conveniently located on the driver's side of the vehicle, to the right of the steering column. (Of course the handheld CB can be slipped under the driver's seat, or out of the way until used.)

Modern CBs have an LED channel display which can be blinded by direct sunlight. Placing the radio where you can observe the readout in daylight is important. Under the vehicle dash is a protected spot, or on the transmission hump. In either event, the unit should not physically interfere with the vehicle controls or passenger movement.

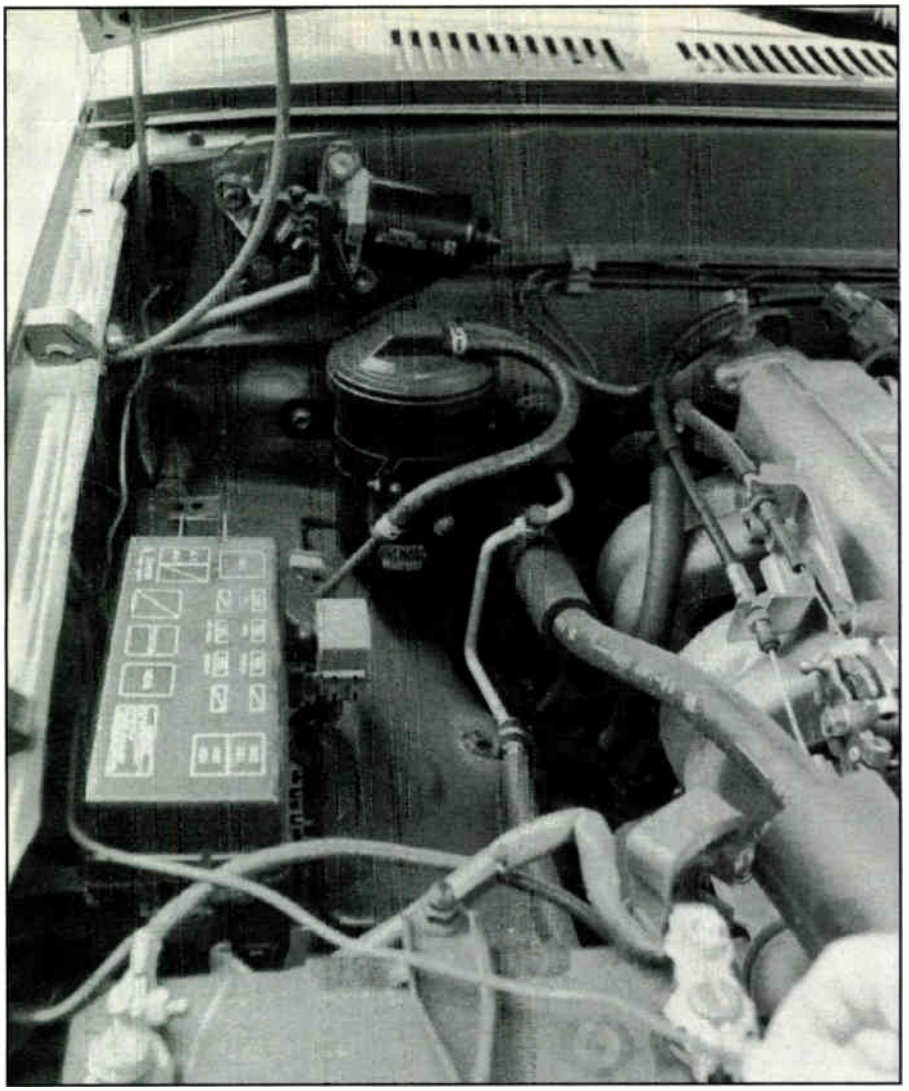
Some CBers have built a slip-in bracket bolted to the hump. This holds the CB in a vertical position close to the seat to the right of the driver. The controls and readout are easily accessible and the radio is out of the way.

Regardless of where the CB is placed, care should be taken not to mount the CB or any extra equipment, such as microphone or auxiliary speaker, in the deployment path of the air bag. Inappropriate mounting of the CB in the air bag path could spoil your whole day in the case of a collision! Bizarre as it may sound, a CBer mounted an auxiliary speaker in the center of his steering wheel. When the air bag was activated in a crash, he narrowly escaped serious injury when the speaker was propelled by the bag into his face.

Another poor place to mount the radio gear is in front of the cab heater. Excessive heat can damage the CB radio.

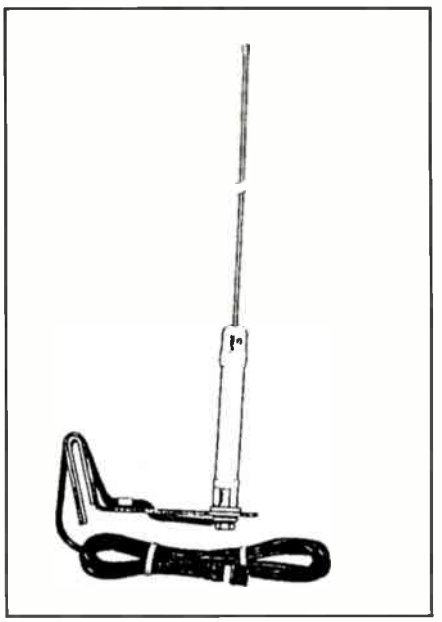
Choose Your Mounting Spot Wisely

I think it's a good idea to temporarily mount the CB in a likely spot and use it



Notice the wire coming out of the fire wall under the hood hinge? That's this CBer's red "positive" power cable running directly to the positive terminal of the car's battery near the front of the photo. (Photo by Bill Price)

Be sure the coaxial cable running inside your vehicle isn't crunched by doors or trunk lids. This correctly-placed magnetic-mount CB antenna (center of the roof) is great, but repeated door openings and closings can eventually deteriorate the coax to the point where you'll have to buy a new antenna. Our recommendation: route the cable where it gets the least amount of constant abuse. Also, try using a knife to carefully cut your vehicle's rubber door gasket, then stick the coax into the slot to protect it.



Here's the Everhardt SNGP-2 WM, 28-inch stainless steel window mount CB antenna. It's ideal for any vehicle and particularly useful because it doesn't require using the vehicle's body as a ground plane.

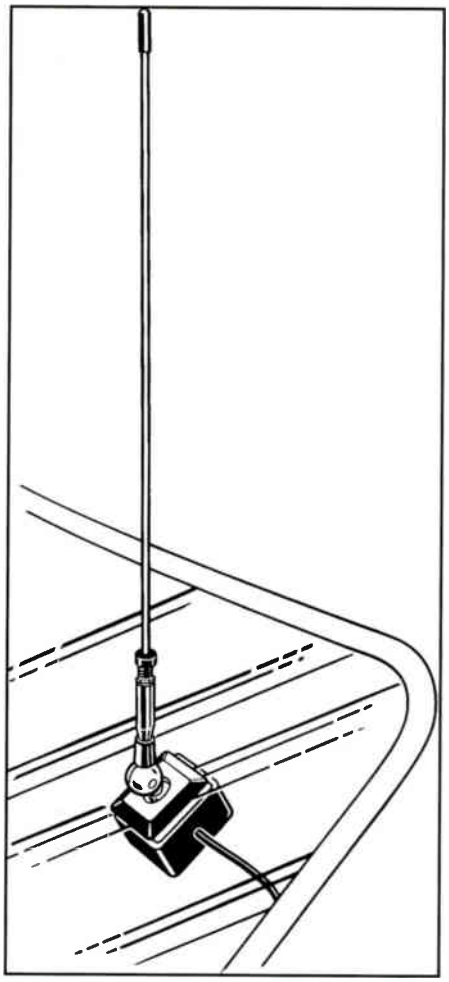
for a short period. Hook and loop fasteners will do the job for a day or so. If everything seems okay and you can operate the controls comfortably and see the readout without squinting, that's the location for a permanent mounting.

Some new remote CBs have a control microphone, with the major portion of the transceiver placed on the driver's side of the trunk or cargo bay, or under the front seat. That type of installation solves a lot of space problems in the cab.

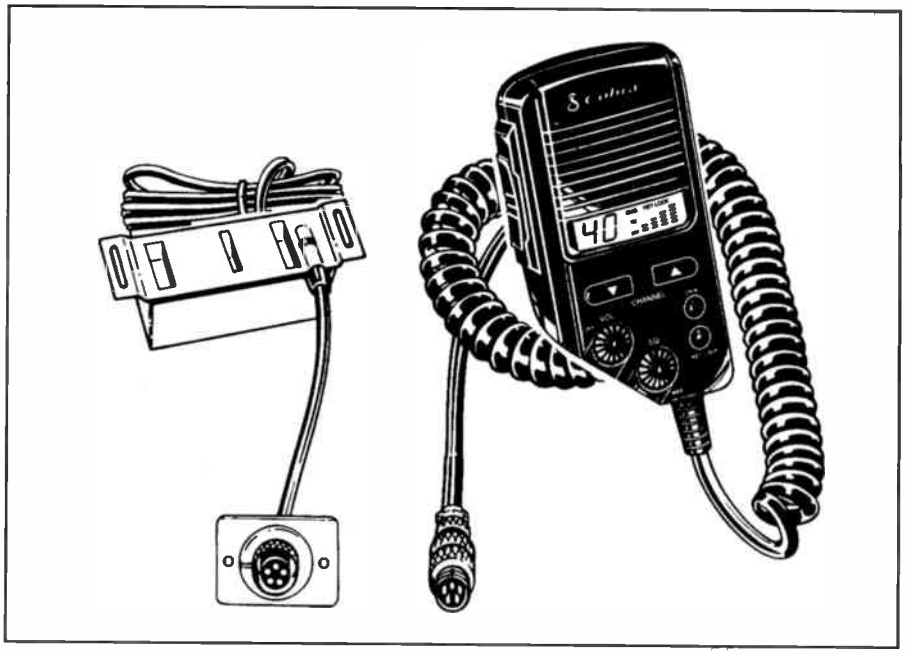
Antenna Installation

There are a bewildering number of CB antennas available to the motorist. All are vertical whips of varying styles. They use the metallic body of the vehicle as a ground (return circuit). The best, most efficient and most difficult antenna to accommodate, is the full-size 102-inch long stainless steel whip. Some avid CBers clamp such a whip on the metal rear bumper of trucks and older cars using a chain or strap-type mount attachment. Unfortunately, this scheme can place the whip parallel and close to the body of a van, for example, de-tuning the antenna and negating the advantages of the full-size whip. The 102-inch whip is a tempting antenna to use, but unless you can keep it clear of the vehicle body, you will be no better off than using a shorter, less efficient antenna placed in a more advantageous location. The big whip also moves about, even in a mild breeze; many CBers who use such an antenna have to tie it down, close to the body of the car when the vehicle is in motion.

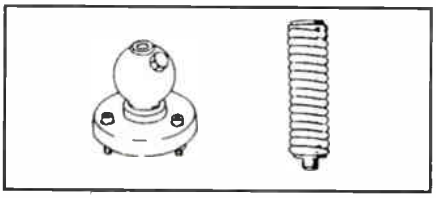
It's also important to note that while the



Solarcon's Thru-Glass CB mobile antenna is a half-wave antenna. It's tunable for 10-11 meters and includes 16 feet of coax with PL-259 connector. It's ready-to-go. The 24-inch whip is even removable. (Courtesy Solarcon Antenna Research)



Cobra's HH-70 mobile CB radio allows easy one-hand operation. The CB has a small connector box and two-wire installation. To radio for assistance on the road, a button on the CB switches instantly to Channel 9. The illuminated LCD shows all functions, day or night. It features quick-disconnect for dash or bulkhead mounting. (Courtesy Cobra Electronics Corp.)



Using a ball and spring mount with the whopping 102-inch stainless steel or fiberglass CB whip antenna will undoubtedly give you the best signal, but it's a monster antenna and requires either drilling a hole in your vehicle or mounting it on the bumper. The spring on the right screws into the top of the ball-mount. Your 102-inch whip screws into the top of the spring.

mounting assembly for the large whip antenna may work well on some trucks/vans, etc., forget about mounting it on the plastic bumper of newer cars. One way to mount the large 102-inch whip is to carefully drill a large hole in the car's body (usually the rear fender), and use a "ball-mount" and spring assembly to hold the whip. Since most folks prefer not to drill the hole, even on older family vehicles, thankfully there are alternatives!

Short Whip Antennas

Plenty of short whips are on the market today. Some are as short as two feet. Short whips are more aesthetic and easier to mount than longer ones, but antenna efficiency is a direct function of whip length. The shorter whips have a portion of the antenna wrapped up in a coil and are placed either at the base or center of the whip. The shorter the antenna, the bigger the coil—in terms of number of turns.

Unfortunately, there isn't any free lunch. The shorter the antenna, the weaker the signal radiated from it and the more restricted the communication range. If you are only interested in car-to-car communication over a quarter-mile or so, a short whip will probably do the job for you. If, however, you are interested in a greater communication range, or do a lot of driving in hilly, mountainous territory, you had better get the best (longest) antenna you can reasonably fit on your vehicle.

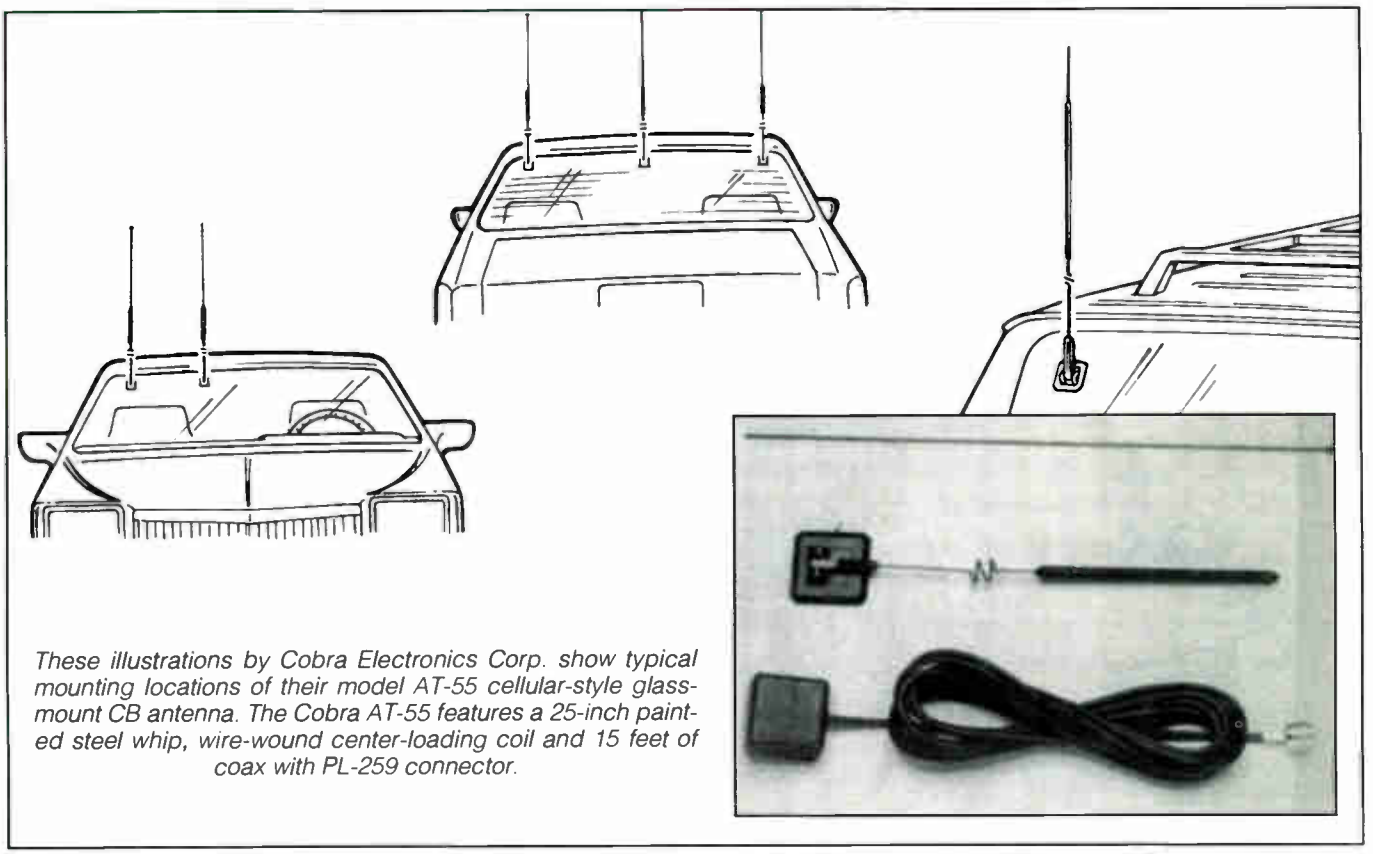
Even with an efficient antenna, your range may be restricted because of channel interference from other nearby CBers. Operation of your CB over an extended period of time will give you a "feel" for your specific antenna's operating range.

Finalizing Antenna Placement

Antenna placement is a field that is wide open for experimentation. A good place to start is with a magnet-mount antenna. This will adhere to any flat, magnet-holding surface. These antennas run up to 54 inches in height. The best location for the antenna is in the middle of the vehicle's roof, or possibly on the rear deck lid. An interesting variation of this antenna type is the no-hole trunk lid-mount antenna. These are about four feet tall.

Other types of short antennas are the window antenna, which fits any roll-up vehicle window, and the gutter-clamp antenna which mounts on the vehicle rain gutter. The window-mount antenna does not need the metallic body of the vehicle to act as a ground, so it is ideal for vans and fiber-body vehicles. Most other CB antennas have to be mounted on a metal surface to work properly.

The one exception is the newer "glass-mount" antenna. They come in a variety of styles and sizes from cellular-look-alikes to plain small whips, and include several feet of coax terminated with a PL-



These illustrations by Cobra Electronics Corp. show typical mounting locations of their model AT-55 cellular-style glass-mount CB antenna. The Cobra AT-55 features a 25-inch painted steel whip, wire-wound center-loading coil and 15 feet of coax with PL-259 connector.

259 connector. We won't get into the technical aspects of just how these marvels work, but they do indeed work well in most cases! Follow the manufacturer's instructions; clean the outside glass, peel the paper backing off the outside antenna module and press it firmly on the windshield. The inside "coupler" goes on the same way. Route the cable—the neat thing about glass-mount antennas is there's rarely the possibility of crunching the cable; it's already in the vehicle!

Standard metal-mount antennas may be used on a vehicle with non-metallic panels. Most such panels have a metal frame underneath. Mounting the antenna near a frame and bonding the antenna mount to the frame with a short metal strap will provide the proper ground connection.

Each vehicle model and body style reacts to CB energy differently. That's why a mag-mount antenna should be used to check the proposed location for best radiated signal, best reception and for unwanted effects on the vehicle's electrical equipment. Antenna location is a major factor. Once you've found a good location, a permanent antenna can be placed there.

Antenna Cable Routing

Most CB antennas come with a pre-wired coax cable and connector. In many cases, these cables are 16 feet long, which gives you plenty of cable slack to move the antenna about. No need to cut off excess cable, as cable efficiency is very high.

Generally speaking, you should route the cable away from any vehicle wiring. The cables' internal shield is good, but not perfect. If your antenna cable runs near the ignition system, for example, there's a good chance you'll hear popping ignition noise in your CB. Most CBs have a noise limiter or blanker, but it cannot accomplish miracles. Make the job of the noise blanker as easy as possible!

We say it all the time, but the letters and unfortunate stories keep coming; all too often radio operators will get a top-of-the-line CB, great antenna and then route the cable through the vehicle where it gets a constant dose of kids stepping on it or the car door crunching the cable to the point where the coax is damaged beyond repair. Don't let this happen to you. Our tip: plan the coax routing carefully. Route the cable and close the door on it once or twice, examine the cable afterwards—BEFORE you permanently install the antenna on the vehicle.

CB Wiring and Interconnections

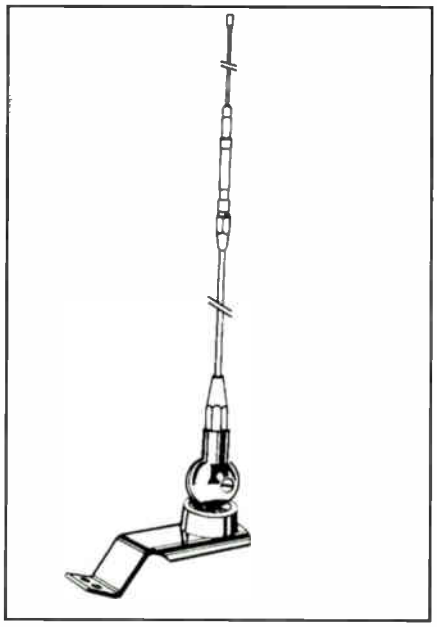
Many CBers use the cigarette lighter as a power source for their radio. This is okay for a temporary hook-up, but it is a haywire solution and invitation to radio noise which can travel up the power cord and right into the radio!

The CB transceiver ground return is not complete when the CB is bolted in the car. The case of the radio may be plastic and most rigs have a separate ground return wire which must be used.

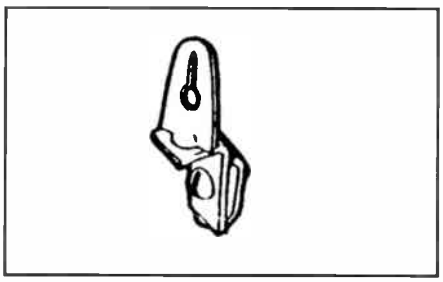
The fused "hot" lead of the CB should be returned to the hot lead of the car's electrical system. The easiest connection is to the fuse block of the vehicle, which is often mounted on the fire wall, or possibly on the wall of the cab at the left of the driver. Most vehicles have an unused fuse point for auxiliary electrical equipment. If you choose your point correctly, you can make the CB rig inoperative when the ignition switch is off. Your local car maintenance mechanic can help you with this detail.

Some CB manuals call for the power leads to be connected directly to the car's battery via an opening in the fire wall. Always check your manual.

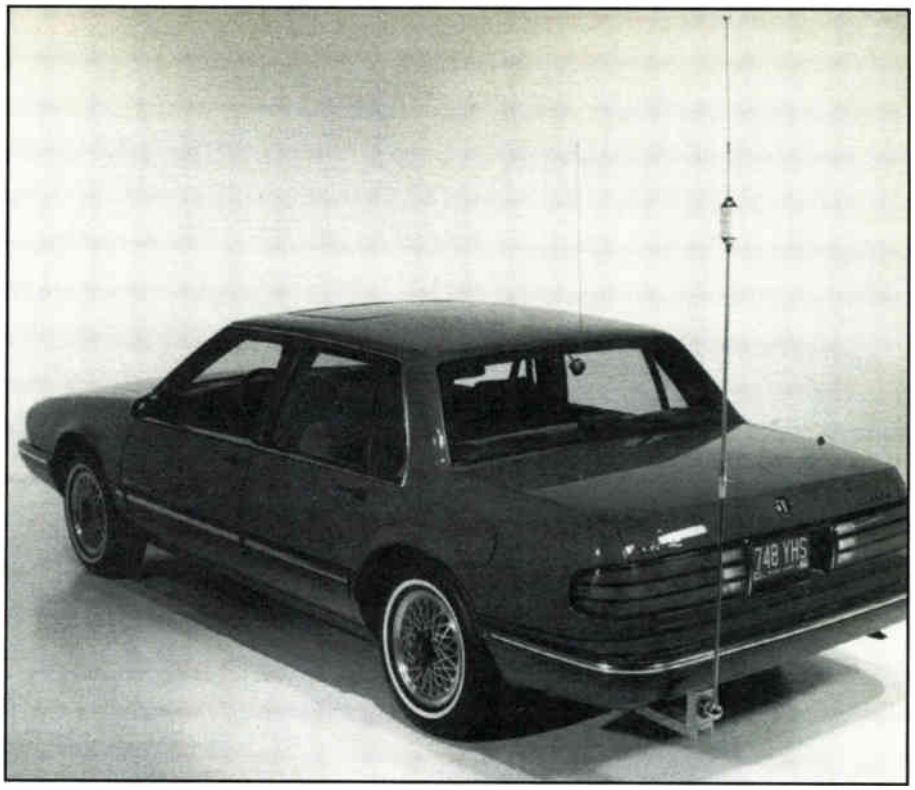
A few new CB sets have a remote-mounted transceiver. This is commonly located in the trunk. The control microphone is placed in a convenient position near the driver; the control cable going to the transceiver is routed along the driver's side door sills, under the rear seat, and into the trunk through a rear bulkhead. As mentioned before, you should try to keep



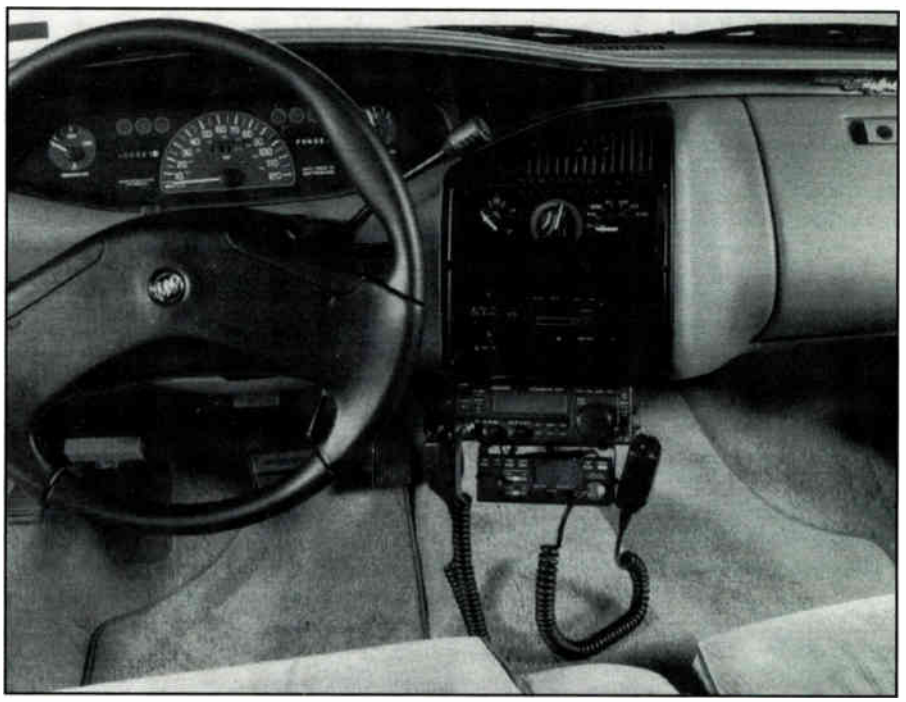
This trunk or hood-groove mount antenna from Hustler, the TGF-27Ls, is an often-overlooked, but great idea; the antenna mounts inside the trunk/hood groove by drilling two small holes inside the groove. An excellent alternative to the trunk-lip mounts, it's 50-inches tall and includes coax. (Courtesy Hustler, Inc.)



A gutter tie-down clip, similar to this Hustler clip (D-101) holds that 102-inch whip in place for garaging your vehicle. (Courtesy Hustler, Inc.)



Still want to use a long whip antenna and NOT drill holes? Fabricating a metal bracket to hold the ball/spring assembly might be the answer. The photo doesn't show close-up detail, you've got to visualize the metal bracket bolted to the car's undercarriage. This connection eliminates drilling a large hole for the ball assembly. (Courtesy General Motors Corporation)



It worked for GM, but you know as well as I, that once you've drilled the holes, they're there to stay! Be sure to find out what you're drilling through before taking the plunge; piggy-backing a couple of heavy radios, however small, requires a well-planned assembly before the drill bit turns. (Courtesy General Motors Corporation)

the radio power and control leads spaced far away from any vehicle electronic modules and leads.

The Exhaust Pipe

The exhaust pipe is an excellent conductor of radio noise from the motor to your antenna. A rear-mount antenna near the exhaust pipe is an invitation to engine static pickup. One solution is to bond the exhaust pipe to the car frame near the end of the pipe. Clean the pipe with heavy sandpaper and place a radiator hose

clamp around it. Next, prepare a flexible braid long enough to reach from the hose clamp to the frame of the vehicle. You can make the braid from a length of coax by stripping the insulation off and removing the center conductor. One end of the braid will fasten to the pipe by placing the end under the clamp before tightening it.

The other end of the braid is flattened, filled with solder and a hole is drilled through the area. This end is then attached to the car's frame. If you're lucky, there might be a nearby bolt you can use for a ground point. If not, you'll have to drill a hole in the frame to accommodate a grounding bolt. Keep the grounding braid short, but allow for a slight movement of the muffler pipe.

Installation Information From the Car Manufacturer?

In most instances, the CB will come with installation information. In some cases of interference, the auto manufacturer might provide some helpful information concerning protection of the automotive electrical system.

Some federal regulations actually specify maximum interference levels that can be generated by autos. The Society of Automotive Engineers has developed voluntary standards that cover many interface problems when a radio transmitter is placed in a vehicle.

The American Radio Relay League (ARRL) has made a survey of some of the prominent auto manufacturers to determine if they have technical service bulletins or customer assistance programs dealing with electromagnetic compatibility problems of owner-installed radio equipment. The results of this survey were given in the September 1994 issue of *QST* magazine, the flagship publication of the ARRL. They can be reached at 860-594-0200 or faxed at 860-594-0259.

I've read this summary and the results are not very encouraging. Some companies provide assistance, others are very uptight about installation of radio transmitters in their products. Others are merely confused, and inquiries from owners just get lost in the system. No one is in charge of the problem, or the problem "simply doesn't exist." The final knock-off is the statement by some manufacturers that any modification to a vehicle could void the warranty.

In any event, here are the contact points for a few auto manufacturers that may be of help to you if you have a problem that affects the operation of the vehicle. ■

BMW of North America, Inc.
Customer Relations Department
300 Chestnut Ridge Road
Woodcliff Lake, NJ 07675
201-307-4000

Chrysler Corporation
26001 Lawrence Avenue
Centerline, MI 48015
(order TSB-08-31-94 installation guideline from any dealer)

Ford Motor Company
Ford Parts & Service Division
Public Affairs
P.O. Box 1902
Dearborn, MI 48121
313-446-8321
(order Technical Service Bulletin 93-15-6 from dealer covering installation of a filter to reduce noise from electrical fuel pump)

General Motors
Each GM division has its own customer service network and technical bulletins for radio installation guidelines. In general, GM tests on-board transmitters and the supplied guidelines are most helpful. One point of contact is Mr. Kent Lybecker, Development Engineer (Electrical Systems), GM Milford Proving Grounds, Milford, MI 48380.

Mercedes-Benz of North America
Customer Relations Manager
One Mercedes Drive
Box 35, Montvale, NJ 07645
800-FOR-MERCEDES
(order Service Information guideline MBNA-54/35. Contact toll-free number for general information.

Toyota Motor Sales, USA, Inc.
Customer Assistance Center
19001 South Western Avenue
Box 1991
Torrance, CA 90509
800-331-4331
Ask for information guideline "Two-way Radios in Toyota Vehicles."

Volkswagen of America, Inc.
Corporate Technical Services
3800 Hamlin Road
Auburn Hills, ME 48326
313-340-4723

A special thanks goes to the ARRL, the ARRL Laboratory and Ed Hare, Laboratory Supervisor, for the compilation and presentation of the auto manufacturer's information, a portion of which is abstracted above.

CB Radio Then and Now

A look at the CB radios of days gone by . . .

BY DON PATRICK

We all know when "now" is, but, when was "then"? The first "then" for Citizens Band radio was when the FCC created Class A, B, and C services in 1947. The "B" and "C" services were not for voice communications, but rather for radio control, industrial and such purposes and are of no interest to us. The Class A service was for voice communications, but was up at 460 to 470 MHz frequency ranges. This high frequency had very short line-of-sight range, was limited to very low power, but more important, resulted in very expensive equipment. Until the late 1960s, radios that would operate at that high of a frequency with good power output and low receiver sensitivity cost a lot to build. So the use was limited to commercial applications for the most part, but was unavailable for business or personal communications.

The "then" that you and I are interested in came about in 1958 when the FCC created the Class D Citizens Band out of the old amateur 11 meter band. Unlike Class A, you didn't have to use FCC-approved, commercially-made and type accepted equipment on Class D. You could even make your own unit for the house or car; actually at first you HAD to because there was no company making any for sale!

In the late 1950s, I was a transmitter engineer for a local TV station and had started a side business servicing commercial two-way radios (and most anything else that would bring in a dollar). A good friend of mine, A.F. Tapp, had been hunting for an inexpensive method of communicating from his company car in Ft. Smith, back to his home in Dora, Arkansas—a distance of 10 miles. This was for personal, non-business communications, so the only legal service was the Class A CB. As we mentioned, it was too expensive and didn't have quite enough range. One day, Albert came by and showed me a magazine (which I STILL have) that told all about the new Class D service the FCC had approved some six months earlier. We were off and running. Both of us filed for our first licenses; his was 8W0327, and mine was 8W0435. For many years Albert had the communications he needed back to his house.

While the first units on the air were homemade, it wasn't long before a number of companies jumped on the band wagon and made radios for sale to the general public. At first, most were in kit form; you mounted all the parts and wired the whole thing—and these were tube-type radios! Probably the most common were the Heathkit CB-1, the Philmore, and a few others. These were terrible radios by most any standard. For example, they were single channel. If you wanted to change channels, you unplugged the transmit crystal and plugged in a different one. The receiver was not only tunable, but was of "super-regenerative" design. While super-regen was fairly sensitive, it was also very broad and would pick up not only the channel you wanted, but also a couple on either side of it as well. Worse yet, you cannot have a "squelch" circuit on a super-regen receiver. Try driving down the road with your squelch turned down! Last but not least, most of these units didn't have push-to-talk (PTT). They came with a microphone off a tape recorder that you held in one hand, while you pushed a talk lever with the other hand. Obviously this created some interesting situations while driving. We converted many of the old units to PTT.

In short order, the manufacturers brought out the second generation Class D CB units. These were much improved radios. The average transmitter had room for three transmit crystals inside and the unit and you could switch from one to the other. Many had a fourth position with a crystal socket on the front panel where you could plug in any other channel. While the power limit was, and of course still is, 5 watts, the first units averaged only 1.75 watts to the antenna. Manufacturers designed better circuits in the second generation sets and the power out efficiency rose to 2.5 or 3 watts and PTT became standard. The biggest

An old Cadre CB radio.

The "white face" Johnson Messenger I.

Just a reminder.

we even have the bits and pieces to organize your bits and pieces.

Adding a phone? Hooking up a home theater system? Putting up an antenna or satellite dish? You don't need the mess of twisting, trailing wires and cables. When neatness counts, you need flexible split tubing to bundle wires, nylon cord ties, beaded wire ties, wall-feedthrough bushings, adhesive clips or wire staples. And you'll find it all at your nearby RadioShack. We've got the products, the parts and the people to help you put it all together. For a store near you, call 1-800-THE-SHACK.

RadioShack℠
You've got questions.
We've got answers.®

I wonder if Cobra even has any of these in the back room!? Here's an old Cobra 23 channel CAM 88.

This Multi-Products Citi-Phone SS was certainly a bulky rig.

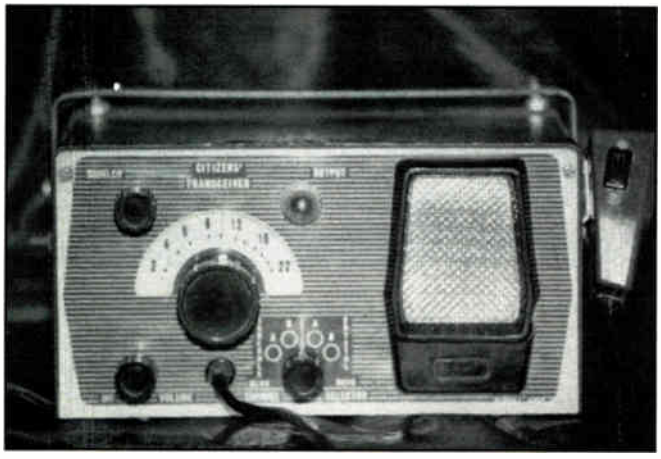
improvement came in the receiver. First and foremost, they switched to super-heterodyne types like we still use today. This allowed a squelch circuit and the receiver could be crystal-controlled. The three transmit crystals would be matched with receive crystals. When you switched to the external transmit crystal, the receiver switched over to the tunable mode. This was really "uptown"!

Some of the first units incorporating most of these features were the Heath CB-10, Eico 770 series, Globe CB-100, Lafayette HE-15 and many others. Over the years, "store-bought" units became the norm and kits gradually faded away. Competition for your business pushed manufacturers to add features and improve the product. They added meters, noise limiters, the ability to operate on both 110 volts or DC, better receivers with dual or triple conversion and more channels. The first of the 23-channel units had 46 crystals in them, using half for transmit and half for receive. Finally they came out with the first synthesized radios which only used 11 crystals to get all 23 channels—transmit AND receive. I don't recall which company was first, but the Polytronics "Polycom 23" was the first top quality unit to hit the market with all the features. I had the "kitchen sink", but it was still a tube type unit; big, bulky and power-consuming. The next evolutionary change was the transistorized unit. This was such a gigantic step into a still new and unknown technology, that some companies didn't even attempt it, and some others that did, stumbled and fell. Those companies that didn't enter the world of the transistorized unit, faded away for the most part, as the market demanded small size units. Some tried and failed; their units simply didn't work well, nor were they reliable. Others attempted to take shortcuts and buy out smaller companies that had brought out a transistorized unit that seemed to have promise. This was part of the cause of Polytronics demise as the company they bought out was not very good and the "Poly-Pup" was a market failure.

First Transistorized Unit

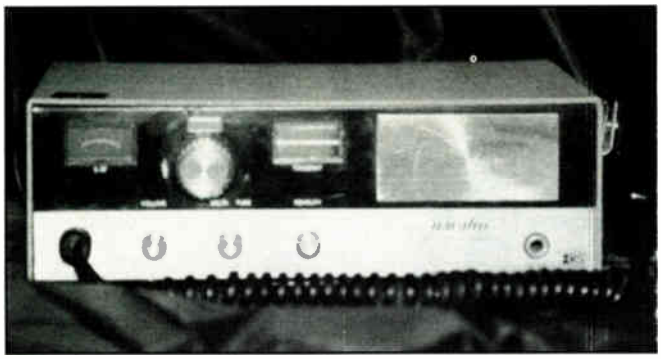
The first successful transistorized unit was the Cadre. By today's standards, it was a model T; bulky, low-powered (normally only two watts), and required three finals in parallel to get what power it did get. It didn't have a lot of channels and the receiver was really susceptible to motor noise from other cars. But it worked, gave little trouble as long as you had a good antenna SWR and it pulled little power out of the battery.

The first really good performing transistorized unit that was successful nationwide was the E.F. Johnson Messenger III. It put out good power, fully modulated, had room for 11 channels, had a sensi-



Electro Voice's RME Model 4305 was a super-het with tunable receive.

OK, so it's a bit blurry, but how many folks still have an old Johnson Messenger 123A?



I'll bet RadioShack remembers their Navaho base CB.

Raytheon's Raytel TWR-5.

tive and selective receiver with good noise limiting. It soon evolved into the Messenger 323, which had all 23 channels (synthesized) and other bells and whistles. Many other manufacturers came close behind with good 23 channel, all transistor units.

The final evolution of the Class D Citizens Band radio was the development of IC chips and the "phased locked loop" system to generate the transmit and receive frequencies. This reduced the number of crystals to two or three for all 40 channels and made real improvements in reliability. We haven't touched on the single sideband units of yesteryear or today, because they never caught on in a big way due to several factors; cost, they were more complex to operate and there just weren't many others around to communicate with in the sideband mode.

And, NOW . . .

That brings us up to NOW from THEN, and today's CB radio. At first, and for many years, all CB radios were made in the United States. Today, I don't know of any that are not made overseas.

There is a slow, but increasing number of people that are picking up OLD CB radios; from 1959 through 1965 or '70 and restoring them to working order. I've still got a lot of Polytronics, Pace, Cadre and other parts in stock or stored up in the overhead. An interesting number of people call or come by to find out where they can get some part or to find out what will substitute for a vital piece that is no longer in production. About the only part I've every run into a dead end on is the final for one model of RCA all-transistor mobile. I've never found a replacement that will give more than about one-half watt!

Because I've been "in" on CB from day one and have a habit of keeping or making a copy of any schematics that might come my way for the past 37 years, I have probably the most complete collection in existence. They bring back a lot of memories—when I have the occasion to go through them for one reason or another.

For years I've been putting together a collection of old CB radios which I hope to donate to an organization that will put them on display for future CBers to see and touch—and maybe even use. A few units I'm missing, including the Heath CB-1 and GW-10, and Eico 770, but someday I'll find them in a garage sale. Many of the ones I do have you not only have never seen, you are not likely to see outside of such a museum. Some large companies such as Electro Voice and Hammerlund jumped into CB radio and then right back out of business. So they made only a few units for a short time and had limited distribution. Check with your older relatives if they were CBers way back then. They may still have an old unit on a shelf in the garage which is a piece of an American phenomenon!

It's possible that this article could become a fairly regular one in *CB Radio* magazine—if enough readers have questions they would like answered concerning the old CBs. The most common ones I've been getting recently concern:

1. Is it legal to sell or use one of the old "short channel" CBs or even the old 23 channel units? Yes, you can use or sell one. Radios of recent manufacture have to meet the current FCC rules which some of the old ones do not. But as long as it's within the frequency tolerance of .005 percent, no more than 5 watts input power, it's legal to use.

2. The old 23 channel units got out better than the 40 channel units, didn't they? NO, not if they were a LEGAL unit to begin with. The FCC rules setting up the 40 channel units made some technical changes that prohibited some manufacturers from making a 10 to 20 watt radio, into which they put a resistor to drop the power down to the legal 5 watts. We all know the first thing everyone did to their new radio; they removed the resistor! Both the old 23's and the new 40's have the same limits; 5 watts in and 100 percent modulation. So if they're legal, they will basically work the same distance.

3. I've got an old unit that uses crystals. Can I still get the crystals for it? YES—no problem at all. If the crystal manufacturer had the correlation date, he can make a crystal for any CB channel. If he doesn't you can provide him with a copy of the circuit or another crystal from the radio. He can read that crystal and get the needed data.

4. I've got an old unit and the microphone is missing. I tried to wire up one I had for a newer CB, but it doesn't work. What's wrong? Over and above any wiring (switching) differences between the two (and they can be corrected), your problem is most likely a mismatch. If the old unit is a tube type, it used a high impedance crystal or ceramic element mic. This is due to the input to the tube (on its control grid) having high impedance. On the other hand, the later model CB you took the mic off is most likely a transistorized unit and it has a low impedance input circuitry. Therefore that microphone has low impedance output to match that radio. But don't despair. You can either get a cartridge to fit that microphone that has a high impedance output or get a high impedance mic to use with it. There were a few units made with a carbon type microphone, but without major modification, will only work with that type. They are still available, if you look long enough.

Years ago I laid claim to the CB handle of "Old-Timer", because I doubted that anyone started on the air before I did, nor had been in continuous CB usage for as long. Likewise, I assume that my business is both the oldest and longest continuous CB radio sales and service, so if you have any questions of a technical nature about older CBs you would like answered, please feel free to write to me at *CB Radio* magazine, 76 North Broadway, Hicksville, NY 11801. I'll try to answer all that I can, and the most unusual I'll answer in the magazine. If you want a personal answer, please include a SASE along with all the information you can, such as the brand, model and serial number. There were some manufacturers that made major changes to their radios after a certain serial number. See you next time right here in *CB Radio* magazine. ■

Educational CB

How one organization is helping their community with CB . . .

BY ED BARNAT

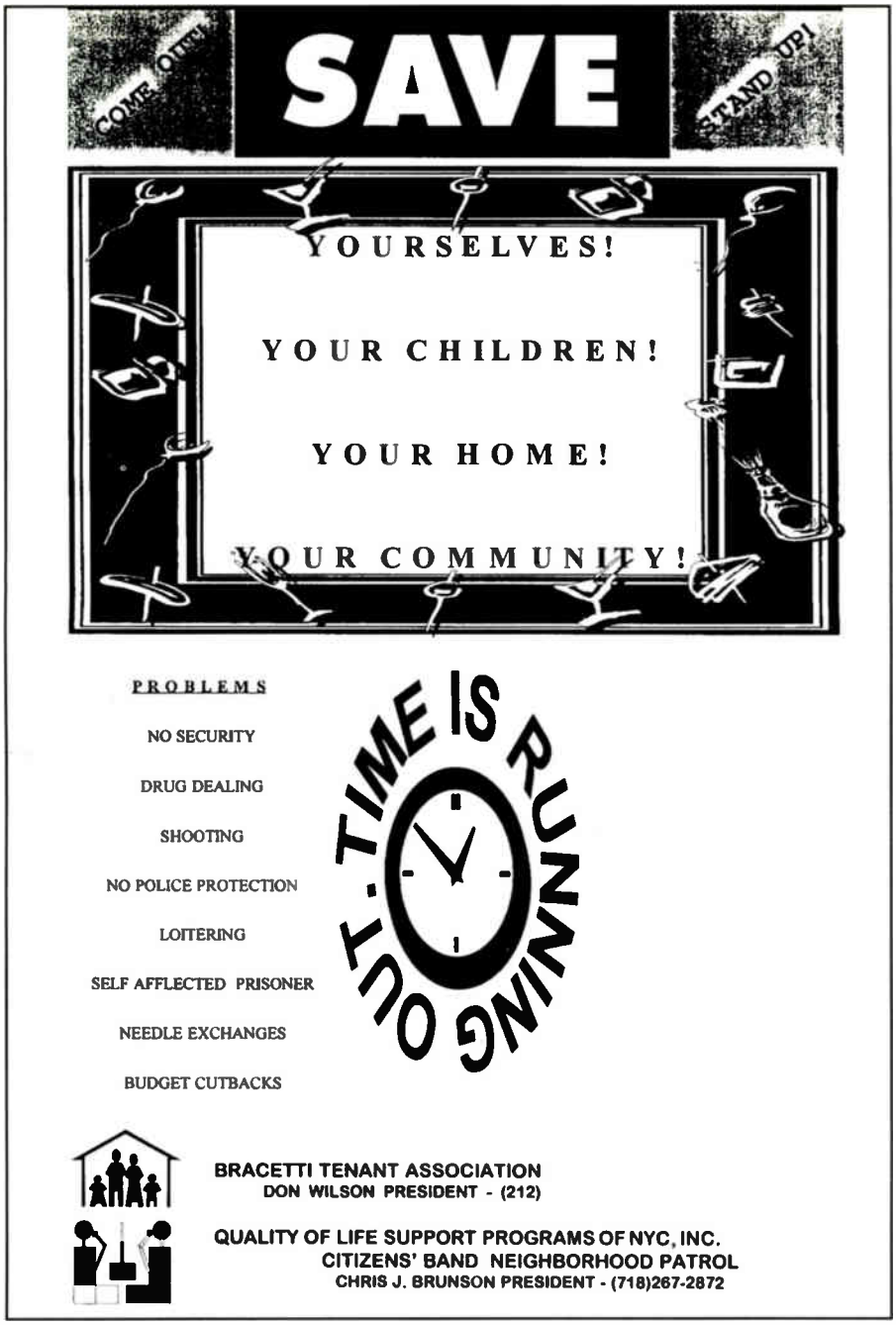
When was the last time you learned anything on the CB? I mean besides where "smokie" was, where the "girls" are or who the loudest jerk in town is? Chances are it has been a long time, right? Actually, it wouldn't surprise me if you said—never. Well, here is something that did surprise me and will probably surprise you too.

There is an effort underway to establish a community-based educational radio network on CB. It's called "Educational Channel 17." Educational Channel 17 is a project of the Quality of Life Support Programs of NYC, Inc. Quality of Life Support serves low-income, the culturally disadvantaged and mentally or physically-challenged communities. Their goal is to facilitate the exchange of ideas and information throughout New York City. They are attaining this goal primarily with the use of CB.

Why CB?

Traditional mass media, such as television, radio and newspapers are going through massive changes. Corporate mergers, buyouts and consolidations are forcing managers of media organizations to pay closer attention to the bottom line. In a word, profit. In the name of efficiency, centers of power in these businesses are becoming more and more centralized. One effect of this trend is to move decision makers further away from the local communities they purport to serve. Another is to force them to concentrate on mass appeal stories. Often, this means that they have to abandon the needs and ignore the views of some communities, especially smaller or less influential communities. It is not that they don't care, it's just that they have to face the fact that these stories don't sell—at least they don't sell well enough to justify the space or time they require. This is especially true when the stories are controversial or unpopular. So more often than not, they get left out.

Well, that may be life in corporate America, but that is not a satisfactory answer for the folks at Quality of Life Support. The fact remains that the culturally, economically and otherwise disadvantaged members of our society lack



important, everyday information. Such as information about alternative health care, employment ooportunities, business ventures, social services, entitlements, housing options, community issues and current events, as well as other critical areas of interest, all of which are largely ignored by media that often distorts and magnifies problems that relate to those who are among the working poor and unemployed. Their coverage often leads to stereotypes and contributes to feelings of low self-esteem and other problems. Besides, mass media is most often a one-way proposition. It talks—you listen. Unless you are articulate, bright and witty, you don't get on the air—at least for long. Since most members of the underclasses usually aren't' any, let alone all of the above, they usually don't make it. As a result, their views go largely unexpressed. There had to be another way, an alternative media, but what? CB? Impossible you say? Me too, but not Chris Brunson.

CB In Queens

Richmond Hill, Queens, like most areas, especially heavily-populated areas, has a large CB community. Like most CB communities, it has its share of no-mind operators who apparently have nothing better to do than make life on the radio loud, low and miserable. Also, like most CB communities, Richmond Hill has a number of operators who knew that CB could be, had to be, more than just noise and aggravation. Unlike many communities, operators there were not content to quibble, complain or even quit. There were willing to work at correcting the problem.

Chris Brunson and a number of Richmond Hills operators were concerned about the increasing problems associated with CB radio; profanity, overpowered stations and poor operating technique. They set out to do something about it. They realized that they would never be able to eliminate the problem operators. Even if the FCC could be encouraged to "sweep" the area, there were just too many problems. Even if such a "sweep" could remove the offenders, it would be a short term solution, at best. Before long, new troublemakers would appear and old ones would return. There had to be a better answer. And in the end, the answer they came up with was nothing short of brilliant.

They resigned themselves to the fact that there would always be "problem operators." They resolved, however, not to let them be the only game in town. Instead of expending their efforts and energies on the troublemakers, they would concentrate on developing better operators and more practical applications. But what? Then they became acquainted with the problems that the communities served by Quality of Life Support Programs were having with the media. Before long, the Citizens Band Communications Network (CBCN) was born.

Originating from a Midtown Manhattan psycho-social club, the first broadcast of the Citizens Band Communications Network hit the air on channel 38, Wednesday night, May 16, 1991, at 5 p.m. Chris Brunson was net control. A number of topics were covered. They included: mental health, social service entitlements, available housing, job referrals, alternatives to traditional psychiatric care, current events and other relevant issues. The total number of participants for the first net was just three CB operators. Within a couple of months, however, Chris was logging an average of 25 operators a night. After several months, the net was expanded to include a poetry reading workshop. It included interactive discussions with CB listeners. Originally aired on the first Thursday of every month, the poetry segment soon became so popular that it was offered every Thursday night. Now CRSN was on the air two nights a week; Wednesdays and Thursdays from 5 to 8 p.m. Before these broadcasts ended in 1992, Chris had been reaching listeners in East and Central Harlem, the South Bronx, and Western and Central Queens.

Remarkably, they weren't all CBers. Others were increasingly tuning into the CRSN using shortwave receivers and scanners. He was regularly reaching over 100 people a night and generating considerable response by way of the telephone as well as CB. In addition, many people who were in crisis, were now tapping into a service that was easily accessible to them. To top it all off, event the problems that Chris and his friends were experiencing on CB were greatly reduced!

Improved Lives

Almost from the start it was clear that CB's benefits to the communities served by Quality of Life Support were numerous. Yes, CB was enabling their people to seek better lives while improving their local communities with information that was meaningful and enlightening. Beyond that, however, they saw that the CB network supplied activities that helped increase self-confidence and esteem while improving communication skills. Further, because Citizens Band radio is two-way communications, it allowed different groups to participate in meaningful dialogue. As a result, their members reduced stigma, isolation and discrimination in ways that were unattainable with more traditional media.

Spurred on by the success of their first series of programs, Chris and Quality of Life produced a second series of broadcasts that aired between September 25, 1994 and December 18, 1995. This time their base of operations was a home in Astoria, Queens. These nets aired every Sunday from 3 to 5 p.m. on Channel 17 (27.165 MHz). Now an experienced producer and broadcaster, Chris (Organizer 725) was assisted by Beth Gronin (Bethka 998) and the "Show" took on a little more polish. Program segments included: Mental Health Now, Citizens Band On the Move, NYC Network Channel 17 News and Commentary This Week.

One important addition to this second series of broadcasts was the inclusion of hands-on training and classroom study. Besides broadcasting information, members had to prepare programming. This involved developing radio scripts, typing documents, researching and other similar duties. While the main goal of these classes was to generate volunteers and more skillful participants for the net, they also produced some other praiseworthy by-products. Members gained considerable self-esteem and social skills. Some were even motivated to pursue higher educational goals, such as attending college, trade schools or obtaining their G.E.D. diplomas.

Since the second series of broadcasts ended, Chris and a few stalwart volunteers have been working to keep the network growing. While still on Channel 17, the net now airs Saturday and Sunday mornings from 1 to 4 a.m. Topics of discussion remain pretty much the same, though some changes are taking place. For example, computers are becoming a more popular topic. And, with the recent cutbacks in entitlement programs, discussions of "progressive movements" are getting their share of air time. Still, Chris estimates his listening audience ranges from 50 to 200 people a night. Each week he continues to receive positive responses from CB operators, shortwave and scanner listeners who break the channel or call up.

The Future

With an eye toward the future, Quality of Life is changing the name of Citizens Band Communications Network (CBCN) to the Community Service Radio Network (CSRN). This change reflects their expanding role in the community, such as the recent addition of a Citizens Band Neighborhood Patrol. It also expresses their hope of expanding their efforts to

August 12, 1994

Chris Brunson
Quality of Life Support Programs
of New York City, Inc.
PO Box 19084
Richmond Hill, NY 11419

Dear Chris

We at Hospital Audiences, Inc. fully support the innovative member initiated Citizens Band Communication Network.

We agree that mental health consumer empowerment must be acknowledged and funded in order to allow people to be involved in their own recovery.

The Citizens Band Communication Network will not just provide activity and socialization opportunities, but participants will also contribute news and information to the mental health community.

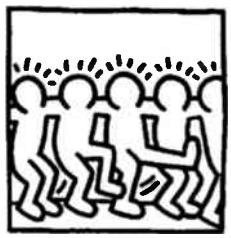
The skills necessary to organize, operate and participate in this special CB network are keys to rehabilitation and integration.

We wish you good luck and much success.

Sincerely,

Michael Jon Spencer
Founder and Executive Director

hai
25th anniversary!



a cause for celebration!

Hospital Audiences, Inc.
220 West 42nd Street, 13th Floor
New York, NY 10036
(212) 575-7676
TDD (212) 575-7673
FAX (212) 575-7669

Michael Jon Spencer
Founder & Executive Director

other media. They have already had some success in gaining access to cable TV, where they have done a show called "Mental Health Now." They are still trying to get time on conventional AM and FM broadcast outlets. They would also like to develop similar projects on shortwave and amateur radio. So far, however, there has been little encouragement from professional broadcasters. Response from the amateur radio community has amounted to little more than a rehashing of the "loss of 11 meters to the Citizens" lament.

So, CB remains their most productive and promising option, and Quality of Life and CSRN continues to concentrate their efforts on CB. And with good reason. Citizens Band equipment is inexpensive. There are no license requirements. CB is easy to use. You can buy a station, set it up and be on the air all in the same day. Most importantly, however, CB is universally accessible. Absolutely anyone can use it. That, above all, is a claim that no other form of radio can make. That, if for not other reason, makes CB particularly well suited for the task at hand.

Perhaps the most limiting factor of CB is dependable range. With a maximum transmitter power of four watts, CB's range is often limited to no more than a couple of miles. This is particularly true when radio conditions are adverse. In New York City, like most densely populated areas, radio conditions are frequently horrendous. Electrical noise, skip, bleedover and troublesome interlopers often keep range to a minimum. To overcome these limitations and meet their goal of citywide coverage, the CSRN is developing a three-pronged plan of attack.

Home Base Stations

At the heart of the system is a network of individual operators called "Home Base Stations" or "HBS". HBSs cover very limited geographical areas, basically their immediate neighborhood. Because they work "close", they can dependable reach their targeted audience, and their audience can dependably reach them. Once the HBS operator has their CB station up and running, they have three main duties. First, they act as network representatives to their community. By concentrating on "their own back yards" they can focus specifically on local community issues. Second, they prepare material to be used during the net. Finally, they will broadcast this news and information back to their local community during the net.

The second prong to this strategy involves combining the efforts of several HBSs. Working together in a slightly expanded geographic area called a "Community Base Area" (CBA), several HBS operators can provide dependable coverage to several adjacent neighborhoods—even to an entire community.

In the third and final segment of the plan, the city is broken into several zones, each containing four to eight CBAs. Through the use of a phone patch, a device that connects a telephone to a CB, several CBAs, in one or more zones, are linked to extend the coverage citywide.

Legal Obstacles Overcome

Other obstacles that have been overcome included the prohibition against "broadcasting" on CB and the time limits on transmissions, imposed by the FCC. Both of these hurdles are cleared by the careful preparation and distribution of "scripts" before each net. Each story or news item is edited in a way that requires two or more operators to read it. As a result, the "broadcast" becomes a two (or more) way communication. Also, each part or segment of the script is written so that it can be read in less than three minutes, thus keeping well within the time limit. Besides ensuring full compliance with the law, this method of "scripting" encourages more people to participate in each broadcast.

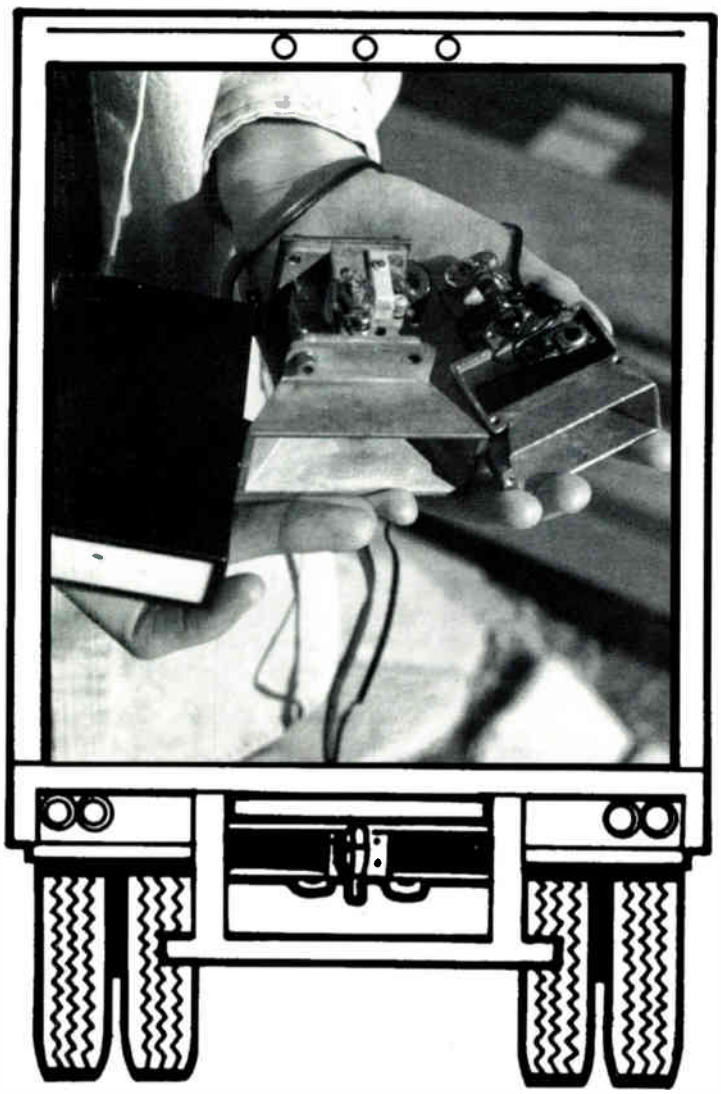
They Need More—People and Money!

Finally, two problems remain to be resolved. People and money. As with most public service ventures, volunteers are scarce. Understandably, projects like Educational Channel 17 and the Community Radio Service Network also require dollars to be successful. Chris had hoped to garner government funds to pursue these projects. However, with the current course of events in Washington, these hopes are quickly dimming. Currently he is investigating how other non-commercial broadcasters, like public radio and television, can solicit corporate support and still comply with their ban on advertising. Perhaps it could be applied to his CB programs. If anyone knows how this can be accomplished, Chris would like to know. Anyone wishing to volunteer, contribute or get more information about Quality of Life Support and CSRN, should call or write: Chris Brunson, Quality of Life Support Programs, P.O. Box 190084, Richmond Hill, NY 11419 or call 718-267-2872. ■

Brake Light Testers

How to Keep the Kids Busy While Driving

BY T. BRITAIN



"Hey, kids, the blue truck up ahead to the right has a radar detector," the father yells to the kids in the back of the car. After several moments of squabbling over whose turn it is, the younger child gets the zapper. Ready, aim, fire!

"His brake lights came on," the older child says, writing down the score. "Now I'm five points ahead," he says. One of the others jumps in, "Another one is coming up from the left . . . get ready," the father says, changing lanes to give the kids a better angle. The older child takes the zapper, aims and fires. "Got 'em. Try to beat that!" he exclaims.

Keepin' 'em Busy

During the long drives on vacation, one of the major problems facing parents is how to keep the kids busy. One solution would be to simply toss them in the back seat and keep driving, but an even better solution would be to give them a "brake light tester." A what? Read on . . .

Just what is a brake light tester? It's a low-power microwave transmitter that also sets off the radar detector in passing vehicles. It fosters family interaction, too. (One of the parents has to serve as a lookout) It introduces the kids to radar. And explanations of how it works is a good lesson in introductory physics. And, playing with it can occupy the kids for hours. I know this from personal experience. Here's our point system:

Brake Lights Come On: 2 points
Brake Lights and Lane Change: 5 points
Evasive Action (pulling off highway or lane change of two or more lanes): 10 points
Identification by Target Over CB: 30 points

The key lies in timing. You want to get them while it's still possible to see their brake lights. However, it's also necessary to wait for the optimum angle because it is much more fun to actually see their radar detector light go off yourself. Let's see Nintendo and Sega beat this level of high-tech excitement!

The Big Sucker!

Our biggest success was a truck driver we followed north on the highway towards Omaha. After many miles of repeated "buzzings", he radioed one of his friends over CB channel 19. "Joe, my tweety bird needs to go to the vet. It keeps lying to me." Most other drivers figured out who was to blame well before then.

What It Is

The black unit is a commercial "ham" transmitter. The kit is available from Rainbow Electronics. The middle Zapper is the guts out of a motion detecting burglar alarm. The other part is made from the heterodyne section of an old superhet radar detector.

Next time, I'll discuss how to build a low-power microwave transmitter from a radar detector, door opener and where to buy commercial units and kits if you are not a do-it-yourselfer. After all, who wants to miss out on this much fun? ■

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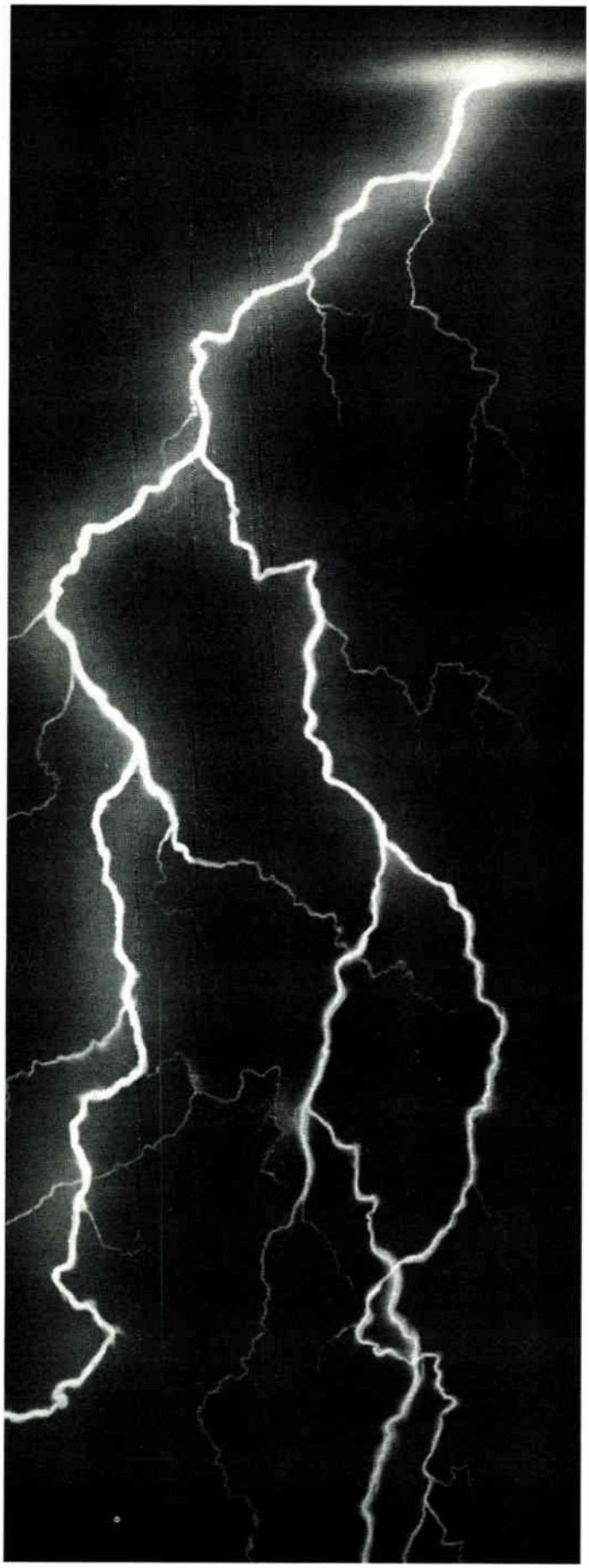


Lightning—The Killer in ALL Thunderstorms

What You Need to Know to Stay Safe

BY THE NATIONAL WEATHER SERVICE

While only about 10 percent of all of the 100,000 thunderstorms occurring each year in the United States are classified as "severe," it's important to remember that lightning occurs with ALL thunderstorms. It doesn't have to be raining "cats and dogs" to produce lightning. Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall!

A typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes; and while they affect relatively small areas when compared to hurricanes and winter storms, the resulting lightning kills an average of 93 people each year and injures another 300.

In recent years, highly sophisticated lightning detection equipment and Doppler weather radar has been developed to give advance warning of potentially dangerous storms, but even with the warnings, lightning is still a killer. Doppler radars, which are being strategically deployed around the country are capable of seeing "inside" a thunderstorm to detect hazardous weather conditions.

Here are some lightning facts:

1. The action of rising and descending air within a thunderstorm separates positive and negative charges. Water and ice particles also affect the distribution of electrical charge. The lightning results from the buildup and discharge of electrical energy between positively and negatively charged areas.

2. To estimate the distance in miles between you and the lightning flash, count the seconds between the lightning and the thunder, then divide by five.

3. Most lightning casualties occur in the summer months and during the afternoon and early evening. Most lightning deaths and injuries occur when people are caught outdoors.

4. The air near a lightning strike is heated to 50,000 degrees—hotter than the surface of the sun! The rapid heating and cooling of air near the lightning channel causes a shock wave that results in thunder.

5. Many fires in the western United States and Alaska are started by lightning. In the past decade, over 15,000 lightning-induced fires nationwide have resulted in several hundred million dollars a year in damage and the loss of two million acres of forest.

6. Which way does lightning travel? A cloud-to-ground lightning strike begins as an invisible channel of electrically-charged air moving from the cloud toward the ground. When one channel nears an object on the ground, a powerful surge of electricity from the ground moves UPWARD to the cloud and produces the visible lightning strike.

7. Your chances of being struck by lightning are estimated to be one in 600,000, but could be reduced by adhering to the following safety rules:

a. If you're caught outdoors and no shelter is nearby, find a low spot away from trees, fences and poles. Make sure the place you pick is not subject to flooding!

b. If you're in the woods, take shelter under the shorter trees.

c. If you feel your skin tingle or your hair stand on end, squat low to the ground on the balls of your feet. Place your hands on your knees with your head between them. Make yourself the smallest target possible, and minimize your contact with the ground.

d. If you are boating or swimming, get to land and find shelter *immediately*.

e. Keep you CB NOAA-equipped walkie-talkie available for weather broadcasts. Know the county or parish in which you live and the names of nearby cities. Severe weather warnings are issued on a county or parish basis.

f. Postpone outdoor activities if thunderstorms are imminent. This is your BEST way to avoid being caught in a dangerous situation.

g. DO NOT take a bath or shower.

h. Telephone lines and metal pipes can conduct electricity. Unplug any appliances that are not necessary for obtaining weather information. Avoid using the phone or any electrical appliances. Phones should *only* be used in an emergency.

i. If lightning is occurring and a sturdy shelter is not available, get inside a hard top automobile and keep the windows up. DO NOT take shelter in small sheds, under isolated trees, or in convertible autos. NOTE: Most flash flood deaths occur in automobiles!

Lightning Myths and Facts

MYTH: If it is not raining, then there is no danger from lightning.

FACT: Lightning often strikes as far as 10 miles away from any rainfall.

MYTH: The rubber soles of shoes or rubber tires on a car will protect you from being struck by lightning.

FACT: Rubber-soled shoes and rubber tires on a car provide NO PROTECTION from lightning. However, the steel frame of a hard-topped vehicle provides increased protection if you are not touching metal. Although you may be injured if lightning strikes the car, you are much safer inside a vehicle than outside.

MYTH: People struck by lightning carry an electrical charge and should not be touched.

FACT: Lightning-strike victims carry no electrical charge and should be attended to immediately. Contact your local American Red Cross chapter for information on CPR and first aid classes.

MYTH: "Heat lightning" occurs after very hot summer days and poses no threat.

FACT: What is referred to as "heat lightning" is actually lightning from a thunderstorm too far away for thunder to be heard. However, the storm may be moving in your direction!

Bull Wagons and Bedbugs

The lingo, the drivers, the usefulness of CB radio. Some things just never change . . .

BY BRYNLY ROBERTS

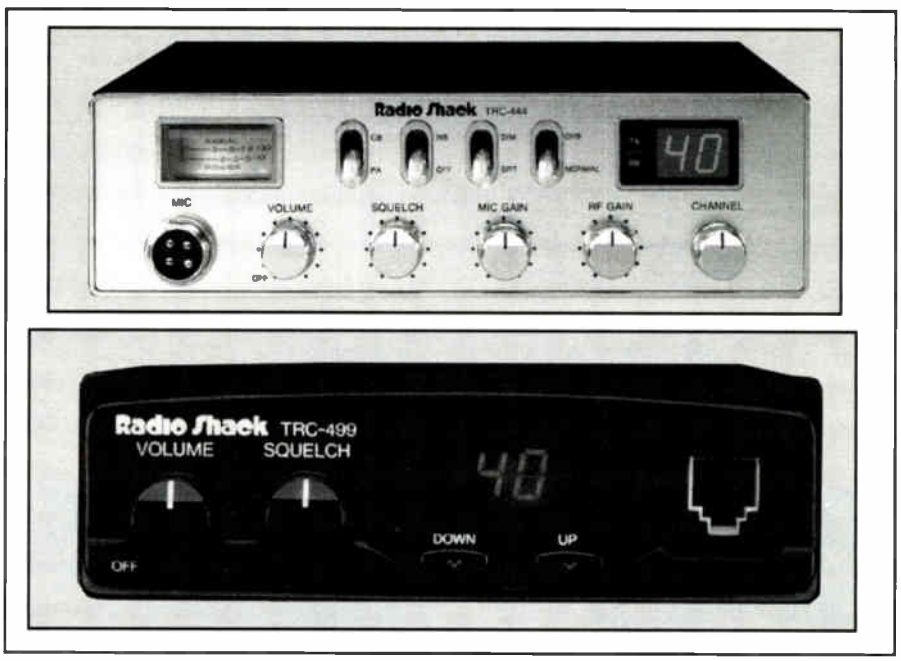
"That's a 10-4, Big Buddy" echoed from TV sets all over North America a few years back at the height of the two-way radio craze. Trucker-oriented TV shows and songs have since faded into the sunset, but the versatile CBs are still a workhorse in the trucking business.

The radio band for the common user emerged in the United States in 1945; in Canada it was called the General Radio Service, but popularized by the American term, Citizens Band. CBs became popular in Canada in the 60's, and by 1977 over one billion units were operating in North America. Truckers across the two nations fostered a language of their own while exchanging information on everything from accidents and police radar traps to weather reports.

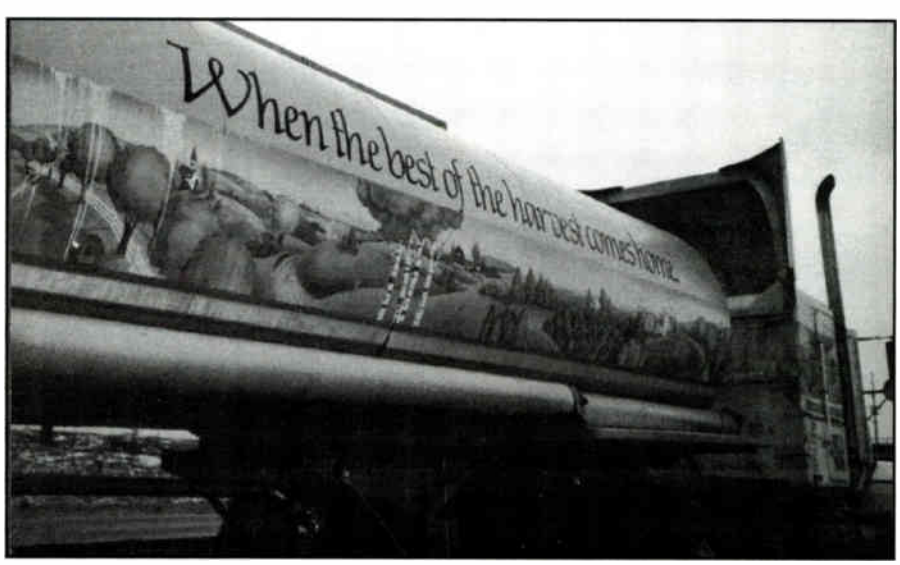
Billy McTighe, a local trucker with more than 30 years of long-haul experience has always been a dedicated CB user. He sprinkles the conversation with, "bedbugs" (furniture moving vans), "toothpicks" (a semi loaded with lumber), and "bull wagon" (cattle-liner).

With the emergence of Business Channel radio, and more recently, the cellular telephone, many truckers lost interest in CB. "We can't take a chance with calls not getting through," says Terry Opp, assistant manager of Pederson's Transport in Lethbridge. "We just have to have reliability." Opp feels that CBs were a phase some users went through, and doesn't see the radios as terribly important for the type of hauling Pederson's 20 trucks do, basically 200-mile runs.

With the decline in popularity of CBs, the CB industry has fought back with newer, lighter units that consume less battery power. But transmission power is still limited by our federal governments to four watts. (Commercial radio operates at 50,000 watts!). Because of the power limits, even the latest improvements in CB technology have not appreciably increased their range. Handheld walkie-talkies reach up to two miles. Base stations have a maximum range of about 15 miles. Transmission and reception distance is by "line of sight" and is affected by hills,



Mobile CB radios like this RadioShack TRC-444 that retails for $99.99 and this TRC-499 base/mobile unit that only costs $49.99 are again gaining popularity where inexpensive local communications are needed whether on the highway, at home or on the farm. (Courtesy RadioShack)



This LVI driver is hauling . . . vinegar! The great-looking "Indian Summer" art is sure eye-catching. (Photo by Bill Simpson)

mountains, buildings, and antenna height, thereby limiting the usable range well inside a unit's ability to transmit about 15 or so miles.

Even with the limitations, CBs 40 channels are well utilized. The large number of channels allow users to make contact on one channel, then switch to another channel to avoid other radio traffic. Channel 19 is the accepted trucker enroute channel, while Channel 9 is the official emergency channel, and is usually kept free of chatter.

Hunting and fishing parties can maintain contact within the distances afforded by handheld units. One enterprising father kept his truck's CB on standby, and gave his two young boys a unit each so they could explore the surrounding forested area while he slept. When he finished his nap, he just radioed the two boys back to the truck.

Sometimes it's possible to pick up conversations on CBs beyond the legal limit of 155 miles. This is a result of the radio signal "skipping", a phenomenon usually caused by sunspot activity which goes through 11-year cycles. It's considered illegal for CBers to operate beyond the legal range, and abusers can face fines and loss of equipment. During the 60's when CBs were becoming popular, there was a great deal of sunspot activity, and hence lots of signals from overseas. Many CBers took advantage of the skip effect and spent hours trying to make long distance contacts with other CB users. The practice is called DXing. Only licensed ham radio operators are legally entitled to communicate over long distances. This didn't stop some CBers from not only DXing, but also copying the practice of ham operators by collecting QSL cards to confirm contacts. Besides being illegal, the practice cluttered up the airwaves.

The 11-year sunspot cycle phenomena was good for the hobby user of CBs, but with increased radio traffic, it was annoying for someone using the radio for local business. The jumble of thousands of radio signals, some originating from as far away as Mexico and Europe, and received in the U.S. and Canada, turned many users against CB. But today, sunspot counts are low, and CB radio users are enjoying plenty of interference-free local communications.

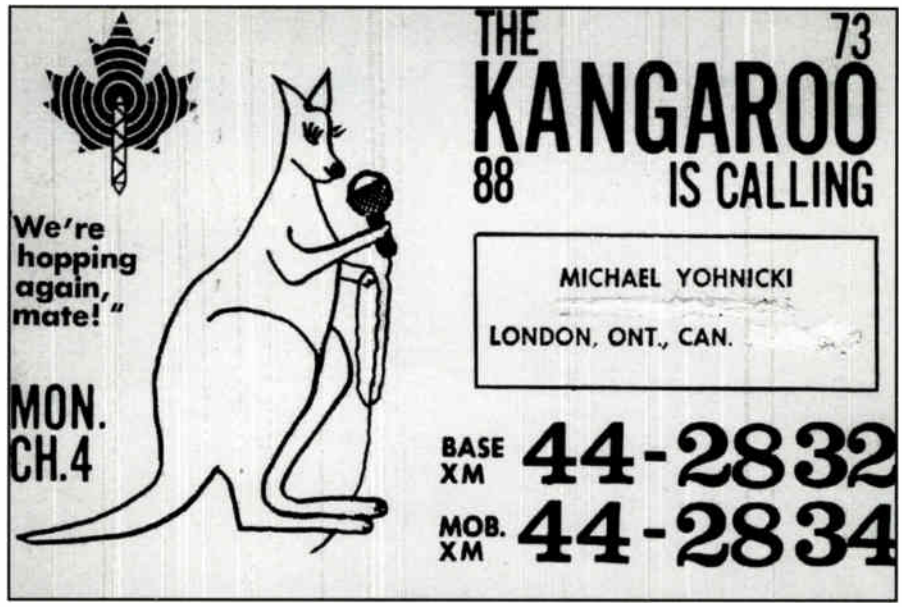
Today the compact CBs are gaining

Drivers everywhere are using CB; this trucker's dual whips are typical of the professional driver's equipment. (Photo by Bill Simpson)

Sitting in a traffic nightmare? CB is the best way to get highway information. (Photo by Bill Simpson)

Maxon's HCB-30 CB walkie-talkie is ideal for staying in touch around the neighborhood or while hiking, boating, camping, walking or just plain having fun anywhere. (Courtesy Maxon Systems, Inc.)

You can sure talk up a storm on your cellular phone, but you'll also pay the price when the bill comes!



CB QSLs like this one from "The Kangaroo" in Canada are still used to confirm contacts, both on-air and in-person.

popularity with farmers and ranchers, and are installed in every truck, tractor and combine on the place as well as in the home. Roundups to meal times in the field are organized via these low power-draining CBs.

Through it all, long distance (and even many local) truckers have remained faithful to the little workhorse CB radios. For drivers like McTighe, who has hauled loads from Alaska to Mexico, saving a few hours time on a long haul by using a CB radio is money in the bank.

Radios are also great company, and as with the cassette player, "It's always on," says McTighe. "You can get weather, road conditions, and find out if weigh-scales are open. I use it to ask for directions in a city I've never been through before." Then he adds smiling, "or I just do a little yakkin' at three in the morning when I'm bored." ■

No Pain, No Gain

Free expert advice on buying a mobile CB antenna . . .

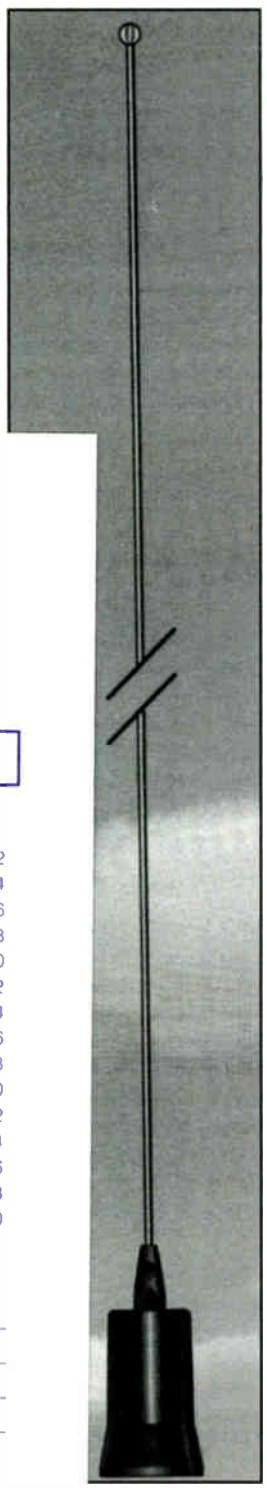
BY RON MCCRACKEN

"Pay HOW much for it? Put the costly thing WHERE? You've got to be kidding, right?"

Did you guess that we are going to be talking about antennas this time around? If, like me and many other CB operators, you tend to watch how you spend your money, you've probably wrestled with those very questions. They cause great pain to most radio operators.

Now consider this. How much did you lay out for your CB? Did you find all those "extra features" irresistible and then spring for the fancier model? You too!

All those glittering knobs and numerous switches will certainly stun your



Larsen's NMO 27 C is a mobile 27-31 MHz antenna that is available with a standard black base and chrome whip. (A black whip is available on request). ← *(Courtesy Larsen Electronics)*

an average radio hooked to a top-quality antenna will perform beyond expectation.

Make the Investment

Prepare yourself to part with some real money for one of the top-performing antennas. Some of them will cost more than you paid for your CB. I bet that's a shocker!

In fact, if money is scarce, buy a bare-bones radio. Invest most of your hard-earned dollars in the best antenna you can afford to hitch to it. It will pay you back in spades.

Hard-core CB experts claim the 102" stainless steel antenna is unbeatable for mobile CB performance. That may be true, however, for most of our vehicles, an 8-foot antenna isn't too practical. We need something less likely to tangle with overhead wires that could fry us.

Compromises

When you shrink that 102" antenna to a more manageable size, you compromise some performance for the shorter antenna length. The manufacturer has to fool the radio into believing that the antenna is still 102 inches long. They do that with some electronic wizardry that is housed in the base of the antenna.

How well they do it determines how well the shorter antenna will perform for you. The quality of materials used and the calibre of engineering become critical. These are what cost you when you purchase a quality CB antenna. They are also what will give your radio that extra range when you are in a tight spot and really need it.

A Variety

CB antennas come in a variety of lengths and types to meet just about any requirement. Each has its particular per-

Mounted in the center of the trunk, this CB antenna will give somewhat better forward performance, while slightly compromising signal coverage to the rear. Best overall antenna positioning is in the center of the vehicle's roof. (Photo by Ron McCracken)

Regular antenna maintenance is an absolute must. Here the CBer is cleaning underneath the Wilson magnet-mount to maximize performance.

Drilling the hole for the proverbial ball/spring mount to hold your 102" CB whip antenna only takes a minute, but remember, it's permanent! BEFORE you drill, be sure you'll be able to easily get to the inside drilled area; there are three nuts/bolts and coax that must be connected to the assembly. Good planning makes for less holes!

The completed 102" whip on the family vehicle. It's an outstanding performer, but not for everyone. P.S. DON'T mount it on the top of your vehicle—it'll likely hit overhead tree limbs, power lines and garage roofs.

formance characteristics. Always check with other CB operators who use the antenna you are considering. They can tell you how it performs in actual field conditions. CB clubs, "coffee breaks" and RV parks are great places to track down these valuable user reports.

Visit several radio stores, too. Learn what antenna brands they carry. They can provide you with specs on the antenna type you are considering.

Ham radio operators are another good source of antenna info. They often thrive on the technical side of radio. Many are happy to share their knowledge, so put out some feelers and you will likely be rewarded with great antenna ideas.

Antenna Location

Remember, where you decide to mount your CB antenna will also affect its performance. On some vehicles you will have little choice. On others there will be no restrictions.

Mobile antennas generally rely on the metal skin of your vehicle to create the "ground plane" they need. Manufacturers offer some models that compensate electronically for lack of that ground plane.

Ideally, you want your antenna at midpoint on the vehicle skin to get maximum performance in all directions. Right away, the shape of the vehicle means that you will get better performance ahead and behind rather than to the sides.

Mounting the antenna elsewhere on the vehicle will further affect your radio's performance. You may want to move the antenna to suit your own needs, though.

For example, centering the antenna on the vehicle trunk will extend its forward range. You will be able to pick up road reports from approaching vehicles a little sooner as a result. Of course, there is a trade-off in shorter range behind you, but you may not mind.

Magnetic mounts allow you to experiment easily with antenna location. They also offer the advantage of quick transfer from vehicle to vehicle. Many folks prefer a magnetic-mount because there are no holes to drill.

Once again, you get what you pay for. Quality magnetic CB antennas have strong magnets. You need them. You don't want the antenna to fly off or shift in high winds. It can be costly and perhaps cause an accident.

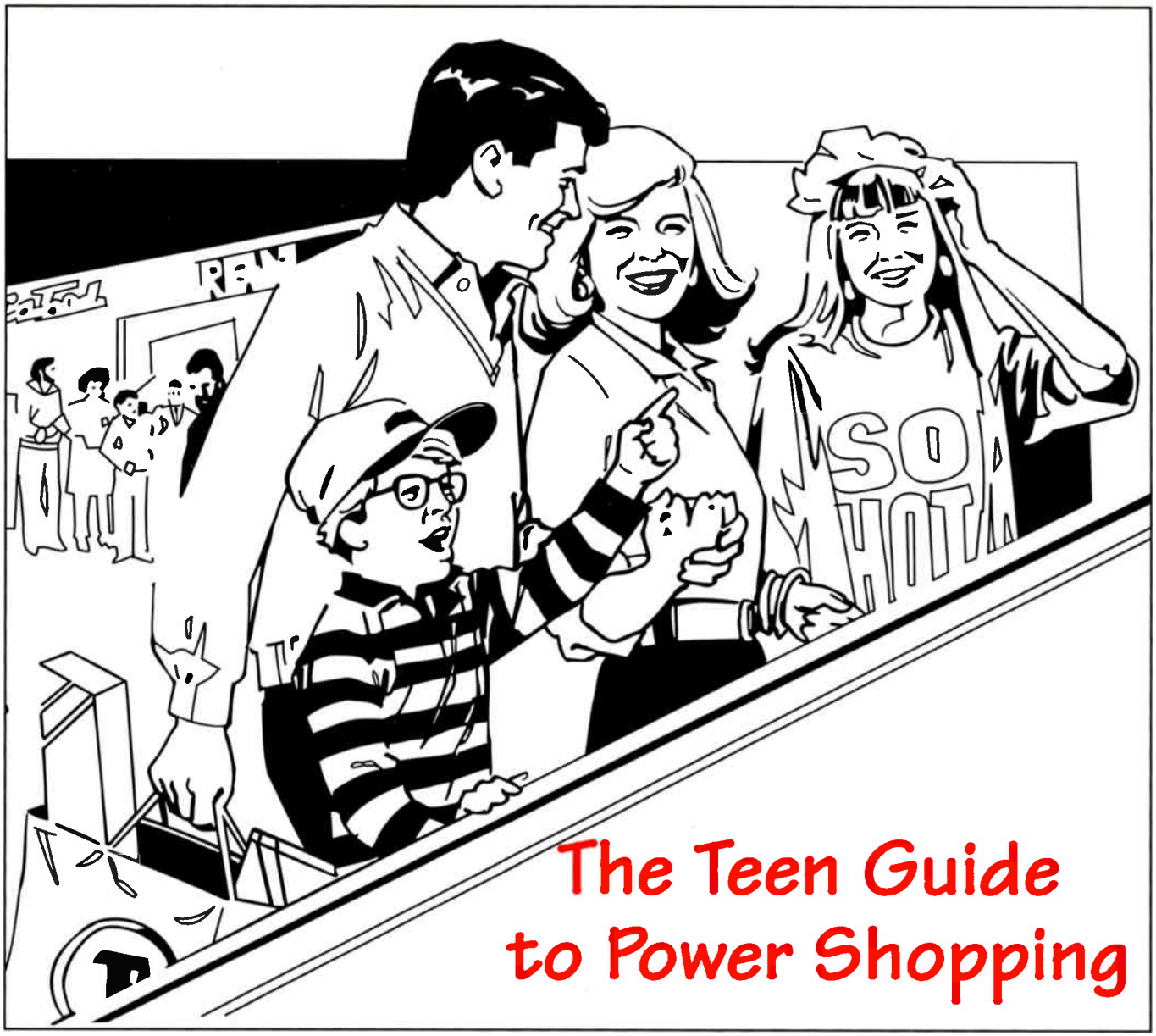
A Word of Caution

I've always used a good magnetic-mount and been very satisfied. Other operators prefer trunk-lip or roof mounts. My "Wilson 1000" mag-mount was stolen in broad daylight from a mall rooftop parking lot. (I know now not to use rooftop lots . . . too few people park there, so your vehicle is an easy target for thieves).

Scuttlebutt has it that the "K-40" is a top performer. I must try one next! My "Larsen" magnetic continues to perform well after 15 years. The "Wilson 1000" served well for four years. The thieves had obviously heard good reports about it, too!

Whatever antenna you needs, choose carefully. Buy the very best you can afford. Grit your teeth and put the costly beauty out in all that weather. A quality antenna is designed to handle about anything the weatherman can throw it's way.

You'll be glad you invested in a top antenna. It will maximize the performance and satisfaction you will get from your CB radio. It's a radio fact! ■



The Teen Guide to Power Shopping

Shopping WITH your CB radio . . .

BY JUDY SIMPSON

Power Shopping 101:
Prerequisite: must be able to walk across mall at rapid pace. Special equipment required: one credit card-carrying MOM, high speed tennis shoes, shopping list. Course consists of slowly examining every possible item in every store in at least four local malls. Care must be taken NOT to be seen by—BOYS—or points will be deducted from total score. Object is to maximize at least one credit card on each weekend excursion. Extra credit given if accompanied by at least two girl friends, or if MOM loses control and screams at least twice. Points deducted if stores are visited more than twice to check pricing on identical items. Class usually attended by young ladies 10 to 13 years old.

Power Shopping 102:
Prerequisite: Same as above. Special equipment: same as above. Course consists of being dragged across every square foot of at least four malls looking for jeans and Tee-shirts, along with "tennies" under $150, and ONE good pair of slacks. Being seen by any known person of the opposite sex constitutes cruel and unusual punishment, and is grounds for diving under the nearest clothing display. Extra credit earned for finding male friends involved in same class. Points deducted for becoming separated from MOM, or for wails being heard more than three stores away. Class primarily for young males age 10 to 13 years old.

Power Shopping 201 and 202:
Prerequisite: Either 100 series course. Special equipment: One television, one telephone, access to credit card. Course consists of several hours per week watching any home shopping network, while talking on telephone to any friend watching any other home shopping network. Three-way calling is not required, but is helpful, since a third person is added to

the chain. The object is to find and order all necessary clothing, accessories, jewelry, and necessary purchases without severing the telephone connection or interrupting the flow of conversation of the parties involved. Extra credit will be given for second telephone line, and ability to scrutinize multiple televisions. Males ages 13 to 19 considered auditing course and are exempt from ordering unless for special person.

Power Shopping 301:
Prerequisite: PS 101, 201. Required special equipment: credit card or checkbook, access to vehicle, CB radio, shopping list, several free hours—preferably on weekend. Course description: Planning, coordinating, executing and debriefing a logical, simultaneous, calculated assault on multiple shopping malls, compile a list of materials in urgent demand, designate particular requirements, such as size or color and specify a starting/recall time.

Assigned personnel will visit the specific retail outlets within the shopping mall, obtain pricing, quality, name brands, sizes and colors, and return to the vehicles at the suggested recall time to report to the compatriots the information necessary for completion of the mission. Persons of the opposite gender have their own itinerary and while not prohibited, are not encouraged to participate. Open to all females ages 16 to 19. Extra credit allowed for multiple personnel per vehicle, and for command decisions, such as spot purchases, or purchases for others.

College Courses? Not Quite!

If these sound like course descriptions for college curricula, think again. In some areas of the country, the young adults ARE using the CB radio to comparison shop. One or more will visit a mall, price the items previously selected, and use the CB to compare prices with one or more groups at other malls. The shoppers could be all male, all female, a mixture of both, or even couples. Gender is really irrelevant, since the guys are using CB to find auto parts, cheap gasoline, and clothes.

There are no figures available to compare the money saved by NOT using the TV, or a cell phone to find the items necessary to prolong the life of the young adult. One of the more important concepts is the interaction and cooperation of the individuals to create a more powerful shopping base. Perhaps the retails are not yet aware of the buying potential of a group, but we would bet that the front runners know about that $$$!

If you or your group has a unique use for the CB, one that could be useful for others, or could create more financial independence for others in your age group, please share your ideas with us. We're betting that we are simply scratching the surface of CB use, and that there are MANY more interesting uses for CB. We can't promise to print each one, but we should be able to create some conduit to share with others. Your interest and response could be monumental in developing a direction for further issues. There is NO other monthly CB magazine, so how 'bout making this one YOUR magazine!

CB Applications

PRACTICAL USES FOR CB RADIO

By Andrew Yoder

The CB and Hiking on the Appalachian Trail

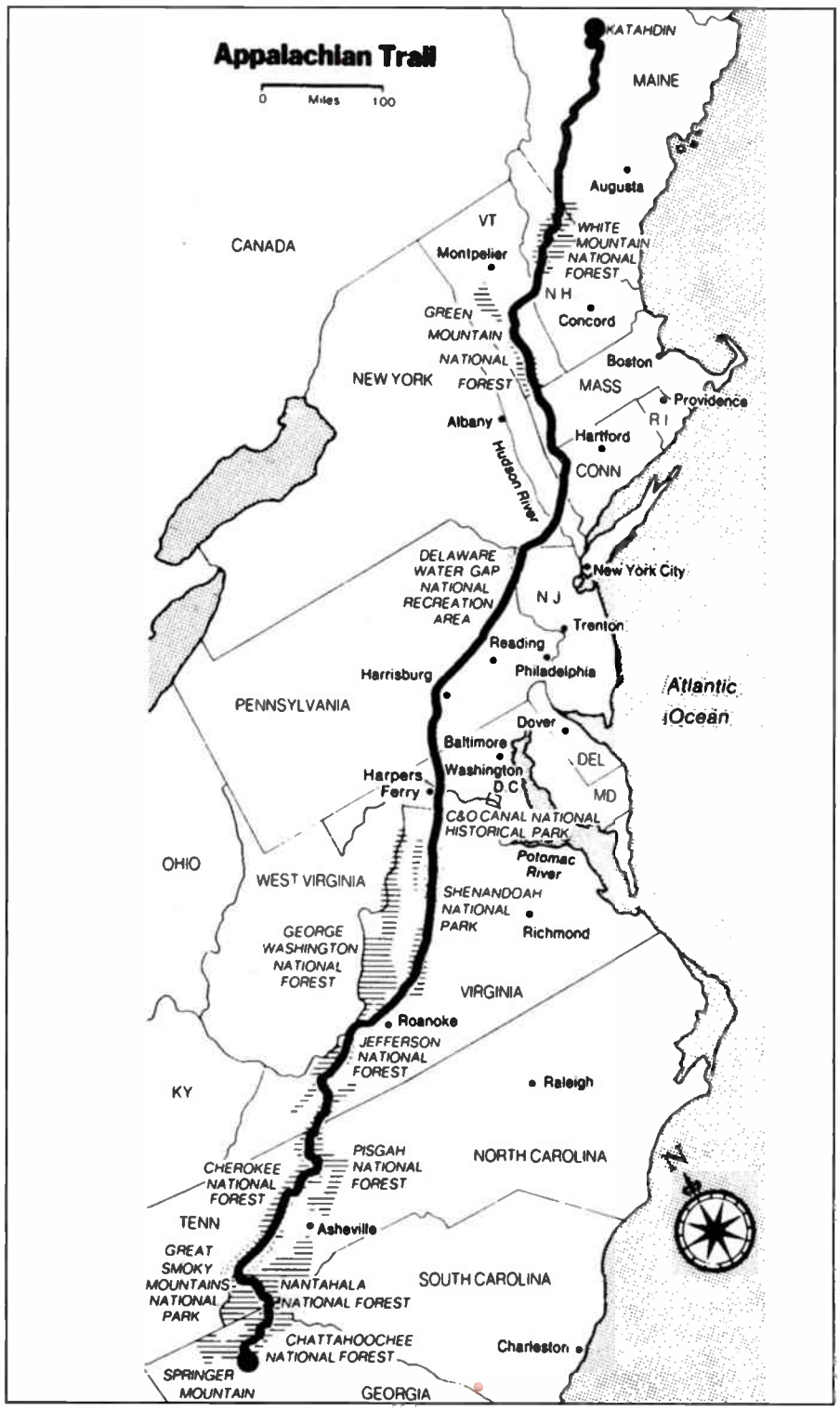
Last month's CB Applications covered some of the initial information about hiking on the Appalachian Trail. If you have been pondering hiking the trail, this month's column might help you to make a better decision.

"Through-hiking" is the process of hiking the entire Appalachian Trail in one shot. So far, I've only covered through-hiking and the wonders of blowing off six months walking from Maine to Georgia. Of course, there's no reason why anyone would HAVE to walk the trail in one shot . . . or even work to hike the entire trail in pieces. It can be really great when people take off on a big adventure, but a small take-a-stroll-in-the-woods or a weekend hike can be an exceptional good time—one that people with responsibilities can afford to participate in.

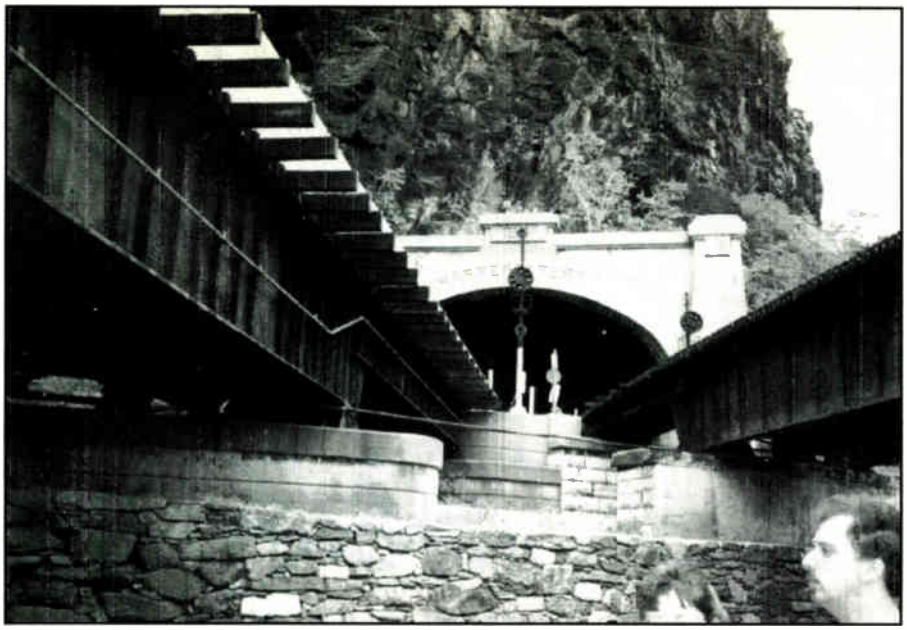
Living Near the Trail

I am fortunate enough to live close to the Appalachian Trail. Although my wife and I have never through-hiked or even made any long-term hikes, we have taken a number of several-mile walks. Not only are they fun, but we know a great place for huckleberries! The hikes through the mountains are beautiful and peaceful. Although hikers occasionally pass by on the trail, they are not plentiful (it's nothing like walking through Sears just before Christmas) and they are not permitted to cut trees for firewood, etc. As a result, the trail is very "natural" and free from litter, noise, etc.

Also, the Appalachian Trail is basically just a connect-the-dots hike of historic places and especially National and State Forest lands. The hike through New England is really great—mostly just mountains with names like "Barren Mountain," with a final culmination at Mt. Washington (over 6,200 feet above sea level!). Soon after Mt. Washington is the beautiful Franconia Notch with enough rhododendrons to make the notch look almost tropical. In Connecticut and New York, the trail passes close to the homesteads of the Vanderbilt family and Franklin D. Roosevelt. At the New York and New Jersey border (near New York City and Newark), the trail gets more crowded with folks trying to escape the City. The segment through Pennsylvania is mostly just rocky forest land, although



The Appalachian Trail—from Georgia to Maine. (Courtesy Appalachian Trail Conference)



Just under the Appalachian Trail at Harpers Ferry. West Virginia. Here the Trail is on the bridge above. (Photo by Andrew Yoder)

This hiker shows just how lightweight tents really can be. (Photo by Andrew Yoder)

it does cut through the Poconos, where I guess you could hike from heart-shaped sauna to heart-shaped sauna. In Maryland, West Virginia, and Virginia, the AT runs through lands where plenty of Civil War campaigns were fought: Gettysburg, Antietam, South Mountain, Harper's Ferry, Winchester, etc. The highlight of Virginia is the long hike along Skyline Drive, known as one of the prettiest drives in the United States. Tennessee features a long hike through the Great Smoky Mountains—with TWO mountains over 6,600 feet above sea level. The hike into Georgia is relatively brief, but that portion of the trail does contain Springer Mountain, the end (or the beginning) of the trail.

The trip on the Appalachian Trail is especially difficult because hikers must carry their belongings, shelter, clothing, and food. Even if you hiked the trail in the middle of summer, for example, the temperature on Mt. Washington would still be cold; probably in the 50s. That means a light, efficient handheld CB, light clothing, light tents and sleeping bags, dehydrated food, and LOADS of planning!

Hiker Security Guidelines

Of course, walking for six months and living in the relative wilderness can be dangerous. The lifespan for the early trappers and traders was dreadfully low. Although our means of communications have greatly advanced over the past 200 years, such an expedition is still very dangerous. Natural dangers, such as bears, getting lost, freezing temperatures, disease/infection, and injury might appear to be formidable opponents, but together they are probably less dangerous than people. Here is the top-10 safety list from the Appalachian Trail Conference:

1. Don't hike alone. A partner reduces the potential for harassment. If you hike alone, always say that you are with a larger group.
2. Leave a trip itinerary with family or friends.
3. Don't broadcast your itinerary to strangers or leave it on your vehicle. Do not describe the whereabouts of your car to fellow hikers.
4. Dress conservatively to avoid unwelcome attention.
5. Avoid provocation.
6. Be cautious with strangers.
7. Camp away from roads. Harassment is most likely near highways.
8. Don't carry firearms.
9. Discourage theft. Don't leave your pack unattended. Don't leave cash, cameras, or expensive camping equipment in cars parked at remote trailheads.
10. If you witness or are the victim of harassment, promptly report the incident to local law enforcement authorities and to the ATC so that steps can be taken to prevent recurrence.

As far as hiking with a CB goes, safety tip #3 is especially important. By operating a CB while hiking, you could literally "broadcast your itinerary to strangers"—to anyone within a few miles of the Trail. For safety's sake and to conserve battery power, all CB communications between hikers should be with the handheld transceivers in the LOW-POWER settings. The low-power setting (1 watt) wil keep most transmissions from getting out to the general public.

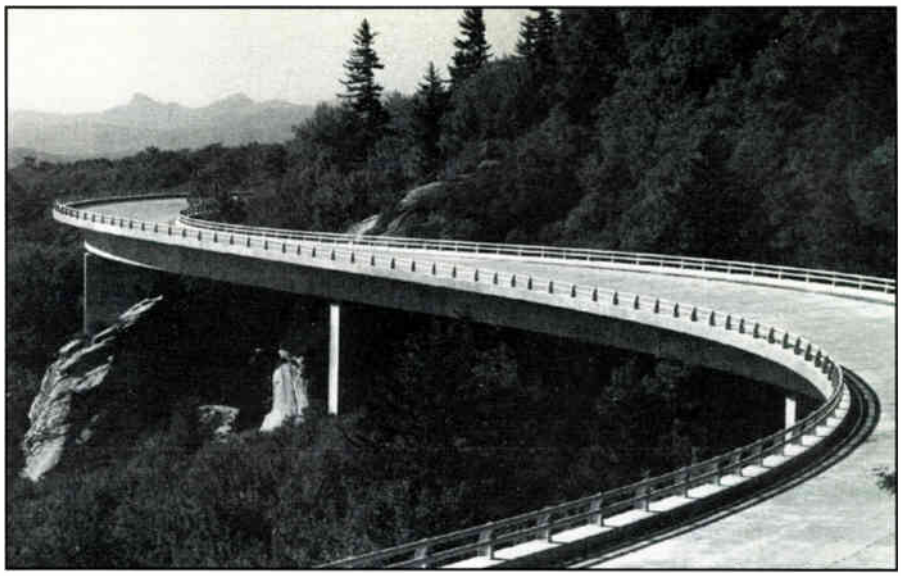
But even so, the signals could still be heard by some unwanted monitors. To keep the signals even more private, the CBs should be used sparingly near towns and roads. Also (and especially in these regions), future plans, names, and location descriptions should NOT be discussed on the radio.

By taking some safety precautions and using some common sense, using a CB radio while hiking the Appalachian Trail can be very beneficial—it might even be a life saver.

CB Across America?

One really cool aspect of CBing while hiking for thousands of miles is the

CB walkie-talkies like this RadioShack model with flexible "rubber duck" antenna are ideal for hiking. (Courtesy RadioShack)



When near the highway, always use the CB radio with a dose of caution on low *power; remember, others may be listening!*

chance to get some really great DX and even to talk with some interesting people via the radio. Of course, this is also possible while taking long trips in a car or truck, but there's a better chance to experiment with antennas, locations, etc. For example, you might be able to drive around the country and talk on the CB, but you wouldn't be able to take the CB and talk from the peak of Clingmans Dome, Tennessee or operate from the top of an observation tower. Imagine the possibilities! In addition to experiments pertaining to operating with the antenna well above one wavelength above the ground, experiments with variations would be one of the first picks. Those topics are a bit complicated for this column; I'll leave that up to one of the columnists who covers the technical aspects of antenna construction.

In the last section, I warned about the dangers of talking to anyone on the CB while hiking. Now in this section, I'm talking about CB DXing and talking to people. What gives? Well, there's a tradeoff between CBing and your safety when hiking. The safest method of CBing while hiking is to not even mention that you are hiking; doing so could be dangerous — someone could use this information to their advantage (even just someone listening to the radio). If any locations are mentioned, they should either be highway locations or local towns. If the person that you are talking with presses the issue, it's probably best to drop the conversation.

Aside from safety concerns, one drawback to hiking and CBing with the general public is that the handheld won't be heard for a very great distance with just the whip antenna. "Real" CBing will need to be reserved for evening resting times and special occasions, such as being on a mountain. Otherwise, you'd never get any time to hike!

For More Information

Of course, you won't know everything there is to know about hiking the Appalachian Trail in just a few magazine columns, but hopefully, these columns will spark your interest in the possibilities. For more information (especially about local hiking clubs), write to any of the following organizations:

Appalachian Trail Conference
P.O. Box 807
Harpers Ferry, WV 25425

or call them at 304-535-6331. Their internet address is: appalachiantrail@charities.usa.com

NOTES: The Appalachian Trail Conference sends out free brochures and sells many handy guides, books, maps and videos. Some of these products are a real must-have for through-hiking the trail. Without them, the hiker would surely misplan at least some important aspect of the trip. The Trail Store also sells fun and useful items, such as t-shirts, mugs, postcards, walking sticks, music cassettes, etc.

Georgia Appalachian Trail Club
P.O. Box 654
Atlanta, GA 30301

Maine Appalachian Trail Club
Rt 201
P.O. Box 90
The Forks, ME 04985

Appalachian Mountain Club
Pinkham Notch
Gorham, NH 03581

Potomac Appalachian Trail Club
118 Park Street, SE
Vienna, VA 22180
703-242-0315

To contact me via this column, just write to "CB Applications" c/o *CB Radio* magazine, 76 North Broadway, Hicksville, NY USA 11801-2953. Or if you have an idea you would like to see covered in this column, and you are online, you can send an email to ayoder@delphi.com. I can't promise a response to any questions, but I will try. If you send questions via the U.S. Postal Service, please enclose an SASE or two International Reply Coupons (IRCs) so I can write back. I also check into the alt.radio.CB Usenet group on the internet from time to time, so I might see your ideas posted there as well. ■

CBer of the Month

OUR SALUTE TO TOP-NOTCH CBERS

By Bill Price, A/K/A The Chiseler

"What's The Big Kahuna Doing in Virginia?"

I am always ready to search the four corners of the globe for a CB'er with a good story to tell. Just last week I told our editor that in fairness to our Pacific readers, maybe I should hop on a big bird and seek out a Hawaiian CB'er of the Month. It does my heart good to see a man laugh like that. Later that afternoon, with his kind fiscal guidance, I decided to look closer to home.

Political reporters hang around the White House; sports writers hang around the ball field. I went to my local Radio Shack dealer and said hi to Gene, who at that very moment had begun to look amazingly Hawaiian. Until that moment, he had always looked to me like a professional wrestler who sold radios.

"Where ya' from, Gene?" I asked.

"Waianae," he said. "It's on Oahu."

"Do you ever operate CB?" I asked.

"I have a rig here—in the back—but I don't get much time to operate when I'm working. I have a rig at home and one in the car, though," he said.

It turns out that Gene O'Connell, who has always helped me with products and photographs for my articles, is indeed a native Hawaiian, and came here only three years ago, apparently tired of beautiful beaches, an ideal climate, and the occasional tsunami. Since it was about a half-mile from my home to the shopping center where Gene works, finding a Hawaiian CB'er only justified eleven cents on my expense account.

Gene's favorite rig is definitely the Cobra 25 LTD Classic—a beautiful looking rig which Cobra claims to be the "first choice among professional drivers." "I've got three of them," Gene says, "and K-40 antennas—I've got three of them too!

Normally, it doesn't make sense to use a mobile antenna at a base installation, but here in Virginia, sheet metal is the predominant roofing material, so a mag-mount mobile antenna is a natural for a base installation (though a pitched roof makes a strange ground-plane). "I just reached out my bathroom window and tossed it up and over the gutter. Easiest installation there is," he said. He's got me there. "Same with here at work, but I had to go up on the roof. I popped the mag-mount onto a tall piece of sheet metal up there—I think it's a heating duct," he said. "To me, there's nothing better than a K-40." If that was the only brand Gene sold there at the store, I'd think it was a plug,

Gene O'Connell, a/k/a "The Big Kahuna" at the controls of his Cobra 25 LTD. (Photo by Bill Price)

but he's got over a dozen different antennas for sale. He just loves the K-40.

I know about as much about Hawaiians as I do about Laplanders or Canary Islanders, so I asked Gene if he could give me just a bit of native Hawaiian insight or wisdom. He got a big grin and asked me a hypothetical question:

"Suppose you're living in Hawaii. One morning you wake up and hear on the radio that there's gonna be a dock strike starting at noon that day. What do you do?

I figured that running out to buy bread and milk was something mainlanders do when they hear it's going to snow, so without an easy answer, I gave up. "What *do* you do?" I asked.

"Buy toilet paper," he said. "Buy all you can afford, and buy it right away. Within a few days, you'll be able to trade it for anything you want. When we were kids, my friends and I heard there was a dock strike coming, so we went around doing any chore that people would pay us for, and each time we got paid, we sent one of the guys to the store to buy as many rolls of toilet paper as he could. Back then it sold for about a quarter a roll. We eventually had about thirty cases stashed in one guy's garage. We all wanted to set up a stand by the road that afternoon, but my friend Tom convinced us to wait.

"We waited about 10 days before we thought the market was right. We weren't sure what to charge, so we decided we'd ask $3 a roll and see what people would offer us. Turns out we could have asked even more, 'cause we sold out in two days. That's where I got the money for my first CB and antenna. I was also the hero of the family when I brought home a case of black-market Charmin' for the family—about $144 dollars' worth at street prices.

"The reason I bought that CB radio was that my brother had one. I didn't exactly know what you did with one, but I knew you could talk to people on it, and it sounded like fun. All the people used words that sounded like they were from another planet, but I caught on pretty quickly, and when conditions were right, I could talk to people on the mainland without an enormous phone bill."

I asked Gene the traditional questions about his favorite food and drink. He said, "Luau—luau and a Pepsi." He explained that a luau is a feast that can have hundreds of different food items, including a roast pig. "My favorite is the Kalua Pig," Gene said. It's delicious, and it's not something you can walk into a restaurant here and order, so I haven't had it in over three years."

"Do you have a message for the FCC?" I asked.

"Yeah—stay home!"

"And for our readers?"

"Whether you're talking to someone on the air or in person," he said, "be courteous—be kind. You'll get it back."

Gene told me that Sonny, the store's owner, would be inclined to give him a hefty raise if he became famous and people came to the Bealeton, VA store and bought a bunch of stuff from him. He wasn't disappointed, though, when I told him that the only thing the CB'er of the Month usually ends up with is a lot of attention and autograph-seeking by members of the opposite sex. Gene—a/k/a "The Big Kahuna"—is unattached.

Gene will receive an 8 x10 photocopy of this article that's suitable for framing, along with our gratitude for allowing us to abuse him, as has been our short-standing tradition. ■

Ask Bill

ANSWERS TO YOUR MOST FREQUENTLY ASKED CB QUESTIONS

By Bill Price

So—here we are into the third issue already and I'm still digging up questions that Pop'Comm *Communication Guides* readers have sent to our editorial offices. You may note that the questions are always concise and brief—usually only one sentence, and you probably know that most people don't write letters like that. We thought you might like to be privy to a heretofore secret part of the editorial process: how we reduce a complex letter to a one-line question. First—the original letter:

Dear sir, madam, or whatever:

Why won't the manufacturers tell me which screw will increase the power of my set up to 50W? I know every set has one, but the manufacturers all lie to me. Also, how can I apply to be in charge of channel 14 in my area?

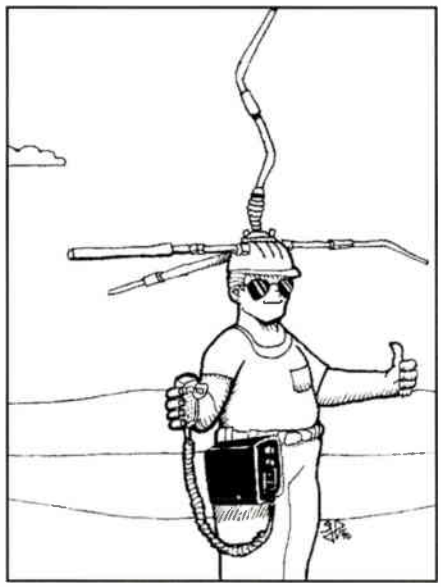
I have written to the FCC proposing they increase the number of CB channels to 500, but to date, they haven't issued a Notice of Proposed Rulemaking. Do you know why? For stereo CB, do I need two microphones plugged into one set, or two sets plugged into one antenna, or two of each (mike, radio, and antenna)?

Is there an accessory I can install on my radio to give people a shock if they are talking when I want to talk? I'm talking about just enough to stun them—not like electrocution or anything serious.

While we're at it, how come there are no CB repeaters? Please answer these questions, as knowledge is power.

Yours truly,
J.B.F., a/k/a Exalted Ruler, Macungie, PA

. . . and the finished product:



Dear Bill: Why are there no repeaters for CB?

J.B.F., Macungie, PA

Hey, J.B.—good question. In one way, there *are* CB repeaters; they're allowed in the GMRS (General Mobile Radio Service), which, like CB, is available to just about anyone. Those radios are in the UHF (Ultra-High Frequency) range just under 500 MHz where repeaters are practical, but repeaters are not practical for 27 MHz CB, and here's why:

- Repeaters should never have an input frequency that's subject to skip (signals traveling hundreds or thousands of miles by bouncing off the charged layers of the ionosphere), and the 27 MHz frequency range used by CB is certainly subject to skip. That would mean your signal from Macungie might trigger a repeater in East Armpit, California, where people are having a tough enough time trying to hear each other. You might wonder why the FCC assigned a skip-prone frequency band to the citizen's band service (where skip communication is prohibited) in the first place; any opinion I could offer would be called cynical and nasty.
- Repeaters must be used by only one person at a time over a wide area, requiring more self-discipline than is normally found in the Citizens Band.
- Who would pay for them, and why? How could anyone restrict access to a CB repeater when cell phones are being cloned faster than cockroaches hatch in a hotel kitchen?
- AM—the type of modulation that most CB uses—is not really a good mode for the input of a repeater, and FM—which is a good mode for the input of a repeater—is not practical at CB frequencies (see the question below about why CB radios don't use FM).
- If you don't count skip, the useful ground-wave range of the radios fits the needs of most of CB's intended applications (typically base-to-mobile and mobile-to-mobile short-range communication), so repeaters wouldn't really serve much purpose.

I've been studying for my "No-Code Tech Class Amateur Radio License." Once I get that, will I have any use for my CB rigs, or should I sell them to buy ham equipment?

M.A.C., Chicopee Falls, MA

Hey, M.A.—I love the easy ones. I got my first amateur radio license in 1973 (the year I was married) and I got my first CB that same year (until then, I had used one of my dad's radios). There are several types of personal radio communication services (CB, Ham, GMRS, Business Band VHF and Cellular Phones) which fill a lot of needs. You'd be hard pressed to make a decent phone connection via CB phone patch (and imagine the eavesdroppers), but you'd be unlikely to pick up your cell phone, dial a number and reach a southbounder on I-95.

Along with that, you are forbidden to use ham radio for any type of business communication, but a local repeater with phone-patch makes it easy to call home via landline when you're way out of CB range. If your spouse doesn't have a ham license, and the two of you are driving two cars down the interstate, you can't use the ham bands; CB is the ideal way to stay in touch.

Most of the country is covered by ham radio VHF (2 meter) repeaters, and any ham will call police, firefighters, or paramedics for you, but CB is still the way to get fast highway help from a passing motorist or REACT.

Enjoy ham radio for its hobby communication value, the technical growth it can provide, and for the varied applications of today's technology (satellite communications, packet radio, repeater operation, and even amateur TV), but if you don't want to take my word for it, disconnect the power cord and try going without your CB for a week.

Hey Willie: All my friends call me a cheapskate, but why should I spend a hundred bucks for a CB walkie-talkie when I can find a cheap mobile rig for $39? They both have 40 channels and put out four watts.

E.A.S., Frankfort, KY

Hi, E.A.—Your question is one I've thought about many times over. I've never really needed a portable rig such as a walkie-talkie for more than a few minutes at a time, but if I did, I'd be asking that same question. The differences are:

• Weight. Mobile radios are small, but there's no real requirement for manufacturers to make them light, because the heaviest radio makes virtually no difference to any car's performance or fuel economy—not so if you plan to hang it on your belt.

• Antenna mounting and placement. Most any mobile rig would hang nicely from your belt, allowing you to look down and see the controls—but the rig's antenna jack would be down by your thigh, pointing toward the ground. Even if you used two right-angle UHF adapters to make a U-turn up the side of the rig, you'd be mounting a portable antenna close and parallel to the radio's metal case—and your body! Both of those would be bad for performance, and that part about having a transmitting antenna an inch or so from your torso isn't that great for you, either. The walkie-talkie also comes with an antenna; your mobile rig does not, so you'd have to allow a few bucks for adapters, a portable antenna, and perhaps a hard hat on which to mount the thing. If you mount a full-size ground-plane antenna on a hard hat (assuming you have a sturdy chin-strap) you can count on a difficult time walking through the woods, though the antenna's good coverage will make it easy to summon help.

• Batteries. Most portables allow you a choice of alkaline or NiCd (rechargeable) batteries. No mobile rig has a place to put batteries, although you could buy a rechargeable NiCd pack or design some sort of battery holder. You could even use a professional camcorder belt-pack, but that would sure cost you well over $100, and wearing it might be more exercise than you bargained for. Allow from $10 to $100 to power your rig.

• Battery Drain. Most handheld CBs allow you to conserve battery life by offering the most energy-efficient circuitry available, including a low-transmit-power option, minimal display lighting, and low audio circuit power consumption. The mobile units usually have highly visible red LED or green fluorescent displays—some even have incandescent lights.

On top of all that, the speaker would probably be resting right on your leg, rendering it useless. You'd have to turn the radio around so that the controls were impossible to read, just so you could hear the thing.

Bill: I live in a high-rise apartment, and I have a whole empty room with an eight-foot ceiling. I can fit a ground-plane base antenna in there, but will it do me any good, or should I just put a mag mount antenna on the iron railing on my balcony?

J.P.L., Palos Verdes, CA

Hello J.P. Lots of answers on this one, but they all point to "no." Let's examine why:

High-rise buildings all have steel framework; steel mesh and re-bar grids are not uncommon either. Add to that the possibility of foil-backed insulation and your signal would have to go down the hall and out the window before it could reach another CBer. It's a clear win for the mag-mount on top of the iron railing, unless you've got a top floor apartment, in which case a friendly discussion with the building superintendent is in order.

Willie: Why don't CB radios use FM? When I go across a bridge with an iron superstructure, I lose my AM coverage but my FM never changes. Also, FM is so nice and static free—it's not affected by engine noise or lightning. It wouldn't cost much more to make CB sets with FM, would it?

F.H., Helena, MT

F.H.—You're right about the noise and the static, but the reason you don't lose FM coverage on an iron bridge is because of the high frequency of broadcast FM and the short wavelength of the signals. The wavelength of broadcast FM (and VHF & UHF FM used in 2-way communication) is short enough to fit through the openings in those bridges. The wavelength of your AM broadcast radio signals is hundreds of meters (hundreds of yards) long. The bridge appears as a solid barrier to AM waves.

In response to part two of your question, no, it wouldn't cost much more to make CB radios using the FM mode, but FM uses much more bandwidth (the channels, which are now a couple of kilohertz wide, would have to be much, much wider) and there just isn't room on what is now the citizen's band for such wide channels. While new technology now exists to allow compression and re-expansion of signals, with higher-quality audio, less and less bandwidth and more channels, no manufacturer is about to put up the bucks to try to get the FCC to change the Citizens Band, nor are they likely to offer a "revolutionary new modulation system for CB radio," because the system is already established, and no one—neither the operators nor the FCC—is about to change horses in the middle of this stream.

Hey Bill: Sometimes while I'm sitting at a light with a big truck next to me I hear the driver talking on what I assume is his CB, but I hear him in my car's FM stereo system. Does he have an FM transmitter, or what?

T.A.C., Tell City IN

Well, T.A., Even a very good car stereo system is not completely immune to overload by a high-powered nearby transmitter—and that's probably what you're up against—or next to. Professional drivers, to whom a hundred or two-hundred-dollar investment in their equipment is not a big deal, often buy 100 watt (or more powerful) linear amplifiers. They're illegal, just like they've always been, but they're much easier to get now than they were 10 years ago. The drivers want to make themselves heard over the noise that's out there, and a few extra watts will make one operator heard over another, but the problem is that once they all get 100W amplifiers, then someone will need 500 or 1000 watts to be heard over them! When someone buys an amplifier, he either thinks he's more important than other operators, or that he has the superior judgment to determines when the use of an amplifier is justified. He either thinks he *is* better than you, or he thinks he knows better than you. I doubt either is true. ■

Tech Talk With Gordo

EXPLORING THE TECHNICAL SIDE OF CITIZENS BAND

By Gordon West

Your CB Radio on the Water

With summertime approaching, many of you may plan to take fishing trips or go for a boat ride out on the lake, up and down the river or on the ocean. Plan to bring along your CB radio, and get set for some long-range contacts that can only occur when your CB radio system is tied into all that water you're floating on.

Great Range!

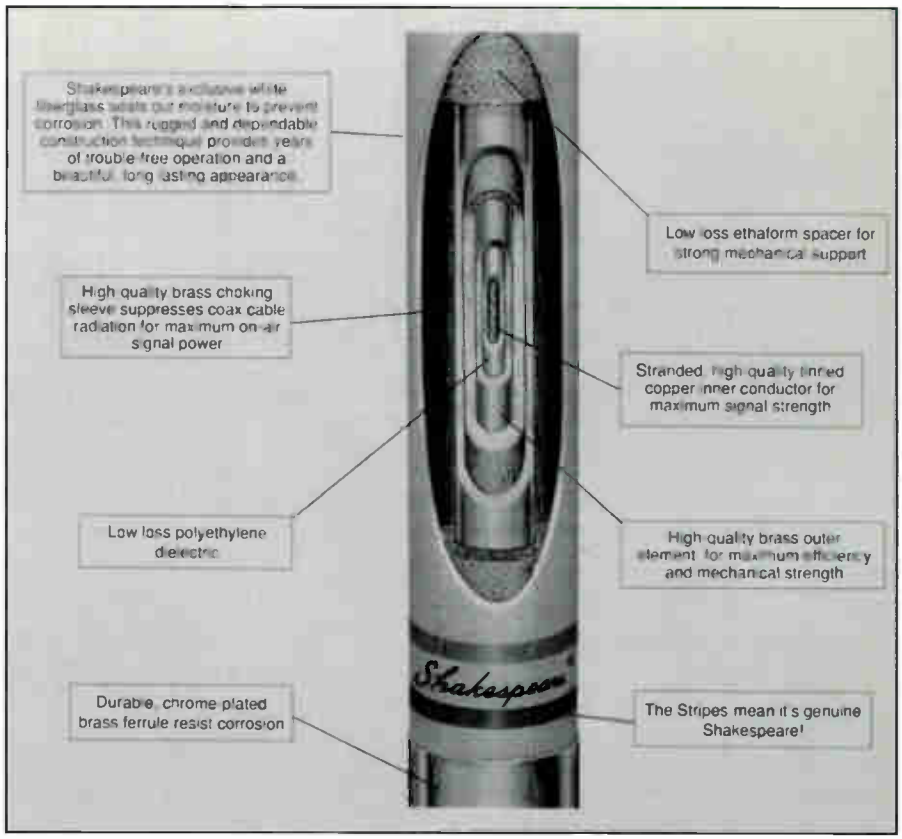
It is the conductivity and massive conductive potential of water that intensifies CB radio transmitting and receiving. Instead of highway mobile-to-mobile range of five to eight miles, you can easily communicate 15 to 25 miles between two boats when your antenna system is taking advantage water's conductivity. And the same thing for skywave reception—your on-the-water capabilities with a relatively simple marine-type CB antenna may pull in signals that even big base station antennas can't hear!

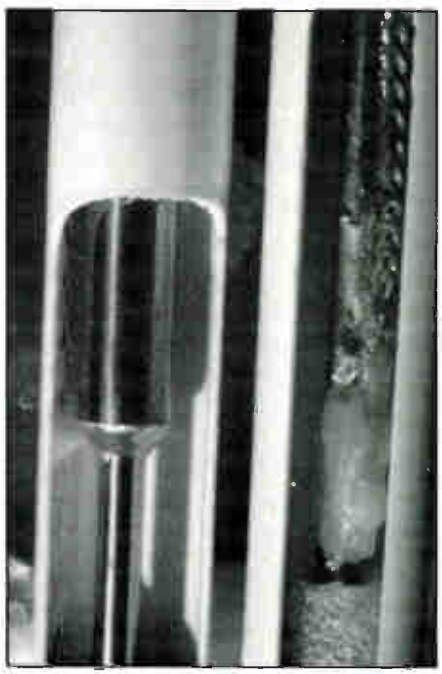
Deciding On Equipment

It's important for you to choose the right type of CB radio for your upcoming boating trip. You can choose from 27 MHz handheld portable, 49 MHz portable or 27 MHz 5-watt fixed unit. Each has their distinct advantages.

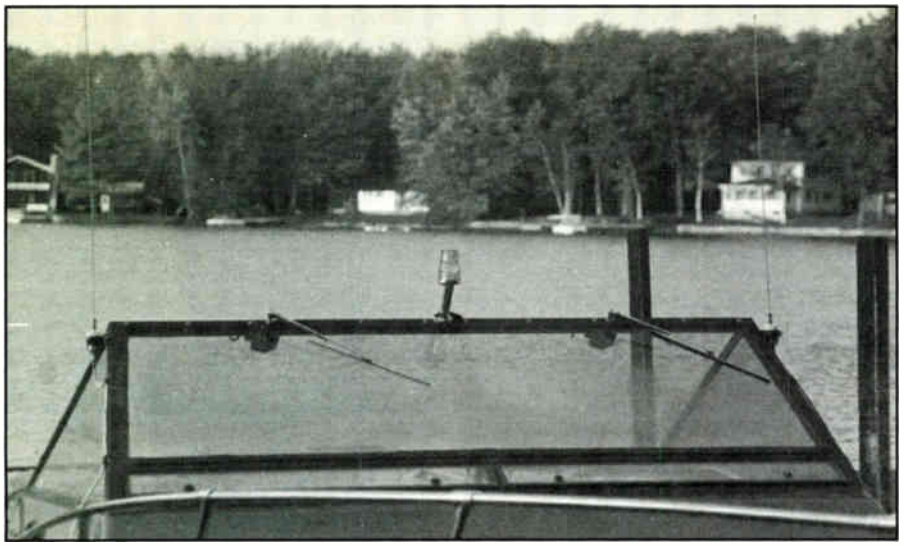
The 27 MHz portable walkie-talkie transceivers are good for bigger boats where you want five to 10 mile range, but don't want to install a mobile-type transceiver in the vessel permanently. Choose the walkie-talkie with an LCD panel display rather than a light-emitting diode (LED) channel display. Out on the water where the sunlight is extremely bright, you won't be able to read the LED except at night. Choose a handheld with an optional DC battery adapter which would let you play the radio all day without having to worry about internal battery drain. And in case you run your boat battery all the way down and can't start the engine, unplug the set and use it to place a call with the internal batteries!

VHF weather channel reception is also handy on a 27 MHz CB walkie-talkie out on the water. The RadioShack TRC-494 includes a sensitive three-channel weather receiver, plus the DC external power cord and the important noise-lim-





The Shakespeare marine CB antenna features its own ground plane.



Co-phased CB antennas on a boat in New Hampshire.

The SO-239 adapter jack will run the CB handheld walkie-talkie off of a big whip.

iter circuit which I will talk about shortly. The only down side to this radio is that hard to see LED channel display.

The handheld CB radio with an external BNC antenna jack would also allow you to hook into a bigger marine CB antenna, and this would then give your range a powerful triple boost.

Handheld 49 MHz FM walkie-talkies with five channel capability and a telescopic pull-up antenna can sometimes out-talk more powerful 27 MHz CB radios in side-by-side comparisons. That's right—the little 100 milliwatts (1/10 of a watt) up on 49 MHz carries a signal just as far as five watt input 27 MHz walkie-talkies. The reason this happens is better reflectivity off the lake or ocean waters, and less noise when operating FM as opposed to amplitude modulation.

The down side to 49 MHz handheld transceivers is the limited number of "other stations" that you might hook up with on the water. If you're looking for privacy, 49 MHz has it. But if you're looking to stay in touch with other boaters out on the water, better stick with the popularity of the 40 channels on CB.

For the ultimate in range, ease of operation and ear-busting audio when you're out on the water at high speeds, transfer your favorite CB radio out of your car or truck and use it out on the water. Or better yet, choose a five-watt input, 40 channel, synthesized CB transceiver specially designed for marine use.

I recently ocean-tested the new RadioShack TRC-486 waterproof CB radio. It got very wet aboard our small boat, but the radio continued to function perfectly. The unit features neoprene seals behind the volume and squelch knobs, plus a rubberized channel knob and face plate to seal out spray. The jacks on the back also feature plugs to drive out moisture. The set continued to get very wet with the waves and it still put out the power and received like a champ.

We couldn't see the channel display. Only at night could you make out the light-emitting diodes. However, a conventional needle readout illustrates receive sensitivity, RF power output on transmit, and a modulation check on transmit or on public address.

We also tested the 40-channel RadioShack TRC-483 that indeed includes a very readable LCD channel readout, plus transmit and receive indicators including the popular VHF weather band channels. But this set is not waterproof, so you would need to mount it down below.

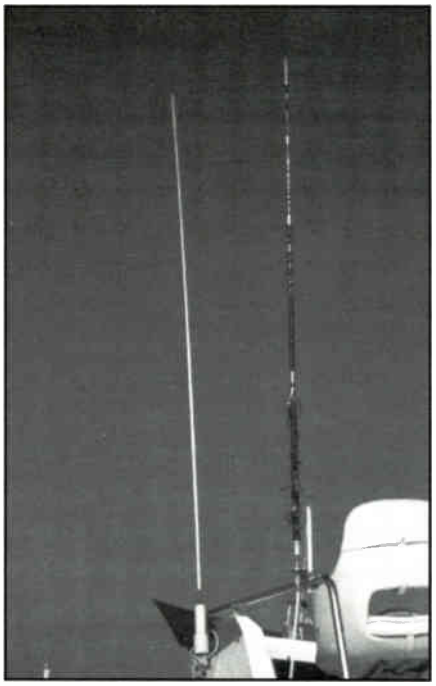
The Antenna Dilemma

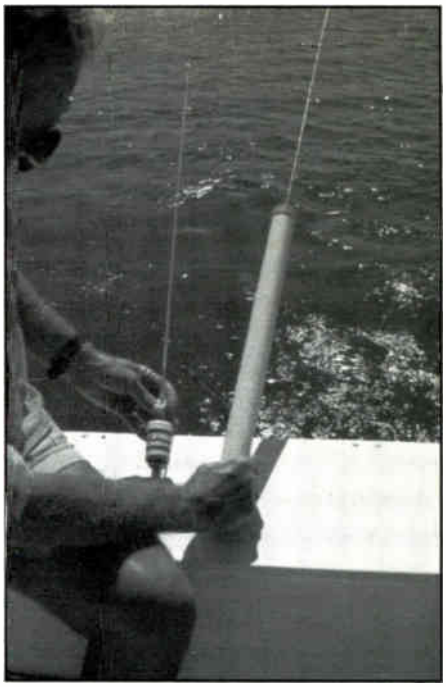
The best type of CB marine antenna is specifically NOT your typical mobile antenna on your car or truck. Nor would you need a big aluminum home antenna for CB transmission and reception capabilities out on the water. Even hooking up a mobile antenna temporarily on a boat will lead to terrible range, huge amounts of engine noise and a potential of burning up the transmitter output section of your CB radio. The reason boat CB antenna requirements are dramatically different than those for a car is because you have no metal body to mount your antenna over to create the artificial counterpoise ground plane necessary for the antenna system to work. At 27 MHz, the ground plane needs to be 102 inches in radius around the vertical radiating element. How are you going to do that on a fiberglass or wooden boat?

On aluminum vessels, hooking up a mobile-type antenna system using the aluminum hull as the ground plane could have serious corrosion problems when you tie your CB radio into the onboard 12 volt battery. Many aluminum hull vessels specifically isolate the hull from the DC negative battery terminal. As soon as you install your CB radio, harmful stray current galvanic corrosion occurs between the aluminum hull, down the coax to the CB transceiver chassis, and down to an unscheduled direct connection to the 12 volt negative post on the battery. What was once an isolated battery system is now interconnected to the aluminum hull, thanks to that mobile-type CB antenna that you strapped onto the side of the aluminum hull.

Marine-type isolated CB radio antennas are available from Shakespeare Electronics and Fiberglass Division dealers. These white fiberglass Shakespeare antennas are completely isolated from their polycarbonate lay-down mounting base, eliminating corrosion control problems aboard aluminum skiffs. Inside the white fiberglass tube is an end-fed, halfwave, radiating antenna element with ground plane requirements using the outside braid of the coax. You may not cut this special cable matching system shorter, but you would *lengthen* the cable if you need more than the 10 feet supplies. The antenna is internally matched to present a 50 ohm load to your CB transceiver, yielding minimum SWR from Channel 1 to 40, and good output capabilities.

These relatively short marine CB antennas load the radiating element which cuts down slightly on the maximum potential





Author West tests marine CB antennas for maximum range. Shakespeare wins!

of transmitting and receiving over great distances. But for short range, up to about 10 miles, the little three-foot antenna not requiring any additional ground plane is ideal. Just be sure to lay it down before trailering your boat back to base camp.

For bigger boats, and the ultimate in range, the Shakespeare "Big Stick" model 176-1 will give you a signal with no loading compromise, and one that features a low angle of radiation to enhance long-range skywave and groundwave reception. This is a halfwave center-fed design and requires an upper support bracket because of its tall 18-foot length. You supply your own coaxial cable, but leave the antenna coax connector exposed for a trick I'm about to tell you that will sometimes quadruple groundwave range.

When you really want this 18-foot "Big Stick" from Shakespeare to outperform what it can naturally do, attach some silver-tinned copper braid to the outside of your PL-259 connection to the antenna, and drop the braid into the water. Your big CB antenna is now using the water you are floating over as a massive counterpoise, far exceeding what is built into the antenna by itself, and you will hear a dramatic improvement in range. People will also give you signal reports explaining that your signal has increased dramatically on their S-meters, and that your voice sounds "amplified." This signal-boosting technique by coupling the base of the antenna into the water is what the military does when they place all of their big antenna systems over salt water marshes. Same thing for AM broadcast stations—the best and loudest signals always come from those transmitters that

This Maxon CB walkie-talkie is ideal for on-water radio operation. Range will be much greater than on land and it's lots of fun, too. (Courtesy Maxon)

are using lake or ocean water as the ground counterpoise.

Mount your white fiberglass CB radio antenna as far away from the engine or trolling motor as possible. Outboards will create so much noise that even the best noise blanker and automatic noise-limiter system won't cut the clatter. If your antenna is too close to a trolling motor that works off 12 volts DC, a low *shirr* can sometimes be heard on all 40 channels. Move your antenna at least five feet away from the trolling motor, and reception will again be loud and clear.

Portable Installations

For portable radio installations, you can power your CB radio for up to eight hours on the popular "power station." The "power station" is a rechargeable portable power pack with a built-in sealed, lead acid maintenance-free rechargeable battery and a selection of outputs that enable you to run everything from portable CB walkie-talkies to five watt mobile sets. I have even seen these "power stations" jump start outboard motor starter batteries, as well as power trolling motors to get you back into port when the regular battery dies! (Technical information is available from Power Station, P.O. Box 3624, Long Beach, CA 90803. Phone 800-933-4264. It costs approximately $50 with accessories.

Have Fun and Safe Boating!

CB radio out on the water lets you tune into fishing reports, commonly heard on CB channels 13 to 20. You can always dial into nearby motorists to summon help if you're stranded out on the water, and REACT members throughout the United States continuously guard CB Channel 9 in case you need to call for the Coast Guard or lake or river patrol boats. Even if you're boating in a remote river or estuary, scanning through the 40 CB channels will surely pick up a conversation that you could break into for pleasure or assistance. CB Channel 14 is a popular one with handheld CB radios, so look for activity out on the water on this channel too.

And one thing for sure—your CB radio range over the water will be three to four times more powerful than what you have experienced on land. So take your CB radio and a marine-type antenna system on that next boating trip, and enjoy the airwaves as you travel over the water. ■

Tomcat's Time Warp

OUR COLUMN EXPLORING CB'S EARLY YEARS

By Tom Kneitel, K2AES, SSB-13

We Don't Need No Stinkin' Callsigns!

Of all the many screwed up and confusing things there have ever been relating to CB, FCC efforts to assign CB call letters gets the gold medal. Strange, because call letters are so natural a part of other radio services. As the FCC was to learn, in no way was CB ever like any other service. This was the experience that taught them.

Callsigns—The Early Days

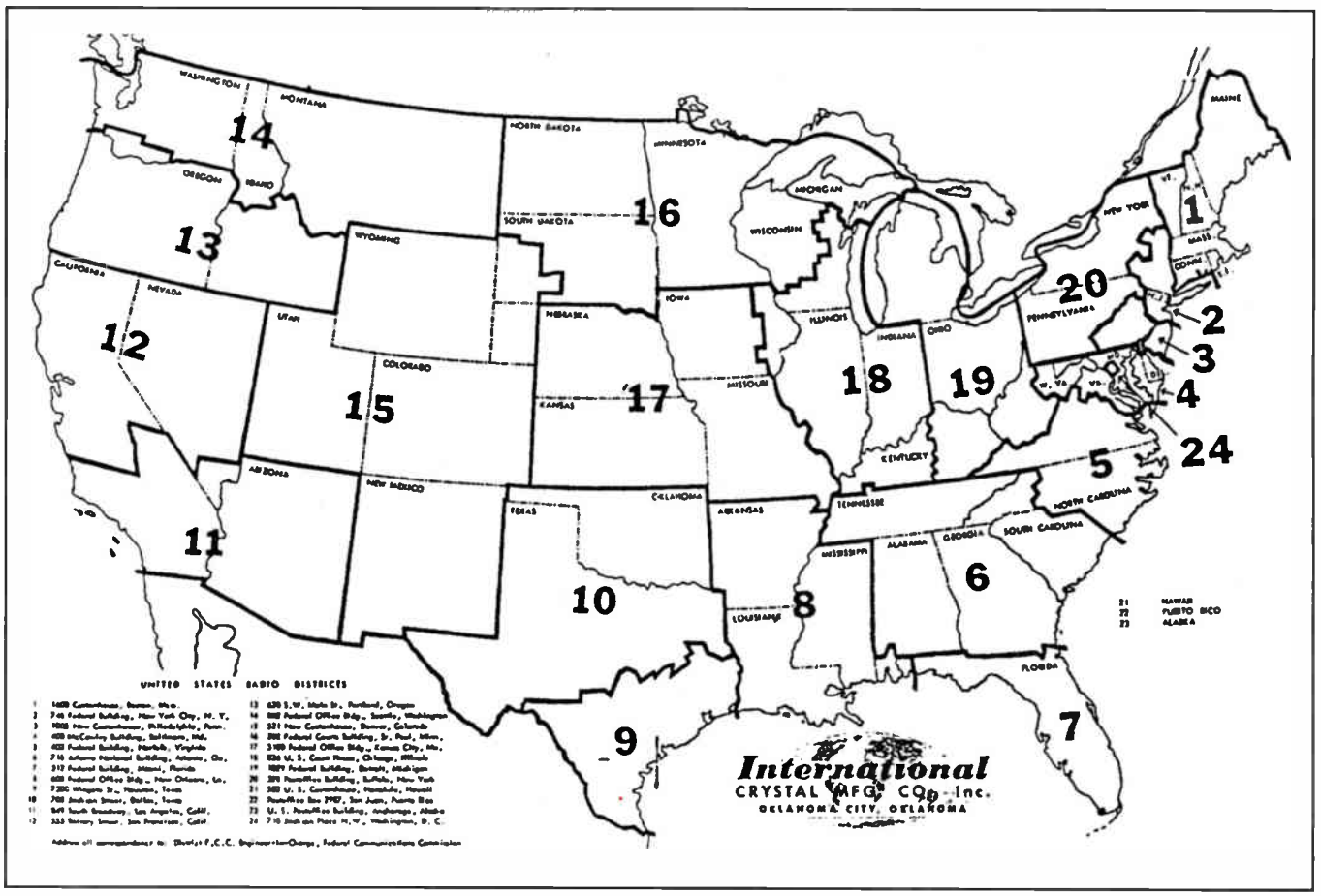
The use of callsigns gives form and order to a radio service. Call letters are one of the main ways stations are filed in FCC records, and one means by which monitoring stations trace interference and detect rule violations.

When the 465 MHz Class B service opened in the early 1950s, the FCC decided to issue those stations licenses bearing distinctive identifications. The 465 MHz Class B CB band used only single-channel portable and handheld radios having regenerative receivers. These were little more than toys. I could throw mine about as far as I could use it to communicate.

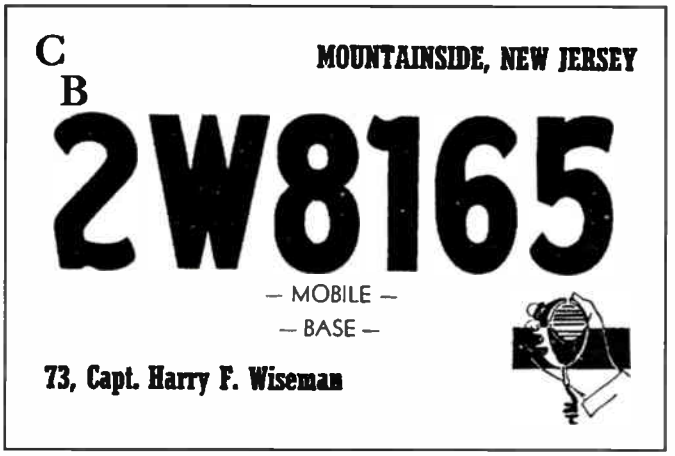
Because of the 465 MHz equipments' very short range, the FCC apparently decided that it didn't need to bother with the traditional call letters beginning with the USA's internationally-allocated K or W prefixes. Instead, they conceived the idea of issuing callsigns that were more-or-less like serial numbers. Towards this end, they divided the nation into 24 "CB call areas" representing each of the 24 FCC districts. CB callsigns consisted of the prefix numbers "1" through "24," the letter "A" or "W," plus four digits to provide individuality.

At that time, a person could file for a 465 MHz license at their local FCC district office. They would receive a callsign containing the letter "A" (2A0305, 21A1024, etc.). Alternately, they could apply to Washington. Those licenses contained the letter "W" (3W1146, 11W4632, 24W2397, etc.). Class B CB was a dismal flop.

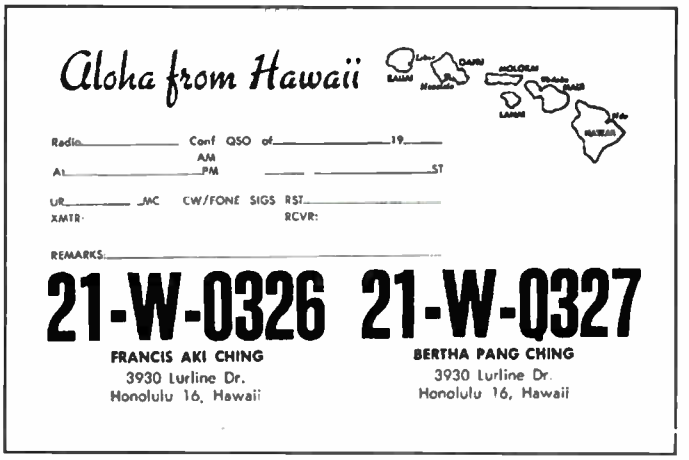
In mid-1958, the Class D (27 MHz) band was opened, and the FCC decided to continue its existing CB callsign format. CB applications began to flood into Washington and the district field offices. The district offices saw the stacks of applications and said they were too understaffed to continue processing CB licenses. Washington took over and all licensees began receiving the Washington "W" type callsigns. But 27 MHz CB was so popular that by mid-1960, they began running out of "W" numbers to assign in several of the 24 call areas.



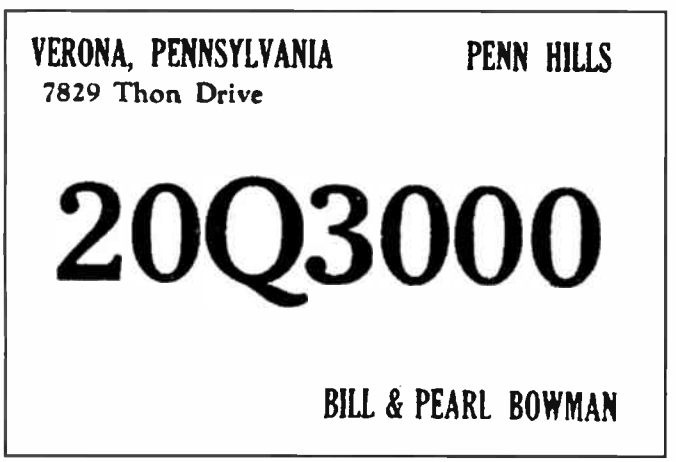
The CB call areas, as used in the early days.



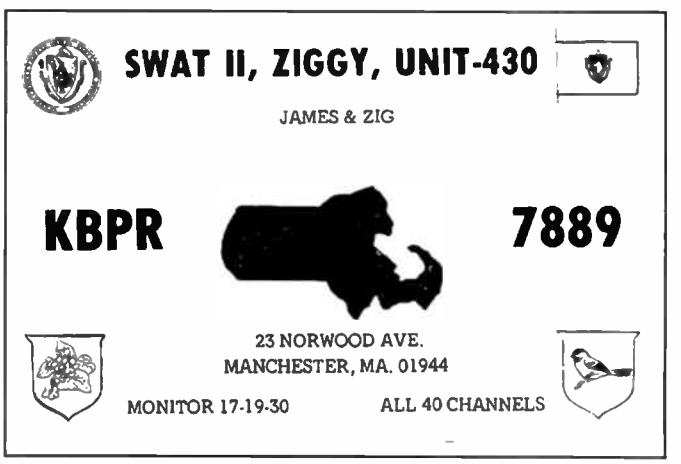
A QSL from an early "2W" CBer, before it was realized that this prefix was allocated to the United Kingdom.



With 24 CB call areas and few CBers in the early days, some prefixes were quite rare. Hawaii's "21W" prefix was seldom encountered.



As CB call letters entered their bizarre phase, the letter "Q" was used. Is 20Q3000 a great callsign, or what?



KBPR7889, a total tongue-twister! By the time the FCC gave out these behemoths, most folks were using them only on QSL cards.

After they got to 18W9999, Washington began assigning the old local-office unissued 1BA callsigns. When they got to 18A9999, they had to begin issuing callsigns in the 18th call area with an 18B prefix. Callsigns for other areas were also running out. CB IDs were getting bizarre.

To complicate things, every time a CBer moved or made any license modification whatsoever, the FCC insisted upon canceling the old license, then issuing a new license and callsign. The FCC said it was less expensive to do it that way. CBers hated the policy, but QSL printers thought it was wonderful.

In January of 1961, the FCC felt that the CB callsign situation had become such a mishmash they would start over from scratch as new licenses were issued. They had a plan. All stations licensed in 1961 would receive a five year license with a "Q" (12Q1747, 1Q6493, etc.) callsign. That way FCC monitors could easily spot any "Q" stations operating after December 31, 1966 as unlicensed.

They planned all stations licensed in 1962 would have "R" callsigns, and so on until the letter "W" was used in 1968. In 1969 the cycle would begin again with "Q" callsigns. Despite this noble attempt at standardization, some call areas again ran dry. This brought about cumbersome "QA" callsigns, the prospect of future "RA," "SA" and other similar delights to add to the patchwork.

A glitch in this perfect plan arose late in 1961 when the legality of CB callsigns came under fire. The FCC learned its CB callsigns were violating international treaties since they did not utilize prefixes allocated to the USA. The nations that had been allocated the prefixes being assigned to CBers were squawking about the FCC issuing them. OOPS!

Try, Try Again!

In early 1962 the FCC scrapped the alphanumeric serial number system and announced an orderly format for CB call letters in conformity with international treaties. All Class D call letters were to be assigned from the block KBA through KJO, followed by four digits (KBG4303, KFC5682, etc.). The prefix assigned to a station would depend upon which of the 24 districts in which it was located, and which year between 1962 and 1968 the license was issued. In several heavily populated districts, a second prefix was assigned for reserve use each year.

Using this system, if an FCC monitor heard the callsign KFI2546, it could instantly be determined to be a CBer in the so-called 14th call area with a license issued in 1962. The callsign KEB3527 would be quickly recognized by the FCC as a 1963 licensee from the 8th call area.

In those early days, CBers actually used their call letters. CB callbooks were being published and operators could look up stations they contacted to send out QSLs.

In those days, FCC regs strictly forbade hobby-type CB comms, even exchanging S-meter readings. Unfortunately, hobbying is exactly why everyone was on the

This operator displays one of the new-format CB call letters in his attractive 1960s station photo.

band! FCC monitors took every opportunity to use call letters they heard to vigorously enforce the CB regs. In the first week of June 1963, FCC monitors detected 7,298 CB rule violations and sent out 1,275 violation notices. Most were for what monitors regarded as "non-substantive transmissions" (chit-chatting).

Keep on Trying!

In February of 1964 the FCC transferred their license processing to machines. That meant the entire complex CB callsign system announced just a few months earlier had to yet again be dumped. It was replaced with another concept calling for all new 1964 call letters to be issued from the prefix block KKA to KLZ. The rotation plan was for 1965 calls to use KMA through KNZ; and the block through KXA to KYZ in 1970. In 1971, the FCC said they would start out with KBA to KCZ.

The CB callsign situation had become so disorganized that at one point in 1964 it was possible to go to Chicago and hear local CB callsigns in use representing at least 15 different FCC prefixes, styles, systems and formats! It got worse. As CB continued to rapidly grow, the FCC no longer found it practical to issue CB call letters denoting the year of issuance or station location. They simply issued call letters in straight alphanumeric sequence.

By the mid-1970's, when the FCC eventually had used up all of the available three-letter CB prefixes, they were forced to go to tongue-twisting four-letter CB prefixes (KBAS4672, KBPR7889, etc.). The poor FCC license computer eventually FREAKED because it couldn't keep up with the crush of millions of CB applications. Several times it issued duplicate callsigns to different CBers. By the time each of these goofs had been discovered by frazzled FCC staff members, more than 100,000 bogus licenses had already been sent out by the crazed machine!

A Meaningless Exercise, After All

The FCC's strict CB rules and zealous enforcement efforts was a cross purpose to the agency's efforts to create a useful CB callsign system. That's because by 1964, CBers started realizing that their use of callsigns merely told the FCC where to mail the violation notices. At that point, many CBers stopped using their call letters and began identifying by alternative means.

Many AM operators began identifying with self-devised handles, while sideBanders used distinctive numbers issued by the national SSB Network and other local groups.

FCC call letters continued to be issued, but as time went on, they were being used on the air by fewer and fewer operators. By 1974, anyone showing up on CB and announcing their FCC CB call letters was laughed off the channel as a dweebish newbie. The following day they were using a CB handle!

In the mid-1970's the FCC threw in the towel on controlling the entire CB callsign mess, and probably CB itself. CBers weren't using the call letters anyway, and the agency's license computer was in

"Callsign? I don't have to show you no stinkin" callsign!" New Jersey's Don Hudnall, "Sly Fox," claims he was the first CBer in the state to put his handle on his license plate. CB call letters, R.I.P.

need of at least six months rest and rehab at Club Med. After nearly 20 years of fussing about CB call letters, the agency simply announced that CBers no longer needed to apply for licenses, nor did they have to use FCC call letters.

For the first time, CBers became free to legally use only handles or sideband numbers for identification. By then, the FCC had also legalized CB chit-chat. Over the years, one-by-one, other early restrictions such as the five-minute per-contact time limit and how a licensee could only contact its own units, had fallen.

Millions of citizens had made their wants known. For the first time, the FCC was virtually forced to allow the public to create its own radio service, one built on the framework of a prim and restrictive FCC that people didn't want.

Beyond a few simple taboos, the FCC no longer appears to be very interested in CB operators. Mostly they don't like it when we cause interference, run high power, or stray beyond the edges of the authorized band. Other than that, you can have a lot of fun!

As for the issuance of CB call letters, it looms as a unique and monumental disaster in the annals of the FCC. I understand that to this very day, if CB call letters are even whispered about in the computer room, the weary equipment shifts into self-destruct mode.

Why not let me know your experience from the 1958 to 1982 era? Have any old CB photos or QSL cards to share with readers? Send in your questions and ideas, too. Till next time, its Seventy Three, and Over To You, from your pal,

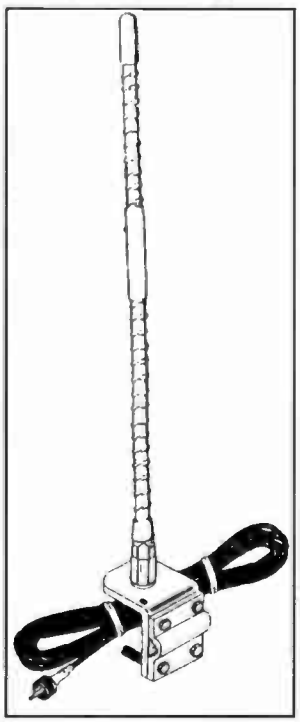
Tomcat!

New Mobile CB Antenna with Weather Band from Marvel

Marvel Communications Co., Inc., (Everhardt Antennas) announces the introduction of a NEW mobile CB antenna with weather band reception built in. The NGP-1 allows the CBer to receive NOAA weather stations much clearer than with standard non-weather band CB mobile antennas because it covers CB and 162 MHz frequencies (seven NOAA channels).

Next month we'll take a look at this new four-foot fiberglass 3-way mount mobile CB antenna from Marvel that retails for $40.56.

For more information, contact Marvel Communications Co., Inc. 6000-D Old Hemphill Rd., Ft. Worth, TX 76134; phone 816-882-2734.



Scanners: User Friendly

HOW TO GET THE MOST OUT OF SCANNING VHF/UHF

By Steve Adams

Are You Prepared?

I know scanner enthusiasts and CBers are prepared for any event, so please pass this on to family and friends who aren't so forward thinking!

I think some people don't have emergency kits or contingency plans because they think they don't have the know how, the time or the resources. An emergency kit can be as simple as three cans of soup and an old pop bottle full of water on a shelf. Hey it's a start! The fact that you put those three cans of soup there is contingency planning. It's that simple.

Contingency planning is preparing for events or situations, and developing plans of action, alternatives and options for events or situations. One alternative is to do nothing. That's what many have done.

Imagine two households at midnight—they're a block apart. Just after midnight, a major storm, earthquake or other disaster has left them without heat, electricity, running water or passable roads. In one household people are laughing, playing cards, drinking hot coffee, listening to sports or the news while hot stew is bubbling on a stove. They are enjoying the adventure, the camaraderie and subsequent stories they can tell while a scanner crackles periodically, telling them what's going on. Their handheld CB provides reassurance that they can communicate with others if they need to.

In the other household, two people are huddled, shivering in the dark, cringing at every noise, wondering how bad things really are around them, wondering where their next meal will come from, if they should warm themselves in their car (with the exhaust pipe buried in mud or snow) and how they will just survive. Too alarmist? Too unrealistic? Ask Floridians after the hurricanes. Ask New Yorkers after the Blizzard of '96. Ask Angelenos after the earthquake. Which household are you?

We are little more than a hundred years removed from the Wild West, pioneers and complete self reliance. What a gap it is for some. People got along before electricity and running water, but they were *prepared* to live that way. We, as a society, are not. A recent storm knocked out power here from Monday night to Friday afternoon. My little storm was a minor inconvenience in the big scheme of things, but it gave me time to think and jot down some thoughts regarding natural disasters. Do you remember the mind-numbing pictures of Kobe, Japan? I do. I remember seeing the shock on the faces of average people suddenly without homes, possessions, food, water and sanitation facilities with death and destruction all around them. What if a similar earthquake occurred in San Francisco or Los Angeles?

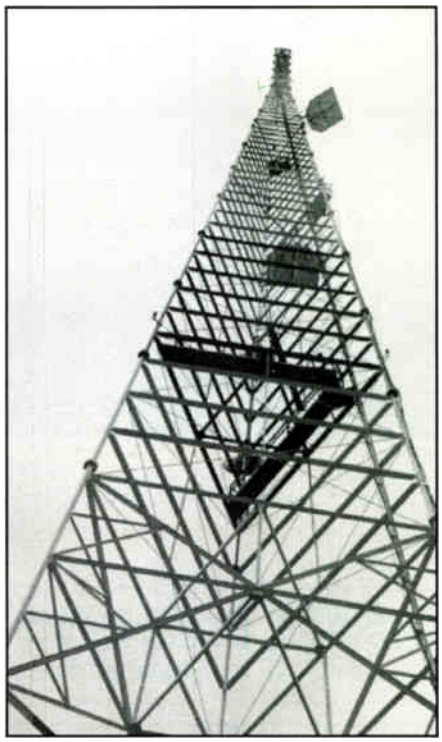
No matter where or how you live, you *are* vulnerable to some sort of disaster. If it happened before, it *will* happen again. I'm not advocating turning everyone into armed, para-military survivalists, but when our society breaks down temporarily from disaster, we need to be able to revert to survival-type thinking, preparation and skills.

Why go on and one? It's to motivate people to prepare. It's because you'll be on your own and some people are procrastinators or haven't got a clue what to do. Each disaster produces needless deaths, needless injuries, needless suffering. Please forgive my preaching, but I'm a believer in self-reliance.

What Can YOU do?

• Have a plan. Think about worse case scenarios for your locale and plan for them based on your own circumstances. If you are on a tight budget, buy the bare essentials necessary to sustain life. If you have money, buy emergency generators, fire fighting pumps and four-wheel drives. But do SOMETHING! Could you get along without running water? Without toilet facilities? Without passable roads? Without communications, police, fire fighters or medical personnel? Are you prepared in the event your perishable and frozen foods spoil? Are you prepared for hygiene and cooking in the event your water main breaks? Do you have adequate supplies of critical prescriptions on hand? Can you stay warm in the event you lose electricity? Can you stay dry? What about medical emergencies? Are you prepared to look after yourself and your family for at least 72 hours? Will you and your family be safe on your own? Once you've taken care of yourself and your immediate family, you have the luxury of checking on elderly neighbors or children who may not be able to take care of themselves.

• Build a comprehensive emergency kit. Add something new to it each week. Adding one can of ready-to-eat soup does wonders for your state of mind. Buy first aid supplies, tools, hardware, footwear, flashlights, tarps, ready-to-eat canned goods, gloves, camping supplies, batteries, playing cards, toilet paper, etc. Put your kits in large ice chests, canvas duffel bags, tackle boxes and other easy to store and move containers.



Cellular towers, repeater sites and fair-weather communications facilities will likely be inoperative during severe emergencies. It's a good idea to be ready with your own easily-assembled gear; a couple of CB walkie-talkies, handheld scanner and your emergency frequency list. (Photo by Chuck Robertson)

• Store water. You cannot live without clean drinking water. Use plastic soda pop or milk bottles in a pinch. Date and refill them periodically, using the old water for your washer or bath or garden so you aren't wasting water.

• Don't put all your eggs in one basket! Store several kits so you always have one handy and undamaged that will sustain you. Put one kit in the trunk of your car.

• Many people opt to stay home through disasters and emergencies to look after their property and affairs. I sometimes question the wisdom of doing this since it puts you at risk. You are vulnerable not only to the elements, but to

Mother Nature can wreak havoc if you aren't prepared. Power was out for several hours in this community after a severe storm ravaged the area. (Photo by Jennifer Ort)

This RadioShack TRC-231 CB walkie-talkie is ideal for virtually any emergency situation. It is powered by alkaline or NiCd batteries. (Courtesy RadioShack)

people who prey on others. Your alarms and phone might not work. Even if your phone does work, police will have their hands full with downed power lines, traffic control, flooding, traffic collisions, burglar alarms going off and much more. Don't count on the police. Count on yourself, your friends and your family—especially your neighbors. Go out and meet them, offer mutual assistance and invite them to join with you to get through the crisis. If things are bad enough or if its appropriate, pool resources and develop a plan for living through the emergency. You might need extra vigilance, first aid, group cooking, etc. Someone needs to be in charge. It might as well be you. Other people will instinctively follow those who have skills, training or advanced preparations. Your expertise with communications equipment and your forethought in planning will make you a natural for a leadership position. Assign roles to people so they know exactly what to do and will be contributing to the effort. You may need someone in charge of security, first aid, supplies, child care, recreation, etc.

• Make special preparations for special needs; the elderly or the infirm, infants and children, the handicapped, etc.

• Don't forget your pets. All the hardships you experience will affect them too. Store foods and water for them as well. Pets always seem to come out badly, getting scared, lost or abandoned during emergencies. It doesn't have to be that way. Keep leashes and ropes for your dogs, animal crates or empty boxes to contain your cats. Keep an old blanket for them to snuggle up in. Have patience and understanding for their fears and uncertainties. They will love you for it.

Keith Mehl mans a water site for REACT on East 18th Street in Des Moines, Iowa during an emergency a couple of years ago.

• There are many fine books on first aid, security procedures, emergency living, survival, etc. These can be found in large bookstores and surplus stores. Buy a few for your kit.

• Take a Red Cross or other first aid and CPR course.

• Keep handheld scanners and CB radios handy and charged. Buy a cigarette lighter plug so you can use them when the power is out. Keep emergency scanner frequencies handy so you can know what's going on around you.

• Have a dedicated plan for candles or other illumination. Use hurricane lamps or some other safe means of lighting. Don't leave lit candles unattended. Wind gusts, pets or children can knock them over. The same applies to Coleman™ type lanterns. Using the stove or oven for heat is extremely dangerous, and so is using the heater from your vehicle. Keep occupied areas well ventilated. Make sure the exhaust pipe is clear. Carbon monoxide is colorless, odorless and deadly. You will go to sleep and never wake up.

Flood waters can be particularly devastating. (Photo by Chuck Robertson)

Make sure you've got plenty of fresh batteries in your emergency kit. No need to run out for extra batteries (if there are any available!) when an emergency strikes your area. (Courtesy RadioShack)

• Peanut butter is a great emergency food. So are ready-to-eat canned soups, tuna, fruits, ravioli, spaghetti and a variety of other foods to create balance. Rotate canned goods periodically according to the dates on the cans and jars.

• Don't forget to keep your mind occupied when the lights are out and the sun goes down. Keep a battery-powered radio for those late night news-talk-sports radio shows. Keep some playing cards handy, a great novel you always wanted to read and pen and paper for organizing your efforts, keeping inventory and "things to do" lists and record your thoughts or events during emergency situations.

• Keep your emergency kit inventory and plans in your scanner notebook, along with a shopping list to upgrade your kit with one item each week.

• You'll know you are on track if you could take your emergency kits out to a field anywhere and live from them for a week, regardless of the weather.

Think how good (and smug!) you and your family will feel after living well through a bad time. If you think and plan for events now, you will be more likely to act correctly during the real thing. That's what training, practice and contingency planning is all about.

News From My Scanner Dealer

From time to time I will report trends and give unscientific reviews of equipment and accessories based on personal experience and conversations with my local scanner dealer. Let me tell you about him. Art Mayoff is a friend to all CB, scanner and amateur radio enthusiasts. Several years ago, new to the area, and before I ever wrote my first article or column on scanning, I walked into his store. Art was friendly and patient, giving me honest answers and advice based on my needs. I purchased four frequency guides he publishes for the Bay Area. I go there periodically to drool over new equipment such as the Bearcat 8500/9000. (I particularly like the alpha-numeric feature that allows labeling of each channel. This is useful to enthusiasts new to the hobby or new to an area. Art has a base antenna that I'm dying to try out. I'll report to you on it when my budget allows.)

I am, like you, just another scanner enthusiast who is lucky enough to talk about these things in a magazine. I do NOT endorse specific equipment or brands, but simply state my opinions based on personal experience. I receive no compensation or considerations for talking about their wares; the lone exception being when Art recently graciously allowed me to use information from his frequency guides for some articles and this column. When I speak highly of Art, my scanner dealer, it is from experience as a consumer. This proves that good service, and friendly, honest advice is always rewarded!

Computers!

Soon I will be computerizing. Currently I use an antique word processor with which I've maxed out its memory and capabilities. I'll let you know each month the trials and tribulations of starting from scratch and learning the ropes of computers. The computer is part of a correspondence course I've recently completed. I'll talk more about this easy and practical way to get into computers again. I'll be installing Windows 95™, an additional 4MB of RAM, a multi-function printer, copier, fax and document scanner. Wish me luck!

Send Us Your Thoughts

We'd like to hear your emergency stories and thoughts on preparedness. Send anecdotes, photos (no Polaroids) and lessons learned from any disaster and emergency or anything interesting about scanning to: Scanners: User Friendly, CB Radio magazine, 76 North Broadway, Hicksville, NY 11801-2953. There is a three month lead time in publishing your letters and photos, so please be patient.

Don't forget to send in your subscription to *CB Radio* magazine so you don't miss a single information-packed issue. Subscription information is located elsewhere in the magazine. You can also purchase the *1996 CB Radio Buyer's Guide* and Popular Communications *Guide* by calling toll-free 800-853-9797. See you next month. ■

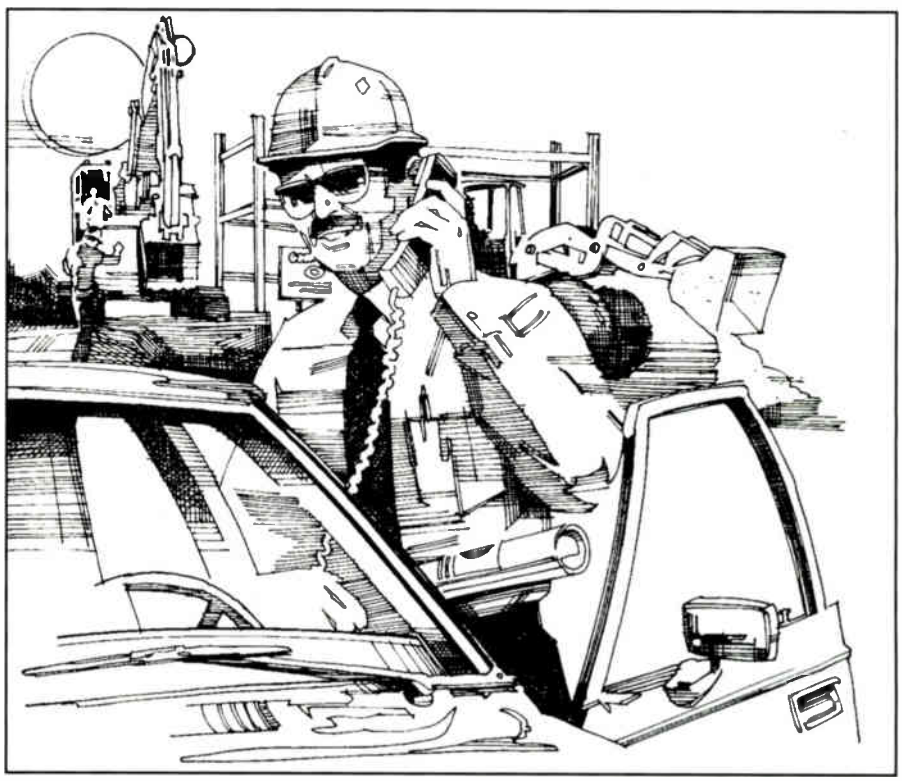
Mobile Electronics News

A LOOK AT TECHNOLOGY FOR THE ROAD

New Handheld with Weather band

Uniden America Corporation has announced their first handheld CB radio with seven weather channels. The new walkie-talkie will be available later this summer and have a suggested retail price of $169.95.

The new Pro350XL is ideal for portable, outdoor use. It comes complete with a power cord that plugs into your cigarette lighter, a flexible rubber antenna, and belt clip. It also offers instant Channel 9 access and the seven NOAA weather channels. It can scan the 40 CB channels and features dual watch, which simultaneously scans two user-selectable channels to allow monitoring more than one specific channel of interest. Other features of the new Pro350XL include built-in mic, up/down electronic channel selection, volume/squelch control, high/low power selector and an LCD TX (transmit) indicator. Also available from Uniden is a rechargeable battery.



Seventeen New Uniden Cordless Phones

Expanding their already huge line of cordless phones, Uniden America Corporation has recently introduced 17 new models, some with 25 channels, Caller ID, Voice Scramble circuitry, as well as 900 MHz units.

Ranging in suggested retail price from $99.95 to $249.95, the first of the new units became available in February. "As the consumer becomes more educated regarding cordless phones, they also demand more in a product line," said Tony Mirabelli, Vice President of Marketing, "Uniden is meeting and exceeding this demand by offering the most extensive, feature-packet product line in the industry."

The first phones to be introduced will be the Accents Series. These 25-channel models incorporate a new trim-style base and handset and will be available in a wide variety of decorator colors. All feature Ultra Clear Compander Circuitry for ultimate sound clarity. Four of the new models include an extra charging cradle.

The Uniden 900 MHz product line will also undergo a major expansion this year. Over the course of the year, eight new models will be introduced. The first models, the EX905 in Linen and EX925 in Charcoal are targeted at the growing 900 MHz market of users looking for improved performance. They are currently available on the market for a suggested retail price of $239.95.

Improved Highway Safety is "Roadwatch New York" Goal

State Troopers have joined forces with the New York State Thruway Authority and the New York State Motor Truck Association in a joint public-private partnership to provide assistance to stranded motorists and remove unsafe drivers.

The new "Roadwatch New York" program, announced recently by State Police Superintendent James W. McMahon, Thruway Executive Director John H. Shafer and NYS Motor Truck Association Executive Director Douglas A. Hughes, is a cooperative effort between the trucking industry and the State of New York aimed at improving highway safety.

"This is a team effort in which private-sector truckers have volunteered to provide additional eyes and ears for Troopers patrolling the Thruway," Superintendent McMahon said. "We are grateful to the NYS Motor Truck Association and the Thruway Authority for their cooperation and assistance in this effort. Working together, Troopers, truckers and the Thruway are aiming to raise highway safety to a new level."

Under the program, participating truckers will use their cellular telephones to alert Troopers whenever they spot a highway situation warranting police response. Thruway State Police Troop T communications receiving the call will respond by dispatching the nearest available patrol unit to take appropriate action. To help alert motorists to the program, the Thruway Authority has produced brochures for distribution at its Thruway travel plazas.

Wireless Technologies—Communications and Convenience

In 1895 the legendary Italian inventor, Guglielmo Marconi, transmitted and received the first wireless signals. Today, a full century later, a new wave of wireless technologies is fundamentally transforming the way we work and communicate.

"The introduction of the cellular tele-

The Uniden BCT-10 BearTracker carries a suggested retail price of $289.95. The compact unit is a fully pre-programmed receiver that contains highway patrol, local police and weather channels. It might look like one, but it's NOT a radar detector. (Courtesy Uniden America Corp.)

Uniden's new Pro350XL portable CB radio will be available later this summer. It has all 40 CB channels, dual watch and seven NOAA weather channels. It retails for $169.95. (Courtesy Uniden America Corp.)

phone a decade ago marked the beginning of this new age of wireless communication," explained Gary Shapiro, president of the Consumer Electronics Manufacturers Association (CEMA). "The widespread acceptance of cellular phones, initially by business users and now by more than 20 million consumers, has spawned a host of new products, from two-way pagers to wireless handheld computers."

Annual sales of cellular phones have more than doubled just since 1990, and perhaps more significantly, the average unit price (to the dealer) has dropped from approximately $600 five years ago to $260 today. From the CEO of a major corporation to the self-employed entrepreneur, the portable telephone gives business people the ability to make vitally important calls from practically any location, no matter how remote.

Based on the success of cellular phones and electronic messaging, the first "two-way" pagers have now reached the market. These devices are capable of sending as well as receiving messages; people can thereby acknowledge incoming messages without having to use a phone. Pagers, it is estimated, are used today by as many as 30 million Americans, not just businessmen and women, but increasingly by parents concerned about the whereabouts of their children. Inexpensive and reliable, "the pager is the closest thing we've got to a universal wireless device," writes John Burgess, technology editor of the *Washington Post*.

Personal Communications Services—PCS

Some analysts now predict that by the turn of the century, three out of four U.S. households and nearly a half billion people worldwide will subscribe to a wireless service of some kind. The FCC has begun a multi-phase auction process designed to grant licenses to companies offering "personal communications services" (PCS). So strong is the private sector confidence in this fledgling industry that the FCC has already raised upwards of $8 billion in license fees, with still more auctions to come.

The advent of PCS products and services promises to usher in a new era in personal communications, not just in terms of more services, but also in terms of more attractive prices. George Zysman, chief technical officer of AT&T's Network Wireless Systems unit, predicts as personal telephones grow in popularity, they will also offer more features. "Ten years from now you will still be able to buy a simple wireless device that is limited to voice calls . . .more common, however will be devices that can handle faxes and video and run software applications."

New Mobile Scanner Announced

Uniden America Corporation has announced the introduction of the BearTracker BCT-10 mobile windshield or visor-mountable scanner and highway information system; the industry's first.

The unit is pre-programmed to scan state police and highway patrol frequencies from local and county police channels. The unit gives the user an alarm when within a three mile radius of most highway patrol vehicles. The BCT-10 is NOT a radar detector. It's a pre-programmed mobile scanner/receiver that responds to radio waves emitted from low-powered secondary transmitters that are installed in most highway patrol vehicles.

The unit features a fully pre-programmed memory containing frequencies of highway patrol, local police and weather. The driver needs only to select the state to set up coverage. The two-digit state/signal strength LED clearly displays the state code. The multi-band coverage includes VHF high and low, UHF and VHF "T" public service bands and one-touch NOAA weather.

The unit also features channel lockout, memory backup and built-in scan delay. An external speaker jack and high gain 360 degree mobile rubber antenna are

also standard. Tony Mirabelli, Vice President of Marketing said, "Uniden now has the most complete line-up of highway information systems available today . . . The BCT-10 is a great addition to the line with its feature packed, compact design."

The BearTracker BCT-10 has a suggested retail price of $289.95.

Safety Warning System Developments

According to the Radio Association Defending Airwave Rights, Inc. (RADAR), its manufacturer members (B.E.L.-Tronics Limited, SANYO TECNICA USA, INC, Uniden America Corporation and Whistler Corporation); and Georgia Tech Research Institute (GTRI) continue with steady progress in developing a system that will allow several millions of radar detector users to receive advance warning when approaching hazards ranging from sharp curves to stopped school buses. The Safety Warning System™ is one of the most important accident-prevention aids ever introduced. Among the latest developments:

- Radar detector manufacturers have adopted standards for the system. The new generation of "smart" detectors have as many as 64 different fixed-text warning messages stored in them. Safety Warning Transmitters trigger these messages, plus they have the ability to broadcast special variable-text messages.
- RADAR has applied for a patent on the System with the U.S. Patent Office.
- RADAR has petitioned the FCC for permission to use police radar frequencies for Safety Warning transmissions.
- RADAR's extensive work with Congress culminated in a Department of Transportation study of ways in which existing microwave technology can be used to enhance traffic safety.
- On-going transmitter testing began in GTRI's laboratory last year.

"Things are moving along nicely with the Safety Warning System™, commented RADAR president Janice Lee. "We see no obstacles standing in the way of bringing this technology to market—and saving lives—in the very near future," she continued. RADAR, a national nonprofit organization representing those who make, sell and use radar and laser detectors, is coordinating the project for the detector industry, with technical assistance by the highly-regarded GTRI.

RADAR has long promoted radar detectors as a safety tool, arguing that drivers do two very important things every time their detector sounds its alarm; they check their speed and pay closer attention to their surroundings, thus helping increase their awareness. The next logical step would be to take the police out of the equation, using radar transmitters as part of a warning system.

The new Safety Warning System will warn drivers of road hazards well in advance of the potentially dangerous situation.

Only since 1991 has the FCC allowed the use of unmanned radar transmitters, or drones, as part of law enforcement agencies' speed-enforcement programs and for emergency-warning purposes. Drones have become fairly widespread and are placed most often in road work zones and other locations where speed or inattentiveness frequently cause accidents. At least two studies have shown that unmanned transmitters can reduce speeds significantly in work zones. A shortcoming of drones, however, is that detectors cannot differentiate between a drone warning of a road hazard and police speed enforcement, and drivers may respond inappropriately.

The Safety Warning System takes the drone concept a step further by providing drivers with specific information about the road hazard they are approaching. While existing radar detectors give their usual K-band alert when encountering a Safety Warning Transmitter, the new generation of detectors emit a special audible signal and display a text message describing the hazard, whether it's a train approaching a railroad crossing, heavy fog or a slow-moving vehicle ahead.

A major goal of the project has been to ensure downward compatibility, so that the 10 to 20 million drivers who already own radar detectors can immediately begin reaping safety benefits. And as these and other motorists upgrade to the new generation of detectors, the accident-avoidance potential of the System continues to grow. RADAR sees the Safety Warning System as an inexpensive pathway toward the much-touted intelligent vehicle and highway systems of the future. So while the Safety Warning System may be a revolution in accident prevention, it's actually an evolutionary step for existing technologies.

Coming in July's *CB Radio* magazine, more news on the Safety Warning System. Stay tuned . . . ■

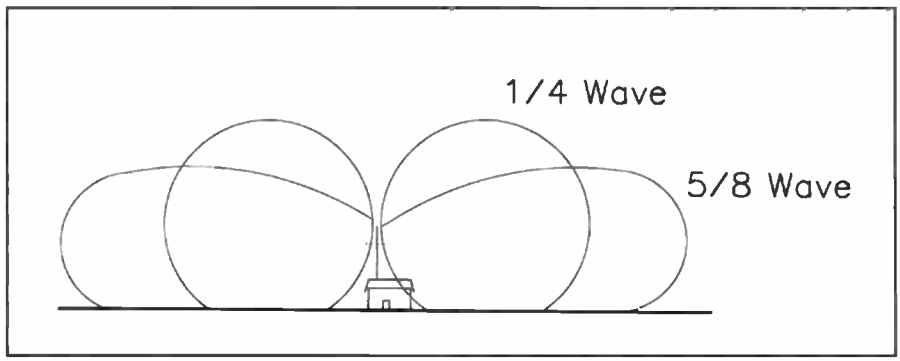
Antennas, Etc.

WHAT YOU NEED TO KNOW TO PUT OUT A GREAT SIGNAL

By Kent Britain

Loading Coils and 5/8 Wave Antennas

All CB vertical antennas are 1/4 wavelength long. As we mentioned in our first column, you can shorten that 108-inch whip (remember, that's the 102-inches in the whip and six in the spring!) by adding a loading coil. But the radio and the radio waves still react to the antenna as if it were 1/4 wave long. All resonate antennas (the only ones that work worth a hoot when used to transmit) are either 1/4 wavelength long or some multiple of 1/4 wavelength. So you can make 1/4, 1/2, 3/4, or even full-wavelength antennas.



Notice the different radiation patterns between 1/4 and 5/8 wavelength antennas. The 5/8 wavelength antenna puts the radio's signal near the ground, where you want it.

Way Back When

Back in the 1920's, antenna engineers were doing a lot of work with vertical antennas. They tested a vertical antenna that was 5/8's the length of the radio wave. Then the engineers added a loading coil so that the radio thought it was 3/4 wave long. The engineers found they had an antenna that put twice as much signal out to the *sides*. Energy, or the radio waves that had been going up, were now going out to the sides. Mathematically it had 3.75dB of gain. So if you had a vertical antenna and wanted most of your signal to beam out at the horizon, this was great news.

The 5/8 wave antenna needs a good ground plane to work right. On an outside CB antenna, three or four 108-inch radials make an excellent ground plane.

There have been some companies claiming 5/8's wavelength mobile antennas. Well, it's kind of like claiming they can put 20 gallons of gas in a 10 gallon gas tank. If the antenna is NOT 270 inches or about 21 feet long, it is NOT a 5/8's wave antenna. The gain of the 5/8's antenna depends on the extra length of the antenna; you cannot use anything shorter! It's like someone selling one-foot long yard sticks!

Remember that a 5/8's wavelength antenna has to have a really good ground plane to work right. So unless you've got that 21-foot vertical mounted in the middle of a full-size car, it's not going to work very well.

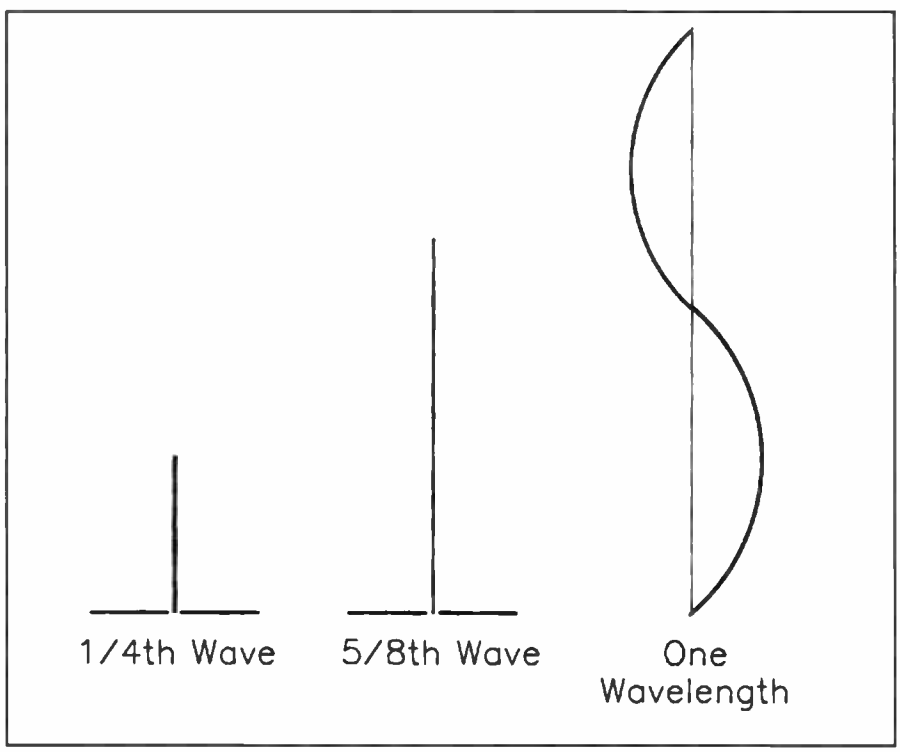
More 5/8's Waves

The 5/8th wavelength antenna is also very popular with many other radio services. In the AM broadcast band, a 5/8's vertical is about 500 feet high. Next time you drive by those AM broadcast towers, look closely. The AM antenna isn't on that tower, the tower IS the vertical antenna!

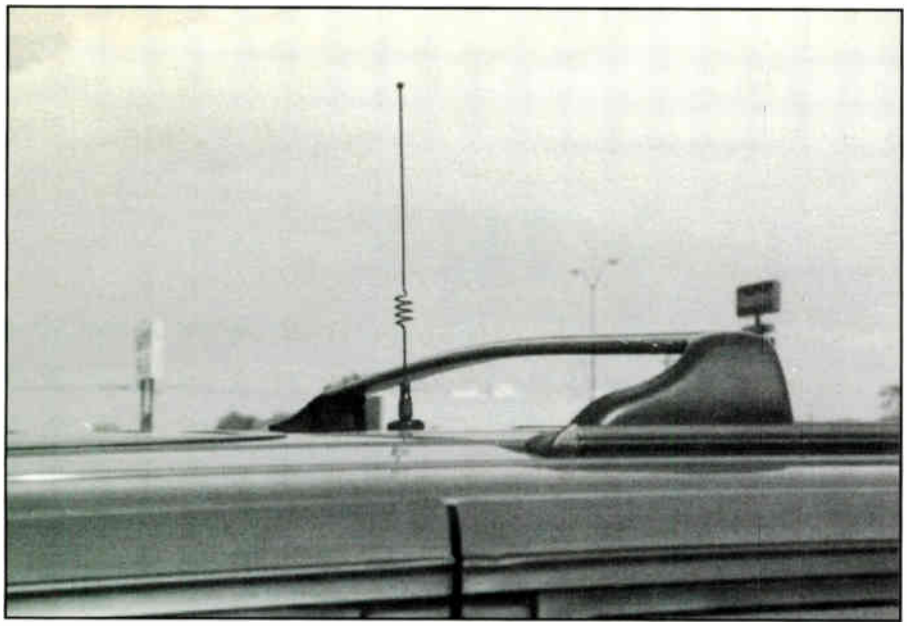
Up on the 150 MHz public service bands, a 5/8's wavelength vertical is a little over three feet long. So those base-loaded verticals on a Smokey that look a lot like CB antennas are really 5/8's ground planes.

Up at cellular frequencies, a 5/8's wavelength antenna is only eight inches long. Now that car roof or trunk lid looks like a really big ground plane and those cute little antennas can really get out on low power.

As you can see, the pattern of the 5/8's



A comparison between 1/4, 5/8 and one wavelengths.



Here's a typical cellular mobile antenna—eight inches of antenna puts out a pretty good signal, too.

wavelength ground plane puts the signal where you want it—near the ground! The price you pay is an antenna that's twice as long. It's that 3.75dB of extra gain that makes it the most popular base station antenna, too.

Looking Inside the Mailbag

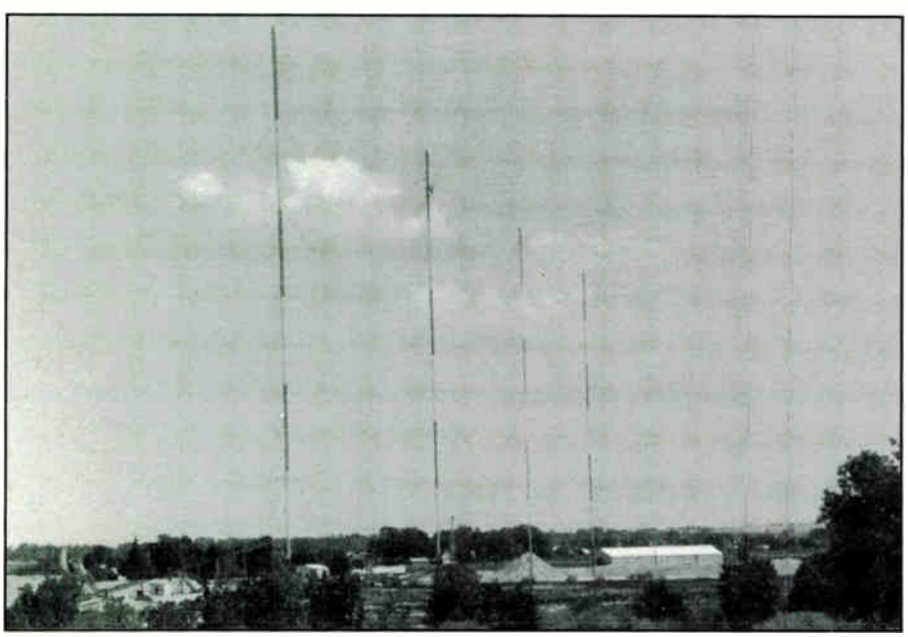
This month I'll answer a couple of reader's questions about antennas, etc. Remember, if you have any questions, send them to Antennas, Etc., *CB Radio* magazine, 76 North Broadway, Hicksville, NY 11801.

Dear Kent,

Can I use my TV antenna with my CB?

Allen, McKinney, Texas

Well, Allen, your TV antenna may be up high and already installed, but you don't want to hook it to a CB radio. The CB channels are around 27 MHz; TV antennas are designed to receive 54 to 638 MHz. The CB radio is designed for 50 Ohm coax, your TV antenna is designed for either 72 Ohm or 300 Ohm twin lead cable. Both would have a very, very high SWR if used as a transmit antenna on your CB radio.



These 500-foot Denver, Colorado area AM broadcast band towers ARE the antenna! (Photo by Patrick Griffith)

Susan of Nashville, Tennessee writes:

Can my husband's CB radio damage my cellular telephone?

Not just by transmitting. Your cellular telephone talks and listens at the same time. So your cellular phone has a transmitter running almost as much power as a CB radio, not near your antenna, but actually using the same antenna at the same time! The cellular phone has a special filter called a duplexer to keep the receiver from hearing anything except the telephone cell.

Dear Kent:

Some of my buddies like to run their antennas on the "flat side." What's the big deal, because I don't hear them very well when they're "flat side"?

Scott:

That's the whole idea. Antennas have polarization, just like those polarized sun glasses that block out glare. Basically, a vertical antenna talks well to another vertical antenna. An antenna with horizontal elements talks best to another horizontal antenna. When a vertical antenna talks to a horizontal antenna they are "cross-polarized" and miss 99 per cent of the radio waves. So by going "flat side" or horizontal, 99 per cent of the signals from mobiles and base stations running ground plane antennas just go right on by. "Flat side" is much more quiet.

It's also very rare to hear a mobile running flat side. You could mount a 102-inch whip off the side of your truck. It would talk great and make a fantastic "curb feeler", but . . . you'd have a few problems driving in traffic.

Mr. Antenna, Etc.:

I run a mag-mount. When it's on the roof, no problems. But if I put it on the trunk it tears up the car radio!

The problem is AM/FM hidden antennas. Many car companies use a thin wire in the glass as the antenna for the AM/FM radio. Hidden antennas go through car washes much better and have less air drag. Some of the Japanese companies use the trunk lid as the antenna for the car radio. The hinges have plastic bearings and the entire trunk lid is electrically insulated from the car body. I'll bet that mag-mount has a pretty bad SWR when it's back there, and without a good ground plane, you're not going to talk very far, either. Hey Doug, mag-mounts work best up on the car roof anyway! ■

Sidebander's Shack

WHAT'S HAPPENING ON THOSE CB SIDEBAND CHANNELS

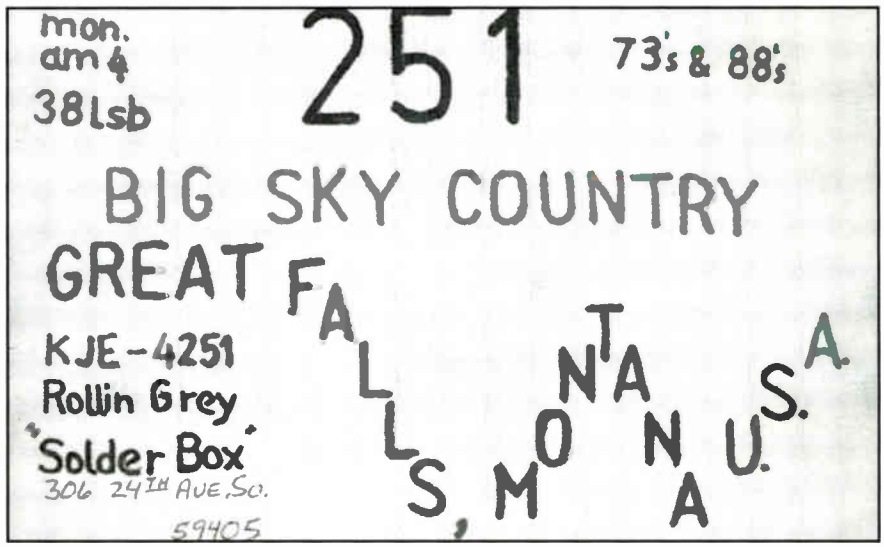
By Ed Barnat

Hello . . . Anybody There?

What's the point of having an SSB radio if you can't find anyone to talk with, particularly when not being able to find anyone to talk to also means not being able to find anyone to listen to either.

What's left? Static? Sure, sometimes static is the best thing on the radio. I don't know about you, but I can only listen to static just so long. After a half to three-quarters of an hour of listening to static, I start scanning the band in search of more exciting fare. How about you? I usually start falling asleep if I don't start listening around, which is no fun at all when you're driving. Besides, if it's static you want, any time you want, you can have it by simply tuning between standard AM broadcast band radio stations. Even the most dedicated static aficionados can't justify spending hundreds of dollars to purchase and devoting several hours installing an SSB rig, if all they're looking for is static.

It is NOT. We are looking for conversation. We want to make contact with other SSB operators. We want to talk with them, listen to them and even learn from them. Lack of SSB activity, especially local SSB activity is probably the main reason why SSB is not used and enjoyed by more people. All too often this is just the situation SSB operators find themselves in. We simply can't find anyone to listen or talk to.



This QSL card from "251" in Montana from a couple of years ago clearly shows the operator monitors channel 38 LSB.

Finding Contacts

Yes, finding contacts on SSB can be difficult, but it need not be impossible. In most areas, however, you will have to work at it. Unlike commercial broadcast AM, FM and shortwave, there are no professional producers putting together SSB programs for us. We have to make our own—a process that many of us enjoy. With a little courage, practice and persistence, you too can find that the "hunt" is one of the most exciting, rewarding and satisfying aspects of the hobby.

The first step in making SSB contacts is simple. It's so obvious that it is often overlooked. Without it, however, you will never succeed. You have to *try*. Trying means actively listening and calling. Without a question, the easiest way to find someone to talk to is to find a channel that already contains an active SSB conversation. Start by scanning the band. Turn the squelch off, RF gain and volume up, set the clarifier to 12 o'clock (center position) and listen for a minute or two to both the upper and lower sides of channels 16 and 36 through 40. If you are fortunate enough to find SSB activity on any of the channels, listen to it for a couple of minutes. Try to determine just what kind of conversation it is and whether your intrusion into it would be appropriate. Use a little common sense and courtesy. Interrupting urgent or highly personal conversations is not recommended. Casual conversations and even some nets are usually safe bets. The best test to apply is to listen to the length of the pause between each transmission. Very short or no pauses—stay away. Pauses of one or more seconds are good indications that your participation is in order.

Letting Them Know You're There Is Easy

If you are fortunate enough to find an active channel with an appropriate conversation, the next step is to let them know that you are listening. You don't want to talk over any of the participants. If you do, you might not be heard, or worse, you might offend them. So again, concentrate on the pauses between exchanges. This is where you want to place your transmission. The best way to let them know that you are there is to say your name or call sign and add the word "listening" or "on the side." An example might be, "USS 2641, listening," "John in Detroit, listening" or simply "station on the side." Avoid terms like "break" and "CQ". Both indicate that you want to use the channel for something other that what is currently going on. You don't, you just want to join in; so stick with "listening or "on the side."

Once you've made your presence and intentions known, listen. If they have heard you and want to talk to you, one of them will say something like "station acknowledged" during the next pass or two of conversation. If they don't acknowledge you after a couple of passes, try again. If you are not acknowledged after several tries you might as well give up. Either they can't hear you or they don't want to talk to you. Either way, it's best to move on.

Let The Hunt Begin

When scanning the band fails to produce the desired results, it's time to start looking or "hunting" for new contacts. Successful SSB station hunting relies on five basic variables: location, time of day, specific time, frequency and technique. Some of them we can control, others, we can't. If any one of them is off, you'll miss your opportunity to connect. When they all come together you can hook into one contact after another. Consider the expert fisherman, all decked out in hip boots and creel, armed with the best equipment, skillfully casting the most attractive lures high on a barren mountain top in sub-freezing temperatures. His

Here's a CB radio shack with sideband capability and a few other radio interests as well, including scanning and shortwave. (Courtesy John Miller, PA)

chances of catching a fish are pretty slim. The same holds true for SSB operators searching for contacts. No matter how well equipped, no matter how hard you try or how enticing your technique is, when you're in the wrong place, on the wrong frequency at the wrong time, chances are your quest will fail.

When you find yourself in the right place at the right time, you will succeed, no matter how poor your technique may be. Most often, however, you'll find yourself somewhere in between. It is in situations such as these that your skill and ability will have the most impact.

The first two variables, time of day and location, are two factors we have little control over. Some areas of the country are more heavily populated with SSB operators than others. Unless the skip is in, our present location determines the area we are operating in. So, whatever area we are in is going to have to do. It is up to us to make the most of it.

The same holds true for the time of day. Most often, we get to look for SSB contacts when we can conveniently get to our radios. The same holds true for the people we are trying to reach. Base station operators usually find themselves at their radios during their leisure hours—evenings and weekends. Mobile operators find that their best times to enjoy their radios are on the way to and from work, on weekends or during vacations. Some folks even find themselves on the radio during the midday, late at night or very early in the morning. Of course, there are certain times of the day that are more popular than others—usually between 5 and 7 p.m. Ultimately, however, the best time of day for you to look for contacts on SSB is whatever time is most convenient for you. So, the best time and place to search for contacts on the radio is wherever and whenever you can.

The Universal Net—36 LSB on the Hour and Half Hour

Specific time and frequency are two variables that we can use very much to our advantage. The exact time and frequency that we search can make all the difference in the world. It is quite possible that at any given time, in any given geographic area, there can be several SSB operators searching for new contacts. If they try long and hard enough, they might eventually bump into each other. However, if they wind up working different channels, or working the same channel but at different times, they might never meet. To overcome these odd twists of fate, let's concentrate our efforts on the "call channel," 36 LSB. We can enhance our chances of connecting even further by intensifying our efforts around the top of the hour and the half hour. Think of it as a universal net. An unofficial scheduled meeting for the express purpose of making contact; twice an hour, every hour, on the lower side of channel 36.

Calling stations on the *call channel* is just a little different from trying to join in an active conversation. Once you have determined the channel is not in use, key up and make your call. Announce your presence with your call and "listening" or "on the side." Here the use of CQ is quite acceptable and useful. Just add it to the beginning of your transmission. For example, say something like, "CQ, USS 2641, listening." Don't be fooled by a quiet channel. A quiet channel, especially 36 LSB, can offer the best opportunity for making a contact. Not only won't you be interrupting anyone's conversation, but this is THE channel that is supposed to be used for MAKING contacts. That is why it's called the "call channel." At any moment there could be others, perhaps many others listening to the same quiet channel just waiting for someone to talk to. To find them all you have to do is ask—but you do have to ask! As long as everyone remains silent, no one will ever know that anyone else is there. Common sense? You bet! But somebody has to make the first move and it might as well be YOU. So go ahead and make the call.

Now that you know where, how and when to look for SSB contacts, the rest is up to you. You will have to work at it. You will find that is also well worth the effort. The more you work at it, the more proficient you will get. Each contact you make will make the next one easier to find. Not only that, but the conversations you start will draw other operators out of the woodwork. Be sure to make them feel welcome. Encourage them to join in by leaving healthy pauses between transmissions and acknowledging them as soon as they make their presence known. Then invite them to join in the conversation. Before you know it, you will develop your own group of active SSB operators. When that happens, please drop me a note and let me know where and when you are most likely to be found. I'll pass it along in future columns to help others find you and the joy of CB Sidebanding.

As always, whatever your interest in SSB, I look forward to your questions, comments and suggestions. Send us your QSL cards and shack photos, too. Write me in care of the magazine or on the internet where my address is edbarnat@global1.net. Better yet—if you can—catch me on the radio.

Until next month, 73's, **Ed**

No one could possibly listen to static all day!

EXTRA EXTRA

CB REPORT

YOUR SOURCE OF CB NEWS AND HAPPENINGS

Compiled By Larry Miller, KCZ-8847

CB Coast-to-Coast

CBer Arrested on Felony Charges

It was late December 1995. The days had grown long and cold and the Holbrook family was more than grateful for their new apartment. Soon after they arrived, Steve, 33, had set up his beloved CB and took to the airwaves. He was even lucky enough to be able to put up an outside antenna. And *that* is when the trouble started.

Mike Price, one of Holbrook's neighbors, could see the big CB antenna every time he looked out of the window. Let's face it, CB antennas ain't all that pretty. Worst of all, every time he tried to watch TV the screen would turn to hash, jumping with every word that Holbrook transmitted. Other neighbors began to complain, too. Joe Clark, upstairs, said that he heard loud CB "squelches" coming out of his stereo speakers.

Holbrook, in the interest of keeping peace, did the neighborly thing, first moving his antenna off the roof and into a neighbor's yard. Later, he installed filters. And it worked for a time. In fact Clark reported that the "squelches" stopped. But not everyone was satisfied. The CB was still interfering with Price's TV—big time! This time, Price went to the landlord

CBer Arrested on Felony Charges

with his complaint. The landlord said his hands were tied. There was nothing he could do until the Holbrook's lease was up. Then they could be kicked out.

One night, late in December, Mike Price had enough. Sitting in front of his static-filled TV, listening to Steven Holbrook's disembodied voice instead of the soundtrack of his favorite TV show, Priced called the Moraine police.

Holbrook was in his apartment when the police arrived. There had been complaints, the officer said. Don't use your CB until you get the interference problems worked out.

At this point, Holbrook's version of the story begins to vary from that of the police. No one, Holbrook says, told him to stay off the CB and, in fact, as soon as the police left, he got on the air to tell everyone what happened. Meanwhile, Price had popped a cassette into his VCR and began taping. According to reports, Holbrook's CB conversation, captured on tape and played for police, contained "expletives" and threats against Price. Price called the police again.

Holbrook was decorating the Christmas tree with his four-year-old son, Brandon, when the doorbell rang. It was the police again. And this time, in front of his whole family, Holbrook was arrested, charged with disrupting a public service, and taken to Dayton-Montgomery County Jail. In Ohio, disrupting a public service is a third-degree felony that does not allow for bond. The maximum penalty is 10 years in jail and a $5,000 fine.

Needless to say, Holbrook's wife, Lori, was frantic. "Everything we were doing here is legal and they took my husband to jail on a third-degree felony," she said. "This is totally appalling. I don't understand how this can happen."

Holbrook, who spoke to local reporters from his jail cell, said that he did not curse out the neighbor. He says that he wasn't even on the CB at the time. But police tend to side with Price. They confirm that they did have a tape recording of Holbrook, but would not reveal what was on it.

Ironically, at a time when drug dealers regularly walk free in America, Steve Holbrook is in jail—for interrupting someone's TV show—for talking on the CB interference. Makes you kind of wonder what's important in this country.

Make My Day

This is the kind of story that makes everyone love scanner listeners. A Newark, Delaware teenager who wore phoney police gear purchased at a farmer's market and who carried a scanner so he'd look like a real cop, was arrested by police. Neighbors at a Newark, Delaware apartment complex watched as the 15 year old boy walked around a pickup truck, looked inside, and jotted down notes. The owner of the vehicle, who lives in the apartment complex, approached the boy/officer and asked what he was doing. The teen, who officials said "looked older than his age," said he was a special agent for county police. He was investigating the man as a wanted suspect and planned to put him in custody. The man didn't think the boy/officer was in fact an officer and called police. When police arrived on the scene, however, they found the boy holding handcuffs and mace, trying to arrest the man. The man with the pickup truck was not wanted by police. Police confiscated the boy's police outfit and took away his scanner.

Cellular Monitoring Bust

An Oswego, New York man has been sentenced to one year of probation and 100 hours of community service for monitoring cellular phone calls. According to U.S. Attorney Thomas J. Maroney, James D. Earhart "knowingly and willfully intercepted and divulged to other people the radio portion of cellular telephone communications without permission of the senders." Earhart monitored cellular phone calls three times in 1990 and 1991, according to the Observer-Dispatch newspaper. The case resulted from an investigation by the Federal Bureau of Investigation, but no further details were given.

I Hear Voices

One of the most common "unusual" letters that arrives on the desk of radio columnists is the one that begins, "I think that someone is tapping my phone. . . " While there are many variations of this letter, the source of the alleged tapping is almost always the government. From the number of letters, you'd think that everyone is being tapped.

According to reporter Dan Freedman, the fact is that very few wiretaps are ever approved. In 1994, says Freedman, federal and state prosecutors asked the courts to approve wiretaps on telephones, cellular phones, faxes and computer e-mail transmissions in only 1,154 cases. In 1993, court approval was granted only 976 times.

All this could change if the FBI gets its way with the local phone company. It wants them to engineer their computerized systems to permit the interception of one percent of all simultaneous phone calls. That means the FBI could be tuned in to 1,000 of them. The FBI calls wiretaps, "the single most effective investigative technique used by law enforcement."

Motorola 22.2, Gass 0

Meanwhile, Oklahoma's Larry Gass is really getting hammered. Gass, who was recently convicted of modifying radios so that they could follow Tulsa's 800 MHz Motorola trunked system, is now being sued by Motorola for copyright and trademark infringements. The giant multinational Illinois corporation, which did $22.2 billion dollars worth of business in 1994, says that Gass used Motorola's "registered trademarks to create the false impression that the (presumably modified) radios originated with or were approved and authorized by Motorola."

Motorola asked the court to grant a permanent injunction against the defendants from engaging in further "illegal activity" in addition to granting of "monetary and other damages."

According to Anthony Biell, manager of software protection at Motorola, Gass "was actually programming radios to operate on the Tulsa public safety radio systems for people who had absolutely no business communicating with these agencies on their own radio systems." The company promised "an ongoing program" of enforcement against such incidents.

Poof! It's Gone

Portland's $8.5 million emergency radio system got its first big test this winter and according to the Associated Press, it failed miserable. For more than five and one half hours at the height of a storm, many police and fire fighters could hear dispatchers, but were unable to answer. Radios carried outside their vehicles were useless. Radios in police cars and fire trucks worked sporadically. Motorola officials are working to find out what caused the 800 MHz system to buckle. It is known that the day that the system failed was an especially heavy one. On an average day, Portland handles about 50,000 calls. On this particular day, it handled 118, 913. Still, city officials wonder what would happen in a bigger crisis, such as an earthquake. Says police Sgt. Bob Baxter, "Here we have this multi-million dollar system that allows us to talk to everyone but the Lord himself and when we need it most, it's gone."

Oops. A Drug Deal

A Salisbury, Massachusetts teenager was arrested on drug charges after a local police officer "inadvertently" homed in on his cordless phone conversation. Darin Grenier, 19, was arrested after police officer Jack Carl picked up the call on his scanner while on patrol. During the conversation that was overheard, Grenier gave the exact times and location for a drug deal; Carl then notified the local drug task force.

A police spokesman explained the "inadvertent" interception this way to a local newspaper reported: "Cordless phone calls do not usually get picked up by police scanners, however, on rare occasion phone signals have been known to go astray and end up on scanner frequencies."

The Info Superhighway

Sex, violence and gambling. Sounds like the Red Light district of any major city. But we're talking about the Internet. According to the W5YI Report, vice is big business on the net. But even crime takes a twist in cyberspace.

Take, for example, illegal gambling. No local penny-ante stuff here. Go to http://www.interlotto.li and play the national lottery of Liechtenstein. Pick 6 of 40 numbers and win more than a million dollars. Entry fee is 5 Swiss Francs, payable with your MasterCard.

Also available are various casino games from the Caribbean and Cuba. According to W5YI, they're easy to find and access. "Just . . type in key words like 'casino' and 'lottery.' It's very interesting . . . even if you don't gamble.

No wonder we can't keep 'em down on the farm anymore.

Scanner Listener Saves Baby

A man listening to his scanner was able to save a newborn infant found abandoned in an Illinois cemetery. Charles Heflin, an off-duty fire fighter with a scanner in his truck, heard dispatchers report an anonymous call saying that a baby was between a tree and a mausoleum in the Mount Olive graveyard. Heflin happened to be nearby and stopped. "I didn't' see the baby at first, but I heard her whimper. It was a newborn . . . red with mucous on it."

Heflin, a trained emergency medical technician, took the baby back to his truck and put her near the heater. HE met incoming sheriff's deputies on his way out of the cemetery, and turned the baby over to them. "I know how fast hypothermia works," Heflin said. "I wanted to get that baby into a warm truck."

Family Radio Service

Here are the proposed channel and frequency plan for the new Family Radio Service, proposed by RadioShack. Channel 1: 462.5625; Channel 2: 462.5875; Channel 3: 462.6125; Channel 4: 462.6375; Channel 5: 462.6625; Channel 6: 462.6875; Channel 7: 462.7125; Channel 8: 467.5625; Channel 9: 467.5875; Channel 10: 467.6125; Channel 11: 467.6375; Channel 12: 467.6625; Channel 13: 467.6875 and Channel 14: 467.7125 MHz. Maximum power will be 1/2 watt; operation would be unlicensed. Motorola filed comments in support of the recently filed petition.

Keep the Towers(??!!)

Glance toward Annapolis as you cross the Bay Bridge and you see them. Nineteen antenna towers, ranging in height from 60 to 1,200 feet, standing at the Naval Radio Transmitting Facility on Greenbury Point just east of Annapolis, Maryland. For decades an anchor in the Navy's global communications network, they are now Cold War dinosaurs, no longer of use to their nation. Navy officials say the time is coming to tear them down. But after 80 years of living in the shadow, something crazy is happening. IN an area where neighbors regularly get involved in ugly, bloody feuds over antennas, residents of Annapolis say they want the Navy towers to stay.

The towers are as cherished a part of the Annapolis skyline as the dome of the State House, say some. Says Steve Carr, president of a group hoping to save at least one of the towers, pleads, "We can't throw away pieces of our culture." Wonder if they consider a Big Stik a piece of our culture? People. You just can't figure them out.

New Scanning Club

If you're into scanning, you may want to check out The Scanning Club. Edited by Les Mattson (formerly of North East Scanning News), it covers all 50 states with the latest news and hottest frequencies. For more information, send a self-addressed, stamped envelope to The Scanning Club, Box 62, Gibbstown, NJ 08027. Mention the CB Report when you write.

Don't forget, let's hear from your club! Give us enough notice—we'd be happy to tell everyone else about your meetings, picnics and whatnot. I might even be able to get Harold "Jawbone" Ort to get in the car and come out with me for a visit! Thanks, too, to everyone who sent in newspaper clippings for this edition of CB Report. Don't forget, when you see news about radio, cut it out and send it in. The address is: Larry Miller, KCZ-8847, P.O. Box 360, Wagontown, PA 19376.

FCC: Land, Ho!

The FCC has amended its rules to allow private land mobile users to share the 18 frequencies used for VHF marine telephones. There are nine frequency pairs t 157.20 through 157.40 and 161.80 through 162.0 MHz. Operations will be allowed on a primary basis for stations located at least 116 miles from an existing public coast station or navigable waterway.

Interestingly, this is another case of the law following usage. Thousands of marine radios are purchased every year throughout the United States in places where the only boats are seen in bath tubs. In some communities in the midwest, the law has been ignored for years and the marine bands are widely used for business and personal communications.

Truckin' With CB

THE PROFESSIONAL DRIVER'S CB RADIO PLACE TO BE

By Bill Simpson, "Highlander"

The Technical Evolution

"Twenty odd years ago . . ."Don't we all hate it when somebody starts a sentence with ANYTHING that faintly resembles this phrase? Sounds like what our parents said when we complained about the chores! The next thing I heard was how she walked uphill to school, and then walked uphill on the way home . . . sometimes in four-foot snowdrifts. That worked fine, and really made me ashamed, until I finally realized that she grew up in middle-Tennessee, and four-foot drifts simply didn't exist! Yes, guys and gals, I AM going to do that very unthinkable thing and look back at the old days. No, I really don't plan to talk about snow, nor do I really care about the Beatles, or any of those dudes with funny accents and strange haircuts. Yes, I realize that they are part of the reason we have reached our current socio-economic status, but they did very little for the trucking industry, or CB radio except provides lots of loads of records to the retail shops.

During the '70s, the trucking industry underwent some sweeping changes as a result of government intervention, pressure tactics by some foreign governments and the still-maturing aerospace programs. We are constantly realizing the benefits of these programs today, and should be eagerly awaiting the new inventions of tomorrow.

"Freight Train" of Roberts Express.

A Ride Back

Ride back 25 years with me. Let's hop in a rig for a tech ride with quick comparisons to today and the advances made in the industry. We pick up and check the big tractor, drive to the other end of the yard to a tractor, hook up and stop by the dispatch office on the way out. Seems like a pretty easy run . . . pick up here, here and here, and head out. Call dispatch on the phone at each stop to see if anything else has been called in to dispatch since we left. (Flashback to the present. . . we would contact dispatch either by a company radio, either UHF or 800 MHz, OR we could receive the new instructions via our own on-board computer . . . or perhaps both if dispatch was feeling particularly frisky, or had just been subjected to the result of the terminal manager's wrath, because a VERY good customer had been lost yesterday.)

BACK TO THE PAST . . . as we load the truck, we think about the fastest and most economical route available. Then we check with dispatch, receive the "get it off and call me!" and grab the maps. (Today we could simply tell the computer our destinations and receive a print of the fastest route!)

The first stop is 600 miles away. Even though we have sufficient fuel, we really should call dispatch at every stop along the way. Dispatchers enjoy thinking that they are the REAL power brokers . . . since we are on mileage, perhaps we should cater to their whims a bit. (In the '90s, we simply roll on, knowing that the dispatchers can contact us via that dumb on-board computer. MAYBE we'll call them just before they go home, to let them know we care.

As we roll on, thinking about the piece of lemon meringue pie at the next fuel stop, asking about the next scales on the CB, and chatting with a driver that seems to be running at speeds we like, we suddenly her a small "Bang!" and the tractor starts toward the shoulder! Immediately slowing down, we pull off and discover that the right front steering tire has been cut, and refuses to hold air for another mile. We return to the cab, check the map and try to hitch a ride to the next exit. (The '90s . . . we punch in the priority code on the computer, type in the problem, and wait for dispatch to acknowledge the problem and ask for my location in order to send a repair crew.)

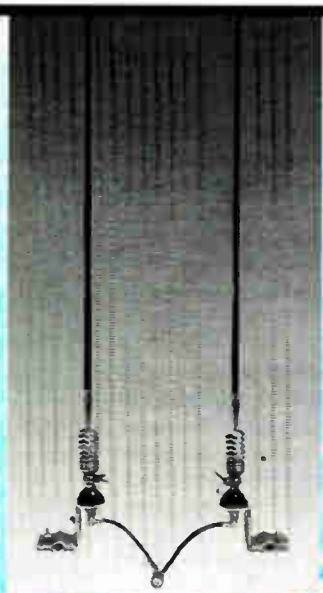
As we wait for assistance to arrive, we chat with other drivers as they pass: "Thanks for the concern . . . we have help on the way."

In most of the newer "confusers", the GPS (Global Positioning Satellite) would show our location exactly. I know that my wife Judy (see Frequency Fastrack column) can contact certain dispatch offices to check on the status of a driver, or a particular load, and receive the answer NOW! Quite a difference from years ago, when we checked with dispatch twice a day to see if other loads were available!

Notice the only item which has remained constant throughout the years? Exactly . . . the CB radio. We don't have as many different models to examine and they all tend to look somewhat alike now, but they are essentially the same as 20 years ago. The trend is toward radios with gimmicks . . . Cobra with the new weather band, or the SSB radios with the frequency counters, for instance.

Don't get me wrong, I have a Cobra 29 LTD Classic WX, and my bride has the Cobra 21 LTD WX Classic, and we'll fight ANYBODY that tries to get us to switch.

SIRIO



Truck 27 Log CB 27MHz Vehicular Twin Antenna

5/8 wave twin vehicular antennas with large band. The whips are made of glass fibre with logarithmic charge and supplied with steel mirror mount which makes the installation easy on the vehicle. Tuning can be made by adjusting the special sleeve placed at the bottom. They are particularly suitable for fitting on trucks and caravans.

HI-Power 3000 PL CB 27MHz Vehicular Antenna

7/8 wave vehicular antenna base loaded, specially conceived for hi-powers, from 1500 Watts continuous to 3000 Watts. The coil, made of big section copper wire, works as an impedance transformer and the conic whip is made of 17/7 PH stainless steel to get the best performance. Its strong mount is of black chromed brass supplied with a big washer for a perfect waterproofing. It's available in the 2000mm length version as HI-POWER 4000 and with "Clear Coil" also.

Tornado 27 5/8 CB 27MHz Base Station Antenna

5/8 wave antenna for base station made of anti-corrodal aluminum tubes and supplied with jointing sleeves of polythene to guarantee a perfect waterproofing. Strong and easy to install, it allows very good links.

MINI MAG 27 CB 27MHZ

1/4 wave magnetic antenna with central charge coil. It has been manufactured with first quality materials to keep its good technical characteristics unchanged for a long time. Its pleasant design coupled with its easy installation, make it suitable for fitting on every vehicle. It is recommended for installation on the centre car-roof.

Space Shuttle 27 PL CB 27MHz Vehicular Antenna

5/8 wave vehicular antenna specially conceived to support hi-powers. The coil, made of big section copper wire, is protected by a polycarbonate clear cover completely water-proof. New in design and technology, it is supplied with 8 ground plane radials to get the best resonance. The conic whip is of black chromed stainless steel and the base, made of chromed brass, is very strong and complete with a big rubber washer.

Cobra 27 Black Mini Cobra 27 Vehicular Antennas

The Cobra 27 Black is a 1/4 wave antenna based. The conic whip is made of black chromed stainless steel, and cab be tilted for 180° angles. Fine tuning can be made by acting on the special rings.

Magnetic Mounts

MAG 145 PL

MAG 160 PL

MAG 145 PL - Overall dimension of 6.3" and comes with 1/2' of coaxial cable.

MAG 160 PL - Ultra Flat. Overall dimension of 6.3" and comes with 11 1/2' of coaxial cable.

TheMini Cobra 27 is a 1/4 wave antenna as well with a reduced version of of the Cobra 27 whip of 530mm. This antenna is available complete with magnetic mount and rubber washer for a quick installation.

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CIRCLE 131 ON READER SERVICE CARD

"White Lightning" on the road again. Notice the Betty Boop graphic.

We both drive a great deal, both to and from work, or AT work and we MUST know about weather-related problems NOW! Recently, Judy had a Cobra 148F GTL with Frequency Counter and actually liked the radio very much. Her comments? "I drive to work and drive home. I want the traffic reports, and the weather . . . I simply don't have time to chase SSB contacts." We got the Cobra 21, and sent the 148 GTL to a friend who enjoys SSB contacts.

The point is that the newer radios, EXCEPT for the weather band, or frequency counter, do not vary much from the radios used 25 years ago, and as a result, we have continued to rely on the proven leaders in the field. As I talk to drivers, they continue to be adamant in their expectations of radio performance: purchase the radio, install it, power it up and key it up. Most of us simply don't care about the antenna or the SWR . . . THE RADIO MUST FUNCTION NOW!

Fortunately, the manufacturers of both the transceivers and the antenna are aware of this trend, and have been able to provide products which will fulfill our expectations and requirements. Frankly, the Cobra radios I installed barely moved the SWR meter when I checked them, even though the antennas were NOT new. I have every confidence that unless I have a bad antenna or coax, the transceiver will function as advertised. I have installed Browning, Uniden and Realistic and have been pleasantly surprised at the meter readings. It seems that the manufacturers are aware of our needs and technical limitations, and are doing their best to make their radios user friendly.

Other than the weather radio with alert feature, and the frequency counter for the sideband radios, there simply is not much difference in the mobiles we use today and the ones we used a quarter of a century ago. Some of the components have been upgraded to provide more stability and/or efficiency, but little else has really changed. Much of the "sameness" has been a direct result of government regulations, while some has been marketing decisions. . . some others have been a result of competition.

Truckin' along '94 near Chicago.

Spring Has Sprung!

Spring is beginning to appear in my part of the world . . . hope the nasty white stuff is disappearing in yours. All you drivers who are limited to the southern parts of the U.S. should really feel deprived . . . the experience of driving through a Midwest blizzard will give you an entirely new appreciation of the joys of southern weather. Besides, while driving through Chicago, for instance (although the name of ANY major city could be inserted), one may increase a vocabulary by nearly 25 percent! Seriously, I was chatting with a driver on the radio when another driver broke in to ask if anything could be done about the language on the radio. I was astonished by the request . . . until I started thinking about it. We have become so accustomed to the four-letter words that we simply take them for granted, and forget that others may be offended by their use. Yeah, I know, they should turn the radio off, or go to another channel, BUT, I submit to you, they may be looking for exactly the same type of information which ONLY the trucking family can provide. I don't want to seem like a prude . . . I know all the words, too . . . I've used them . . . and I've reached the decision that they DO NOT belong on the radio. We simply do not know who is listening and could offend someone who otherwise would be available to offer "local information" or call police for accidents.

If you agree that we should diminish the four-letter words, drop me a line, or even a postcard. Let me know how you feel . .

Keep safe, keep rollin' and 73s,

Highlander

Trucker of the Month

OUR SPECIAL RECOGNITION OF PROFESSIONAL DRIVERS

By Bill Simpson, "Highlander"

Trucker of the Month, "Billy Boy" with his wife, Debra and daughter, Courtney.

Some people have all the luck . . . here's Billy "Billy Boy" with two of the prettiest gals we've ever seen. Billy, of Lavergne, Tennessee, is our Trucker of the Month. Pictured with Billy is his wife, Debra, and three-year-old daughter, Courtney. Not pictured is their one-year-old son, Justin. He was off carousing with Billy's partner, Van.

Billy claims to be nothing special, "just a outdoor type", but he just happens to be a deer hunter (he shows me the antlers from the latest kill), AND a rodeo type . . . riding bulls and bareback broncos. That's tougher than trying to corral middle Tennessee traffic at rush hour!

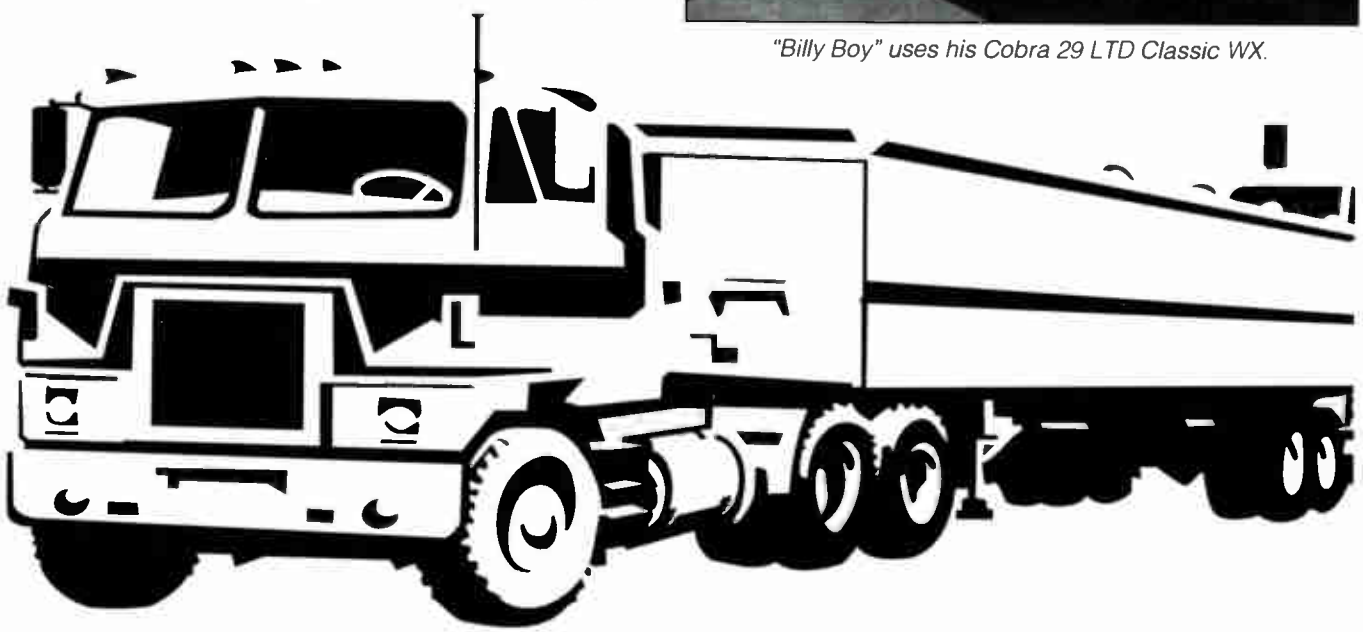
Billy leaves the house at 0-dark-thirty, and often doesn't return until well after dark. "I put my Christmas lights up around midnight," he laughs. "I just hope the neighbors don't think I'm totally crazy!" After eight years of putting lights up at weird times, we think the neighbors are pretty much up to speed on your hours, Billy!

Billy's ultimate dream is to purchase a small farm where he can raise his family and "not bother the neighbors."

Strictly a short haul, local driver, Billy is saluted for the time and efforts he puts in to get the job done and to make the roads that much safer for the rest of us. ■

(Photos by Bill Simpson)

"Billy Boy" uses his Cobra 29 LTD Classic WX.



Product Spotlight

THE STUFF THAT'S OUT THERE—AND HOW IT WORKS

By Harold ort, N2RLL, SSB-596

Genuine Leather Scanner Case by Design EQ

Let's face it, the case that came with the famous AR-1000 series of handheld scanners (including the Fairmate HP100, HP200, HP2000 and Trident TR100XLT and Trident TRI200XLT) is a bit on the flimsy side. Truth is, I took mine off a long while ago and couldn't find it today if my life depended on it!

Enter the Custom-Designed Case

Design EQ has been making fine scanner accessories for some time now. They're probably best-known for their well-received Guide to the AR1000.

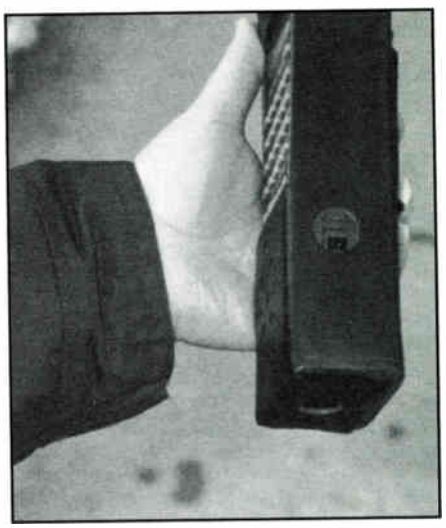
Just like their Guide, their Genuine Leather Case is a superb product—and one that's functional, too.

It fits the above mentioned scanners like a glove, slipping over the typically-unused strap lugs at the top of the scanner, and still allow you to feed the belt clip over the back of the leather case! Clearly the company knows scanner enthusiasts. The accompanying brochure states, "... case was designed with a specific strategy in mind: to protect your scanner from falls, bumps, and other physical shocks." It sure does. Made of high quality leather it's well protected from the environment. Of course no one (at least not sane folks!) uses the scanner in the pouring rain or other extremes, so no case I know of will protect your handheld from outright abuse.

Large holes in the speaker area allow the scanner to be heard well—no muffled sound with this case, folks! There's even a cutout on the bottom right for the charging jack. While there's no front plastic cover to protect the keypad and display window, plenty of users have found these clear plastic covers more of a nuisance than a protector. They make the display difficult to see, depending on the lighting conditions, too.

The AR1000 in the Design EQ leather case. It's a professional case for a professional scanner!

Interestingly, this case allows the user to get rid of the scanner's metal belt clip in favor of using threading your belt through the slots in the case.



Notice the cutout that gives the user access to the charge jack.

(Photos by Harold Ort)

Want to replace the batteries or simply remove the AR1000 from the case? Thoughtfully, Design EQ has a small cutout on the bottom of the case, made specifically to use a soft blunt object (pencil eraser, etc) to gently push the scanner up and out of the case. (They make a point of telling you NOT to pull the scanner up by the antenna. Goodbye BNC connector!)

All-in-all, if you want to protect your AR1000 from the normal bumps and occasional bruises, contact Design EQ and order the case. You'll be glad you did. **Design EQ** is at P.O. Box 1245, Menlo Park, CA 94025. Telephone 415-328-9181. Tell them you saw their product mentioned in *CB Radio* magazine. (They also make custom cases for several other scanners).

CIRCLE 101 ON CARD FOR MORE INFORMATION

Maxon MCB-45W Mobile CB

ITEM: Maxon MCB-45W Mobile CB radio. **SPECIFICATIONS:** Mobile 40-channel AM CB features rotary volume, squelch, RF gain and channel selector controls. Push buttons for 10-channel NOAA weather reception, Instant Channel 9, ANL and PA. Also lighted LCD window identifies selections. Includes microphone and all mounting hardware. **DIMENSIONS**: (HWD) approx. 2" x 6" x 8". Requires 13.8 Vdc positive ground.

Meet Maxon's newest addition to their CB line-up. Its debut was at the Winter Consumer Electronics Show in Las Vegas. Maxon America, Inc. has been making all types of radios, pagers and GMRS equipment for many years.

Hooking up the radio first to a power supply and using an outside base antenna, those operators I frequently talk to reported excellent signals and audio from the radio. Frankly, I expected nothing less than excellent signal reports from this Maxon radio because of my personal experience with their radios and knowing a few professional public safety folks who also use Maxon equipment. On receive the MCB-45W was equally impressive; pulling out weak stations located at moderate distance from my base.

The new Maxon MCB-45W mobile CB. (Courtesy Maxon America, Inc.)

In the car, using a magnetic-mount antenna on the roof, the SWR was nearly 1.1:1 at channel 20, slightly higher at channel 40. (You'll need a separate inexpensive SWR meter to check this measurement). It's important to note here that the MCB-45W is what I'd call a basic AM radio by today's standards; nothing fancy or unnecessary bells and whistles—perfect for its intended use—traveling down the highway or staying in touch with your base. It's selectivity (ability to reject signals splashing from nearby channels) is good. Sensitivity (ability to pull in weak signals) is very good, as mentioned earlier.

On The Road with the MCB-45W

The first thing you'll notice about this good-looking radio is the four rotary controls that are directly under four push buttons running along the front panel. They're easy enough to figure out and use, especially in the daylight. At night, though, you've got to feel your way around the tightly-spaced controls. No, you won't drive off the highway doing so, but the controls take just a bit of getting used to. Perhaps I would have eliminated the RF gain control (let's face it, most users don't use it, leaving it set to maximum, anyway). That would leave the volume, squelch and channel selectors. I also would have made the channel selector (near the display window) slightly larger than the others, or even lighted the channel control for better night time viewing.

The push buttons are for instant access to the seven NOAA and three international marine frequencies, Instant emergency Channel 9, ANL, and PA. Push the "10 CH WX" button and then, using the rotary tuning control, tune to locate the NOAA station nearest your location. Reception of the NOAA weather station near my location was crystal clear—the same on the highway, just using the CB magnetic-mount antenna. (Remember too, for the BEST NOAA weather reception, purchase a new antenna that is designed for NOAA reception. A standard CB antenna may work, but a combination CB/NOAA antenna will work even better!).

Push the "CH9" button and you're instantly on emergency Channel 9. The icon "EMG" appears in the display window along with "9". Any tuning you do with the channel selector during this operation has no affect on the radio. Hit the button again to regain normal control of the CB.

The ANL (Automatic noise-limiter) works very well, indeed. It significantly cut engine noise in my mobile and allowed reception of otherwise weak signals that would have been inaudible.

I didn't test the PA capability of the MCB-45W; there are jacks on the rear of the mobile for both external speaker and PA.

In actual real-world operation, the radio performed well. For better night time visibility of the controls, Maxon could have added lights to the weather and Channel 9 push buttons. It's not that they're difficult to locate, but lighting them would have made finding them in a pinch that much easier.

The display window is brightly lighted and the channel number is easy to see in any lighting condition. The graduated-scale bargraph meter shows relative incoming signal strength and RF power on transmit. The bars are somewhat small, but then again, don't most of us use our ears instead of our eyes when listening for another station?

Loud Audio

Time and time again I hear complaints of low audio—often to the point where CBers MUST install an external speaker in their vehicle to overcome poor audio quality on the radio itself. Not the case with this Maxon CB! The audio was loud and crystal clear—that goes for the NOAA weather audio, too.

All-in-all, the Maxon MCB-45W mobile CB is a solid performer; great signal reports and audio. It's compact size makes it ideal for easy installation in today's vehicles. Like other Maxon products I've seen, it looks and operates like a radio should! The MCB-45W carries a suggested retail price of $139.99 ■

CIRCLE 102 ON CARD FOR MORE INFORMATION

Frequency Fastrack

GENERAL MOBILE AND FAMILY RADIO SERVICE NEWS By Judith Simpson, N9NSI, KAD-9669

GMRS—What You'll Spend and Why

Well, you've decided to take the big step and get into GMRS radio. You've filled out the FCC-form 574 and sent it in along with the required fee to the gigantic paper mill called Washington, D.C. Actually GMRS license applications are sent to Gettysburg, PA. Didn't we have fun completing the license application? No? Well, remember, they ARE from the government and they ARE here to help you!

Anyway, let's get back to reality. We really want to purchase some low-cost equipment, right? A nice base station, a couple of mobile units and some walkie-talkies. (Can we refer to walkie-talkies as HTs from now on?) That might cost $750 in decent CB equipment . . . but hang on tight, and sit down. It will not cost an arm and a leg for GMRS, but it will be close.

The Pricing Situation

Let's let the heart rate settle for a few minutes and look back nearly 15 years to understand the reasons for the prices. At the height of the CB craze, a few members of a public service organization were searching for an alternative to CB in order to have a means of clear communications during their projects. Someone discovered "Class A" CB radio tucked in the middle of the commercial UHF frequency spectrum. This service provided the potential for much longer ranges and clearer transmissions than CB! Further investigation revealed that there were not many users on the available frequencies, and licenses were required.

The potential existed for all types of communications; personal, group, and even commercial use were allowed under the rules. Repeaters (see last month's issue) and higher power transmitters were also permitted. The entire concept was almost too good to be true!

Then the group began the search for equipment . . . surprise, surprise! There wasn't any equipment manufactured specifically for GMRS, although a few companies built one or two channel, crystal-controlled HTs and mobiles, at prices that WOULD get your attention rapidly. The search continued . . . to the hamfests . . . to taxicab companies that were considering an upgrade . . . to the technicians and radio shops . . . and the list goes on and on. The equipment was located and placed into service.

Motorola's new sportBASE GMRS radio allows users to enjoy two-way communications at a longer range than when using only portable two-way radios. The sportBASE radio is a 25 watt, two-channel radio and includes mounting bracket, microphone, gain antenna and 30 feet of transmission line. It retails for $679. (Courtesy Motorola)

The Equipment

The mobiles were huge and heavy, requiring a great deal of power from the vehicle. These were the type units with only a small control head in view, and the heavy transceiver was hidden in the trunk or under the seat. As the radio was activated (keyed) the lights would usually dim.

Nearly all HTs were one or two channel crystal-controlled units, most weighing three or four pounds and capable of perhaps two watts output. Some had separate microphones, but most were simply a radio, antenna and battery. The big names at that time were Motorola, E.F. Johnson and GE.

In the early '80s, Maxon produced a four-channel crystal-controlled, five watt HT at a price MUCH less than other equipment. Within five years, several companies introduced synthesized multi-channel radios at prices less than the crystal-controlled "big name" units. These were still very costly; $500 and up for mobiles and HTs.

The new technologies from the space program allowed these transceivers to be made much smaller; the size of the typical CB radio and still produce 35 watts for the mobiles and five watts for the HTs. (Note, five watts is about all we can expect from the typical HT . . . the power becomes a function of the available weight . . . nobody wants to carry a car battery on a project!)

Anyway, now we can return to the present and check out the available used and new equipment. All the earlier material in this month's column is to simply make you aware of where we have been and what has transpired to bring us to this point. As more people have become aware of GMRS, they have contacted various manufacturers about the availability of equipment. Somebody finally woke up in the early '90s when companies began to design GMRS radios that did not require a second mortgage.

What's The Best Radio To Buy?

New users always ask, "What's the best radio I can buy?" Stock answer . . . buy

Uniden's GMR100 handheld GMRS transceiver is ideal to use for family and personal communications.

Maxon System's Model GMRS-210+3 offers channels for emergency/safety comms, as well for all-purpose GMRS.

an HT first. HTs, while very low power, are the most versatile. It will follow you into the house or go to the mall. Hook up a good 6dB gain external antenna with a decent regulator and it is disguised as a low-power mobile. If you use that same antenna in the house with perhaps the refrigerator as a ground plane and you (almost) have a base/control station. Well, at least you don't have to run to the car to talk to someone!

As a quick note; don't confuse the use of base stations in the GMRS band. In simple terms, the FCC uses the phrase "base station" to mean a radio with a fixed antenna, using only the 462.xxx MHz half of the frequency pair. A base may only communicate with mobiles. Control stations 467.xxx are the other half of the frequency pair and may only communicate with mobiles through the repeater. To further confuse the issue, a transceiver that has a fixed antenna, AND the ability to transmit on both sides of the frequency pair, is considered BOTH a base AND a control station.

The second radio to be considered would be a mobile. While it is rather difficult to carry the car battery and radio into the mall, the mobile radio will be adaptable enough to be carried into the house, connected to either a power supply or a battery, and serve as a decent base/control station.

Many companies are producing HTs that are type-accepted for the GMRS frequencies. Any radio that is capable of transmitting on the 462/467 MHz frequency pair would be perfectly acceptable. Verify that the radio is capable of emitting a sub-audible tone, commonly called PL, with no modification required, and is capable of both simplex and duplex operation. The hot-shot radios released recently have simplex/duplex available with one-button operation, which is a convenient feature, and allows more channel variation. Since the FCC allows TWO frequency pairs to be licensed, this radio has two vacant channels, plus the 462.675 pair (as an emergency channel), plus seven other preset frequencies, called interstitials. Simply program in the two channels on the FCC license, and everything else is complete. Cost for these radios will be in the $250 to $350 range, but competition and the prospect of increased sales should drive prices down.

Mobiles are slower to reach the market . . . best bet is the ham or commercial products to be found at a hamfest. There are a few available, but the cost seems to be by the ounce. Again, perhaps the prospect of increased sales along with the expected competition should bring prices down.

Base stations. Nope! Not for a while. Try to find a used mobile and controlled DC power supply. If you decide to install a base/control station, spend extra money on the antenna and every extra dime on the coax. Use low-loss coax cable and pay the additional money to have someone tell you that you are "fully quieting into the machine!"

If this column has helped you, please let me know, and if it raises other questions, please let me know that also. See you next month . . . and happy chatting!

Judy, KAD 9669

This GMRS radio user is clearly ready for plenty of outdoor activity. The radio is a Motorola Sport Radio that has suggested retail price range of $139 to $169. (Courtesy Motorola)

By Brynly Roberts

Surefire Recipe for Losing the Blues

They appeared to be a fun-loving group right from the minute I walked into the club room to attend one of the monthly meetings. The longer I stayed, listening to their good-natured kidding back and forth, the more I became convinced that these were a bunch of people who know how to have fun. What's their recipe? Four-wheelers and CBs!

With some 40 members, the Lethbridge Coulee Kruzers Jeep Club is the largest of its kind in the Province, and has the strongest family participation. Major membership requirements include a four-wheel vehicle, a CB, and the desire for the outdoors. Their activities aren't limited to back country rambling, however, as a number of certificates and letters of appreciation prove.

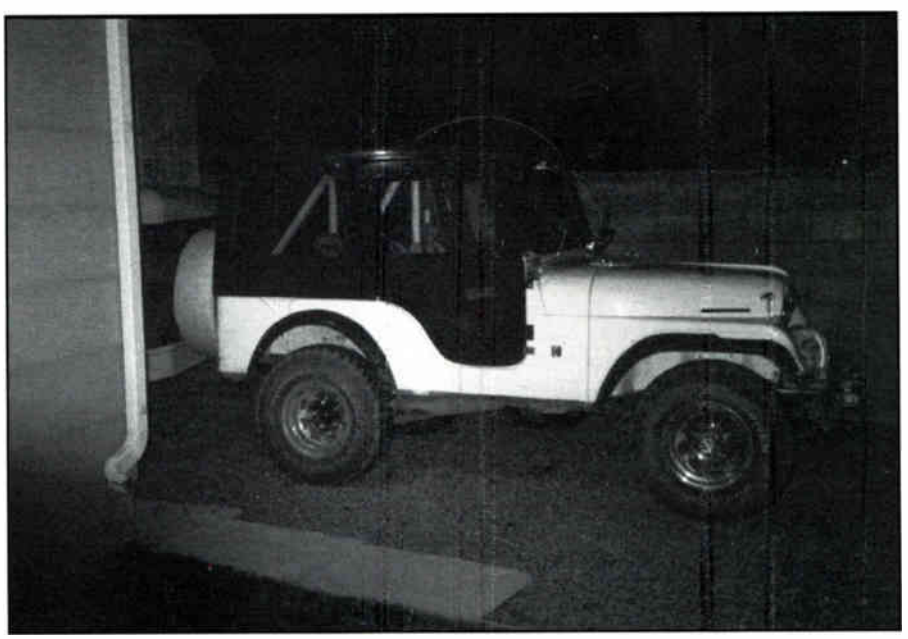
Denis Coburn (left) and Ken Lisoway, both of Lethbridge, Alberta, compare notes on 4-Wheeling with CBs. Both are long-time members of the local Coulee Kruzers Jeep Club.

Helping Those In Need

They've assisted the Canadian Mental Health Association by running bingos, participated in Stewards Day; a local environmental clean-up operation, and helped out with the Trail Ride Against Cancer. Participating in a mock air crash at the local airport, by supplying alternate communication with their CBs was a high point for club members a couple of years ago. Ken Lisoway, a founding member of the Coulee Kruzers back in 1966, also recalls how the Club was instrumental in providing transportation for medical personnel during heavy snowstorms in 1967 and again in 1972. "We also delivered groceries to the elderly and shut-ins," Ken says with a small smile of satisfaction. "We did what was necessary." The Club remains a member of the city's disaster services, and is prepared to assist during any type of emergency.

Another role of the Club is related by Ken, who was a major player working with groups lobbying against closure of prime recreational areas in the mountains to the west of Lethbridge. "That was a big thing with our Club," Ken says quietly of their lobbying efforts. "We put a lot of time and money into it." In conjunction with the Alberta 4-Wheel Drive Association and interested members of the public, a proposal was drafted which would allow free access into wilderness areas. Presently in the hands of the Province's Minister of the Environment, their proposal seeks to prevent restrictions that would have closed the area to all recreational activities, including fishing and hiking.

The Club's willingness to lend a hand and become involved with issues at the forefront of the community takes it out of the "Let's just have fun" category. Members volunteer many hours with the city's annual spring toxic roundup that



Ken Lisoway's pride and joy, a classic 1966 CJ5 Tuxedo Park Jeep, which he tows behind his motorhome when traveling to one of the Clubs many runs in the back country west of Lethbridge, Alberta.

Soft-top, Jerry can, extra-large tires, CB and whip antenna dress up this Jeep ready for the back country west of Lethbridge, Alberta.

sees the collection and disposal of hazardous wastes such as left-over paint, used motor oil and cleaning material.

Fun, Too

It's not all work and no play, however, as Club members undertake trips into the Canadian back country every two weeks during the summer months. "There's always somebody back in the mountains," the quiet-spoken Ken says with a chuckle. "If they can't go out one weekend, they go the next."

Ken and his wife, Doreen, take their 23-foot motorhome on these runs, towing their classic 1966 Tuxedo Park CJ5 Jeep. "It's my toy," Ken says proudly of his CJ5. "They're pretty rare, as they only made 600 of them." Painted stark white, and equipped with a hard-top, CB, and 8-foot whip antenna, the Jeep is a pretty sight.

Another back country addict, Denis Coburn, an automotive instructor at the local college and Club member since 1968, recently put the finishing touches on his 1986 CJ7 Jeep. Working, "from the ground up," Denis rebuilt the frame and body, as well as installed a multi-point, fuel-injected V6 out of an '86 Oldsmobile. "It's a fully computer-controlled engine," Denis says. "Sort of a one-of-a-kind thing."

Deservedly proud of his CJ7, Denis becomes downright ecstatic when discussing his CB radios. With a Uniden CB in the Jeep, and Cobra CB in his 33-foot motorhome, Denis said, "They're really part of your unit, just like the gas tank." He goes on to say how one of the Club members lost an antenna in the back country, and how time consuming it was to keep track of him after that. "We take our CBs for granted," he says shaking his head. "But if somebody takes a wrong turn, they're lost without a radio. The CBs keep everybody in touch—it's part of life, you know?"

Club members stay on channel 4 while 4-wheeling, and as Ken says, "I never have the radio or cassette on during a run, just the CB, so if somebody runs into a bad patch, we'll know about it. Some of our convoys have 10 or 15 vehicles, so we get spread out pretty good. But with the CBs we stay in touch."

Family-Oriented Times

Club members are very family oriented. Runs into the mountain country of Dutch Creek, Kananaskis, and West Castle usually include activities for all ages, with Quads and small motorbikes to amuse the kids. There's fishing in the early morning hours, hiking in the back country and plenty to eat at mealtime. "We don't park in established sites," Ken says. "We find some nice little meadow, establish a base camp and do our off-roading from there. Nobody spends much time in the motorhomes."

In winter there is less Club activity, but one tradition that remains is the annual Christmas tree run. "Members load up their families, pick up a permit, and head into the Forest Reserve," Denis says, becoming enthusiastic. "It's great for the kids to pick out their very own Christmas tree, even if it doesn't look like much, it's their tree. It's a fun thing, building a campfire and cooking hot dogs. When the kids get back to town, they might say to a friend, 'What did you do for the weekend?'

It was the month of May in the back country when a little snow added a new dimension to the Coulee Kruzers outing west of Lethbridge.

'Watched TV,' might be the answer, but our kids say, 'We picked out our very own Christmas tree!'".

Club members are a diverse group, including male and female drivers, ranging in age from the young 20's to the late 60's, coming from all walks of life. They share a common bond, however, with their love for the outdoors, CBs and 4-wheel vehicles. Transportation over the rough terrain is provided by Land Cruisers, Chevys and Fords, but the Jeep is the most common. "We encourage all members to have tow hooks and straps," Ken says. "About 25 per cent of the vehicles have winches, and most have locking differentials, extra large tires and disc brakes all around. Our Club trademark, however, is the whip antennas. They create quite a sensation for Club members to see all those whips coming along when we're strung out in a caravan."

Fun time is anytime for the Coulee Kruzers of Lethbridge, Alberta who head into the back country, prepared for the worst, and enjoying every minute of it.

Working With The Southern Alberta Trail Riders

A major undertaking for the Club over the last several years has been with the Southern Alberta Trail Riders. "Veterinarians check the horses to make sure they aren't being rammed too hard," Denis says of the event, which is a competition, but not a race, as horses and rider battle over the rough terrain. Coulee Kruzers club members ferry supplies, CPR personnel and veterinarians to key locations along the trail, while tying the whole operation together via CB radio communications. As a means of raising money, Club members also host a barbecue for the trail riders after the event.

Highlight of the Year

The special run that takes place in late summer is the highlight of the year. Leaving their motorhomes behind, members load everything they need into the Jeeps, and head out for what Ken calls "Hard-Core 4-Wheelin'." The kids are left behind as the drivers get into some serious off-roading. "It's a good run," Ken continues with a chuckle. "A roughin' it weekend with community meals that includes steaks. We eat pretty high on the hog out there, but it's rough going."

So now you too know the recipe for getting rid of the blues, city smoke and that feeling of not belonging. Just chuck your CB in your 4-Wheeler, join the Coulee Kruzers Jeep Club and head out to the back country. ■

It's a family affair when the Lethbridge Coulee Kruzers head into the back country. Motorhomes sometimes add a gentle touch, but it's still the outdoors.

Convoy of Coulee Kruzers Jeep Club members, from Lethbridge, Alberta, pause on their way into the Dutch Creek back country near the Alberta/British Columbia border.

REACTing With Radio

NEWS AND INFORMATION ABOUT PUBLIC SERVICE VOLUNTEERS

By Ron McCracken

REACT Month is Here!

It's REACT Month once again. Can summer be far behind? REACT Month is a time to celebrate, for the public and for REACT Teams alike. It's also a time to educate.

Teams across North America and abroad will mark REACT Month in a wide variety of ways. Some will use the occasion to salute police, fire and other emergency services personnel with whom they work closely all year. Some will provide speakers to a range of community groups from the Boy Scouts to senior citizens. Their goal will be to help members of these various groups to better use CB radio in emergencies.

Often, Teams will combine their efforts with other agencies that serve the community to touch on a variety of safety issues. Question and answer sessions with their audiences will help to ensure that topics which are of concern to them are fully addressed.

REACT Broward County, Florida members enter a vehicle in the Candy Cane Parade. Teams contribute to community events in a variety of ways beyond communications.

Why May?

Some readers may recall that November was the original REACT month. Why the change?

Two reasons. Both practical. First, November is the peak of the REACT membership renewal cycle. Adding REACT Month, with all the work it entails for the small Headquarters staff, just about did them in. Getting membership materials out to the hundreds of REACT Teams as they renewed involved a mountain of work in itself.

Second, celebrating in May eased the pressure on the staff and it served the public interest more effectively, which was as valuable as the relief it provided to the REACT staff.

With its improving weather, May lures travelers onto the highways once again. REACT informational programs offered then will hopefully remain with audiences or individuals throughout the entire summer driving season.

Safety Breaks

May also brings the first holiday weekends of the summer season in the U.S., and Canada. They usually mean heavier traffic than normal and longer trips to visit family or friends. That invites fatigue.

To combat fatigue, REACT Safety Breaks by the hundreds will welcome motorists as they journey. Nicer May weather will entice them out from behind the wheel for a few moments to stretch and get some fresh air. As they enjoy a cup of free coffee with REACTers they can pick helpful safety information.

REACT Safety Breaks help prevent highway tragedies. That brief break from driving, and that cup of hot coffee, send drivers on their way more alert, and better able to cope with holiday traffic.

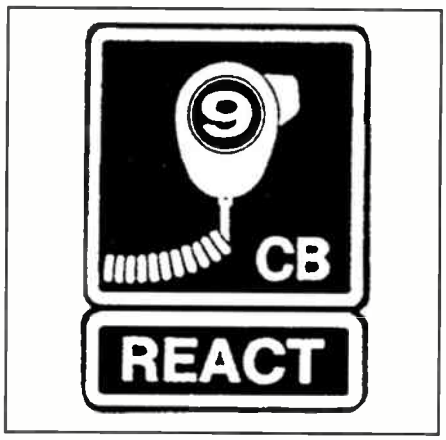
Watch for REACT Safety Breaks as you travel. Stop to visit and enjoy some refreshment. You'll be doing everyone a big favor, and you'll be helping to celebrate REACT Month.

Two-Way Street

When authorities need them, REACT Caledonia County, New Hampshire is there. The Team's communications trailer became the command post for officials investigating a U.S. Air Force crash in the area a while ago.

Appreciative town leaders have now provided REACT with an office at the recreation department for the Team's use. The Team's GMRS repeater, on a handy nearby mountain, enables members to communicate easily using handhelds in response to activation by police. Such cooperation is commendable.

Serious flooding back in 1968 prompted formation of the Team. Communications had been wiped out and the



REACT's road sign logo is another contribution to REACT by its Canadian Teams. It tells what REACT does, and compliments the familiar triangular REACT corporate logo that identifies member Teams.

REACT Hagerstown, Maryland has come a long way from its bread truck days. The Team staffs this nifty new RV support vehicle for its FRA when paged. Nice work if you can get it!

founders determined that it would not happen again. The Team has made good on that vow!

Since 1978 it has also been a staunch supporter of the REACT Safety Break program. By 1994 it had served up 75,000 cups of coffee to travelers on I-91, along with 36,000 cups of juice and over 5,000 donuts. Just imagine how many drivers the Team has sent off more alert to complete holiday journeys.

Where the Action Is

When their communications skills are not needed for a parade, REACT Broward County, Florida becomes a participant. The Team enters one of its vehicles and becomes part of the event in that way.

It's part of their community awareness program and helps to recruit new Team members. It also gives the Team a chance to relax after a busy hurricane season.

They entered the Candy Cane Parade in Hollywood, Florida. That parade attracted 35,000 spectators, all of whom now know a little more about REACT in their area.

No Shortage of Calls

Emergency Channel 9 continues to be a lifeline for many travelers. REACT Summit County, Ohio reported 88 calls in two months last fall. The Team's 11 monitors have had their number increased by three since then, so those in the Akron area can feel even more confident of getting help they need. The Team invested nearly 2,000 hours of monitoring to take those 88 calls. Where would the world be without volunteers?

More Willing Workers

North Carolina REACT Teams learned that they would soon have four new Teams to expand their monitoring. The good news came at their recent state Council meeting. It will encourage both existing Teams and the thousands of snowbirds (who, me?) who travel North Carolina interstates to and from the sun each year. Each new REACT Team anywhere adds to travel safety for all.

Horsing Around?

REACT Antelope Valley, California discovered it was the radio link between a cable TV crew and the start/finish at a recent March-of-Dimes Walk. That surprised all concerned very pleasantly. The Team car wowed the admiring cable crew with all its radios and antennas. An even bigger surprise to all was the small pony entered in the Walk that had sponsors to the tune of $500!

Be Prepared

Longhorn Scout Troop, on a recent 50-mile hike through suburbs of Ft. Worth, Texas got a safety escort from REACT Tarrant County. REACT has aided the scouts on their journeys, providing safety communications and acting as a buffer from traffic, for 19 years. The scouts and REACT warm up for this annual trek with 10, 15 and 20-mile hikes over the previous two months.

Plan Two?

REACT Butler County, Kansas signed on to handle traffic control for the Prairie Port Festival from 9 a.m. to 1 p.m. Oops! When they arrived they learned that the assignment involved traffic control and *parking*. They were still on duty at 5 p.m.!

So impressed were officials with this new Team's versatility that they asked them to provide security and traffic control for a street dance that night. The Team finally completed its work at 12 a.m. Needless to say everyone slept very well that night.

Anchors Aweigh!

REACT Garvin County, Oklahoma, like many REACT Teams, helps its community in a number of ways above and beyond Channel 9 monitoring. Just recently the Team donated $300 to purchase life saving equipment for the Longmire Lake patrol boat. Included were life preservers, a first aid kit, a fire extinguisher and other safety items.

REACT Safety Breaks on holiday weekends encourage travelers along I-35 to take a brief rest. The Team hosts 2,000 people at its Safety Break over the OU-Texas football weekend, too.

Living Memorial

REACT San Antonio, Texas was told recently of some amateur radio equipment in the estate of Archie Schmidt, KG5HH, a cancer victim.

When the family learned how REACT could use the equipment to benefit the community, they quickly decided to acquire the considerable amount of ham equipment for a token amount of its actual worth.

The Team expects Archie's call sign to live on. It has applied to the FCC for use of KG5HH. When granted, the call sign will become a living memorial to Archie Schmidt, and his ham equipment will continue to serve his community in the new REACT station.

CB Sales Soar

Have you heard? CBs are selling like hotcakes, it seems. Manufacturers report sales of 600,000 units in recent months.

REACT Tarrant County, Texas vehicles escort Scouts on their annual 50-mile hike through Ft. Worth, Texas suburbs. REACT mobiles and bases provide safety communications for the event, as well as the buffer from traffic.

The reason? Cellular phones! They say money-conscious shoppers are gaining a new appreciation for the economy CB offers. Check out cellular costs and you'll quickly see why.

That means a growing need for more REACT Teams. If you've been thinking about forming a Team, here's another good excuse to do it, NOW. Contact REACT Headquarters for details and a charter application.

It Really Works!

When you use your CB correctly in an emergency, help is almost certain to come. You may be unable to hear the reply, but REACT or police monitors can still send help—provided you have broadcast REPEATEDLY a complete distress message.

REACT Decatur County, Illinois monitor Harlow Baker knows. Some time ago as he monitored Emergency Channel 9 he heard a call. It was coming from Northern Ontario, hundreds of miles away, reporting a forest fire. The caller was broadcasting an exact location and other essential details Baker needed.

Although the caller couldn't hear Baker answer, it didn't really matter. His repeated broadcasts of essential details Baker needed, (WHO, WHERE exactly, WHAT) enabled him to alert forestry officials in Ontario to the blaze.

They later called Baker to thank him. The fire was a new and unreported one. This "good" call Baker had relayed enabled them to get on it before it spread. Some people may owe their homes and their livelihoods, maybe their lives, to that skillful CB caller.

Not By Bread Alone

REACT Hagerstown, Maryland rescued its Fire and Rescue Association a few years ago. The FRA had been given a bread truck for a canteen but needed volunteers to man it. REACT signed on and staffed the canteen whenever paged by FRA.

Last year the bread truck died. An RV dealer promptly sold the FRA a shiny new unit with all the conveniences of home at a good price. The new unit is much more than a canteen. It serves the needs of the FRA in a variety of ways. REACT continues to man the new unit and it averages one response per week. The longest response was to a train wreck and lasted 48 hours. How's that for Teamwork?

Close Call Indeed!

REACT Antelope Valley, California monitor Marlene Brandom still remembers the call that hit her station 15 years ago. It was a potential suicide. She calmed the nervous caller over her CB and alerted authorities in the meantime.

Apparently REACT was the only station hearing that suicide call. Her presence on Emergency Channel 9 helped save that caller's life. As she says, "Just one life that

Here, a New York State Trooper re-directs traffic and confers with fire officials at an accident scene. Frequently, REACT Channel 9 volunteer monitors are a vital communications link in reporting accidents and disasters. (Courtesy New York State Police)

you've saved really makes it worthwhile." It truly is the experience of a lifetime.

Fast Action

A REACT Kettle Moraine, Wisconsin monitor turned on her CB and heard a call in progress. It concerned an impaired driver enjoying a can of beer.

The caller skillfully broadcast all the details REACT or police would require, and repeated them several times. REACT alerted police.

Moments later the caller broadcast an update that REACT again relayed to police. It confirmed what they knew from the earlier plate information and aided them in their enforcement. Without those repeated broadcasts, this fellow might not have been apprehended.

Disaster Plans

REACT of Golden Gate, California recently invested 30 hours by nine members in a mock disaster exercise with San Francisco OES authorities.

REACTers contacted specific personnel at the city's 11 hospital emergency rooms and the Blood Bank. By radio they obtained required data for the drill by OES officials. The test was a success and essential in the quake-prone area. ■

Want To REACT?

REACT is easy to reach. The office hours are 8 a.m. to 5 p.m. CST. You can leave a phone message anytime. The same applies to a fax or email message. Here's what you need:

Telephone: 316-263-2100
Fax: 316-263-2118
e-mail: react@wichita.fn.net
Mail: REACT International, Box 998, Wichita, KS 67201

REACTer of the Month

OUR SALUTE TO THOSE WHO VOLUNTEER

By Ron McCracken

Congratulations, Art Heath!

Art Heath and his REACT Lake Simcoe Team mates use CB radio to quickly reunite a family when a little one strays at an event.

RCMP officer "collars" REACTer Art Heath at REACT Lake Simcoe's safety display during Canada Day celebrations last July 1 in Newmarket, Ontario. (Photos by Ron McCracken)

"Help! I'm trapped. My truck rolled over in the Draper Farm lane. It's just opposite St. Paul's Anglican Church on the Queensway South."

That was Art Heath's introduction to REACT. He was the truck driver. He had been knocked unconscious in the mishap and was still groggy as he made his emergency call.

It was a prank. That was the REACT monitor's first thought as he listened. However, his training required him to relay every call to authorities. He did, advising the dispatcher of his suspicion.

Georgina Fire and Rescue officers attended the scene. They found that the call was indeed real, and Art did need aid.

Soon after he recovered from his bumps and bruises, Art Heath sought out REACT Lake Simcoe to thank its volunteers—and to join their ranks. His Team serves an area 40 miles north of Toronto in Ontario, Canada.

He's Convinced

"I was a believer after my own close call," Art recalls. "I knew firsthand what CB Emergency Channel 9 and a REACT Team could mean to people in trouble. I wanted to do for others what these fine monitors had done for me," he continued.

That was over 15 years ago. Art Heath pitched right in to monitor Channel 9 and has done so ever since. He has also assisted with nearly every Team event in his community through the years.

Soon after joining his Team, the post of Team Statistician opened up and Art agreed to handle it. He's still handling it, gathering monthly monitoring reports from Team members, compiling the figures, reporting them at Team meetings and submitting them annually to REACT Headquarters in Wichita, Kansas.

"Sometimes I have to coax, cajole, or beat on my Team mates a little, but I get the figures. They're very important to our Team's work. The monthly statistics encourage us to monitor more. We discuss the serious or unusual calls and that reminds everyone of the key communications role REACT plays in emergencies."

A retired Metropolitan Toronto Police officer and a Lion, Art knows a lot of people. That has made him a valuable resource to his Team in many ways. The Keswick Lioness Club has made grants to the Team on several occasions to help it with various projects. When the Team needed a new meeting hall, Art's Lion colleagues were pleased to offer meeting space. If the Team needs help, Art usually knows someone in town.

K-40 Award

Art was also selected by his Team to attend the 1982 REACT International convention in Las Vegas, Nevada. He went proudly to receive the first annual K-40 REACT Team Award ever presented. K-40 presented REACT Lake Simcoe with a beautiful plaque and $500. They also paid for Art's convention travel and accommodation expenses.

While there, Art was bit by the convention bug. He and his wife, Lois have since attended several more, and made a number of good friends in the process.

Art quickly got involved at the International level of REACT, too. He has served for several years on the Site Selection Committee that examines bids for future conventions.

In 1997, Art will be busy helping to host Canada's second International convention when Ontario Teams welcome REACT to Toronto. He's looking forward to the challenge, he says.

Meanwhile, Art enjoys recalling interesting emergency calls he has handled as a REACTer. One involved a trucker in Michigan trying to report an accident. A Detroit base station could hear him, but couldn't copy his message. Art could hear both. He contacted each and relayed messages between the two. The trucker soon had his help, thanks to Art some 400 miles away in Ontario. Who says CB isn't a great tool to have in an emergency! Thanks, Art. ■

International CB

DX INFORMATION FROM AROUND THE WORLD

By Alex McPherson

Contesting!

Contesting is one of those 11 meter activities which is becoming more and more popular among DX CB operators. As most DXers will tell you, most of them are "imitating" their ham radio cousins.

On the ham scene, the biggest contests, on the air competitions, are organized by *CQ* Magazine. These competitions take place during a full weekend, either during a 48-hour period or a 24-hour period. Other types of contests only last a few hours, sometimes less, and are called "sprints".

On the 11 meter band, most contests are organized by European clubs, such as the world-famous Alfa Tango Group from Italy. In Europe, there is a continental championship organized by the Portuguese club Costa Verde. Last year's contest high scores are printed below, just to give you an idea of what it's all about. Of course, 27 MHz contests have less impact on the hobby than amateur competitions, but the thrill is the same! It's often the only way to contact new countries since more and more far away DX stations take the opportunity to get on the air.

Costa Verde 4X4 Contest

Last year's European Championship, also called "4 x 4 Radio Contest" took place during the months of March through June. There were 278 participants on the air, of which 100 sent in their logs. Although it's a European contest, there were entrants from all over the world, including Argentina, Bolivia, Brazil, Canada, Chile, Columbia, Panama, Peru, Venezuela, Zambia, the USA and most of the European countries.

The first top 20 scores are:

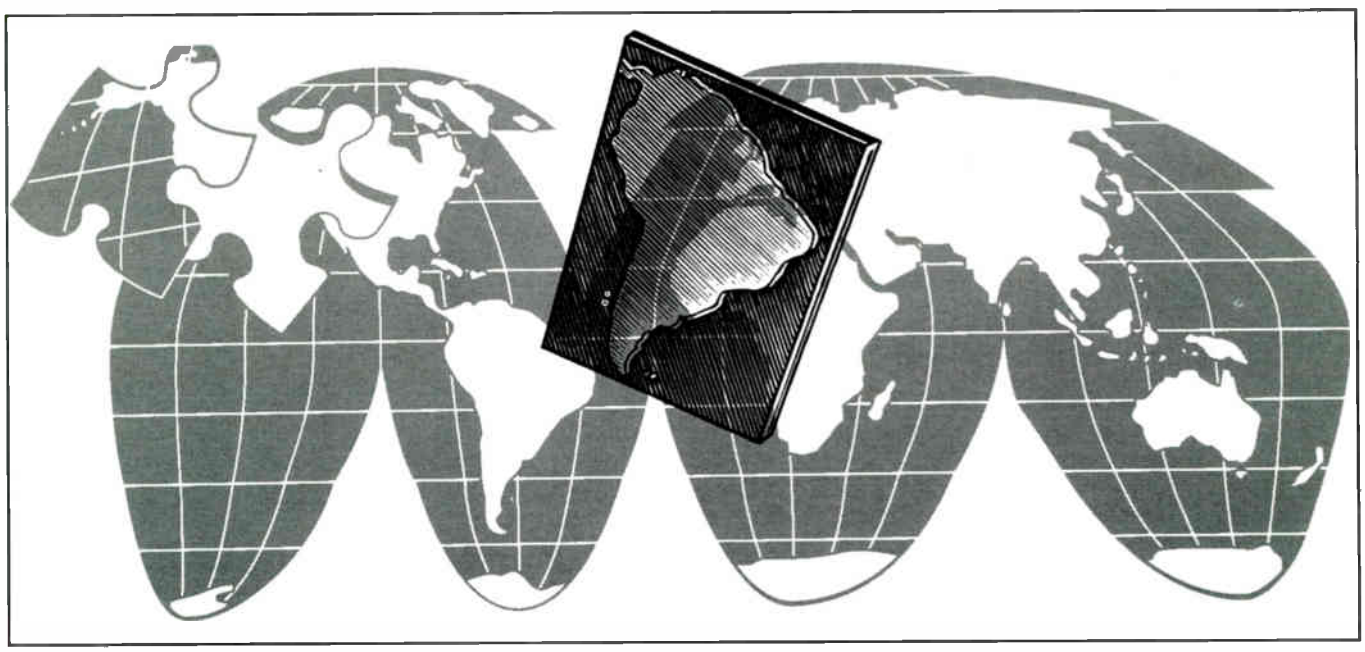
1.	CV283CT	Portugal	315 points
2.	CV248CT	Portugal	228
	CV118CT	Portugal	228
3.	CV214CT	Portugal	212
	CV284CT	Portugal	212
4.	CV20CT	Portugal	208
5.	CV228CT	Portugal	188
6.	CV175CT	Portugal	184
7.	14AT1067	France	144
	CV38F	France	144
8.	CV102F	France	140
9.	CV388CT	Portugal	114
10.	CV189F	France	108
11.	CV195CT	Portugal	102
12.	CV138F	France	93
	CV212F	France	93
13.	CV187F	France	90
14.	CV197CT	Portugal	81
15.	CV19F	France	66
16.	CV2F	France	38
17.	CV173CT	Portugal	34
	CV68F	France	34
18.	14CDP124	France	33
	1GCI35	Italy	33
19.	1PG381	Italy	32
20.	19AT156	Holland	20
	13AT204	Germany	20

For more information on this year's edition of the 4 x 4 Radio Contest, get in touch with Club CB Costa Verde, P.O. Box 4403, 4007 Porto, Portugal.

Division 32, Chile

Pascal, 16AT137 and YL Beatriz, 16AT142, were back in Chile a few months ago. They arrived safely at the airport after a 20-hour flight, where Edmundo, 32AT140 was waiting for the two Belgian DXers. They drove to Santiago and then took ax bus to La Serene (a 10-hour drive!) to Beatriz's home.

While the place is so quiet and beautiful, the only problem was the broken antenna! Activity was therefore limited for a four-



day "expedition" with a dipole antenna. Beatriz wasn't very active, since Pascal used the station most of the time. He managed 69 contacts in 25 divisions, including the USA, most South American countries and a few European divisions. Unfortunately, he didn't contact Belgium.

Pascal also mentioned the possibility of transmitting from Antarctica, but says that the price to get there is over $10,000. Less expensive would be Juan Fernandez Island (Division 286). Pascal and Beatriz are making plans to get there very soon.

Finally, the QSL manager for 16AT137 and 16AT142/32 is Edmundo, 32AT140 (AT Directory address is okay).

Venezuela

Station 5RC0 was on the air last summer from Venezuela. The station was operated by Carlos, 5RC162, right in the capital city, Caracas. A total of 521 contacts were established with 64 international divisions. The first station to be contacted was 31AR151 from Portugal and the last one was 194RC404 from Dominica Island. A nice flag QSL card has been printed for this occasion!

Developing 440 MHz in Europe

German CB enthusiasts are now using 80 channels on the 26/27 MHz band and they're also operating digital modes on 400 MHz, near the GMRS frequencies. Power output is limited to 100mW. Germany's neighbors in France are now discovering the possibilities of this UHF band. CB clubs over there are using pocket-sized transceivers during their outdoor activities claiming that 27 MHz is too busy for them to operate seriously during emergency situations. While the German enthusiasts prefer packet radio to phone communications, the France are trying to develop this band for emergency services.

Sad News From Africa

We're rather late in publishing this, but it must be mentioned that Helio, 34SD011, died last December. Helio had been a good QSL manager for many Sugar Delta activations. Logs which were in his possession have been picked up by John, 34SD032. His address is John, P.O. Box 192, La Cuesta 38320, Tenerife, Canary Islands.

Closing Comments

Those of you who send me DX reports, please don't forget to send some good quality photos with your text. We need originals, not copies.

I'm starting to receive letters from those who know me in Europe and elsewhere, asking for more information about Worldwide CB Day. Well, the initial project was announced by the French Minister of Cooperation, Jacques Godfrain. I was in touch with him a few weeks ago and he says he's having difficulties motivating CB club representatives in some countries. As far as the United States is concerned, he's waiting for more information. If you have any ideas, pass them on to the editor and we'll get them through to France. More news about this next month. Until then, take care and good DX!

73's and 51's

Alex

State of the Month

OUR SALUTE TO THE STATE WHERE SERVICE IS TOPS

By Ron McCracken

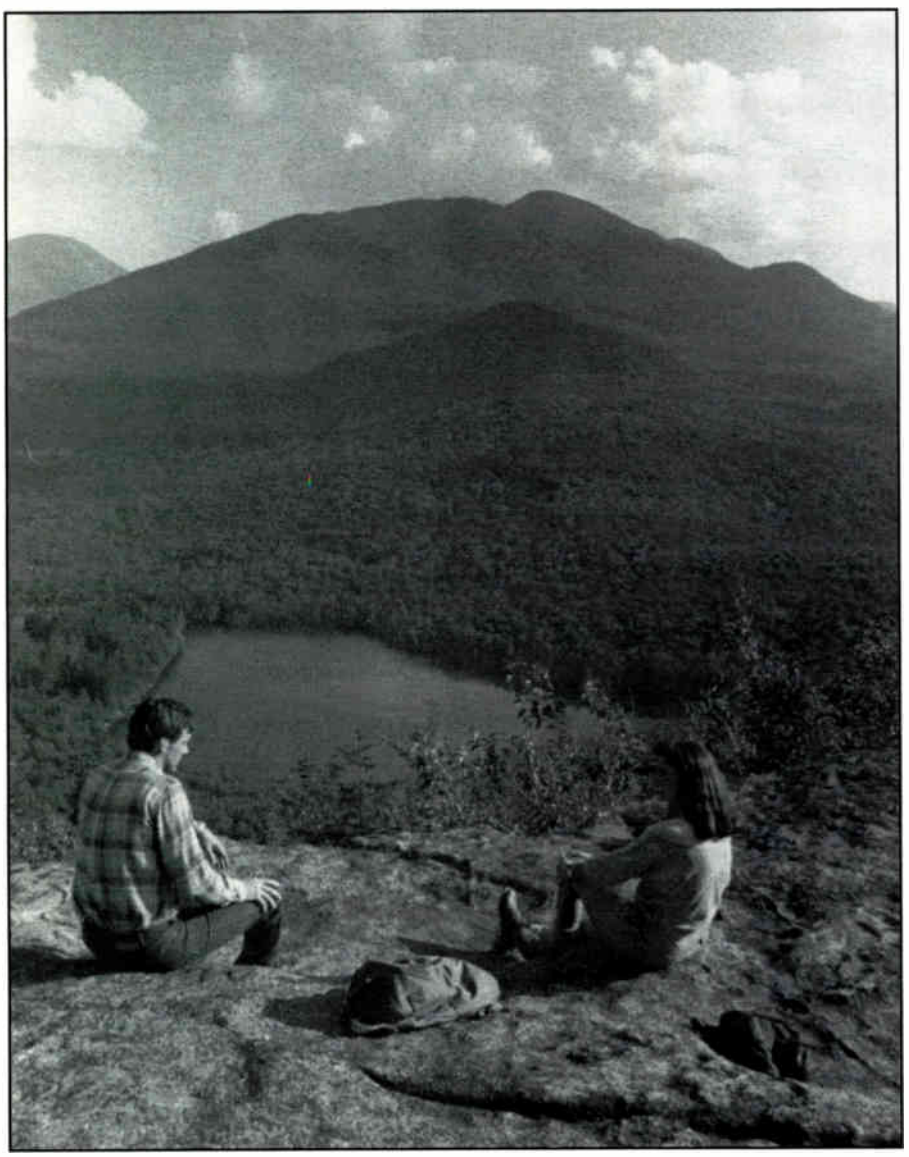
REACT Upstate New York

One of the youngest REACT Councils, Upstate New York, was born in 1986 out of a need recognized by Teams across this large state. Until that time, all NY REACT Teams had been served by the single New York State REACT Council. One Council per state is the norm.

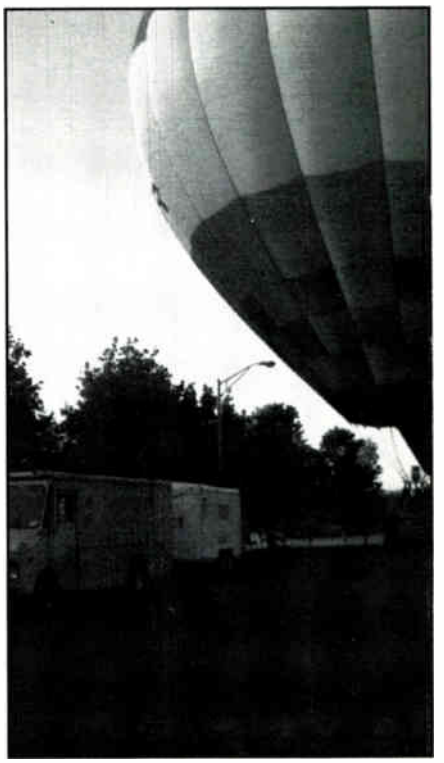
However, great distances (over 400 miles) to travel to Council meetings discouraged Teams from attending. Widely different local situations Teams faced in serving such a huge area created additional difficulty. Planning Council meetings that would interest Teams from Manhattan to Olean was no easy task.

Making It Work

Teams requested that the REACT International Board authorize two Councils for the state. It concurred. Triple Cities REACT hosted the organizational meeting in Binghamton, NY with great hospitality.



New York State covers a lot of area—its East-West borders stretch more than 300 miles. REACT Upstate New York celebrates its 10th birthday this year. (Courtesy New York Tourism)



People "drop in" from everywhere when REACT Triple Cities hosts its REACT Month Safety Break on I-81, near Binghamton, in Upstate New York.

REACT Southern New York and REACT Upstate New York were created by delegates to that meeting. The two Councils have never looked back. One serves the Greater New York City area and the other the balance of the state.

REACT Upstate New York meets in the spring and fall of each year. Currently 11 Teams make up the Council. Getting to Council meetings can sometimes be quite a journey for some. Teams are spread out from the Pennsylvania state line on the west and south, to the Canadian border on the north, and the long Vermont-Massachusetts-Connecticut state line in the east. This Council still covers a lot of geography.

Sticking Together

Safety Breaks, a trademark of REACT

Team delegates listen intently as Upstate New York REACT Council officers update them on the Safety Break situation at a Council meeting in Cicero, New York. After two decades, Teams are now having trouble getting permission for their popular Safety Breaks in rest areas on the interstate system.

safety efforts, have recently become a matter of concern for the Council. Teams that have hosted Safety Breaks at various rest areas for years find themselves excluded as the state updates or replaces its rest areas.

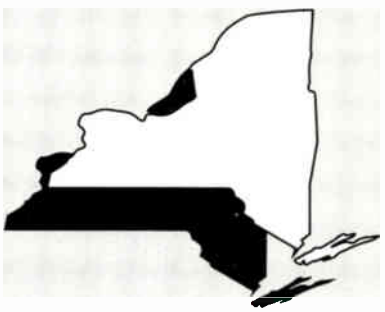
To its credit, the Council is helping those Teams get together with their state representatives in an attempt to find a solution. This is exactly where a Council can be of greatest benefit to its member Teams. We wish them every success.

Taking the Initiative

The Council is at the forefront in another area that can mean much to the communities its Teams serve. It is working with REACT Pennsylvania to forge a mutual aid agreement. Since the two states share such a long boundary, and disasters don't respect boundaries, mutual aid makes strong sense. Discussions are ongoing to work out details of the agreement. The two Councils hope to finalize their pact in the near future. It will encourage member Teams of either Council to assist Teams in the other state. A predetermined procedure will activate the needed Teams when a disaster occurs.

It may well become a model for the entire REACT organization. These Councils are certainly looking ahead to the 21st century!

REACT Upstate New York celebrates its 10th birthday this year. Its Teams have come a long way in the past decade. Clearly, they have even greater plans for the future. Go for it, gang! ■



New York

Emergency Channel 9 monitoring continues during REACT Month Safety Break. The mast on REACT Triple Cities comm trailer provides good range as visitors enjoy free refreshments in Upstate New York.

Upstate New York REACT Council officers field questions on matters of interest to Team delegates as a recent Council meeting in Cherango Bridge, New York. Twelve REACT Teams now serve travelers across Upstate New York.

Over and Out

CB HUMOR

By Bill Price

Just a Little Caffeine, Pleeaase?!

I once saw an exit sign for a town where James Thurber had lived. If my favorite humorist had called it home, I knew we'd find good coffee. I asked for local information on channel 19.

The directions led us to a stainless steel diner with a big "OPEN FOR BUSINESS" banner. I noticed the little "CLOSED" sign when I banged my knee and my nose into the unyielding glass door.

Nearby was a restaurant. At least it was a restaurant until we went inside, at which time it became a bar with three tables off to one side. A waitress sat with her friend talking to the bartender.

I asked if we could get some coffee. The waitress said, "Sure." We sat down. "...as long as you like decaf..."

"No," I said, "we're tired and we have a long way to go—I really need the caffeine. We can wait until you make a pot of *real* coffee."

"Oh, it's not the wait. We don't have any real coffee. Just decaf. Unless you want instant. We drink it in the kitchen. It's not freeze-dried or nothin'—and it's not really for sale."

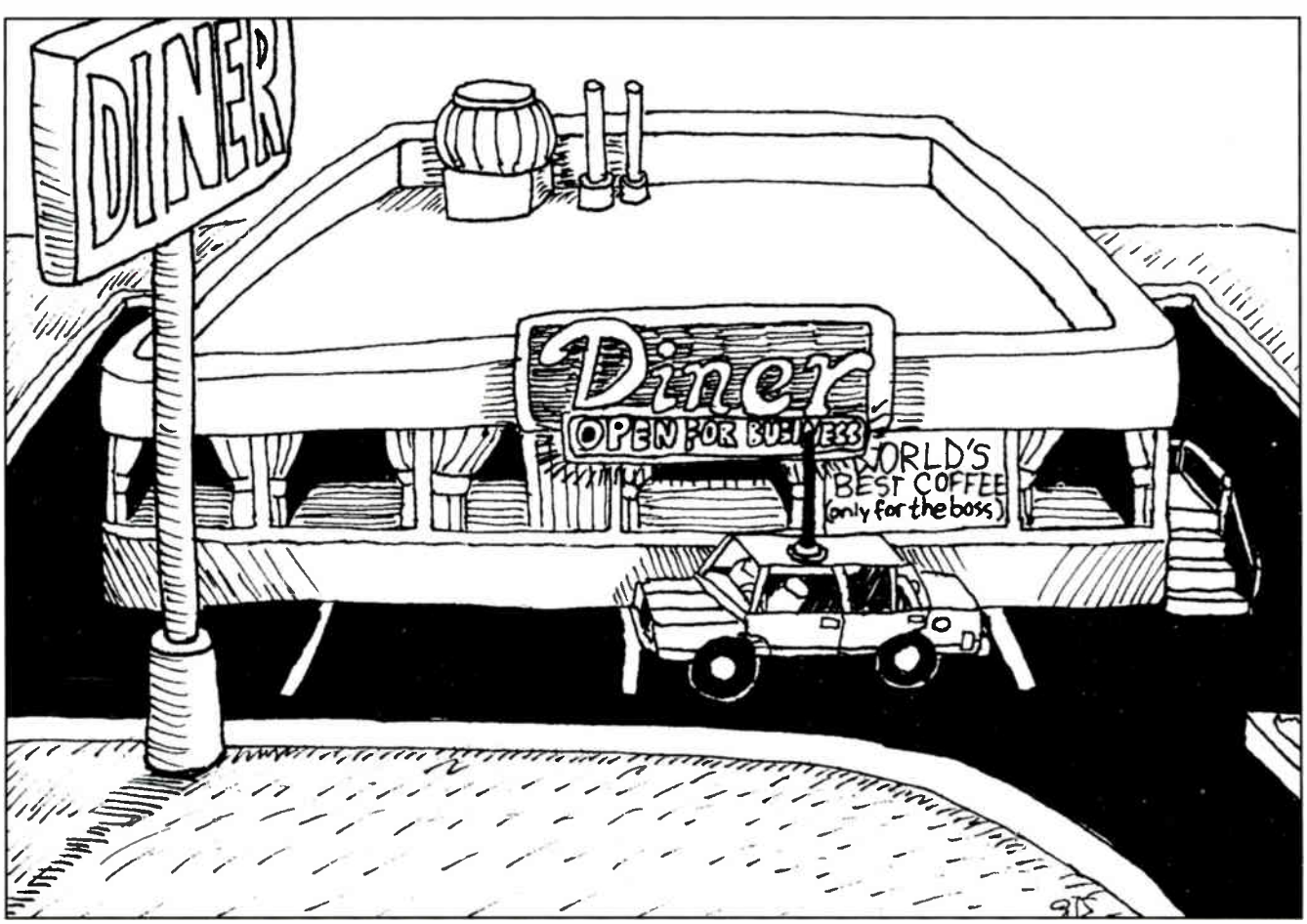
Although I was in the northeast, I know I heard the first few notes of *Dueling Banjos*. I looked the girl in the eye and beckoned her to lean down close. "Why," I spoke ever so softly, "don't you have any real coffee, except for instant, which is for you to drink in the kitchen and isn't really for sale?"

I immediately flashed back to nightmares in which I was singled out in a strange place because of some odd local custom which I knew nothing about—like wearing black pants—and finding out that anyone who wore black pants was immediately beaten and killed and stuffed into a blender because once there had once been an ax murderer in that town who wore black pants.

"Well—this coffee here," she said, pointing to the two-pot commercial drip maker in the dining room, "is for the boss. He can't drink regular coffee—only drinks decaf. We don't drink enough ourselves to keep a pot brewin' so we just drink instant." I was about to ask if they didn't think some customer might want a cup of real coffee, but a vision of being beaten, killed and stuffed into a blender flashed through my mind and I bit my tongue. My wife kept looking cross-eyed at me and stifling laughter as I held this conversation with the waitress, whose name I think was Oblivia.

I maintained a very serious tone with our waitress, and later learned that my wife thought I was having fun, and that she too kept hearing the first few notes of *Dueling Banjos*.

We ordered two cups of instant coffee, with caffeine. Oblivia brought us two cups of hot water and a wooden salad bowl of powdered instant coffee. I normally drink coffee black. So does my wife, but the strange powder, which wouldn't fool a Somali refugee in the worst restaurant in New Orleans, needed cream and sugar. Surprised by our request, Oblivia disappeared and brought us another wooden



salad bowl filled with sugar and a small stainless steel pitcher of cream, which my wife and I will forever refer to as "the dribble pitcher." The more we poured, the more we spilled, and we tried our best to conceal laughter, for fear of retribution. Even with plenty of cream and sugar, this coffee *was* the last drop; Juan and his burro had never visited this town.

The two waitresses and the bartender watched us as if they might have to call the police at any moment. I thought about making some notes—for a moment I even thought we might receive better treatment if they thought I was a food critic, then it occurred to me that they might have never *heard* of a food critic and that my writing might make them nervous.

Someone in hell might kick the devil because things couldn't get much worse anyway, so we decided to try a couple sandwiches. Oblivia told us they had no sandwiches, but they had some nice bean soup. We figured it was left over from the boss's lunch, and that he was allergic to normal beans and ham so the soup was made with artificial beans and armadillo broth. While we thought about the soup I smelled onion rings and asked if we could have some of those.

"Oh no—we don't have onion rings," Oblivia told me.

"Well isn't that an order of onion rings I smell in the fryer—or are they just for the boss and not for sale?" I asked.

"No—those are onion bricks," she said; "we have onion bricks." My wife and I avoided eye contact and she kicked me under the table as I asked our waitress if she'd please describe an onion brick for me, as I didn't think I remembered ever hearing of one.

"Well, you know, they're like onion rings, but they're pressed into a brick and you eat them with a fork." I asked her why she supposed I'd never heard of them before and she said she didn't know—maybe I should get out more. Visions of James Dickey's khaki-clad sheriff with his boot resting on our bumper and a big grin with a toothpick made me skip my question about any of their customers being able to *use* a fork.

We skipped the onion brick and had the soy-with-armadillo soup; we told Oblivia it was good. Captive hostages thank their captors for beating them. We paid the bill and made sure to leave an adequate tip. Back in the car, we locked the doors, looked straight ahead and did not speak of the experience until we merged safely onto the interstate highway. Another call for local information told us that the place we said we'd been had been boarded up for years, but a fellow named Serling had recently rented it to film some kind of TV show. ■

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Ref: Rye Canyon Antenna Lab File #870529

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27.015	1.30	35
27.065	1.45	40
27.115	1.60	45
27.165	1.50	41
27.215	1.60	45
27.265	1.75	50
27.315	1.95	57
27.365	2.00	58
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So far you have read about why the Wilson 1000 performs better, but it is also one of the most rugged antennas you can buy. It is made from high impact thermoplastics with ultraviolet protection. The threaded body mount and coil threads are stainless steel; the whip is tapered 17-7 ph. stainless steel. All of these reasons are why it is the best CB antenna on the market today, and we guarantee to you that it will out perform any CB antenna (K40, Formula 1, you name it) or your money back!

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