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"Since 1961"
The "Citizens Band" Magazine serving the user of two-way radio

SPECIAL CB AND BOATING ISSUE

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- Scanning On The FM Marine Band
- The Best Boat Antenna Set Up
- Bar Harbor REACT — Aid On Land Or Sea

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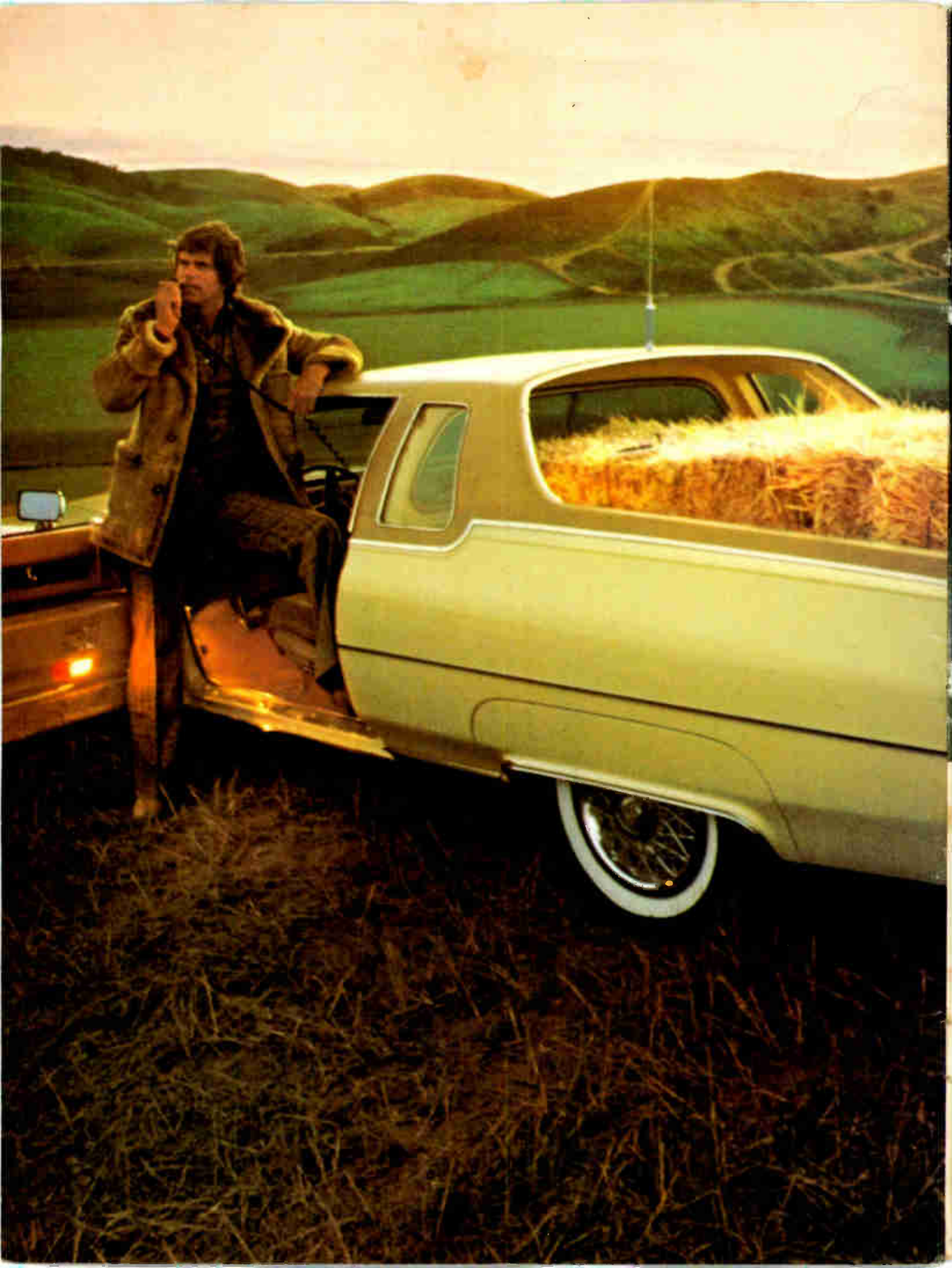
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PRODUCT REPORT:
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JANUARY 1 CUT-OFF ON 23s UPHELD

CPSC CALLS FOR ANTENNA, TOWER WARNINGS

While the U.S. International Trade Commission has not yet decided exactly what impact foreign CB radio imports are having on domestic manufacturers, the discussion was lively, to say the least, at November hearings on the subject. The hearings were prompted by a petition from the E. F. Johnson Company which along with other domestic manufacturers of CB equipment, is claiming serious injury caused by the alleged oversupply of imported equipment.

The foreign manufacturers claim, on the other hand, that they have merely been responsive to their customers' demands and while there is, in fact, an oversupply of CB equipment, that equipment is both foreign and domestic and caused simply by misjudgements on the part of the manufacturers. The problems were created, say the foreign groups, during the 23 to 40 channel transition necessitated by the Federal Communications Commission's 1976 ruling which also tightened up CB technical specifications.

The domestic groups are requesting such relief as an increase in duty to be imposed on all imported equipment, as well as other restraints. Regardless of what the I.T.C. decides in this case, the result could well affect the industry as much as any other CB action taken thus far.

Meanwhile, the FCC was struggling with its own decision in dealing with requests made by some CB manufac-

turers to extend the marketing cut-off date of January 1, 1978 for CB radios type-accepted before September 10, 1976. While the debate was quite vigorous, both pro and con, the result was a 4 to 2 vote to stick with the January 1 date.

The manufacturers themselves were pretty evenly divided in their feeling on the date extension, with the petitioners and supporting groups arguing that there were still large inventories of 23 channel units and the odds in favor of selling them all by January 1 were slim. FCC Chief Engineer Raymond Spence also argued this position, speculating that anywhere from a half million to four million "old 23 channel" units were still in inventory. Three opposing manufacturers made the point that they had done their homework, were prepared for the cutoff date, and shouldn't be made to suffer additional losses.

Besides denying the petitions for extension, the FCC also denied a petition to extend the marketing date for non-certified CB converters, which enable AM radio broadcast receivers to receive CB signals. The selling of this equipment was also ordered stopped on January 1, 1978.

The FCC did point out, however, that in not extending the sales cut-off date for this equipment, they would "not prohibit the sale or resale of these CB transceivers or receivers returned under warranty, traded, rebuilt or sold as used

equipment."

The Consumer Product Safety Commission is proposing to require manufacturers of CB base station antennas, outside TV antennas and antenna supporting structures to give prospective purchasers both warnings and instructions on potential hazards of this equipment. Spurred by the many deaths and even greater numbers of serious injuries which have been caused during the putting up and taking down of these antenna structures, the CPSC wants the manufacturers to provide instructions on "How to Avoid The Hazard Of Contacting Electric Power Lines With The Antenna or Supporting Structure While Putting It Up or Taking It down," as well as "Labels on the antennas and supporting structures warning of this hazard and referring the reader to the instructions and statements on the packaging or parts container, and at the beginning of the instructions, warning of this hazard and referring the reader to the instructions."

The CPSC is also trying to decide whether a consumer product safety standard can be determined that could help the problem, but until then, the agency feels that "readily visible" warnings and instructions should help alleviate the situation. We are hoping for a resolution to come quickly in this case since, in all fairness, the CPSC will give the manufacturers 90 days to comply, after the final rule is published.

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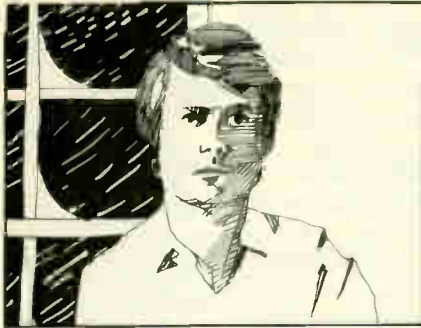
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SERVING TWO-WAY RADIO

VOLUME 15 / NUMBER 1 / FEBRUARY, 1978



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Subscription rate: In the United States: \$15 per year; 2 years \$27; 3 years \$37.00. Other countries \$16 per year. Single copies available from the



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Publisher at \$1.50 each, or \$1.50 per copy from your local electronics store or newsstand.

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Published continuously since 1961, began its service to CBer and DXer in June, 1961 as CB (DXing) HORIZONS, and has been published without interruption since that time.

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Editor's Desk



**Coast Guard To Monitor CB —
"To A Very Limited Extent"**

We were delighted to hear the U.S. Coast Guard decision to monitor CB radio to "provide some additional degree of safety to the large number of small boaters equipped with CB."

In response to our letter to the Coast Guard asking for more details, a Coast Guard spokesman wrote as follows: "CB calls will be monitored on a secondary, not-to-interfere basis, our primary voice guard remaining on VHF/FM and 2182 kHz. The coverage area will be whatever can be gained using FCC type-accepted equipment and a simple antenna, with no attempt to obtain complete coverage as with the VHF/FM system."

The spokesman also said that Coast Guard participation in the CB program is still in the planning stage and no decision had been made on how many of the 200 rescue stations will be equipped initially with CBs, or what CB channels will be monitored.

In his letter, the spokesman also said that the decision to participate, to a "very limited extent," in the use of CB radio was made by the Commandant of the Coast Guard.

However, we do not look favorably at the half-hearted effort. At very little extra cost, the Coast Guard could do a better job of monitoring CB. The CB antenna could be mounted on top one of the VHF antenna towers at a rescue station. At some locations, where range would otherwise be inadequate, the base station could be remotely controlled. And, if Coast Guard funding permitted monitoring a CB base station, there would be no added cost to monitor a truly effective station.

During the past few years, we have occasionally published editorials about the refusal of the Coast Guard to monitor CB radio; we have suggested they monitor Channel 13. We pointed out that by monitoring only the VHF marine safety and calling channel and the HF safety and calling channel (2182 kHz), the Coast Guard was not affording equal protection under the law to all boaters. Until the Coast Guard decided to monitor CB radio, the price of admission to direct Coast Guard protection was purchase of a VHF marine radio.

The Coast Guard is a part of the Department of Transportation, sponsor of the NEAR program which was established to aid motorists on the nation's highways. In fact, one of the fathers of the NEAR program was a Coast Guard captain. It would seem that the Department of Transportation would show the same enthusiasm for aiding boaters as it does for aiding motorists.

In the past, one of the reasons the Coast Guard gave for not monitoring CB radio was the lack of personnel to do the monitoring. Another was the lack of discipline on the CB channels. One has only to listen to the VHF and HF marine channels to realize that there is a lack of discipline on those channels too.

We hope that the Coast Guard, after some experience monitoring CB radio, will increase its "limited extent" participation to full participation. While the Coast Guard's decision to monitor CB radio is a big step forward, let us hope it is only the first step.

PUBLISHER'S MESSAGE



Have

By C. E. Lunn, Publisher

"If you paid \$169 for a CB set in 1976, and saw the same model on sale for \$50 in 1977, you might think you had been had by the dealer who sold you your set. Not so. Not even by the manufacturer. The CB industry is struggling to restore order in the market place. To do so, the industry must clear its pipelines of surplus CB sets.

"Way back in July, 1976, the CB industry boom made history. Manufacturers could not keep up with the demand for CBs. No one really knows how many CB sets were sold during the first half of 1976. Some estimated that more than one million CB sets were being sold each month. In fact, the demand was so great that many had to settle for what the dealer had in stock. Often, you could not get a particular brand or model because there were none in stock.

"The CB boom inspired many new companies to get into the field. Many unknown brands suddenly appeared on the market, along with more well-known newcomers that included General Electric, Motorola and RCA. Small companies as well as industrial giants wanted to get in on the CB action and many thought the boom would never end. Both American and foreign manufacturers tooled up to produce CB sets in enormous quantities.

"Then, in July of 1976, the FCC announced that the Citizen Band would be expanded from 23 channels to 40 channels. This was the news the industry and CBers alike had been waiting for. No one had thought about what would happen to the millions of unsold 23-channel sets in the pipelines or being built to fill back orders from distributors and dealers.

"The FCC also announced new

technical standards for sets that would have to be met by all new 40-channel sets which could not be placed on the market prior to January 1, 1977, the date that the 17 new CB channels could be used legally. The FCC had already required all new CB sets to be type-accepted after November, 1974. But, a new rule was imposed with the added 17 channels — all new CB channels would have to be both type-accepted **and** certified by the FCC.

"To get type-acceptance and certification, the manufacturer is required to perform tests and submit reports of the test results to the FCC when applying for authorization to market a CB set. In addition, the manufacturer is required to submit a sample CB set for further testing at the FCC laboratory.

"Although the industry was anticipating the expansion of the Citizens Band, the number of new channels to be added was not made known by the FCC until the July 6, 1976 announcement. Engineers in dozens of labs in the Far East and in the USA had already been designing new CB sets. Now that they knew how many channels there would be and what technical standards had to be met, it was back to the drawing boards. Quickly, the engineers came up with new designs. Most tried, and some succeeded, in getting samples ready to submit to the FCC laboratory with their equipment authorization applications on September 10, 1976, the first day that the FCC would accept applications for CB sets meeting the new technical standards. Since that date some 1,400 different CB sets have been submitted to the FCC for testing. Most, but not all, were granted FCC type-

acceptance and certification. Some had to be resubmitted after modification if they did not pass the first time.

"Designing a new CB set costs money. So does getting FCC approval. No one knows how many millions were spent getting the new crop of 40-channel CBs on the market.

"In the meanwhile, 23-channel sets were still being turned out in factories in great quantities. Since everyone in the industry felt that the 23-channel sets would be hard to sell after 40-channel sets became available, the manufacturers were anxious to use up their stocks of parts for 23-channel sets and convert their investment in parts into finished merchandise that could be sold.

"Many manufacturers, importers, and distributors felt that it was necessary to reduce 23-channel prices in order to dispose of heavy inventories by the end of the year.

"Then, after the 40-channel sets got on the market in January, 1977, 23-channel set prices were cut even deeper. The public benefited, but the industry did not. Many CBers bought 23's at the then prevailing discounted prices.

"If you bought one or more 23's for less than \$70 each, you got a bargain. And, if you got a 40 for less than \$100, you got even a better bargain. But, don't count on the prices of 40's remaining as low as they have been. After the pipelines are cleared of the oversupply of CB sets, manufacturers will have to start asking prices which cover their actual manufacturer costs or go out of the CB business.

"While price cutting benefits the consumer, it hurts the industry. But, as a consumer, should you care about the in-

CB'ers been ripped off.

CB MAGAZINE Explains Pricing To Consumers

dustry? CB MAGAZINE believes you should, because what hurts the industry, hurts the national economy and creates unemployment. No one can afford to stay in a business that loses money. Most of the bargain priced CBs have been sold at below the manufacturing cost.

"To survive, everyone in the marketing chain must earn a fair profit. The chain includes the manufacturers of parts, the manufacturers of CB sets, the distributors and the dealers. Wages must be paid to personnel who design, assemble, sell and service CB equipment.

"It has often been said that 'you get what you pay for.' It is not always true, particularly if you bought a top quality CB at a bargain price, and if the dealer included repair service in the price. But, who can afford to provide repair service if he sells a product at or below cost, or at a price that yields him a minimal profit, if any?

"If your dealer bought CBs for \$45 each from a distressed manufacturer or importer, and sold them for \$50 each, his gross margin is only \$5. Out of this, he must pay rent, taxes, wages, overhead costs and for advertising to attract customers to his store.

"Fifty dollars is not a fair price for a CB set. If the set was designed to retail for \$150, and you bought it for \$50, you got a bargain. But, don't expect CB prices to remain as low as they have been.

"However, with these increased prices, there will be more quality than ever before. Now that designers know what the FCC requires, they can begin to commit their production lines for more sophisticated equipment. The flexibility and ease of

personal communications will make major leaps forward in the months and years ahead.

"The purpose of this article isn't to urge you to worry about the plight of CB manufacturers; instead, we wanted to tell you why CB prices dropped so much and why they must rise. We also want to make this point: If you've found CB is a fun and useful hobby, we'd recommend you step up in 1978 to the host of improved transceivers, antennas and accessories coming on stream. Look upon that bargain 23 you purchased as a starter unit that let you look into the world of CB at a low initial cost. But, if you now

want to fully enjoy all the activities and uses to which you can put Citizens Band Radio, you ought to have the best technology can offer.

"And, when deciding on which CB to buy, use the three "P's" criteria . . . Performance, Philosophy and Price. Performance doesn't need to be explained. Philosophy relates to the level of quality and service the manufacturer is committed to (and he explains this philosophy in his advertisements). Price then becomes important only after you're satisfied with the performance of, and the philosophy behind a particular brand."

A Canadian Editor Tackles CB Myths

(Note: The following excerpts are from a recent issue of *Canadian Transceiver*. Like CB MAGAZINE Publisher Emmitt Lunn, Publisher/Editor Tom Graham was concerned about various myths in the CB market place).

"While I can't positively pinpoint where and how some of the misinformation on the new 40 channel sets got started, it may have developed from salesmen in the stores who, in trying to unload their over-stock of 23 channel sets, ran down the 40 channel sets in order to make the sales. In any case, some of these stores, and even some of the manufacturers and importers who panicked and slashed their prices, will not be around to service the sets as they will have gone bankrupt. I make this firm prediction based on pure economics. You cannot sell any product at a loss and still be able to stay in business for very long.

"Now on to the myths. The most popular one is that the 40 channel sets do not put out as strong a signal as the 23 channel sets. The truth is: they both deliver the maximum 4 watts output allowed by DoC. The much tighter specs are designed to (a) give a much clearer signal with no co-channel or cross channel interference, and (b) to practically eliminate TVI and similar interference to Hi-Fi sets and PA systems. So if a neighbour complains about interference caused by your new 40 channel set, you can positively state that the problem must lie with his receiving equipment.

"The second myth is that the 40 channel sets will cost 20% or more above the 23 channel set list prices. The 40 channel set list prices are the same or lower than the list prices of 23 channel sets. The retailers who panicked when the 40 channel set announcement was made public slashed their prices so much that it would appear to the new breed of CBer that the myth is a fact. Anybody who has been a CBer for over a year will tell you that he paid from \$200 up for his CB set. In fact, the average price paid for a CB set in the States prior to all of this was in the area of \$265. This for an AM set. SSB sets ran to \$700 and up.

"Another myth was that you needed a special antenna for 40 channels. Any 27 MHz antenna will work on the entire 40 channels. If yours happens to be a tunable antenna, you should tune it for the best SWR at channels 20 to 22 for best results over the entire 40 channel range.

"One very negative result of the scare that caused the slashing of prices of 23 channel sets is that a lot of cheap junk was dumped on the Canadian store shelves. Some of this equipment was so poor as to leave a bad taste in many would-be CBers' mouths, even to the extent that some of them went back to the stores to exchange their CB sets for an 8-track stereo unit for their car."

Letters to the Editor

Address all Letters to: Editor, CB MAGAZINE, 531 North Ann Arbor, Oklahoma City, Oklahoma 73127.

INFORMATION SOURCE

In your November issue Matt Withron (The Yellow Dragon) wanted to know where he could get technical information on his Knight CB radio. If this could help him in any way, here is the address of the company that made the Knight radios. Allied Electronics, 2400 W. Washington Blvd., (Subsidiary of Tandy Corp.) Chicago, Illinois.
Donna Craig
Valparaiso, Indiana

SSB CHANNELS

I am upset that the media and the CB radio manufacturers continue to perpetrate a half-truth about SSB 11-meter communications. I refer to the statement: "With 69 modes available many CBers are converting to SSB for more satisfying communications." Yes, I agree that there are 69 modes, and in the case of a 40-channel rig you have 120. But as you should know, this is only a technical statement, and that in many parts of the

country it is impractical. I think that in any publication that advocates SSB communications the author should make it known that all these so called channels are not available in many places. Also, they should state that quite often the SSBer is confined to one channel — lower 16. This is because SSB and AM transmissions cannot exist on the same frequency. In many areas there are "gentlemen's agreements," i.e., you stay off certain channels that are used for SSB and we will stay off the predominate AM channels. Can you imagine the havoc that would be caused if a bunch of SSBers went to Channel 19?

As stated in the article "Single Sideband — A Home in the Wilderness" (November CB), SSB communications is a great and ever expanding form of communications. On SSB we pride ourselves in the proper use of the system. There is at present a movement to nail down channels 36-40 for SSB use. I feel that this is the only way to insure a future for SSBing. If we can convince the non-SSBer that there is another form of CBing and that they cannot coexist on the same channels, we will have a better personal radio service.

Brian J. Rueger
Patrick Air Force Base, Florida

MORE ON VAN ANTENNAS

Concerning vans, I disagree with the idea of co-phased loaded whips front and rear. Anytime you use co-phased antennas, the power is divided equally between the two. Therefore, each antenna would only radiate one-half the power forward and backward of one located in the center, regardless of the groundplane being smaller.

Charles Martin, KZF-8682
Springdale, Arkansas

COURTESY ON THE AM SIDE

It seems to me that we "Sidewinders" are real big on courtesy and that the Copper State Group help start and set CB use trends in the Tucson area. One thing that keeps coming out of citizens band magazines is a growing discontentment among the "18-wheelers" with the use of Channel 19 by "Other People". In an effort to understand what the truckers are trying to say, I have listened to Channel 19 from my base and on the way to work in the mobile. From my base I can hear I-10 from "Triple T" to Grant Road and I'19 from Papago Road to I-10. From the mobile I have listened to Channel 19 from Velencia Road to Duval Mine Road. In short, it is a zoo! Just as there is an "agreement" for the use of Channel 16 and "The Upper Five" (by sidebanders), I feel there should be an

[continued on page 12]

CB MAGAZINE



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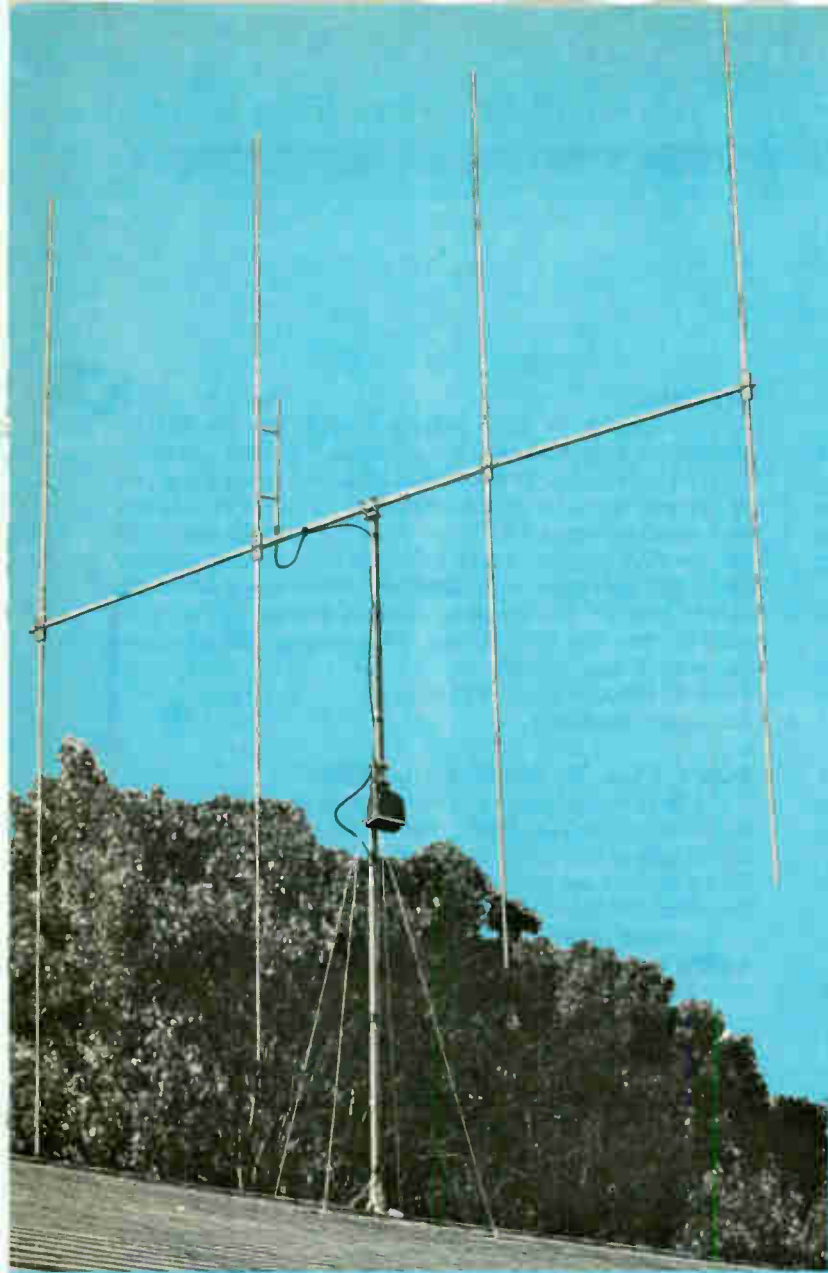
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Signal Tracker is a rugged, high-efficiency performer made of heavy-strength, drawn aluminum tubing with a 12.9 ft. boom lengthyet can outperform antennas up to 25% greater in length! The antenna is Gamma matched and can be easily adjusted for best SWR. Contains no coils or transformers to burn out.

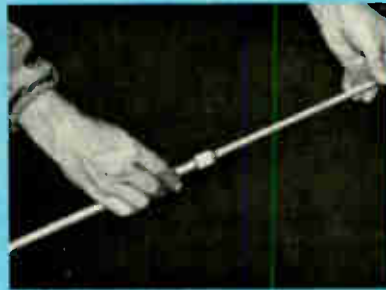
CHANNEL MASTER ENGINEERING MAKES IT A WINNER!

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agreement for the use of Channel 19. This agreement could be along these lines.

(1) It should be used for 18-wheeler to 18-wheeler communications and chit-chat. In some areas you may find that Channel 29 is used for North/South traffic with a change to Channel 19 when the East/West traffic no longer interferes. This gives a 20-kHz spread between channels with only one click of the dial.

(2) It should be used for 18-wheeler to base communications and limited 18-wheeler to base chit-chat.

(3) It should not be used for base to base communications or base to base chit-chat. (Why in the world talk base to base on a mobile channel? No good reason I can think of.)

(4) It may be used for limited 4-wheeler to 18-wheeler communications. (If you want to know what is going on up ahead, all you need to do is "keep your ears on." You can learn more with two ears than you can with one mouth. When you do not understand what is happening, then do "Break One-Nine" and ask about it.)

(5) It may be used as a 4-wheeler to 4-wheeler calling channel.

(6) It may not be used for 4-wheeler to 4-wheeler chit-chat. (When you are some distance from town you can switch to any of the other channels for chit-chat. Keep in mind that Channel 9 is for 10-33. Also keep in mind that Channel 8 is used by farmers and ranchers, that Channel 16 and "The Upper Five" are for SSB. In some areas Channel 13 is used as a boating channel. For 4-wheeler chit-chat, one of the other channels is bound to be clear. OK, if you want to call home while in the mobile, get away from the noise on 19, use your "home channel" and, if needed, have a "Good Buddy" 10-5 for you.)

Is there any difference between sidebanders asking for an agreement with the AMers and the 18-wheelers asking for an agreement with the rest of us CBers? I do not think so! This is courtesy and common sense on the AM side. Wayne Fields, KAFB-0612, CSG-140 Tucson, Arizona



RFI CURE

In response to Mr. Tatham's question on CB interference to public address systems, the First Christian Church in Sapulpa has not been bothered since I learned of the use of a 0.05 uF ceramic disc capacitor across the two speaker terminals. It cuts out the interference, but not the P. A. volume. I was informed that on long speaker lines, you may need an additional one or more down the line to correct the problem. Here is hoping you may be able to pass this information along to help someone else the way it has helped us.

Fred E. Mauch, P. E., KFI-9747
Sapulpa, Oklahoma

DON'T TALK TO RULES VIOLATORS

If CBers would refuse to communicate with anyone in violation of the FCC Rules, the violators would have no one to talk to but other violators. I suggest that interested CBers write a letter, such as the following to the Federal Communications Commission, Washington, D.C., 20554.

"I, among others, would like to ask the FCC to consider adding an amendment to Subpart B, Part 95, FCC Rules and Regulations as follows:

Any person operating a station covered by a CB license who communicates with another person who is in violation of the FCC Rules will be subjected to an equal fine and penalties as the violator."

John Simmons III, KCG-7507
Trenton, New Jersey

ANTI-RADAR

In your November 1977 issue, the comments concerning the Virginia Fuzzbuster law prompted me to write you. The company I work for and the job I do requires me to travel the western portion of Virginia. I am amazed by the number of out of state cars with their radar speed detectors propped on the dashboard, the CB antenna on the rear and the pedal to the metal. I wish every one could be caught and the units confiscated because each and every one is flying.

This man from New Hampshire complains of his wife's violated rights. What about my rights to drive the posted speed limit without having my life placed in jeopardy by violators of the posted limit? I include 18-wheel drivers in this also. I noticed also in your Letters to the Editor the letter about New York State and the illegal use of radio detection devices. I wish they would ban the device in all states.

The cost of the radar detector that will allow a driver to travel at a high rate of speed, then slow down when his detector flashes is a poor trade-off for not being able to stop in time and having an accident that takes a life. One spokesman for the State of Virginia (I've forgotten who it was) sums up my attitude on this device. He said "It's used to purposely violate the State of Virginia's speed laws." Incidentally, posted on 5' by 8' signs on major arterial routes entering Virginia are signs declaring them illegal. I applaud the Troopers who pull these cars off the road and take their units.

T. N. Ouimette Jr. KIQ-7696
Moneta, Virginia



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It won't dart off like magnetic mounts can so it can't hit a passing car or pedestrian, leading to lawsuits — spin the knob to remove!



TRUNK LIP MOUNT

Stainless steel 48" or 55" heavy duty antenna, Hustloff™ mount, 17' cable, installed connectors.

RAIN GUTTER MOUNT

Fiberglass 42" antenna, Hustloff™ rain gutter mount, complete with 17' cable, installed connectors.



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40-Channel CB/AM/FM Stereo



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meter, transmit/receive indicator, plus bright red one-glance "LED" channel display. The radio has ample power for up to 4 speakers, with controls for tone, left-right and front-back balance. A monitor switch lets you enjoy AM or FM and simultaneously receive CB calls. With plug-in mike, mounting hardware for a neat in-

dash factory-installed look. Control shafts adjust to fit most U.S. cars — includes 2 sets of custom knobs and trim plates, one for GM and one for Ford; also under-dash hardware. Remember — Realistic is sold and backed at over 5500 convenient locations in all 50 states. Come in and see the TRC-471 today — just 259.95.*



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REACT TEAM GOES TO GMRS

NEW YORK — Citywide REACT has had a GMRS repeater installed here to serve as the nucleus of an intrateam communications system that will serve a minimum of twenty mobile units. Installer George Rauch is a communications dealer based in Long Island City across the East River from Manhattan. Rauch said that communication through the repeater is possible as far away as Plainview and Huntington on Long Island and as far distant as Westport in Connecticut. The Kaar DK-52 repeater is equipped to transmit on 462.600 MHz and to receive on 467.600 MHz under the call sign KAB-2813. The repeater antenna is on top of a 29 story building on Central Park West where the ground elevation is 150 feet. The GMRS system supplements the teams' radio facilities. As reported in the October, November and December issues of CB MAGAZINE, the General Mobile Radio Service, formerly known as the Class A Citizens Radio Service, may be used for personal communications on a specifically assigned channel.

SELCAL TRADEMARK

OKLAHOMA CITY, OKLAHOMA . . . Following publication of "SELCAL: The System That Tells You When You Have A CB Call" by Dr. Theodore J. Cohen in the October 1977 issue of CB Magazine, the publisher received a letter from Donald B. Southard, an attorney for Motorola Inc. In his letter, Southard said "For your information, SELCAL is a Motorola-owned trademark that we have been using continuously for over 20 years on aircraft ground-to-air selective radio communications systems." Southard also said "We are sure you understand that we have the vested interest to protect regarding the SELCAL mark and trust you feel obligated to respect the trademark rights of others in the same manner as you require others to respect the trademarks owned by your company. We would be appreciative if future references will not be made in your CB Magazine to the SELCAL mark, at least notwithstanding Motorola's express consent."

CEDU—DRUG

RUNNING SPRINGS, CALIFORNIA — Young adult addicts are being rehabilitated with a phenomenal 75% success rate at a converted mountain lodge, formerly owned by actor Walter Huston, overlooking California's San Bernardino Valley.

Founded in 1967 by Mel Wasserman, a dissatisfied furniture dealer with a dream, the Cedu Foundation ("SEE yourself as you are, and DO something to change it") is interested in bringing CB to the students as a earning tool for communication and as a safety device.

Jim O'Brien, senior project manager for the tax-exempt corporation, said, "A CB program would be both recreational and therapeutic. The kids would be establishing a unique form of communication with the 'outside world', which in the past represented the 'establishment', a former 'foe' . . . If we had the materials today, we would include the putting together of a base station with 40 channels and SSB capabilities.

"In the process, the students would be instructed in the basic principles of CB operation, including FCC regulations."

O'Brien, who can be contacted at 716-867-2722 or by writing to him at the Cedu Foundation School, Box 1176, Running Springs, California 92382, concluded, "We feel that this communication would prove to be a positive and rewarding experience."

A limited number of CB radios have previously been used by Cedu in emergencies, but additional base and mobile equipment is needed, according to O'Brien.

Seventy cents of each dollar revenue to Cedu comes from nongovernmental sources. And 65% of expenditures go to program services . . . preparing the young for a return to the outside world.

CBers AND HAMS

AVERT TORNADO LOSSES

MARATHON COUNTY, WISCONSIN — Early warning of a tornado which eventually caused millions of dollars of damage in central Wisconsin is credited to the CB and ham radio operators in the Marathon County area.

The Marathon county REACT activated a previously organized storm observation plan as a result of a reported tornado sighting by the county Amateur Radio Emergency Service. From a vantage point high atop Rib Mountain Lookout Tower, REACT members kept in touch with over 22 members who had checked into the emergency weather network conducted on team channel 2. Similarly, the ham network also swung into action.

Both REACT and ARES have been credited by law enforcement agencies and emergency government with providing valuable early information on the devastating tornado. The information, which was circulated via CB radio before the first warning from the national weather service, allowed area residents to "take over" before the storm hit.

CBers DONATE

RADIO EQUIPMENT

RADFORD, VIRGINIA — Two CB radios and two antennas have been donated to the Radford Fire Department and Ambulance Service. One of the radios and two antennas were donated by the New River Valley REACT Team and the other radio was donated by William Nicely and Ruth Nicely who are members of the REACT team.

NEW ATLANTIC CABLE

NEW YORK — A telephone call between King Juan Carlos of Spain and President Carlos Andres Perez of Venezuela inaugurated a \$70 million transatlantic undersea telephone cable system designed, manufactured and installed by a British subsidiary of ITT. The 3250-nautical-mile cable system, named Columbus and inaugurated on Columbus Day, can carry 1840 simultaneous telephone conversations. The system was laid between Camuri, near Caracas in Venezuela and Aguimes in the Spanish Canary Islands. It is Venezuela's first direct cable link with Europe and will supplement its existing satellite circuits and will also be used for data and Telex traffic.

[continued next page]

MISSOURI MONITOR

INDEPENDENCE, MISSOURI — Lige S. Turner, a member of Jackson County ALERT, advises that he monitors Channels 9 and 13, Monday through Thursday from 10 a.m. to 2 p.m., Saturday 10 a.m. to 4 p.m., and Sunday 1 p.m. to 4 p.m., using two CB sets to monitor Channel 9 and one to monitor Channel 13 (AM and SSB).

NO NEED FOR FORM 452-C

WASHINGTON — The FCC announced that effective September 9, 1977, the use of FCC Form 452-C (transmitter identification card) is no longer required by CB licensees.

WALKIE-TALKIE SALES EXTENSION

WASHINGTON — The FCC has authorized the continuing sale of hand held CB radios until August 1, 1978 provided that such hand held units were manufactured prior to August 1, 1977 and are presently in inventory, in the USA. The FCC identifies a hand held CB radio (walkie-talkie) as

a CB radio that is a self-contained package that includes an internal battery, transmission and reception capability, a built-in microphone and an antenna permanently attached to the case. Also, the FCC ruling applies only to hand held CB radios that have been type-accepted prior to September 10, 1976.

UNCLE CHARLIE'S CALL SIGN

SAN DIEGO — The call sign KFCC-1000 is being used by the FCC Field Office here, according to Lloyd L. Palmer who writes the CB column for the San Diego Tribune. In his column, Palmer said that KFCC-1000 usually operates on CB Channel 1 or 2. When on the air, the station is used to answer questions posed by CBers. Palmer said that Bob Haggerty, senior engineer at the San Diego Field Office, told him "We never — I repeat, never use CB radio as an enforcement tool. CB is used only to educate CB operators."

I-40 COFFEE SHOP

ALBUQUERQUE, NEW MEXICO — During the 1976 Labor Day weekend, the H.E.L.P. (Help Eliminate Local Problems) CB Club of Albuquerque served 4300 people at its coffee stop on I-40 at the 150 mile marker, better known as Nine Mile Hill. People were registered from 47 States, Germany, France, Phillipines and provinces of Canada. (Vern and Lucille Spencer, KHQ-6942)

CB EDITOR HONORED

SAN DIEGO, CALIFORNIA — Leo G. Sands, editor-in-chief of CB Magazine, has been named a Life Member of the Institute of Electrical and Electronics Engineers (IEEE). He joined the organization as a Junior Member and later became an Associate Member. In 1950 he was elected a Senior Member. Sands has served as chairman of several IEEE groups, including two years as chairman of the New York Metropolitan Chapter of the IEEE Vehicular Technology Group. He also served on the executive committee of the New York Section.

REACT WINS TRAINING CONTRACT

WASHINGTON — The National Highway Transportation Safety Administration, of the U.S. Department of Transportation, has awarded a contract to develop a CB Channel 9 monitor training program to REACT International Inc. The training will be for public safety officers, volunteers and all others participating in NHTSA's NEAR (National Emergency Aid Radio) Program.

REACT's task is to develop a standard training course to train volunteers and public safety personnel to handle highway emergencies and requests for road information

ANTENNA SPECIALISTS, ETC. JOHNSON, ETC. BOMAN

REGENT, BEARCAT, PRIDE, GPI, ETC.

AVANTI, ETC. BROWNING, ETC. HUSTLER, ETC. PAL, ETC. COURIER

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Standardization will not only help motorists know what to do in different parts of the country, but will also reduce duplication in producing training programs by each participating state.

The NEAR program utilizes Federal Highway Safety Funds available to each state for the purchase of CB radios by state and local authorities and specifies that the police and other agencies involved in highway safety coordinate their efforts with volunteer organizations such as REACT. The management of the project will be under the direction of Gerald H. Reese, managing director of REACT, and Henry B. Kreer, REACT's executive director. Kreer founded the organization in 1962, and since then REACT has demonstrated the effectiveness of CB in improving highway safety through several studies done in cooperation with the state police in Ohio and Missouri.

SODOLSKI SPEAKS AT CEDA MEETING

ST. LOUIS — John Sodolski, staff vice president of the communications division of the Electronic Industries Association, was the key speaker at the November 5 noon banquet of the Communications Equipment Distributors Association (CEDA) meeting here. He spoke about "Future of CB."

WEISZ ELECTED CHAIRMAN

CHICAGO — William J. Weisz, president of Motorola Inc., has been elected chairman of the board of governors of the Electronic Industries Association.

FCC SENDS MESSAGE TO CBers

WASHINGTON, D.C. — The FCC's got a big 10-4 for all you CBers. The message: The Commission has produced a 10-minute cartoon slide-and-sound show about Citizens Band rules. The title is "10-4 Uncle Charlie". It's available for purchase by clubs, associations, schools and others interested in CB radio.


The special CB presentation was developed by the FCC's Field Operations Bureau to explain, in an
FEBRUARY, 1978

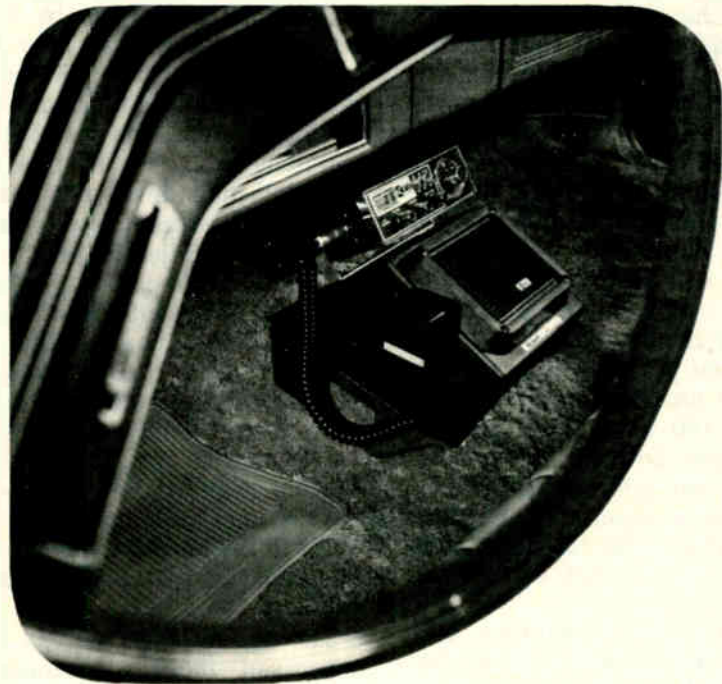
entertaining format, the CB rules and their importance as thousands more operators go on the air every month.

Viewers will meet such CBers as Rhinestone Cowboy, Earthmama, Bucketmouth and others.

The program includes 72 slides, a 10-minute audio tape cassette, a script and a question-and-answer sheet. The Q & A sheet is designed to

answer most questions CBers are asking.

The slide show package costs \$15. It can be purchased by writing to: National Audiovisual Center, General Services Administration, Order Section, Washington, D. C. 20409, Price \$15.00. Make check or money order payable to the National Archives Trust Fund. 



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hassle. Acoustically designed speaker deadens static and channel noise, eliminates voice distortion. We make having an expensive CB rig in your vehicle safe and worthwhile. Isn't it about time somebody did?

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YOU CAN USE YOUR CB IN MEXICO. HERE'S HOW

When you motor to visit our neighbors to the South, be sure you observe all their rules for CBing.

By Lloyd L. Palmer, KZT-3784

United States tourists may now legally use their CB radios while traveling in Mexico. A decree signed by President Jose Lopez Portillo of Mexico authorizes the use of channels 11, 13, and 14 by tourists. Channel 11 is to be used for emergencies that require the assistance of law enforcement agencies. Channel 13 is to be used for highway assistance calls and channel 14 is for general use. A 23- or 40-channel CB radio will be allowed entry with the understanding that only authorized channels will be used. No single sideband or linear amplifier operation is allowed.

A special permit will be issued at border crossing points that is good for 180 days. The permits will be valid both for the tourist traveling the interior of Mexico and for those repeatedly entering Mexico at the border zone and whose stay does not exceed 48 hours.

CB operators in Mexico are more closely regulated by the Secretaria De Comunicaciones Y Transporte (FCC of Mexico) than we are by the Federal Communications Commission. A spokesperson for the San Diego FCC office stated, "I sincerely hope that U. S. CBers will not abuse the authorization for use of CB radio by tourists in Mexico. The Presidential decree authorizing our use of CB radios in Mexico can be cancelled at anytime. If this happens, a lot of hard work to get this authorization will have been for nothing and we will again find ourselves denied the use of CB radios in Mexico."

Mexican CBers Organized

In Baja California, Mexico, 27 CB radio clubs have joined

together to form Club Unidos De Radio En Banda Civil De Baja California, the union of CB radio clubs, which represents approximately 1500 CB operators.

I met with them in Tijuana to discuss CB radio use by U. S. tourists coming to Mexico. The greatest concern expressed by them was that the tourists would not stay on the authorized channels and would pick any channel they desired to bucket mouth and ratchet jaw on while traveling in Baja California.

The CB radio clubs in Baja are assigned to operate on a specific channel. In Tijuana, Club de Aguilas had been assigned Channel 14, but is now authorized to move to Channel 15 and clear 14 for tourist use. The CBers in Mexico request that we respect the channel assignments of their clubs in the border cities until we have traveled at least 20 miles south of the cities.

The united clubs of Baja have expressed their willingness to cooperate with us, if we in turn cooperate with them. If you have an emergency or require highway assistance they stand ready to help you.

In most cities Channel 11 will be monitored by the Red Cross, the fire department, the police department, and a CB radio club. Mexico does not designate Channel 9 as an emergency channel, however, the CB radio clubs are working to establish Channel 9 as an emergency channel.

From Tijuana to La Paz, the united clubs of Baja will attempt to monitor Channel 13 at all times. Using a low frequency radio network (Codiva), they have direct communications with

Policia Federal de Caminos (federal highway police) to send help to those in distress. In addition, Club de Aguilas in Tijuana will operate a base station to Channel 15 from 7 to 11 pm, Monday through Saturday to answer any emergency or assistance request calls by a tourist in the Tijuana area. Radio Califia, operating on Channel 13, will also be available to assist you. From Mexicali to San Felipe, the Green Angels road patrol units are monitoring Channel 11.

The CB operators of Baja have requested that U. S. operators near the border not use Channel 15 for single sideband operation. They in turn will not use Channels 16 and 17 so that we can use these channels for SSB.

They also request that you do not use codes when communicating with them. Codes are not permitted in Mexico. Therefore, most operators would not understand your coded message. There is one exception, almost all operators understand that a "10-33" is an emergency call.

If you want a channel break, call using the Spanish word "trafico". If it is an emergency call, break "trafico 10-33". If you do not get a reply on Channels 11 or 13, select the channel for the CB radio club closest to your location and break "trafico 10-33." When you get a reply, speak slowly and give them your location and the type of emergency situation you have.

The majority of the CB radio clubs in Baja have been trained in search and rescue and have specially equipped vehicle to be used to respond to all types of emergencies.

Mexico has opened the door to

us to enjoy their country and also use our CB radios while traveling there. We in turn have the opportunity to show the CB operators of Mexico that we are not the typical "Ugly American" and CB radio can be a way to meet and make friends. The CBers that I have met in Mexico have shown me some great times and made it possible for me to write this story.



- * Get a free 180-day permit at the border
- * Transmit only on Channels 11, 13 and 14.
- * Use Channel 11 only for emergencies
- * Use Channel 13 only for giving and receiving highway assistance
- * You may use Channel 14 conversing with other tourists
- * Do not use ID-codes or any other abbreviations
- * If you have an AM/SSB rig, do not set it in the SSB mode
- * Don't bring a linear amplifier with you
- * Be courteous to all, Mexicans in particular

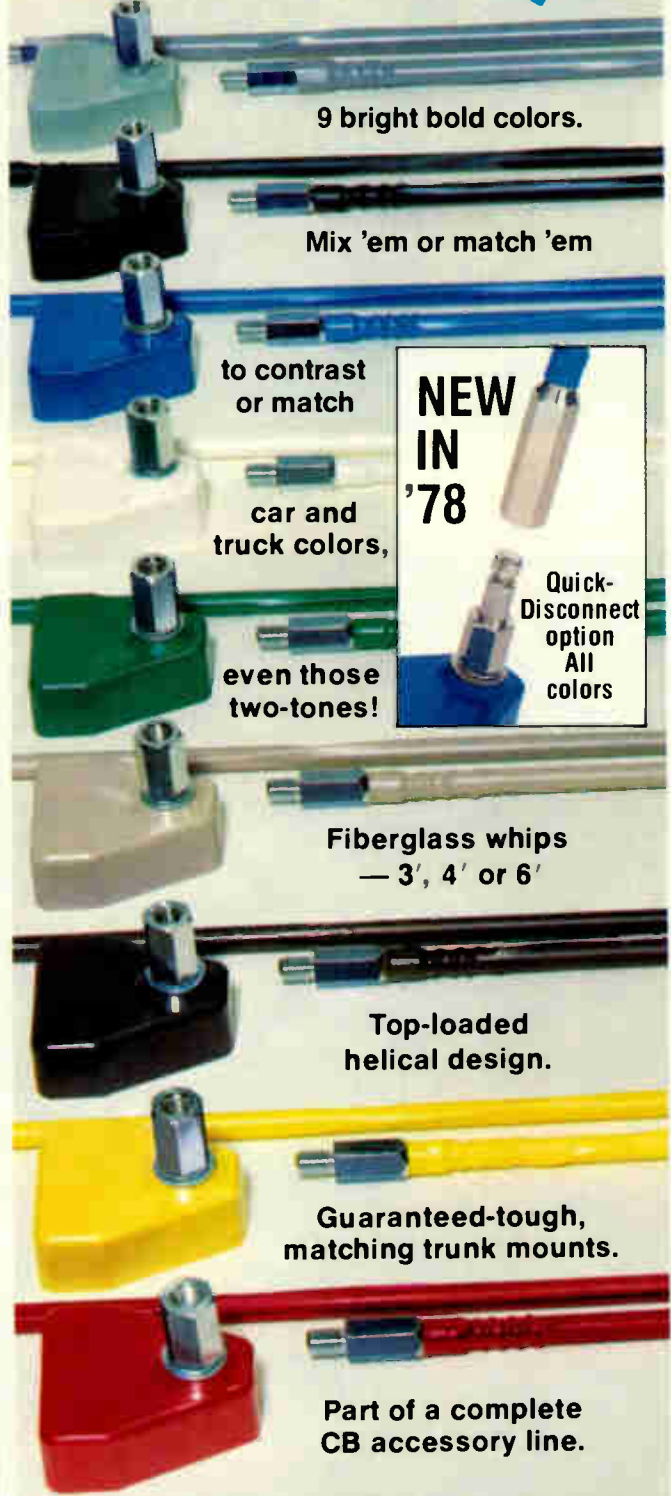
**CB RADIO CLUBS IN BAJA CALIFORNIA, MEXICO
THAT BELONG TO
UNION DE CLUBS DE RADIO EN BANDA CIVIL DE BAJA CALIFORNIA**

CHANNEL	CB RADIO CLUB	CHANNEL	CB RADIO CLUB
TIJUANA			
2	Radio Independiente	TECATE	
3	Club Radio Amistad (RA)	5	Club de La Montana (TK)
4	Club Zepeliner	12	
6	Radio La Mesa (RM)		
7	Radio Experimental (RE)	ENSENADA	
8	Radio Sateliter	11	Radio Enserada
10	Club JK de Tijuana		
11	Club Radio Peninsula	VICENTE GUERRERO	
12	Grupo Alpha		
13	Radio Calafia (RC)	1	Vikingas
15	Club de Aguilas (CDA)		
17	Radio Rescate de Rosarita	MANEADERO	
18	Radio Californio	23	Ageilas
20	Radio Union and Radio Azteca	SAN LUIS RIO COLORADO	
21	Radio Club Cosmos	13	Aguilas
22	Radio Vonguardia		
23	Radio Club Apala	GUERRERO NEGRO	
24	Radio Royal		
MEXICALI			
11	Estacion Cotu	11	Radio Guerrero Negro
13	Aguilas		
17	Radio Calafia		



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Haskie has found CB to be a very useful tool in his business travels throughout the reservation.



Spider Rock, one of the many scenic wonders in Canyon de Chelly.

Navajos

By Darrell Arnold

Northwestern Arizona is a land where nature still prevails. Most of the communities here are small and separated by mile after mile of beautiful desert valleys, high timbered mesas, and gigantic rock towers climbing into clear blue skies.

CBers passing through this area often turn to their radios to help pass the driving hours. Those who happen to tune in on Channel 21 might hear a conversation something like the following:

"Break twenty-one for Tomahawk. Come back."

"Tomahawk coming back, who's calling?"

"Tomahawk, this is Old Sheep Cowboy. Ten-twenty-seven to one-one channel."

"Ten-four to one-one."

When the CBer follows them down to eleven, he may be disappointed that he can no longer copy the conversation. That is, unless he happens to speak Navajo. The northwestern corner of Arizona is the home of the Navajo Nation, and twenty-one is the Navajo CB channel.

Old Sheep Cowboy is Leonard Haskie, the director of Design Engineering for the Navajo Nation. For Leonard and other modern Navajos, CB is the smoke signal of the electronic age, providing a welcome means of communication on the broad expanse of tribal lands.

"In my work," reports Leonard, "I drive at least 100,000 miles a year. I cover the entire Reservation, wherever there is construction taking place. Often, I have to attend meetings in Albuquerque or Flagstaff, and CB is an easy way to make contact with my associates."

Put Their Ears On

An ancient race embraces electronic smoke signals.

He goes on, "We use Channel 21 the same way that the truckers use 19. The eastern Navajo, those living in New Mexico, use Channel 20 for the same purpose."

Haskie's office is located in Window Rock, the capitol of the Navajo Nation. It is there that all the affairs of state, such as education, employment, resource management, production, finance, and a host of others are managed by the seat of Navajo government, the Navajo Tribal Council.

Window Rock, named after a spectacular geological formation overlooking the town, is located near the New Mexico border, 23 miles from Gallup. The 25,000 square miles of Navajoland spread west and north and east of there, into New Mexico and Utah as well.

The Navajo Tribal Council is well aware that the economic future of the Navajo people depends, in large measure, on the great natural resources of this sprawling region. Agriculture, primarily the raising of sheep and cattle, has been the traditional way of life for Navajos. In more recent times, that has been joined and almost replaced by development of other resources, petroleum, uranium, coal and timber. In addition, the magnificent spectacle of the land already brings countless numbers of visitors each year, and tourism is growing into a promising industry. It is the area's natural resources that provide the economic basis for both private industry and Navajo tribal enterprises.

The combination of a traditional Navajo background

and a formal education have given Leonard Haskie the ability to accurately assess the growth and direction of the Navajo Nation. "Navajos have unique traditions. They want to be as close as possible to the land. More important, they want to be on **this** land, undisputedly Navajo. The sacred grounds of our people are here. We have a tradition of many generations. Kinship is all important. We have well established clans, or family groups, and it is important to us to maintain a closeness with our people."

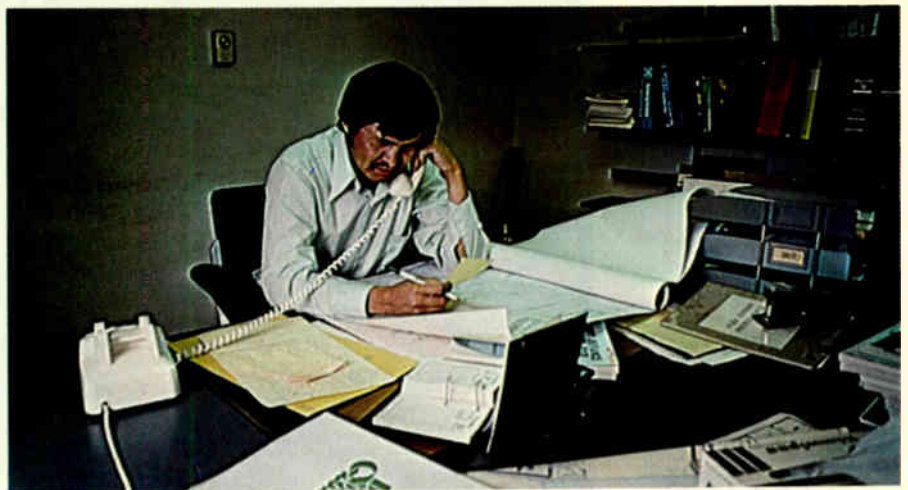
Haskie observes that there is a "tremendous awareness among Navajos of the conflict between the respect they hold for the unspoiled lands of their ancestors, and the necessity to timber and mine and drill in order to support their families. It has been passed on over the generations that we are to respect nature and accept it as it is. But in order to survive, each

Navajo has to have a job, no matter what it involves. Compromises with tradition have to be made. Most will go ahead and work on projects, whether they are destructive or not."

Currently, a company from Texas is trying to establish a coal gassification plant on the reservation. Many Navajos oppose it, but many others do not. The company is quick to point out the many benefits that will result. A new community will be created with high employment and the opportunity to achieve a higher standard of living. There will be new water systems, paved roads, easy access to shopping centers, and affluence. On the other hand, environmental damage could result. It is likely that the plant will be built.

The population of the Navajo Nation is rising at a rate of approximately 5 percent per year. There is much controversy as to

[continued next page]



Leonard studies a blueprint of one of the many construction projects he supervises. Among those are the Crown Point Skill Center, the Shiprock Airport, the Navajo Tribal Museum and Zoo, and Chapter Houses (community centers) throughout the reservation.

Navajos

Jean Pez lives the more traditional life of herding sheep, in Monument Valley.



Window Rock, originally called Tseghahodzani (perforated rock) by the Navajo.



Sunset in Monument Valley.



Navajos . . .

[continued]

the actual number of Navajos in the United States, but most estimates range between 130,000 and 150,000, with almost 120,000 on the Reservation. The agricultural way of life is fast disappearing. Larger populations have meant increased use of the land until, in some areas, overgrazing has resulted in severe erosion, with valuable topsoil lost to wind storms.

Many Navajos have turned to other industry, but the capacity of the Reservation to provide jobs for all Navajos is rapidly diminishing.

For those who do find jobs, the door to material wealth is open. The Reservation is dotted with new homes, built by younger Navajos near the traditional hogans of their parents and grandparents.

The pickup truck has long been the primary type of vehicle purchased by Reservation Indians. Visitors are amazed to see pickups everywhere, most of which sport CB antennas. What baffles most outsiders is why pickups, especially when many of the families are large and several of the family members must ride in the back. Why don't they drive sedans or stationwagons, where everyone can sit inside?

Leonard explains, "The Reservation is still very rugged,

with much wild country. Many people live in remote areas accessible only by rough dirt roads. The uncompromising terrain makes it necessary for vehicles to travel slow, with ample power and ground clearance. Besides that," he continues, "many areas do not have adequate water supplies. The Navajo has to haul both water and his firewood, sometimes daily. Under these conditions, riding inside is not as important when balanced against the more practical needs of the family."

CB is very popular because telephone communication on the Reservation is limited to the community centers and towns. Navajos are very sociable, especially within the clans, and CB helps greatly in arranging family gatherings. Leonard relates one incident where CB proved helpful to him in that respect.

"We have a traditional ceremony held every summer, known as a squaw dance. Last year, it was decided to hold the affair at my place, over by Shiprock. I was on the road at the time the plans were made, and the family had no way of contacting me with the information.

"One day, I happened to be driving near Ft. Defiance. I caught part of a transmission to a man in Wheatfields, 42 miles away. I was able to pick up enough of it to make me curious, so I called for a 10-9. Sure enough, he told me that he had received the call from Shiprock, 40 miles from Wheatfields, and it was my family trying to tell me to come on home."

Alcohol has long been a serious social problem for the Navajo. It is against the law for Navajos to have alcoholic beverages on the Reservation. In the 1960's, the problem was very serious. Those who desired alcohol had no means of transportation off the Reservation for a drink, so bootlegging was widespread. Though the problem has since diminished with the recent higher standard of living, it still causes the Reservation police some problems.

"We hear Navajos all the time calling in and asking, Where are the Smokies?", says Police

Captain Silentman, of the Window Rock District. "There is nothing different about that than anywhere else in the country. But transporting liquor onto the Reservation is often the reason they want to know. If we have a roadblock, those bootleggers will usually know about it if they are carrying CB."

Captain Silentman feels that, right now, the CBers have an advantage over the police, but that is rapidly changing. Recently, the districts obtained permission to equip their patrol units with CB. They have established 3 base stations on the Reservation, at Window Rock, Chinle, and Crown Point, New Mexico. "We are just getting beefed up to where we can have an advantage over the CB bootleggers."

The captain is quick to point out that, despite the problems, CB has been good for the Reservation. "They help us a lot, reporting accidents and emergencies. Sometimes, usually at night when things are slow, our officers talk to the CBers to get information about traffic, parties, and so on. So far it has worked out pretty well."

Leonard Haskie points out that CB has helped a lot of visitors on the Reservation. "Often truckers and tourists will call and ask for directions. If they come in on channels 19, 20 or 21, somebody will hear them because we always jump around on those three stations."

For the traveler, it comes as quite a surprise that though more than 90 percent of the people in Window Rock at any one time are Navajo, the predominantly spoken language is English. Even on CB, the Navajo break in English and then, if they prefer to speak in Navajo, they go to another channel. Only the handles, such as Roper, Black Sheep, Long Mustache, and Old Squaw hint that the talkers might be Navajo.

Leonard explains that only recently has there been an emphasis on encouraging the teaching of the Navajo language in schools. That step has been taken in order to reintroduce

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'Give Me A Break' — NBC's CB

By Allene Betancourt,
KXA-0075

Aired in non-prime time, this five-part series could benefit active CBers if given viewing times when TV sets are turned on.

Sitting in a storage vault in beautiful downtown Burbank, California, is a set of five one-hour TV tapes that could be important to serious CB activists.

These CBers, in emergency and public service clubs, are attempting to build good rapport with law enforcement officials and other disaster organizations. Others are defending CB against oppressive anti-antenna zoning and/or interference ordinances.

Why the series could be of benefit is that it was produced by a highly skilled journalistic team and narrated by a respected TV network newsman, Jack Perkins.

The problem is that the series has only been shown in six cities

(Los Angeles, Chicago, Washington, D.C., Cleveland and New York) in 5 or 6 a.m. time slots. CBers who would like to see the show and at a viewing hour that the general public would be likely to be tuned in might contact their local NBC affiliate and/or line up local sponsorship.

The series of five one-hour documentaries is called "Give Me A Break" and was produced as part of continuing educational series called "KNOWLEDGE."

Series host Perkins (Handle: Net Man) is an NBC news



Jack Perkins, left, welcomes Orion, a UHF radio-controlled robot as co-host of a program for CB radio fans titled, "Give Me a Break." Orion walks, talks, shakes hands, tips his hat, and can key a CB mike.

Documentary You'll Never See (Unless You Ask For It).

correspondent in Los Angeles. He is an avid CBer who uses his radio during the course of extensive travels throughout the country on various news assignments.

Appearing as guests during the series are Charles Napier, one of the stars of Paramount Pictures' "Handle with Care"; Mel Blanc (Handle: Bugs Bunny); Phyll Horne, chief of Field Operations (Enforcement) of the Federal Communications Commission; John Sodolski of the Electronic Industries Association; Herbert Hoover III, representing the Amateur Radio Relay League; Jon Gallo of the Personal Communications Foundation; and of course, Orion (Handle: The Tin Man) Digi Tech's clever robot.

The series covers such CB subject as mobile and base installation, CB handles, consumer information, insuring equipment, accessories, TVI, and amateur radio.

According to program producer Erwin J. Rosen (Handle: The Flasher) it will, hopefully, increase understanding of CB. And if anyone gets to see the series, it could do that. More so, perhaps, than the convoys of CB movies Hollywood has been releasing. The people involved in this production are CB users who know the lingo and speak it, instead of reading from a hastily written script.

When the powers that be at NBC previewed the series, they were very pleased with the results. There was some talk that the series might be extended beyond the original five programs.

Hearing this, and the rumor that KNBC in Los Angeles may

repeat the series in the public access time of 7:30 to 8:00 p.m., **CB MAGAZINE** wanted to know more about the five thirty-minute programs. A reporter was dispatched to NBC's studios in Burbank for a closer look at "Give Me a Break" and the "Net Man" himself.

After three unsuccessful attempts to interview Perkins, one learns that first you have to catch up with him between assignments; his handle, "Net Man", refers to tennis, not network correspondent; and he arranged for **CB MAGAZINE** to have a private non-stop viewing of all five programs.

In the first, there's an introduction to the world of CB radio by **CB MAGAZINE's** Leo Sands with he and host Perkins ratchet jawing on CB history; and Orion (a Robot "co-host") eyeballs "Uncle Charlie," who discusses the FCC.

In another, there's Perkins demonstrating CB base transceivers; Bugs Bunny has his ears on; CB handles are analyzed; and Perkins is shown how to install a base antenna.

In the third program, Perkins learns how to "10-8" in his mobile; is told how to check automobile insurance for proper CB coverage; discusses proper antenna installation for mobiles; and meets "Super Trooper."

Then an array of accessories to entice the CB hobbyist are shown; Perkins discusses how emergencies are handled on CB radio with members of REACT and CCAP.

And in the last show, Perkins is introduced to the world of single sideband; is given advice on how to purchase a CB set and what

the warranties mean; finds out he can be sued for causing TVI (television interference); is shown how to become a "ham" instead of a "turkey."

There's something for old CB pros and the interested newcomer, which was an initial goal of people with the series from the beginning. "It was the idea to try to get together enough interested people associated with the CB industry, users of CB, members of CB organizations, to do a program that would work for those not familiar with CB and still hold the interest of those who were deeply involved in it", Perkins said. "A series ranging all the way from basic antenna installation to discussions with FCC people about their enforcement problems."

How did the series come into being? "Documentaries often grow out of one person's interest, and is spread among others who share that interest", Perkins said. "I think it was a personal kind of thing with 'The Flasher', Erv Rosen, who produced them. He thought, 'Hey, I'm this interested, I'm this wrapped up in it, and I know lots of other people are, so it ought to be worth doing'."

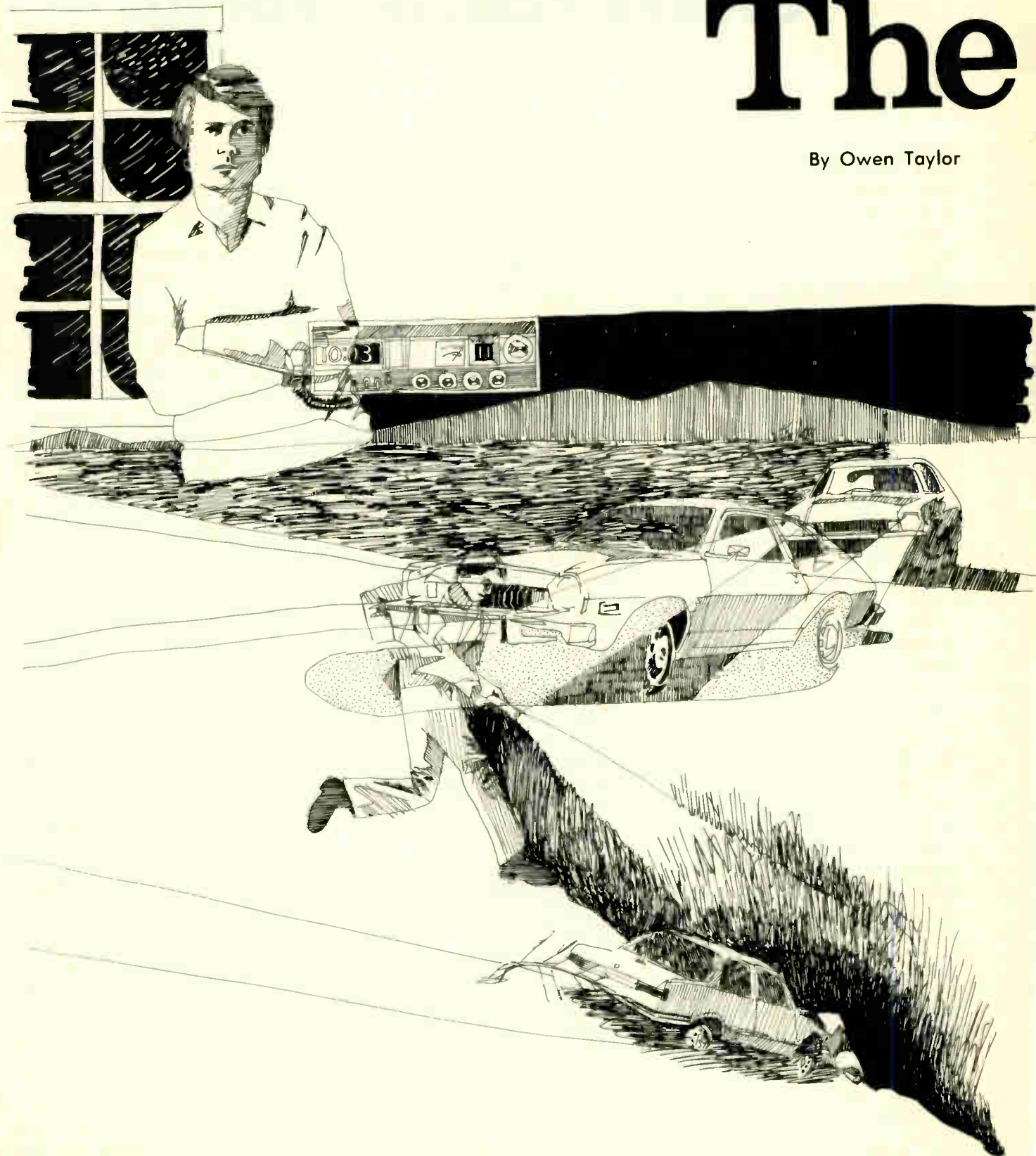
Everyone connected with the series is a CBer — Giovana Nigro-Chacon, "Jersey Bounce," the executive producer; director John Mitchell, "Bull Frog"; "High Pockets," a cameraman Perkins works with, who took that handle away from him.

"Am I pro-CBer!" Perkins said when asked if his impressions of CBers changed when he hosted the series, "That's — what is that? That's like asking 'are you pro-people?' I mean, CBers are

[continued on page 33]

The

By Owen Taylor



"Please help me!" the voice in the night pleaded.

But Doug could not respond.

He could only set out in the blizzard, seeking the voice on the air . . .

Silent CBer

The wind blew down from the mountains and across the Montana pastures, bringing the snow and killing cold. Doug was by himself in the house, but he didn't feel alone as he sat at his desk in the bedroom. He listened as the skip poured out of his CB radio, bringing talk of warmer weather.

A fisherman on the Gulf Coast was coming in with his catch. In Arkansas, a woman had spent the afternoon preparing her garden for early planting. Along the Northeast coast, there was talk of a sudden and rapid thaw, and after a couple of cold winters the chance of an early Spring seemed likely.

Every now and then someone would put out an address, and Doug would write it on the back of one of his QSL cards. Doug had 500 cards from people who had received one of his signal reports.

Maybe they'll wonder about my handle, he often thought as he filled out QSL cards.

His handle, "All Ears," didn't seem to fit the usual CBer, since most would rather talk than listen. But, then, Doug was mute — he couldn't say a single word, so he wasn't the average CBer. He wanted to listen.

People tended to clam up whenever Doug entered a room, conscious that his handicap prevented him from joining in. But Doug wanted to hear what they had to say, since it made him feel accepted. The silence was unnatural. He wanted to hear people who would not stop talking. His father, Ralph Gordon, had understood. That's why he had bought his son the base station — and later on the mobile

unit for the Pinto, Doug's egg-shaped, egg-white car.

Ralph would talk to his son whenever they were alone, another sign to Doug that his father knew about the silence. The man would babble on about ranching, the price of cattle, his days in the Navy away from the foothills and the family ranch. And about Doug's mother.

"How I miss that woman," he'd say in a far off way. "I loved her." It was, Doug thought, part of his father's way of getting over her death, a sort of memorial to her. After a moment, his father would ramble to another subject.

Martha Gordon died in the same car wreck that snatched away Doug's voice. She had been driving back from town, bringing Doug home from basketball practice. It had begun snowing, and Doug remembered the darkness, how the car lights only punched a few yards into the flashes of a million snow flakes.

The car didn't have enough speed to make it up a snow-slick hill, and when she accelerated, the car's rear end spun around. The car was just shy of the top of the hill, and the back wheels wouldn't grip. Light burst out of the darkness, and an air horn bellowed. A killing hand closed around the car and crushed everything inside. The oncoming truck's impact threw Doug into darkness, and days later when he awoke in the snow white hospital room, he learned that his mother was dead and that he would forever be silent.

Doug's mind wandered from the skip to the wreck. He reached across his desk and pulled back the curtain. Snow flakes outside

blew into the light, swirled around and then dropped out of sight. His father was out in the snow, he figured, on his way back from Turnersville. Sam Blanton, the Gordons' only ranch hand, was in the hospital there, and Ralph Gordon had gone to fetch him home. Doug knew that his father would have to climb the same hill, the one where his mother had died.

The phone rang, popping him out of the haze. Doug ran from his room to the kitchen, catching the phone before the third ring.

"Doug, is that you?" his father asked.

Doug tapped on the mouthpiece once with a signet ring he wore. One tap meant "yes."

"Sam is going to be out in the morning. With the snow and all, I'm just going to check into a motel for tonight and bring him home in the morning."

Doug tapped once.

"I'll be in around 10, son. You take care," his father said, and hung up.

Doug was relieved his father had decided to stay in town. He was accounted for, and nothing could happen to him.

He returned to his CB. In another half hour, the wave of skip began to play out, and the roar died down. He moved to Channel 11, which most of the local CBers used, and waited for nearby conversations. But there was no local modulating. The night owls, he figured, must have either gone to bed early or were in the pastures tending to livestock. The air was dead for the

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SMOKEY AND CBers

On an average duty-shift, the patrolman fights boredom; in a year, he may see less excitement than that on a 30 minute television show.



California's S.O.B.s Won't Even Give You A Smokey Report.

By Rob Treichler

Ride for one day with a real patrolman and you'll leave at the end of an eight or nine hour shift wondering where Hollywood finds the police cars they stuff full of TV and movie cameras. TV's cops see more action in 23 1/2 minutes than many Smokeys or County Mounties see in half a 30-year career. Unless they also watch a lot of TV.

Real patrol work can be excruciatingly boring, though the boredom might be punctuated with short periods of stark terror. True, there are sometimes 100 mile-per-hour chases with gun-shooting felons the focus of attention; there are multi-car pileups with numerous injuries; there are babies delivered in the back seats of patrol cars, but

balancing the frenetic emergency activities are the hours of routine patrol duty in which nothing gets logged but hours and miles. On a recent shift **CB Magazine** rode with the California Highway Patrol through the spectacular Sierra Nevadas. The high points of the day involved chasing three deer — two does and one buck — from the roadway with the electronic squealer siren, so they wouldn't fall prey to a passing car or truck, and removing a timber from the roadway. Just as most shifts do not supply enough material for a thirty minute TV show, traffic officers are unlike others who make their living behind the wheel in that they can't while away the hours by enjoying the sound of another

human voice from time to time. People who bridle at the minimal talk regulation of CB radio by the FCC would never make it with the restrictions placed on radio use by the average law enforcement agency. Like removing a service revolver from a holster, taking a police mike from the dash implies it's going to be used . . . properly. No idle chit-chat is expected or tolerated. It's not exactly the same thing as a back country party line.

California Highway Patrolman Don Hogg shifted his body upward in his seat to avoid the direct glare of the autumn sun rising from the general direction of Reno. "I usually try to get up to the summit first thing on the shift, and then drive west while the sun's rising." Don's day had started with rolling out of bed at 4:18 that morning, and with the sun now backlighting the jagged spine of the Sierra Nevada range ahead, breakfast was still an hour or two away. The Midland 13-882B CB radio, one of three transceivers hanging on the dash, was the only one with anything to say this early in the morning.

"Hey, this yere's the Big Mac! I'm looking for the Ground Hog. Izzat chew making tracks eastbound, Ground Hog?"

In the crisp, early Sierra morning, there's not enough



The wide open road beckons! Clear skies, empty pavement and ahead, fun in the sun at Reno! But watch your speedometer and the rear view mirrors; the van was clocked at 83.

[continued on page 80]

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earning \$12 to \$25 an hour in my spare time and also save \$100 on your
CB RADIO REPAIR COURSE. I understand there is no obligation and no
salesman will call.

Name _____
Address _____
City _____ State _____ Zip _____
City _____ Age _____
CB Call Sign (if any) _____

028

Kit, how

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to keep their 25,000,000 CB sets
in good working order. You can

of any kind.

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CB CALL SIGN (IF ANY) _____ AGE _____

Playing The Publicity Game

By James R. Kates, WB8TCC

... three steps in the publicity process, these being: market and media determination, message preparation, and message delivery.

It is rare indeed these days to find a CB club without a publicity committee, or at least some organized means for spreading the word about upcoming club meetings and special events. The usual newsletters, posters, flyers, and displays coordinated by such a group are undoubtedly helpful to the club and the image of CB in general, but are too often used by themselves, without the help of the most powerful message-carrying facilities in our society — the mass media. To many, the media may seem to be huge, unapproachable echelons which couldn't care less about giving publicity to the comparatively small CB club. This media time and space is available, though, and with some careful planning and a lot of hard work it can be had, free of charge, by any group with a yearning for its powerful message-carrying capability.

As with most free products, the media time and space allotted for public service is in high demand, and thus, short supply. For this reason, the group's publicity representative must give the most favorable impression to the media people whose time is short. But with some careful planning, lasting business relationships can be formed that will yield good club/media relations for years to come.

The subtle art of publicity-gathering — getting this free

media time and space on behalf of a company or organization — has been refined to the point where today it is carried out by skilled professionals working for these institutions or as freelance press agents. This doesn't mean, though, that an amateur can't do a good job of gathering publicity for the CB club. If the club's publicity representative is chosen on the basis of the necessary qualifications — basically speaking/writing skills, and a good businesslike personality, along with some free time during business hours to meet with media people — he can make an impression of the club equal to a similar effort by a professional publicity agent.

Basically, there are three steps in the publicity process, these being: market and media determination, message preparation, and message delivery.

MARKET AND MEDIA DETERMINATION

A club's publicity "market" is the area over which it wants to spread its messages. This market, whether it is a tiny village or a huge metropolis, is served by some forms of mass media — mainly newspapers, magazines, and the broadcast services — whether these services originate within the market or not. These media should be determined, by a survey if necessary, and combined in a list, including:

- 1) Newspapers
- 2) National CB magazines that carry "coming events" columns
- 3) Radio stations — local or out-of-town, commercial or public, that receive a substantial listenership in the market area
- 4) Television stations —

public, commercial, and public access cable channels that are viewed within the market

In a large market, there may be 20 or 30 sources on the media list. While it may not be practical to contact all of these initially, they should all be solicited sooner or later in order to effectively penetrate the market.

MESSAGE PREPARATION

Most deliveries to media offices will be in the form of the press release, which is an official announcement of an upcoming club event or meeting. A press release suitable for delivery to the media should preferably be typed on club stationery with a letterhead, and include: the starting and stopping dates for the message's run, the media to which it is to be delivered, and the name, address, and phone number of the publicity person to contact for more information. The message should follow the "5W" form — who, what, when, where, why, and sometimes how — and be limited to 100 words in the case of the broadcast media, and about 300 for print.

Photographs are often the needed incentive for newspapers to do publicity pieces. If there is a photographer in the club who has the skills and equipment necessary to do professional-quality work, 4x5 or 8x10 black and white photos can be delivered to the papers along with a press release.

In some cases, the club may want to invite a columnist, reporter, or news personality to an upcoming special event. In this instance, an informal invitation can be tagged to the bottom of the press release, and the two can be delivered to that particular

person. Such an invitation, however, should not press for an RSVP.

APPROACHING THE MEDIA

With one or more of the above messages prepared, the next step in the publicity process is the actual delivery to the appropriate media people. While a telephone call or letter is an easy way out, the most lasting first impressions are made at personal meetings.

Newspapers

In visiting the papers, the publicity person is wise to keep in mind that the basic editorial administrative structure varies somewhat from one paper to the next, and an editor at a small paper may perform the same functions as a copy chief at a larger paper, etc. Unless the plan is to deliver a press release with an attached invitation to a particular person, the best approach is made through the front information desk. If it is desired to see one of the aforementioned VIP's, an appointment is advisable.

Upon meeting the newspaper person, the publicity representative should introduce himself, but avoid being too forward or imposing. First impressions are important, and a good deal of free media space could be dependent on this first meeting. The representative should then explain the upcoming event, adding a little background if necessary, while avoiding long-windedness. Photographs should also be presented, if timely. If an invitation is presented, "Will you

"... photographs are often the needed incentive for newspapers to do publicity releases."

be there?" is inappropriate, as most media people cannot be expected to have long-range schedules. Any illustrative

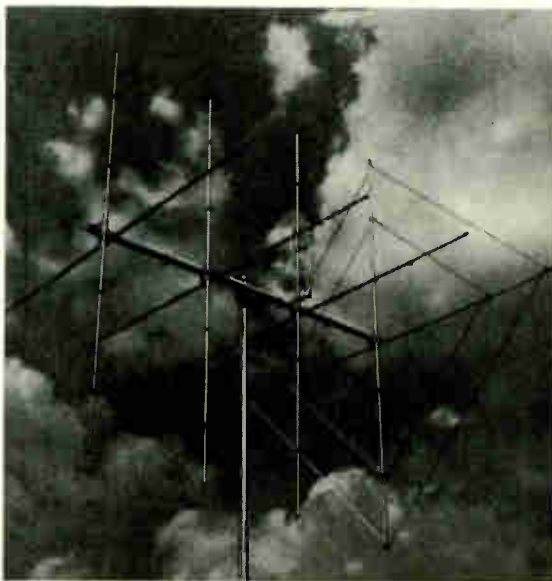
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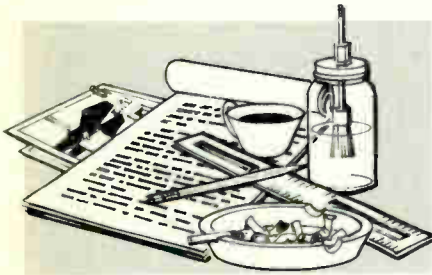
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Publicity Game . . .

[continued]

materials can be left for the newsgroup's study, along with the name, address and phone number of the source. Above all, a heartfelt "thank you" is in order no matter what the outcome of the meeting, as today's favorable impression could easily be tomorrow's story.



Magazines

A visit to the local newsstand will reveal which national and regional CB radio magazines have columns devoted to operating news, coming events, coffee breaks, and the like. Many magazines offer this space free of charge to clubs who sponsor such events. For such announcements, the standard press release should be sent to the magazine at least three months in advance of the issue date in which it is to appear. A few magazines may also use photographs in their "news page" sections.

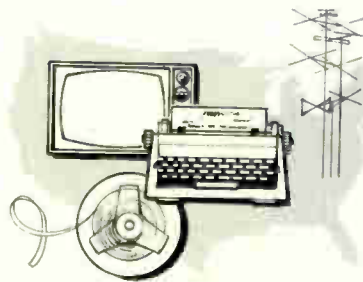
Radio



There is as wide a variation in the makeup of radio administration as in the papers, so the publicity person in this case, too, would be wise to be referred via the front desk to the proper person when delivering the press release. Depending on the size of the station, he may be sent to see the station manager, the program director, or the assistant public service continuity writer! Again he should introduce himself, as to the newspaper person, and deliver the message. If the message is a routine announcement, say, of an upcoming club meeting, it should be limited to 70 words or so. Thereafter such messages can be delivered through the mail if convenient, but the establishment of a good first impression will be instrumental in getting as many announcements on the air as possible.

In some cases the club may desire coverage on a public affairs show presented by the station. In this instance it is best for the publicity person to call the station and make an appointment with the producer of the program. Upon visiting the producer, he should have any available illustrative material on hand, and be prepared to make an entire pitch in about five minutes. Of course, he should be sure to thank the producer for his time, and leave his name, address, and phone number.

Television



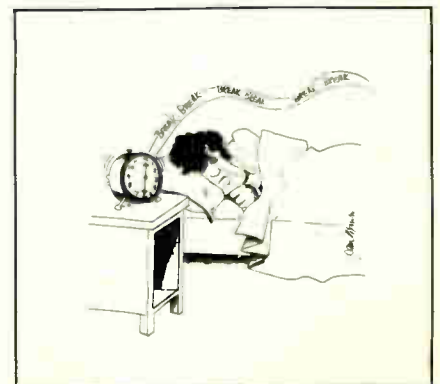
Commercial broadcast television has grown in the last 30 years or so to become the largest and the most influential of the

broadcast media — some say of all media — and it is a definite ace in any club's publicity hand. First impressions are increasingly important in the fast-moving world of television, and its free air time is in high demand. Most commercial channels carry some sort of "community calendar" program as a forum for group events, and standard press releases can be made up for this purpose. They should preferably be delivered in person the first time, through the front-desk route. After that, they can be mailed, about three weeks in advance of the event, if possible.

Most television stations feature some sort of public-affairs program with an interview format that runs on weekdays as part of the noon newscast, or on Sundays. The producer of such a show will probably be much busier than his counterpart in radio, but an appointment would be desirable if it could be obtained. Otherwise, a query by letter will do.

Public and cable television are two alternative forms of TV that can often supply valuable publicity. Many public television stations feature interview shows, and some cable companies have channels devoted entirely to announcing public events. They can be approached in the same manner as the commercial stations.

The above are just a few ideas for the group seeking publicity from the mass-media channels. Any other ideas the club might have should be given a fair trial, as there really is nothing to lose except a little effort. And at best, the club will be building a favorable image for itself and CB radio in general.



Give Me A Break . . .

[continued from page 25]

people. There are all kinds of people there, just as there are all kinds of people in any other hobby. I wouldn't try to categorize a CBer anymore than I would a truck driver or a baseball player. I imagine you find all sorts of different folks driving trucks. Sports reporters find all sorts of people playing baseball. Although each area has its stereotype, doesn't it? The stereotype CBer is a classic image now. But most of the people I

know who use CB don't fit that image if it's a guy wearing a cap of beer cans stitched together with his T-shirt sleeves rolled up, driving a pickup truck with a camper on the back, and his wife sitting next to him in curlers."

Orion doesn't fit the stereotype image of a typical CBer either. Johnny Carson's producer met the little robot in the hall one day when the series was being taped. Orion was introduced to Johnny, and later appeared on Carson's show.

"Orion's really clever," Perkins said. "He was built by a young couple from New York. The fellow operates it, stands back there with remote controls behind his back, and the wife does the voice with a small filtered mike

hidden in her hand. You walk into a room with 50 people in it, and Orion is running around in the middle talking to everyone, and you can spend minutes looking around that room before you figure out who the hell is doing it. They're really clever about that. It's our own R2D2, you know."

The series is in depth and well written for all audiences. Those who would like for NBC to give them a break to see "Give Me A Break," should contact their local NBC television station, or write:

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Taping session of "Give Me a Break," one of NBC's KNOWLEDGE series of programs that examines the rapidly growing world of CB radio and CBers. The series is hosted by NBC News correspondent Jack Perkins, front row third from right, and is produced in cooperation with the FCC.



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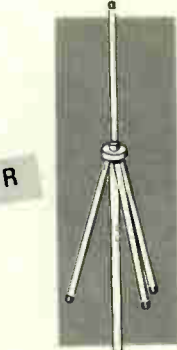
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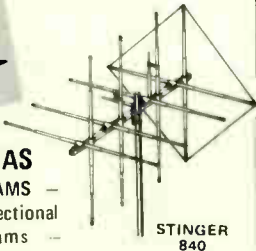
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Mobile telephones have been with us for more than 30 years. The earliest types, still not obsolete, have a selective signaling encoder which rings a bell when your telephone is called. Outgoing calls are made manually by giving the number you want to call to the Mobile Service Operator.

Some 20 years ago, two-way mobile telephone dialing was introduced by Secode. A few weeks after a press demonstration was made in San Francisco, the Russians issued a news release claiming they had invented the two-way dialing mobile telephone first. With outgoing dialing capability, you will be able to directly dial the number you want without first having to alert the operator.

There are several basic mobile telephone system configurations. MTS (Mobile Telephone Service)

systems make use of mobile units that are operable on one or more radio channels . . . when more than one channel is provided, channel selection is manual. IMTS (Improved Mobile Telephone Service) systems make use of multi-channel mobile units with automatic channel scanning and outgoing dialing capability (rotary dial or Touch Tone). Generally, base stations can serve both MTS and IMTS units.

One of the newer mobile telephone systems, known as ACS (All Channel Signaling), was developed by Chandos Rypinski of Rydax Inc. Another new system, known as the Nordic system, was developed in Sweden for serving the Scandinavian countries.

Now being implemented on a trial basis is the Cell System developed by the Bell Telephone System. While the other systems operate in the 150-MHz and 450-MHz bands, the Cell System operates in the 900-MHz region. In addition to mobile telephones that are permanently installed in an R/V or a car, there are portable mobile telephones that are packaged in attache cases.

If you want telephone service in your R/V, you can buy the equipment or lease it from the common carrier that furnishes mobile telephone service in your area. In addition to the cost of buying or leasing the equipment, you have to pay for mobile television service. Typically, the charge is less than 50 cents for a

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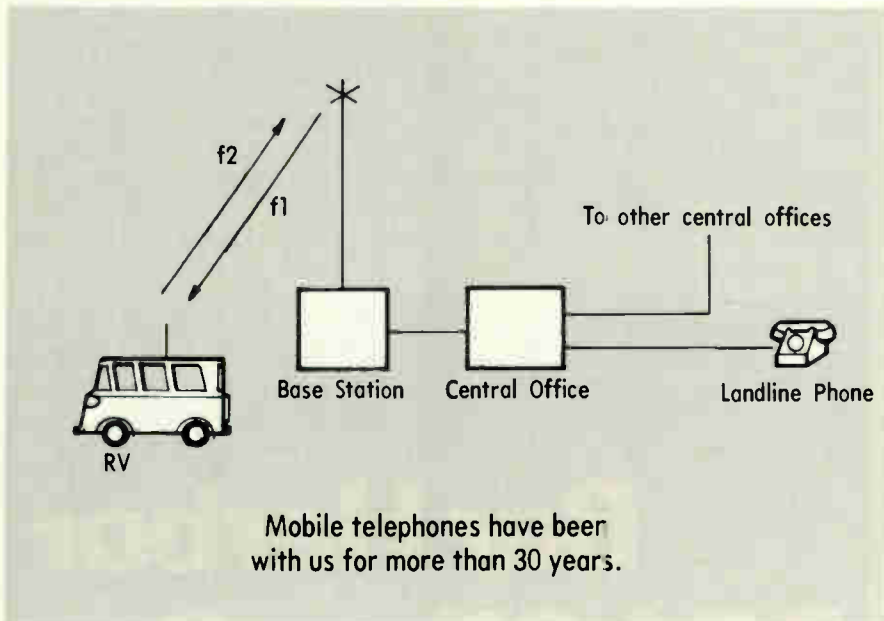
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local call. However, you generally have to pay a minimum monthly service charge which allows you to make a specific number of local calls before extra charges are added.

When you do subscribe to mobile telephone service, you do not get a private line (radio channel). You share the circuit with up to 70 other subscribers. If you have a multi-channel phone, your chances of finding a non-busy circuit are enhanced. Since the mobile telephone is equipped with a selective signaling decoder, you don't have to listen for calls addressed to you. You just wait for the phone to ring and then answer the call.

Typically, you can have phone service when you are within 25 to 40 miles of a mobile telephone system base station. All major cities have base stations which can serve you when in their territory . . . your is known as a "roving" mobile when you are out of your own territory.

Mobile telephone service is furnished by regular telephone companies and by RCC (Radio Common Carrier) companies. You will usually find them listed in the

Yellow Pages under "Radio-telephone Common Carrier Service." You might not be able to get service immediately if you live in an area where demand for service is very high and the common carrier does not have enough channels to serve everyone requesting service.

If you lease the equipment from the common carrier, your car telephone is usually covered by the common carrier's station license. On the other hand, if you furnish your own equipment, you have to get your own mobile station license under Part 21, FCC Rules and Regulations. It's not all that complicated to get mobile telephone service. Just call a radiotelephone common carrier for specific information.

The beauty of a mobile telephone in an R/V or a car is that you "take the phone with you" wherever you go. And when you are within radio range of a mobile telephone service base station operating on one of your channels, you will have access to telephone service, almost like at home. While a mobile telephone is not a replacement for a CB set, it is a nice adjunct.

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Bar Harbor REACTers Set Standard For Monitoring In Tourist Areas

It's the height of the summer season in the Bar Harbor, Maine, area. Suddenly word comes that Johnstown, Pennsylvania has been hit with a devastating flood. The director of the Federal Disaster Relief Program is vacationing somewhere in the area. Can the tiny local law enforcement office locate him?

Harlan Carter, the lieutenant on the desk that evening, did so — through the highly effective CB network operating every summer in his area.

"We've got so many different seasons . . . not just weather seasons, but tourist seasons," Arthur Abbott Jr., vice president of Maine's Hancock County REACT, explains.

These seasons continually strain public services in the sparsely populated county, which embraces Mount Desert Island. The 40-square-mile island was discovered by Champlain in 1604, but its rediscovery by "summer people" every year, beginning in 1870, sees the county's population jump ten-fold between July and September. The temporary residents include the Fords and Rockefellers who, along with 38 other millionaires, maintain "cottages" in Seal Harbor, and thousands, maybe millions, of visitors in tents and RVs visiting Bar Harbor and nearby Acadia National Park.

When the summer people abandon Bar Harbor (population 3,716) and the even smaller towns in the county, the three and four-man police forces and sheriff's deputies turn to face the winter weather. Donald Hobbs, local REACT public relations chairman, recalls the winter of 1976-77 provided the best example of the difficulty of providing public services in Hancock County. A police car was observed proceeding through the snow drifts with red light and siren — at five miles per hour.

Hobbs, a transplant from New Jersey, says he is not accustomed to the "immensity of the area." Minot Huble, central district monitoring squad leader, says, in northern Hancock County you can be 30 miles from a main road. In a state of less than one million population telephones are scarce where rural homes often are five



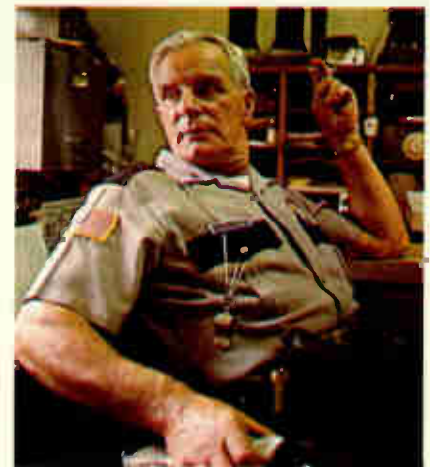
Irma Simeoneau, who spends nearly as much time on the phone with public officials as she does on CB, is reputed to be REACT's most dependable monitor by those officials.

miles apart. But CBs are quickly becoming common among residents, and every tourist has one it seems.

The Hancock County REACT grew out of CB popularity. Abbott, who is estate manager of Ox Ledge in Seal Harbor, says he began CBing 15 years ago, but quit because there was no one on the air. "Then last year, everyone got one." He began to casually monitor Channel 9, and soon discovered others were doing the same. They heard of REACT and decided to organize their monitoring. The group was chartered June 1, 1976, with 12 members. The following year they had 190 members. Members monitor every third day as part of a red, white or blue monitoring team, set up in each of six divisions into which the county has been divided.

But establishing their credentials with public officials was not as easy as keying a mike. A couple of false reports monitored by REACT and relayed to police and park officials came close to killing officers in accidents as they raced to the scene. Even the most even-tempered officers dislike navigating winter drifts at midnight just so some prankster can have his kicks. REACT was also lumped in with CBers generally in discussions of false reports. However, the personal credibility of individual REACT members served as a base for building respect.

Harlan Carter, recalls, "We had a problem . . . with individual CB owners." But despite the erroneous reports, he says of the REACT members, "They didn't have to prove anything to me. I know these people. And by knowing them, know that whatever they do, they do to the best of their ability."



"We have about all the radios we can handle," Bar Harbor Police Lieutenant Harland E. Carter states, explaining their lack of CB, while the county sheriff has installed a base unit.

Saying REACT members are an asset to the community, Carter notes "They get all information

[continued next page]

Bar Harbor . . .

[continued]

before they call us. Nine times out of ten, if we get a call from either one of these, we don't have any problems."

Carter is suspicious of non-REACT CB reports, but allows, "We'll check it out, of course. We have to." But often he'll ask REACT to recontact the CBer or have a nearby member check it out before dispatching emergency equipment.

Roy Stamey, superintendent of park rangers at Acadia National Park, says when he first heard about REACT, "It sounded good." But he admits, "We were wondering if it would be a pain in the neck."

Despite some false reports he contends, "The good points outweigh the bad ones." He doesn't blame REACT for passing them on. Comparing them to crank telephone calls, "You're going to get this type who is going to do this." He says the four false

reports relayed by REACT to the park are not as important as the 50 valid reports received during the same period. "The faster we know these things, the faster we can aid the injured." He knows of a case where a dozen separate tourists passed an accident without reporting it.



Huge cliffs dominate the coast of Mount Desert Island with only a few sand beaches to be found on the ocean side.

Stamey also credits REACT with sensing false reports, so a ranger alone is dispatched while the ambulance stands by, rather than making a dangerous emergency run.

Ambulance attendants at the Bar Harbor Fire Department dislike risking their necks on false alarms. They also have long memories. As one attendant says in response to questions about REACT, "We don't do anything" until word is received from other authority. We've had problems with REACT."

The Coast Guard also dislikes dispatching expensive boats and helicopters needlessly. CB has been a continuing source of false reports, Radioman First Class Mike Darling says. The duty officer at the Southwest Harbor Coast Guard Station reports, "It has saved us steps, and then again it's caused us a lot of problems." If equipment is tied up with a false alarm, it isn't available to help in a real emergency which could occur at the same time.

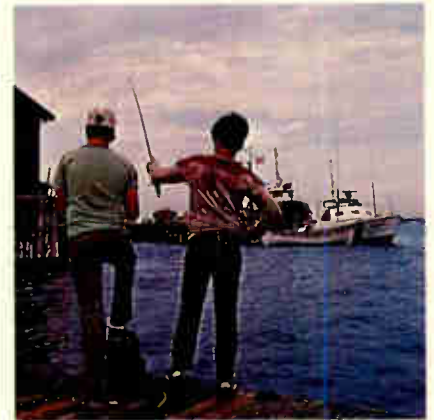
While the Coast Guard has announced it has begun limited CB monitoring in areas with high boat traffic, it officially

discourages "less reliable" CBs aboard boats and touts more expensive marine radio gear. Darling refers to the use of CB by lobstermen as "unfortunate."

Darling notes about REACT, "The instances I've worked with them, it's worked out quite well. I'm glad to see something like this set up." He says he has heard nothing of an incident in which REACT members claim the Coast Guard failed to respond immediately to an emergency call from them, apparently because there was no second communication source to confirm the CB report.

But Irma Simeonau says it happened, and she finally phoned her report of a boat aground to the Main Maritime Academy, who responded and pulled the craft off. "That was the turning point when the Coast Guard decided they'd better start taking this stuff seriously," Hobbs contends.

Except for that incident, REACT members report a good working relationship with the Coast Guard. They recall one time



Forty-foot Coast Guard boats stand ready for emergency calls at Southwest Harbor.

when a REACT member rode in a Coast Guard rescue craft, using his portable CB to link the craft with the disabled vessel. On another occasion, a helicopter was dispatched and a CB radio on board allowed it to communicate with the emergency scene.

Hancock County REACT realizes the credibility of the organization depends upon the credibility of individual members. "We haven't actively recruited members," Hobbs explains. "We have tried very hard, and have

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Forests and lakes cause the interior of Mount Desert Island to appear more like Colorado. Miles of hiking trails and carriage roads, remnants from auto-banned days prior to 1913, often lead the unwary tourist to exceed his limits or to lose his directions.

been very successful, in keeping people out . . . that would not have the degree of credibility the police departments would accept." Names of potential members are submitted to law enforcement officials to accept or reject as monitors.

Monitors also demand callers' names. Recording messages was also tried, but when a monitor courteously explained calls were being taped, many legitimate callers reacted as did one who asked the monitor to repeat the warning, then replied, "just forget it."

Mrs. Simeonau reports about 1,100 hours of monitoring is done

by the Southern or Island Squad alone each month. Seven members of the Hancock County REACT logged over 100 hours of monitoring each month in 1977, while three, herself included, logged over 200.

Don Hobbs, Hancock grocery store owner keeps his monitoring log in the store. "I turn it on in the morning and turn it off at night." He operates another unit at home. Hobbs is also a squad leader. Lawrence Clough, membership chairman, explains, "All squad leaders monitor every minute it's possible."

Also in the 200-plus-hours group is Clough's wife, Myrtle (Maggie C) who keeps the CB on in their antique shop west of Ellsworth. "I'm quite confined here," she says. "It makes my friends available, but most of the time I'm on Channel 9." She adds, "It's really great in the winter. There's not that much to do and it's hard to get around."

When the REACT monitoring schedule ends at midnight, the Hancock County Sheriff's office begins monitoring in Ellsworth. REACT bought the base unit and antenna. Lt. Carter does not see the Bar Harbor Police buying official CBs. "We have all the radios we can handle."

But REACT members don't always quit at midnight. George Floyd sleeps wearing an earplug so calls will wake him. This paid off last winter when a boat went

[continued on page 75]

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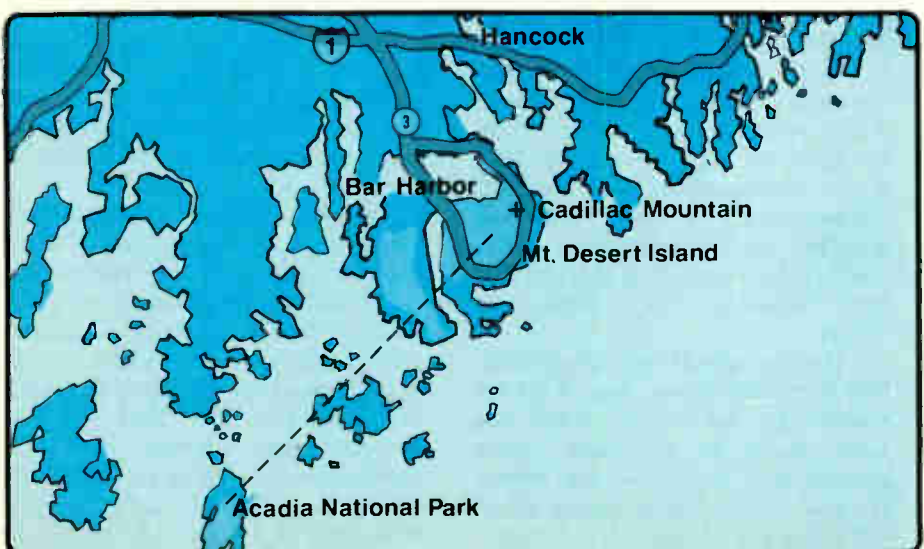


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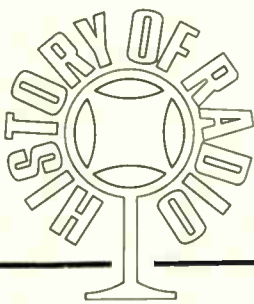
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REGINALD FESSENDEN

THE CRABBY GENIUS WHO GAVE RADIO ITS VOICE



The Pioneers

Editor's Note: CB Magazine introduces a series of vignettes on the pioneers who developed radio — and all its spin-off applications. This series was prepared exclusively for CB Magazine via interviews with many survivors of that era at the turn-of-the-century when man's knowledge of the airwaves suddenly exploded in one discovery after another in rapid fire order. The author is a distinguished investigative reporter and was the member of a team of writers which was awarded a Pulitzer Prize for work in uncovering the trail of drugs smuggled into the United States from Mexico.

On Christmas Eve, 1906, Professor Reginald Aubrey Fessenden sat down at his "wireless telephone" at Brant Rock, Massachusetts, and transmitted a one-man sound show that made history.

Although he had sent out invitations to ships of the U.S. Navy and the United Fruit Co. to listen to his broadcast, wireless operators off the eastern coast were startled with what they heard that night — voice and music instead of dots and dashes.

Fessenden, a fiery inventor who left much controversy in his wake, later described the world's first broadcast of voice and music:

"The program on Christmas Eve was as follows: first a short speech by me saying what we were going to do, then some phonograph music — the music on the phonograph being Handel's 'Largo.' Then came a violin

solo by me, being a composition of Gounod called 'O, Holy Night,' and ending up with the words 'Adore and be still,' of which I sang one verse, in addition to playing on the violin, though the singing of course was not very good. Then came the Bible text, 'Glory to God in the highest and on earth peace to men of good will,' and finally we wound up by wishing them a Merry Christmas and then saying that we proposed to broadcast again on New Year's Eve."

On his New Year's Eve broadcast, Fessenden had polished his program somewhat — he got someone else to do the singing. The Christmas program was received by ship radio operators as far away as Norfolk, Virginia, and the New Year's Eve program carried over the ocean to some places in the West Indies. In July, 1907, Fessenden was able to extend his wireless

disseminating information on weather forecasts and storm warnings. But, as he did during most his career, Fessenden was bothered by lesser minds who failed to see the potential for radio. He also didn't like the government's policy of turning all his ideas into its property.

With the financial backing of two Pittsburgh businessmen, Fessenden formed the National Electric Signaling Co. in 1902, and set up an experimental station at Brant Rock. His first contribution was the development of the electrolytic detector, a device sufficiently more sensitive than the primitive radio-telegraphy detectors of the day. The new detector allowed him to advance his often ridiculed theory that voice waves could be transmitted on a continuous wave instead of the interrupted or short bursts of waves as in the Marconi system.

The electrolytic detector led Fessenden to other ideas, including the use of a specially designed alternator as the source of high-frequency oscillations.

For help with the high-frequency alternator, Fessenden turned to the General Electric Company. The regular designers at GE didn't think Fessenden's idea would work. "They thought it was a rather fantastic thing, and I was crazy enough to undertake it," recalled a young newcomer to GE who was given the Fessenden assignment.

As with any of Fessenden's radio developments, there is controversy over just who should be credited for the high-frequency alternator built by GE. But its young inventor, Ernst Frederick Werner Alexanderson, in a rare interview recorded in 1951 for Columbia's oral history collection, put the development of the alternator into perspective.

Alexanderson said that Fessenden had requested an alternator capable of producing 100,000 hertz (cycles a second), a feat considered impossible at the time. Alexanderson, following Fessenden's instructions that the machine consist of a wooden armature, was able to design an

[continued next page]

telephone broadcasts over land and during daylight hours to Jamaica, Queens, a distance of about 200 miles from his Brant Rock station. In 1910, he became the first to transmit wireless messages over land a distance of 1,600 miles, from Massachusetts to New Orleans.

Among the startled amateur radio buffs who heard Fessenden's early broadcasts was Stanley Rutter Manning of Irvington, New York, who later became a radio pioneer with the Michigan State Telephone Company. "When I heard it I thought I was going crazy, to tell you the truth," Manning recalled in an interview recorded for Columbia University's Oral History Collection. "I had never heard anything like it before."

Fessenden, a minister's son from East Bolton, Quebec, became interested in wireless and electrical experiments as a

tester for the New York factory of Thomas Edison, who was his idol. He was soon promoted to Edison's New Jersey laboratory, where he was encouraged to specialize in solving chemical problems. In 1890, he went to work for the Westinghouse Electric and Manufacturing Co., where he remained for two years. Fessenden was named professor of electrical engineering at Purdue in 1892 and the next year moved to a similar position at Western University of Pennsylvania (now the University of Pittsburgh). During his seven years at Pittsburgh, Fessenden conducted experiments with Hertzian waves.

Because of the excitement stirred by another experimenter with Hertzian waves, Guglielmo Marconi, the U.S. Weather Bureau hired Fessenden as a special agent in 1900 to develop radio-telegraphy into a system for



[continued]

alternator of 50,000 cycles. This one was used in Fessenden's first broadcast. (Alexanderson later developed a 100,000-cycle alternator by using an iron armature.)

"It was the growth of an idea," Alexanderson said of the high-frequency alternator. "He (Fessenden) was a man with great imagination and discussing it with him naturally led me on gradually. He has expressed himself on various times very appreciatively of what I did, but how much of it was his idea and how much was my idea is very difficult to disentangle. It was a productive partnership. He asked me to do something — I delivered it. The patent on the specific way of doing this is in my name because that was my idea, but of course in the general idea — setting the aim of where we wanted to go — Fessenden was naturally the leader."

Critics and admirers alike have often mentioned Fessenden's "choleric temperament" and his persistent fear that big companies were trying to get the best of him — a fear not entirely without justification in the early days of radio. Before he died in 1932 at the age of 65, some 300 inventions had been attributed to Fessenden. Many of his ideas were in advance of the times and were not elaborated until many years later, by others.

Alexanderson, in his interview for Columbia's oral history collection, described Fessenden as "a great personality and very impressive both in his physical stature and his mental makeup," adding: "He was so domineering that the people who worked with him said every week or so he fired them all when they didn't do what he expected them to do, and then rehired them the next day." Alexanderson said he got along well with Fessenden. "But a good many have a recollection of Fessenden's being so domineering that you couldn't get along with him. That is not my recollection."

Fessenden's first wireless experiments were conducted off the coast of South Carolina and Virginia. The Wright brothers



were experimenting with their airplane at Kitty Hawk nearby, and the three inventors became close friends. "It was a companionable thought that in this element, the air, two men not so many miles away from us were achieving mastery in one form while we at Manteo were achieving mastery in another," Fessenden's wife, Hellen M. Fessenden, later wrote of the 1902 experiments.

Fessenden, besides his hundreds of radio inventions, also invented the oscillator, the fathometer — or sonic depth finder, the wireless compass and other submarine signaling devices and the turbo-electric drive for battleships. Despite his submarine work, he suffered the embarrassment of being deliberately excluded from America's World War I Submarine Board, which ordered that no information regarding submarine affairs should be furnished to Fessenden.

In her oftentimes bitter book — "Fessenden, Builder of Tomorrow" — Mrs. Fessenden said his exclusion from participation in the submarine war effort may have been a throwback to his wireless days, when it was broadcast that Fessenden was a difficult man to work with. "Fessenden was never a difficult man to WORK with, but he was an intensely difficult man to play politics with," she wrote.

Fessenden was also harassed by other companies and inventors through the years. Although he had invented hundreds of radio gadgets, companies would expand on his patents and interfere with his experiments. In one incident, a key operator for De Forest's Wireless Company, who reportedly had been plied with "food and drink," was accused of putting a brick on his transmitter key to block Fessenden's transmissions. As a result, Fessenden in 1904 invented the so-called interference preventor. Many of his battles ended up in court. In one case, he sued the Radio Corporation of America and other companies for \$60 million, charging that he was being prevented from selling devices based on his own patents. The suit was settled out of court.

Shortly before his death on his estate in Bermuda, Fessenden was praised by Elihu Thompson, head of the GE laboratories in Lynn, Massachusetts, as being "the greatest wireless inventor of the age — greater than Marconi." In an editorial on his death, the *New York Herald Tribune* described Fessenden as a man "right against the world," adding: "It is ironic that among the hundreds of thousands of young radio engineers whose commonplaces of theory rest on what Professor Fessenden fought for bitterly and alone, only a handful realize that the battle ever happened."

The World's Finest Antenna is now available in four models!

Metz Communication Corporation now offers you a choice of four all-new communication antennas. All hand crafted of the highest quality materials to deliver peak performance. All engineered to last . . . day in, day out, year after year.

1 The CB40, for use in the Class D Citizens Band offers a SWR of 1.5:1 or less over all 40 channels. There's nothing better on the market today. Supplied with 54" whip.

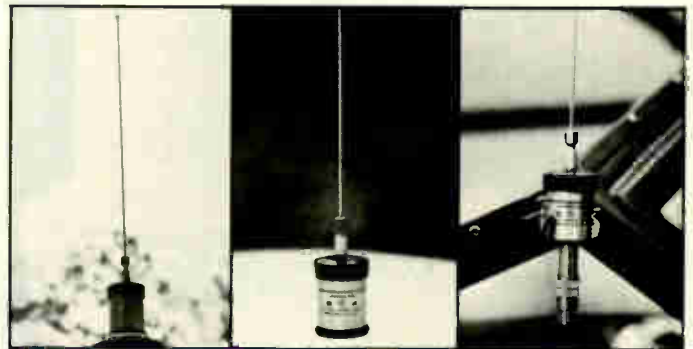
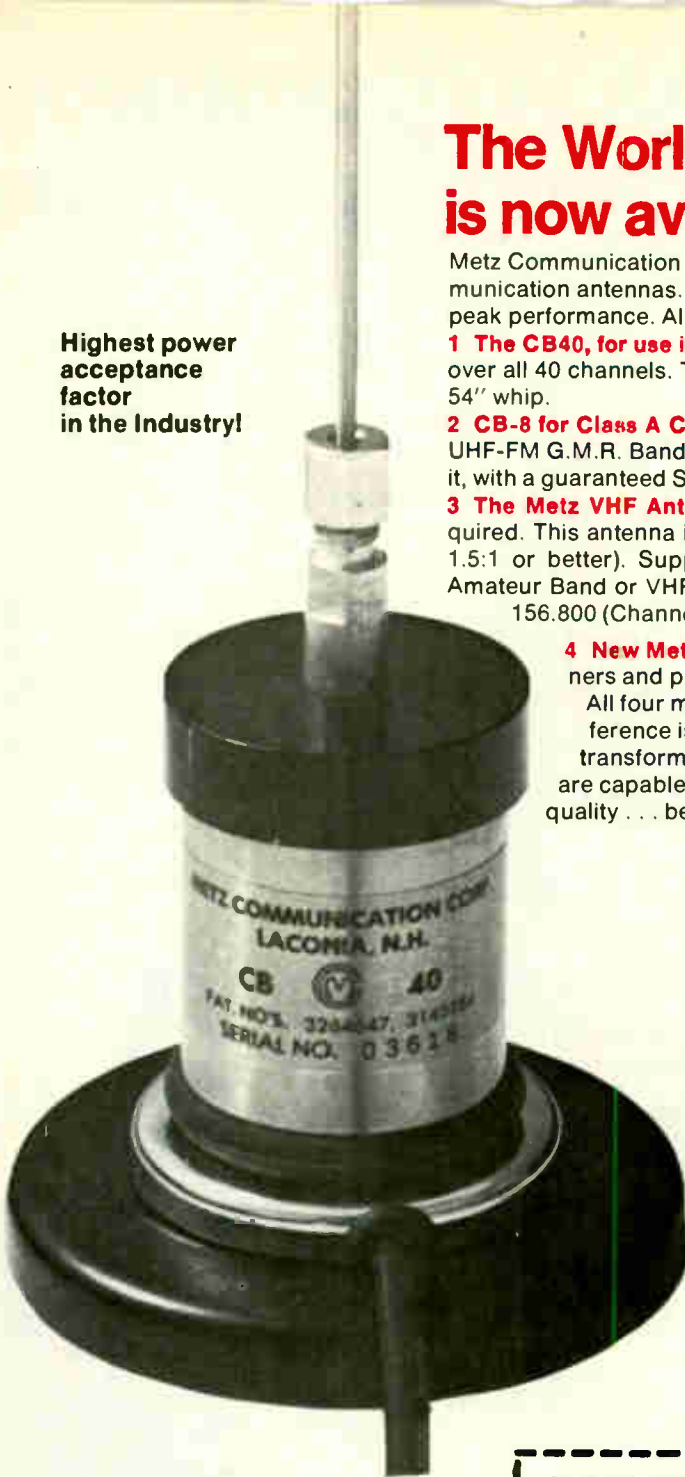
2 CB-8 for Class A Citizens Band use. It comes pre-tuned to the center of the UHF-FM G.M.R. Band. Requires no ground plane. Ready for use as you receive it, with a guaranteed SWR of 1.5:1 or less. Supplied with 11" whip.

3 The Metz VHF Antenna for 144 to 174 Mc operation. No ground plane required. This antenna is cut to frequency in the field (we guarantee SWR to be 1.5:1 or better). Supplied with 39" whip. This antenna is ideal for 2 Meter Amateur Band or VHF Marine Radiotelephone. It can be ordered pre-tuned to 156.800 (Channel 16).

4 New Metz Lo-Band Antenna for 30-50 Mc range. Perfect for scanners and public service applications.

All four models are physically similar in appearance. The basic difference is the number of windings in the patented Power Projector transformer and the length of the whip. All transmit/receive models are capable of handling 150 watts. All are priced the same. All are top quality . . . because we're as serious about antennas as you should be.

Highest power acceptance factor in the Industry!



FOUR MOUNTS ARE OFFERED FOR ALL MODELS. 1 A strong 90 lb. pull mag mount with 12' or 18' of low-loss RG58 MilSpec coax and PL 259 connector. 2 A thru-the-vehicle mount for permanent installation. Requires a 3/8" hole. Cable not supplied. 3 A Spring Clip Marine Mount to attach the antenna to the windshield, bow rail or mast of a boat. Cable is not supplied, but a required cable adapter is included. 4 Gutter Clip Mount, with cable. (Not Shown)

Manufactured under and protected by Patents: #3264647, #3145384

METZ QUALITY... FOR THOSE WHO KNOW THE DIFFERENCE. Some CB'ers, particularly beginners, figure that antennas are all pretty much alike. The only difference, they think, are those they can see. But once you own a Metz, you know better! Metz Quality starts with the Power Projector patented transformer — hand wound to exacting tolerances and hermetically sealed in a heavy walled stainless steel housing. It carries on with all mating parts silver plated for maximum conductivity and resistance to corrosion. It finishes up with a 17-7 PH stainless steel tapered whip to cut wind drag.

Every Metz Antenna is guaranteed for 90 days on the entire assembly, except for the patented transformer . . . the heart of the antenna . . . which is guaranteed for 5 years!

See your local dealer or ORDER BY MAIL Shipped prepaid anywhere in Continental United States

Please ship me the following:

_____ CB40 _____ CB8 _____ Metz VHF _____ Metz Lo-Band: 30-35/35-40/40-50Mc

@ \$34.95 ea. for basic antenna (transformer with whip) \$ _____

Select Mount(s) below:

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Laconia, New Hampshire 03246

Tel: (603) 524-8806

CANADA SCOTCOMM Radio Ltd. 4643 Sampson Blvd., Chomedey, Laval, P.Q.
EXPORTERS EMEC CORP. INC. 2350 S 30th Ave., Hallendale, Fla 33009

This Antenna is guaranteed clearer than any other

K40 no other antenna can claim all these features!



1 RADIUSED 180° TIP provides static dissipation without requiring ball. No ball loss—ever!

3 FULL LENGTH 56" WHIP ground from 17-7PH Stainless Steel for 300% increase in signal-transmitting surface over 36" and 42" whips.

2 CRITICAL ASSEMBLY, material and specifications adhere to U.S. Government Spec's for mobile antennas (MIL-A-55288B-EL).

So unique—77 new patent claims pending or issued including U.S. Patent 3,626,051.

4 WHIP ADJUSTABLE OVER 2" for fine-tuning SWR—NO cutting!

5 METL-PLAS construction combines metal and plastic into one heterogeneous coil for highest permanent tolerances—less than 2% variance from antenna to antenna!

6 COMPUTER DESIGNED ISOLATION CHAMBER dampens static, provides clearer reception than ordinary solid inductance cores.

7 QUARTER-TURN QUICK RELEASE removes antenna from mount.

8 30° ROTATING BASE permits vertical adjustment on any angled surface.

9 FULLY ASSEMBLED with 18' of co-ax with in-line connectors for trouble-free mounting!

10 Optional UNIVERSAL MOUNT adapts for mounting anywhere you want it: mirror, luggage rack, gutter, etc.

Available direct from the manufacturer to dealer!

RUST PREVENTION—all metal components plated to MIL-SPEC QQ-C-320B, MIL-STD 868 and 870.

*DOUBLE GUARANTEE

GUARANTEE I: The K-40 will transmit farther and receive more clearly than the antenna it replaces or the customer will receive a prompt and full refund from the Registered K-40 Dealer who installed and tuned it.

GUARANTEE II: Materials and workmanship are guaranteed for a full 12 months. Any part that fails to perform satisfactorily will be replaced absolutely free.

to transmit farther and mobile CB Antenna made!*

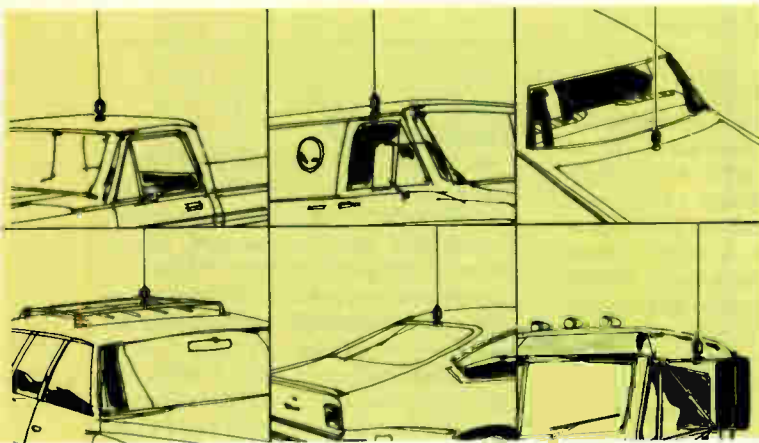
\$38.50 buys all this performance... and wait'll you see it transmit!

Guaranteed more power! *This claim is made because we've tested it with hundreds of CB'ers in all fifty states for over one year! The K-40 was conceived in the Research Department of one of America's most innovative engineering companies... then perfected in the research labs of one of America's most respected universities and proved in actual use by 771 experienced CB'ers with 23 & 40 channel radios.

30% increase! *Average performance rated (VSWR and Efficiency combined) 30.5% better than all other brands tested, including Antenna Specialists, Avanti, Hy-Gain, Shakespeare, Turner, Newtronics, etc.

Equals full-length whip! The all-new K-40 was designed to equal or exceed the performance of a full-length whip—guaranteed to out-perform all other mobile antennas!

And it mounts anywhere!



See your Local CB Dealer for a demonstration.

Here is what those CB'ers actually said:

K-40 vs. ANTENNA SPECIALISTS

"I'm a truck driver and I've been a CB'er for ten years. Compared to my Model M-410, "Big Momma," I recorded a 40% to 50% increase in transmission distance, clearer reception and a lower SWR by 20%. Frankly, the K-40 is the best antenna I've tried so far—over Antenna Specialists, Francis, Shakespeare, Hustler, Avanti—I tried them all!"

John H. Collett, 207 McFee, Bastrop, Louisiana

K-40 vs. NEWTRONICS

"Compared to my XBLT-4, the K-40 can consistently transmit 40% further and the reception was better. I compared the two antennas using my Cobra Model #138 which has 69 channels. Quality is very good. I'd say the K-40 is the perfect way to complete any CB system."

Jerome R. Browne, 7800 S. Linder, Burbank, Illinois

K-40 vs. HY-GAIN

"I own a Volkswagen dealership and I've been a CB'er for over 12 years. I operate a TRAM XL5 with a Hy-Gain HELL CAT antenna that I've owned for over a year. The K-40 was better in reception with a measured SWR of 1.2. The K-40 was 20% better than the HELL CAT and transmitted 50% further."

Dale A. Dayden, 14 Barbara Dale Lane, Annapolis, Maryland

K-40 vs. FIBERGLASS

"I replaced my Francis with the K-40 and greatly improved my reception. The transmission was excellent, about a 30% improvement over my Francis. I talked well over 45 miles to an Astro Beam base. K-40's SWR of 1.1 was 10 to 20% better than my Francis!"

H. Ganse, 1964 Mt. Zion Road, York, Pennsylvania

K-40 vs. DUAL-ANTENNAS

"My twin Hustlers do not perform as well as the K-40. I got an improved performance on reception and about a 30% increase in transmit distance using the K-40. I've been a CB'er for 17 years, and I'd say it's superior to any other antennas."

James L. Andrews, P.O. Box 1509, Titusville, Florida

K-40 vs. WHIPS

"I'd rate the K-40 superior, although the transmission and reception of the K-40, compared to my 102" Antenna Specialist whip, was just about identical. I was able to tune the K-40 lower than my 102" whip. I think the K-40 is one of the best looking antennas on the market and overall, I'd rate the performance about as good as my 102" whip."

Daniel A. Rohlf, R.R. #2, Box 88, Binford, North Dakota

K40

American Antenna, 1945 South Street, Elgin, Illinois 60120

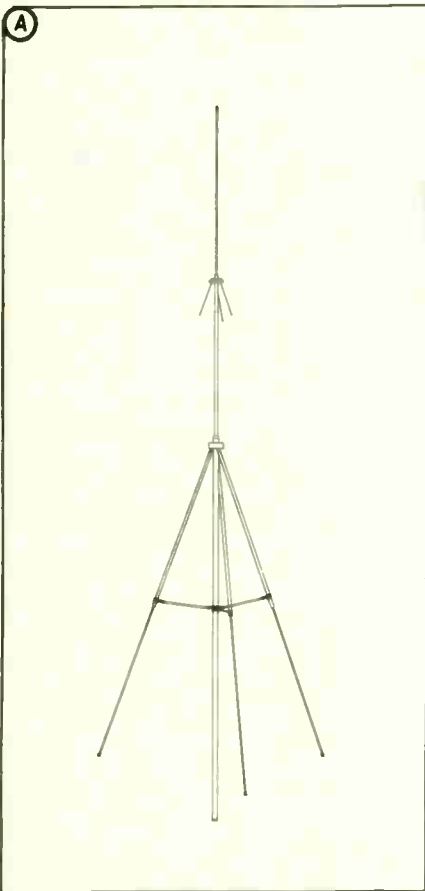
An All American Product from an All-American Company

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Some of the CB products described in CB Scope, in product reports, in articles or advertisements, may not be offered for sale or lease, or sold or leased until FCC approval has been granted. Publication of information on these products may sometimes occur, however, before grant of FCC approval.

BASE ANTENNA (A)

The Stinger 100 is a 1/4 wave omnidirectional 40-channel base antenna that features a low profile radial concept for minimum mounting space requirements and best angle of radiation. For more information, write **The Finney Company**, 34 West Interstate St., Bedford, OH 44146, or use **SPEDE No. 028-1**



SSB BASE STATION (B)

The Craig Model L231 AM/SSB transceiver is designed for 40-channel operation. This new base station has a digital clock with turn-on and alarm provisions and features dual antenna input, voice compression, automatic

noise limiting and noise blanking circuitry. A pulsating modulation ring functions as a transmission monitor. The new set permits CBers to utilize 120 operating modes instead of the usual 40.

AM sensitivity is rated at better than 0.5 μ V for 10 dB (S + N)/N and SSB sensitivity better than 0.1B μ V. Adjacent channel rejection is rated at greater than 60 dB at +10 kHz. Model 231 uses a crystal lattice filter on SSB and ceramic filter on AM and operates both on 120 VAC (clock and CB) and 13.8 VDC (CB only). For more information write, **Craig Corporation**, 921 West Artesia Blvd., Compton, CA 90220, or use **SPEDE No. 028-2**



VHF/FM MARINE RADIO (C)

The Micro Model 3100 is a 15-channel, 25-watt VHF/FM marine radiotelephone whose design permits channelization with a single crystal per channel, push-button selection of Channel 16, weather 1 weather 2 and high or low RF power operation. A bright read-out display panel is used for back-lighted displays of all radio functions. The selected channel is continuously displayed. A multi-colored LED indicator is used for active monitoring of both transmit and receive functions. For additional information, contact: **G. Acquavella**, President, **Micro Instrument Company**, 2250 Micro Place, Escondido, CA 92025, or use **SPEDE No. 028-3**



MARINE RADIOTELEPHONE (D)

The Hy-Seas 12 is a 25-watt VHF-FM marine radio telephone for ship and shore station use on any 12 U.S. or international channels, plus weather 1 and 2. Frequency stability is within 0.0005%, double the requirements for marine use. Components are effectively protected from the harsh marine environment. Hy-Seas 12 is supplied with crystals installed for Channels 6, 16, 68 weather 1 and 2. For more information write to **Hy-Gain Electronics Corporation**, 1320 South Dixie Highway, FL 33146, or use **SPEDE No. 028-4**



MARINE RADIO (E)

The TRITON 55/75 is a synthesized VHF-FM marine radiotelephone with all the channel capabilities that either a large pleasure craft or commercial vessel will ever need. Through the use of digital logic circuitry, it offers the user every recreational and commercial marine channel currently available without adding any crystals. It has the ability to transmit on 55 VHF channels and receive on 75, including four recognized weather channels. Channel identification is accomplished by an LED digital readout. A four-level light dimmer button assures that the digital display can be easily read in most light conditions from total darkness to glaring sunlight. In addition, the readout automatically flashes to indicate an unauthorized channel — thus doing away with any guesswork.

The TRITON 55/75 also features the Touch Selector which makes simplified channel selection a reality. The International Channel Selector relieves the user of complicated set-ups when operating on international channels. The 16/Select Memory permits the operator to alternate between a working channel and Channel 16 (safety and calling), without resetting channels. The Auto-Revert assures Channel 16 monitoring by reverting back to that channel when the microphone or handset

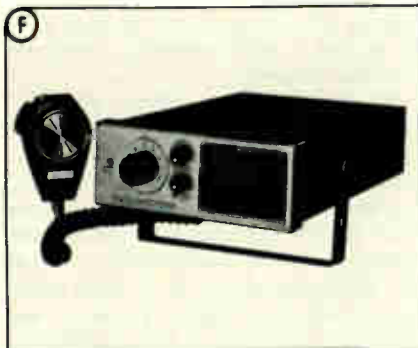
is hung-up. For more information contact Barbara Bennett, **Motorola, Inc.**, 1301 East Algonquin Rd., Schaumburg, IL 60172, or use **SPEDE No. 028-5**



DEPTH SOUNDER (F)

A video-sonar that utilizes a cathode ray tube gives marine sportsmen a "straight-line" reading of what lies beneath the surface of inland or offshore waters. Christened Vexilar Model 6/60 Video-sonar (trademarked), the unit gives the same high performance readout that straight-line recording graphs offer, but with significant differences.

Once in the cone of sound, targets show up on the 5-inch screen in the traditional curved patterns by which skilled users can identify fish by size and even sometimes by species. Downriggers and descending fishing lines can be followed and under certain circumstances, the presence or absence of oxygen and varying levels of temperature can be observed. Range selection gives three depth options: from 0-30 feet, 0-60 feet, or 0-360 feet or 60 fathoms, making the 6/60 suitable for both inland waters and off-shore fishing. For more information write **Vexilar Inc.**, 9345 Penn Ave. S., Minneapolis, MN 55431 or use **SPEDE No. 028-6**

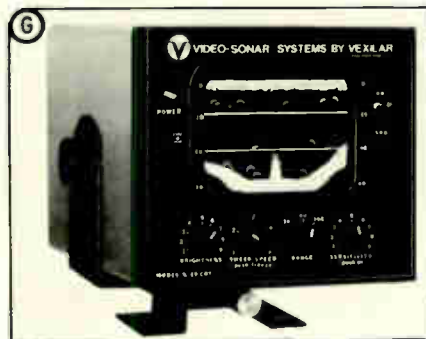


MARINE RADIO (G)

Said to be the smallest marine SSB radio made in the United States today, the Genave

GSB/1000 lends itself to easy installation on board ship because the ETA/4 remote antenna coupler is a unit separate from the transceiver. This means that the coupler, which tunes the antenna, can be mounted away from the transceiver — near the antenna, or any other convenient place on your boat.

The GSB/1000 is easily field programmed for operation, so no unnecessary time is spent in adding or changing channels. The unit operates on a standard 12 VDC system. A power converter (the PSI/50) is available for use on 24-32 VDC systems. The GSB/1000 transmits in three modes: you are able to call another SSB radio, an automatic tracking receiver, or older AM equipment. The unit utilizes an internal crystal oven to ensure high transmitter stability. An RF sensing transmit indicator light on the unit lets you know when the transceiver is supplying power to the output jack. The GSB/1000 is designed for use on pleasure and commercial boats for ship-to-ship and ship-to-shore communications. For more information write to **General Aviation Electronics** 4141 Kingman Dr., Indianapolis, IN 46226, or use **SPEDE No. 028-7**



MARINE RADIO (H)

A new VHF/FM synthesized marine radiotelephone with capability for 56 transmitting and 99 receiving frequencies, the 25-watt **Apelco AF-40MA** covers the entire VHF worldwide marine band with no need for adding or changing channel crystals. A two-channel scanning circuit enables the AF-40MA to automatically monitor the distress and calling frequency (Channel 16), and a second channel of the operator's choice. Indicator lights — red for Channel 16 and green for the selected channel — signal the presence of radio traffic for quick-glance recognition by the operator. A quick-select Channel 16 switch

[continued next page]

MORE INFO?

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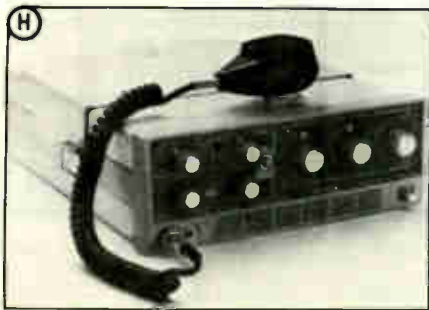
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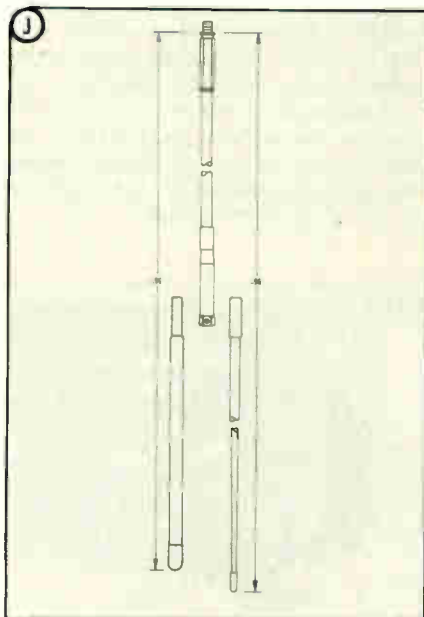
enables instant use of the emergency channel. Additional information and specifications are available from **Apelco Marine Electronics**, 676 Island Pond Road, Manchester, NH 03103, or by using **SPEDE No. 028-8**



MARINE ANTENNA **I**
A fully-tunable 40-channel CB antenna made especially for small boats, the Bassin' Man marine fiberglass antenna, is only 3 feet long and is complete with fully-adjustable lift-and-lay ratchet mount. Because this antenna requires no ground plane, it can be installed on virtually any surface at any angle. The special mount puts the antenna out of the way when the boat is being docked, stored, or trailered — or when an antenna might interfere with other operations. The antenna is tunable without tools to achieve lowest-possible SWR for efficient matching. The tuning dial on the base section will not rust or corrode. All tuning parts are sealed against weather and moisture for long life. For more information write: U.S. Fiberglass Division, **Gladding Corporation**, 5101 N.W. 36th Ave., Miami FL 33142, or use **SPEDE No. 028-9**



MARINE ANTENNA **J**
The new Target BS-190 marine CB antenna features a two-piece fiberglass radiator element. The 96-inch antenna (1/4-wave) can be used with a loading coil to reduce its height to 56 inches. The BS-190 is corrosion resistant, including the mounting. The entire radiating element is made of copper and dielectric loading to provide full quarter-wave efficiency and minimize precipitation static. A swing-down type mounting bracket for the BS-190 allows convenient storage while traveling. The standard 3/8-24 thread fits virtually any universal mount. For more information write to **S&A Electronics**, Division of The Scott & Fetzer Company, 202 W. Florence St., Toledo, Ohio 43605, or use **SPEDE No. 028-10**



MARINE RADIO **K**
A VHF/FM synthesized marine radiotelephone with capability for 56 transmitting and 99 receiving frequencies, is available from Raytheon. The 25-watt RAY-50A, covers the entire VHF worldwide marine band with no need for adding or changing channel crystals. Its precisely calibrated synthesized design ensures pin-point tuning on all domestic and international marine frequencies. A two-channel scanning circuit enables the RAY-50A to automatically monitor the distress and calling frequency (Channel 16), and a second channel of the operator's choice. Indicator lights — red for Channel 16 and green for the selected channel — signal the presence of radio traffic for quick-glance recognition by the operator. A quick-select Channel 16 switch

enables instant use of the emergency channel. Additional information is available from **Raytheon Marine Company**, 676 Island Pond Road, Manchester, NH 03103, or by using **SPEDE No. 028-11**



MARINE HANDBOOK **L**
A handbook on the proper use of marine radiotelephone has been published by the non-profit Radio Technical Commission for Marine Services (RTCM). The easy-to-understand booklet, entitled "How to Use Your Marine Radiotelephone", was produced with the new radiotelephone owner in mind although it contains valuable reference information for all marine radio users. The handbook was researched and written by a special task force representing radiotelephone manufacturers, the FCC, Coast Guard, and other marine-related government agencies, the Power Squadrons and Coast Guard Auxiliary, the marine radio services of AT&T, boating writers, and professional shipmasters.

Included in its 72 pages are sections on radiotelephone licenses and how they are obtained, installation instructions, selecting and using the correct channels for VHF/FM, SSB radios for long-range communications, routine and emergency operating procedures with sample scenarios for ordinary and distress calls, and procedures to place a call to or from a vessel underway through the telephone company.

The appendix includes listings of all FCC field offices, a map of Coast Guard radio stations ashore, a listing of all stations broadcasting continuous weather forecasts, and the locations, addresses and frequencies of all VHF/FM and medium frequency public coast stations. The new handbook is offered at a single copy price of \$3.00. Single copies are available from marine electronics and boating equipment dealers. Quantity discounts are available to dealers for resale or for group purchases by educational classes or organizations from RTCM, c/o FCC, PO Box 19807, Washington, DC 20036 (telephone 202/296-6610).

Installing A CB On A Boat

CB installation in a boat is not too different from that in an auto— but the differences are important.

By Cyril C. Miller, KQO-0138

Installing a CB radio on a boat is not too difficult for a professional with the know-how and the tools to do the job. He knows the problems and can cope with them. But for the do-it-yourselfer, the project could present some problems. With this thought in mind, the editors arranged for the installation of a CB in a typical pleasure boat. For the sake of comparison, CB installation on a commercial fishing boat was also investigated, and is reported on briefly for our readers.

The owner of a small pleasure boat made his craft available to us for the installation; personnel at the CB Warehouse in San Luis Obispo, California, installed the unit and we conducted the necessary checkout which follows.

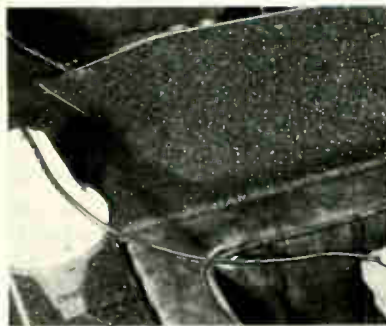
The craft made available was a sleek 19-footer of molded fiberglass, with a Mercury in-board/outdrive power plant. The boat-owner wished an installation that would allow removal of the unit and antenna when the boat was unattended. He also wanted the transceiver concealed and out of the way of the operator; a well on the starboard side, located near the wheel and controls was selected as the ideal location.

A 40-channel SBE Stowaway had been recommended as ideal for this purpose, and had been selected. This particular unit permits full control of all functions from the hand mike — an ideal arrangement for the pilot of a speeding craft. A quick-disconnect bracket was first installed in the boat well, with the

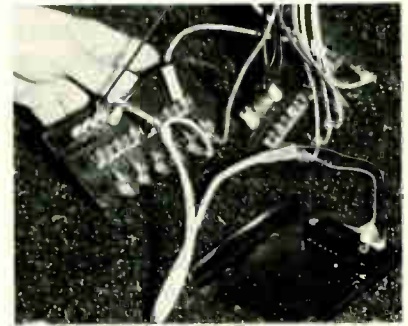
CB On A Bass Boat

One of the fastest growing sports in America today is bass fishing. And to make their fishing even more enjoyable — and productive, serious bass fishermen, coast to coast, are fishing their favorite lakes and streams in specially designed, highly powered bass boats. The latest addition to these "fishing platforms" is CB radio.

Wood Manufacturing, Flippin, Arkansas, rigged the Ranger Classic Boats for the 1977 BASS Masters Classic bass anglers' "Super Bowl"; held October 26, 27 and 28, at Lake Tohopekaliga, near Kissimmee, Florida. The following sequence of photos enables our readers to watch while a Radio Shack "One Hander," 40-channel CB and a marine antenna were being installed.



The base of the Radio Shack 102" fiberglass marine antenna has been secured to the rail of the boat. Coax was fished through a small hole drilled in the rail, then led through a grommet protected opening to the console. Fold-down, fiberglass antenna bolts into base.

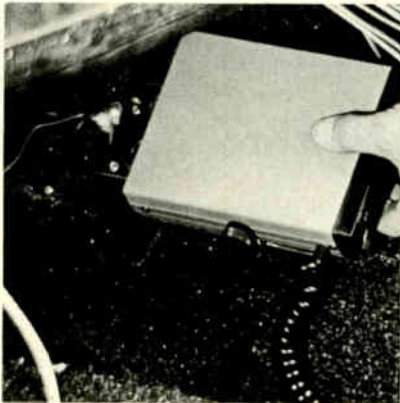


The coax is led beneath the console to the male half of the mounting bracket, which is fastened to the boat hull. Connection is made to the 12-volt electrical system through the fuse block, to take advantage of the built-in ignition suppressionsystem. The mounting bracket incorporates pin type connections for both electrical and antenna systems.

[continued next page]

Put CB In Your Bass Boat

[continued]



The electrical connections are secured to the female half of the mounting bracket; antenna coax lead is connected through a 12" piece of coax, with PL-259 plugs on either end. The Realistic One-Hander transceiver is now attached to the bracket, which slips into place, making the unit operable.



The Realistic One-Hander has all the controls on the mike: channel selection, on/off volume and squelch; an ideal arrangement for the bass fisherman on his way to the 'honey-hole' under full throttle. Mike stowage is provided by the clip visible through the steering wheel.

resistor cables going to the spark plugs and to distributor rotor; this should keep ignition interference minimal. Both the transmitting and receiving channels were checked for satisfactory operation with the motor running. Both worked fine. The power output was found to be acceptable and there was no noise from the motor or from the electrical system.

It's not always that easy. Severe noise problems can exist on a power boat, particularly on one with an inboard engine whose ignition system is not shielded. In this case, it was fortunate that the inboard-outdrive engine is at the stern, removed from the CB set.

INSTALLATION PROBLEMS ABOARD SHIP

Difficulties in installing CB equipment aboard a seagoing ship are largely physical, including crawling up and down ladders, through narrow hatchways, etc. In a vessel with a wooden or fiberglass hull it may be necessary to install flat ground braids of good conduction material through the ship and bond to it everything that needs grounding. Generator noises usually are not difficult to control, but ignition noises may be a problem; generally the same rules apply in a vessel as in a car. Spark plug suppressors, resistor spark plugs or resistor-type high tension cables and bypass capacitors should be installed where required.

One basic rule is: place the antenna as far away from the engine as possible so that radiated ignition noise pickup will be minimized. Never run the coax near the engine nor run it parallel to other electric wires. Low-voltage circuit wires can conduct and reradiate noise. Although coax is shielded and shouldn't pick up noise, it can and often will when placed near a noise source.

FISHING BOAT INSTALLATIONS

The Susan Marie, a fishing boat operating out of Morro Bay, California, has two CB sets aboard, plus a recording type fathometer (fish finder), two

transceiver mounted in that for quick installation and removal at dock-side. The microphone was conveniently handy in its clip fastened on the bulkhead alongside the control console. One-hand control was thus available for both the boat and the CB unit. Two-speed finger-tip, up-down channel selection was available, with bright, anti-glare, LED readout for instant day-or-night channel identification. On-off, volume and squelch controls are built in, with an LED RF/S meter. The dynamic microphone functioned as the unit speaker when in the receive mode.

Because of the fiberglass hull, a motorcycle/snowmobile antenna was installed, since the fiberglass hull of the boat would not serve as a satisfactory ground plane for a conventional antenna. The antenna's manufacturer claimed an SWR of 2.1:1, or better possible, when the antenna is properly adjusted.

The coax cable was snaked from the antenna through an area between the hull and the interior

bulkhead and connected to the transceiver. Convenient 12-volt DC power was available at the ignition switch terminals. When the installation was completed, the set was turned on and the transmitter activated.

SWR was found to be extremely high; attempts to lower it by tuning the antenna had very little effect. Substituting a non-inductive 50-ohm dummy load for the antenna brought SWR reading on a Bird RF wattmeter down to a point where it was barely detectable. A little bit of troubleshooting by the technicians disclosed that the thickness of the neoprene gasket at the base of the antenna loading coil was causing a relatively high resistance contact between the antenna connector and the antenna. When this was corrected the SWR dropped to an acceptable 1.5:1 over the entire band. We suggest checking this source on similar installations.

An inspection of the motor compartment told us that the motor was already equipped with

Installing CB on A Boat . . .

[continued]



Technicians installing an antenna that requires no ground plane on the small craft.

The 19-foot inboard/outboard powered boat on which the CB set was installed.




radars, a Hy-Gain Model 55 marine radiotelephone, a 16-channel Pearce Simpson scanner receiver and a Loran receiver which is used for navigation.

The two CB transceivers are hung from the top bulkhead close to the pilot's controls. One of these is a President Grant, combination AM/SSB rig; the other is a Hy-Gain Hyrange. Each has its own antenna. The vessel's metal hull provides an effective ground plane.

Fred Cefalu, the skipper, explained that CB transceivers are of great value to privately-owned fishing fleets. Apparently, finding a good school of fish is something like finding a good gold vein — you just don't run around telling everybody about it until you have collected your share. But you are eager to tell your immediate family about it. So the limited range of CB radio is a distinct advantage. The discoverer can contact the family on a base which is not too far away and feel some sense of privacy in whatever message he wishes to broadcast.

BASE UNITS ON BOARD

One owner reports owners of some large vessels are buying expensive CB base stations — the new "smart" types which can be remotely controlled, and wiring in several microphones at convenient locations on the ship so the CB transceiver can be operated from any of several points.

This type installation provides added convenience and allows more of the budget to be poured into the purchase of one better base station, rather than several less expensive, less efficient units. It also simplifies installation, since only one antenna is required. Technicians interviewed said they preferred the most expensive CB units because of their superior noise reducing and noise blanking circuitry. 

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 **CB Magazine**

Remotely-Controlled CB Base Guards Florida Coast

Elmer C. Carlson,
KOD-1752

FCC waiver of rules permits Beacon Marine installation to communicate with vessels in trouble.

Like all pioneers, Allen Bell has had to struggle a long time to achieve his goal — a legal, remotely controlled CB base station. Bell's mission was not capricious or just a test of the FCC.

An avid boater in his spare time, Bell knew of his need and the need of other boaters to keep in contact with land-based civilization while fishing off shore. Close to, or in the Gulf Stream, out-of-sight-of-land emergencies can quickly become tragedies — and do, too often.

Not every boater can afford a VHF/FM marine transceiver, which is even more limited to line-of-sight communications than CB. That's one reason that there is less interference on the VHF marine band — skip is no real problem at 156 MHz.

Allen Bell is owner of Beacon Marine, a prospering two-way radio business. Beacon Marine's present location overlooks the harbor of Port Canaveral. From the front door you can see the growing Trident Submarine Missile Test Center and the gantrys used in the early years of the space program. Looking carefully you might even be able to glimpse the ages-old Canaveral Lighthouse. Much pioneering has gone on here — going back 300 years to the time of Spanish control of Florida.

Allen Bell applied to the FCC back in 1973 for a waiver of the



Beacon Marine's remotely controlled CB base station is operated from this control point.

Commission's rules to permit remote control of a CB base station. The application was returned in December 1973 by the FCC citing six reasons. The first of those reasons requested submission of:

- (a) functional block diagram showing major technical functions of the wireline control link together with a detailed technical explanation of its operation;
- (b) description of transmitter shutdown provisions in the event of control link malfunction;
- (c) description of protective measures to be employed against unauthorized operation through the control link or otherwise; and
- (d) a system network diagram in the form of an outline map showing locations of remote transmitter and control point together with distance of separation.

Among the other queries were explanations of the business activities of Beacon Marine Corporation. Questions of whether Beacon Marine was intending to "broadcast" weather information and other data and whether Beacon Marine

was proposing to relay messages or transmit communications for persons other than the licensee or employees of the licensee were asked. Also requested was an explanation of any other purposes, activities and services, schedule of operation, and who would operate the station — if the use of the station was for other than business purposes.

The FCC also questioned Bell's statement that "calls are made at the request of the Coast Guard to locate missing boats and to have commercial ships activate their HF or VHF equipment." The FCC wanted a detailed explanation concerning that operation as well as a letter of approval from the proper Coast Guard authorities.

Then, and only then would Bell's request for waiver of the Commission's Rules . . . be promptly considered. As Bell related, "So we drew up the diagrams, and since we had the parts available we built a remote control unit."

Bell's application requested permission to operate a remotely controlled CB transceiver from a nearby horizon-dominating landmark. And while he waited for FCC approval he continued


work on the remote control system in his spare time.

Beacon Marine rented space on the top of a suitable structure and leased a physical pair of wires from Southern Bell Telephone to connect the transceiver to the Beacon Marine shop. An antenna was installed and power lines run.

A year had passed. "We figured, that in the public interest, the Commission would naturally grant our waiver soon," Bell said. More time went by and still the Commission had not granted Beacon Marine's waiver. According to Bell, "Then we put even more pressure to get the waiver granted." We contacted Senator Chiles, who became interested in our project. We tried to get some answers as to what was holding up the waiver." The answer was that "Coast Guard executives in Washington are the ones against the use of CB."

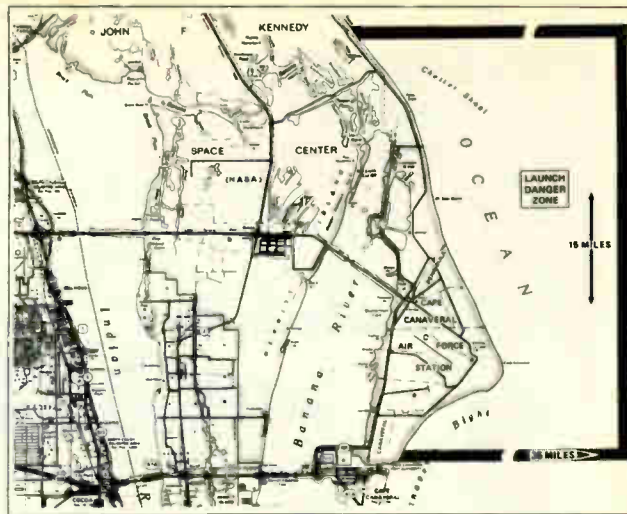
After almost four years Beacon Marine was granted a waiver and is now in operation. Bell is jubilant. "We can talk from here to Fort Pierce (about 65 miles).


"We pick up emergency calls almost every day. One day there was someone with a fractured skull. Another day a guy had his foot pretty nearly cut off. And there are lost boats out there almost every day — breakdowns, the engine dies.

"So this service is very worthwhile to the boaters. And the fact is that we can cover it as part of our normal operating expense. We don't have to pay personnel to monitor Channel 13 — they're here," Bell pointed out. "That would be a big cost otherwise. You can't say we did it for advertising, either, because we're on the air, giving radio checks, anyway." Intended or not, there is subliminal advertising taking place. Boaters call Beacon Marine by name — and Beacon Marine answers. Boaters have come to trust Allen Bell and his crew of technicians just from hearing them help others in trouble. Heard, but unseen, Beacon Marine has become a friend to boaters plying the Indian and Banana Rivers as well as those deep-sea fishing near and beyond the Gulf Stream. 

Right:


Shown on map are 'launch danger zones' extending 35 miles east from the shores of Cape Canaveral. The city of Cape Canaveral is at the bottom center of the map with Port Canaveral just at the bottom boundary of the danger zone. (Map courtesy of TODAY and NASA)





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BE MY GUEST... PERHAPS YOU'D LIKE TO...

YES SIR... WE HAVE A VERY FINE LINE OF PLIERS AND...

SURE YOU CAN... HAND ME A PHILLIPS SCREWDRIVER...

YOU WOULDN'T HAPPEN TO HAVE A PAIR OF PLIERS WOULD YOU?

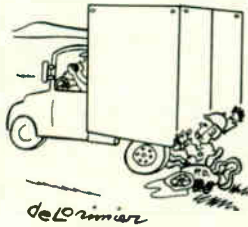
YOU MUST BE A MIND READER... HAND IT OVER!

I'M SURE GLAD YOU CAME ALONG, PAL. YA KNOW... I DIDN'T REALIZE I HAD ALL THOSE TOOLS...

YOU DO NOW!

SCREWDRIVER
PLIERS
WIRE CUTTERS
BLACK TAPE
STATE TAX
FEDERAL TAX...





"I better back on down Woodpecker. Some Cottonpicker is on my backdoor."



"Apparently your late uncle has taken up CB. The message I'm getting is 'Breaker, breaker.'"

My CB Valentine

By William Childress, "Ozark Chilly"

The road lay straight and smooth ahead,
And I was truckin' home to bed,
A simple pad with no Jacuzzi
(If you ain't rich you can't be choosy),
My big ol' Jimmy was runnin' clean
As I set my dial on Channel 14.

Now Channel 14 ain't the trucker's trench,
But I'd been left by a heartless wench,
And I was needin' a quieter scene
Than the rowdy noise on ol' 19.
Lickin' wounds is a private matter;
I just didn't need that CB chatter.

'Twas the 14th of February '74,
And my gal had given me the full score,
The note she'd left said a brand new guy
Had entered her life, and this was goodbye.
(I was out a dollar seventy nine
Cause I'd already bought her Valentine.)

I was just about ten miles from home
When my CB took on an urgent tone:
"Fourteen, fourteen," a woman's voice said,
"Can somebody help? My motor's dead!"
No breaker, no warning, not even a handle
— Just a holler for help on a vacant channel.

I knew what was up ahead for sure,
A gen-u-wine CB am-a-choor.
"Breaker fourteen, with that busted motor,
Truck-a-luck here — could just be your rotor;
I'm in a Jimmy with my name on the door
— Val Tyne outta Tulsa." She said, "10-4!"

I saw her car by the side of the road,
An aging Chevy with a heavy load,

Pullin' a trailer from outta town,
One that was really loaded down.
And there she was, by her CB,
Tiny, grey haired, and seventy three.

She told me her story as I fixed her car
(It was just a loose distributor wire);
She was comin' to live with her niece, who advised
That she buy a CB for such a long drive.
"It was darn good advice," she said to me,
"But Dixie didn't tell me how to work a CB!"

Then she thanked me, and said she didn't live far,
And since I wanted her safe, I followed her car
To Sweetheart Lane, Number 122,
Where I smiled and told her, "This is for you."
How her eyes lit up and started to shine
When I gave her that big red Valentine.

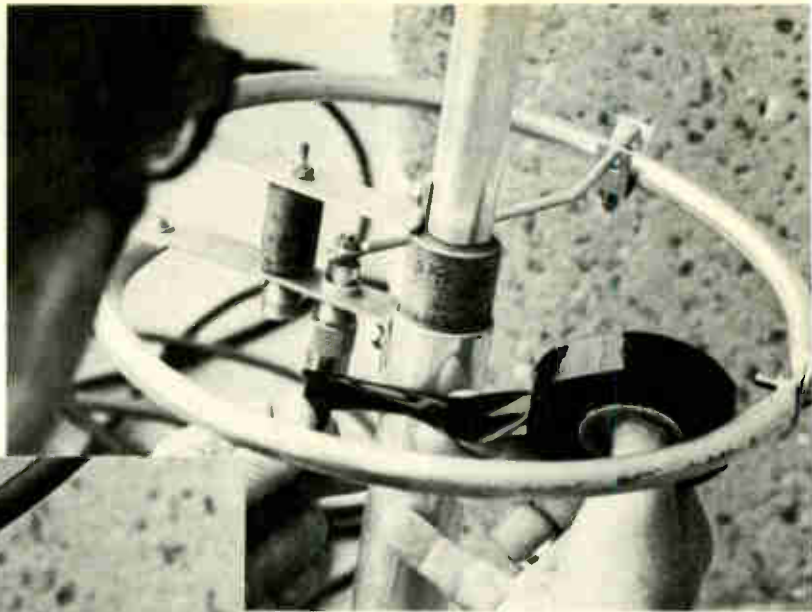
I was lonely that night as I played solitaire,
Then suddenly a voice came over the air:
"Truck-a-luck it's Grey Lady, and I've this to say,
My niece wants to meet you — it's Valentine's Day!
We cooked a big supper with goodies galore,
Can you make it?" I jumped up and hollered, "10-4!"

You can guess the rest — her niece was a doll,
A sweet little redhead about five feet tall,
And somewhere between the pie and the melon,
She made me admit Val was short for Vallon.
Next thing I knew, her hand was in mine
— And an Honest John had made us Mr. & Mrs.
Vallon Tyne.

That's pretty much the story, except that the power
Of love gave us twins, a boy Hart, a girl Flower,
And nobody minds when some other kid grins
And says "Thats Hart and Flower, Vallon Tyne's
twins."
And when we go out, my sweet wife and me,
Grey Lady babysits — and teaches the kids CB.

TECH-TIP

Moisture entering the antenna coax causes the majority of marine radio problems



Above:

When attaching the coax to the antenna it is good practice to apply a non-conductive thread lubricant to all mating surfaces of the cable connectors. A tight wrap with plastic electrical tape insures a moisture proof joint.



Left:

In wrapping the connections with tape, always be certain the wraps are applied from lower to higher points, to enable moisture to flow away from, not into the joints.

Here's One Way To Improve A Marine Antenna Installation


One of the most common faults of marine antenna installations made by inexperienced operators is failure to waterproof all joints in the coaxial lead-in cable. If every joint is not made waterproof, outside moisture will seep inside the vinyl coax covering causing rapid deterioration of the cable. Of course, this brings crackling, pops, and hissing noises. And, your transmit range is greatly reduced.

The PL-259 terminal plug is not weather-resistant. It was not intended for outdoor use in the first place. Thus, even if you use cables with factory-installed plugs, do not assume they are weather-tight; all joints and

connections still must be waterproofed as the last step in installation. A triple wrap with vinyl insulating tape — Scotch No. 33 or a similar product, when stretched taut, is usually sufficient to produce a vapor tight connection.

Where connections are made without plugs (using the cable itself hooked directly to the antenna), some sort of sealing compound is preferred. One of these is General Electric's silicone compound, marketed under the name "Clear Seal". Another, similar substance is Dow-Corning's "Selastic", which is equally effective. Simply cover the joint completely with the

compound, caulking the union so that no moisture can possibly penetrate.

Alphex shrinkable tubing — a heat-shrink, plastic material, offers a more professional method for waterproofing joints, if it is available in shorter lengths. It shrinks to half its original size when heated to 245 degrees by hot air, heat from a soldering iron, etc. Slide a short length of it (of a diameter which just slips over the joint) over the connection, heat it and the tubing will shrink so tightly over the joint in an effort to reduce its diameter one-half-size, no moisture can possibly enter the joint. 

Sunspot Cycle 21

The First Year

CB is expected to remain a viable method of personal communications in the years ahead.

By Dr. Theodore J. Cohen, KFD-2459

Several months ago, newspapers all over the country published dire predictions by scientists that CB radio would be useless during the anticipated sunspot cycle peaks. The scientists intimated that "skip" would get so severe that local communications would be blotted out by skip signals from distant CB stations. But, all scientists do not agree. In the May 1977 issue of CB MAGAZINE, Dr. Theodore J. Cohen stated that "Sunspots Won't Kill CB." Now, in this follow-up article, Dr. Cohen says "CB is expected to remain a viable means of personal communication in the years ahead."

In a previous article ("Sunspots Won't Kill CB," CB MAGAZINE, May 1977), it was predicted that the current sunspot cycle, Cycle 21, would be one of the mildest cycles in nearly two centuries. Given that the new cycle "officially" began in March 1976, and that we are now in the second year of activity, this would be a good time to review the first year's activity. In particular, let's examine the new cycle for any clues which might give an indication of the cycle's future behavior.

Cycle 21

The first spots associated with Cycle 21 were observed in November 1974. These "new" cycle spots, which appeared at higher solar latitudes than did the "old" cycle (Cycle 20) spots, and which had magnetic polarities opposite to those of the old cycle spots (see Figure 1), signaled that

the transition period between cycles had begun.

For the next 16 months, the old and new cycles overlapped, with spots of the new cycle becoming ever more numerous. At the same time, the 12-month running smoothed sunspot numbers (SSN; computed with no distinction made between old and new spots) declined, and finally reached a minimum value of 12 in March 1976. Since, for convenience, it is the minimum in the 12-month running smoothed sunspot numbers which is used to define the start of a new cycle, Cycle 21 is officially said to have started in March 1976.

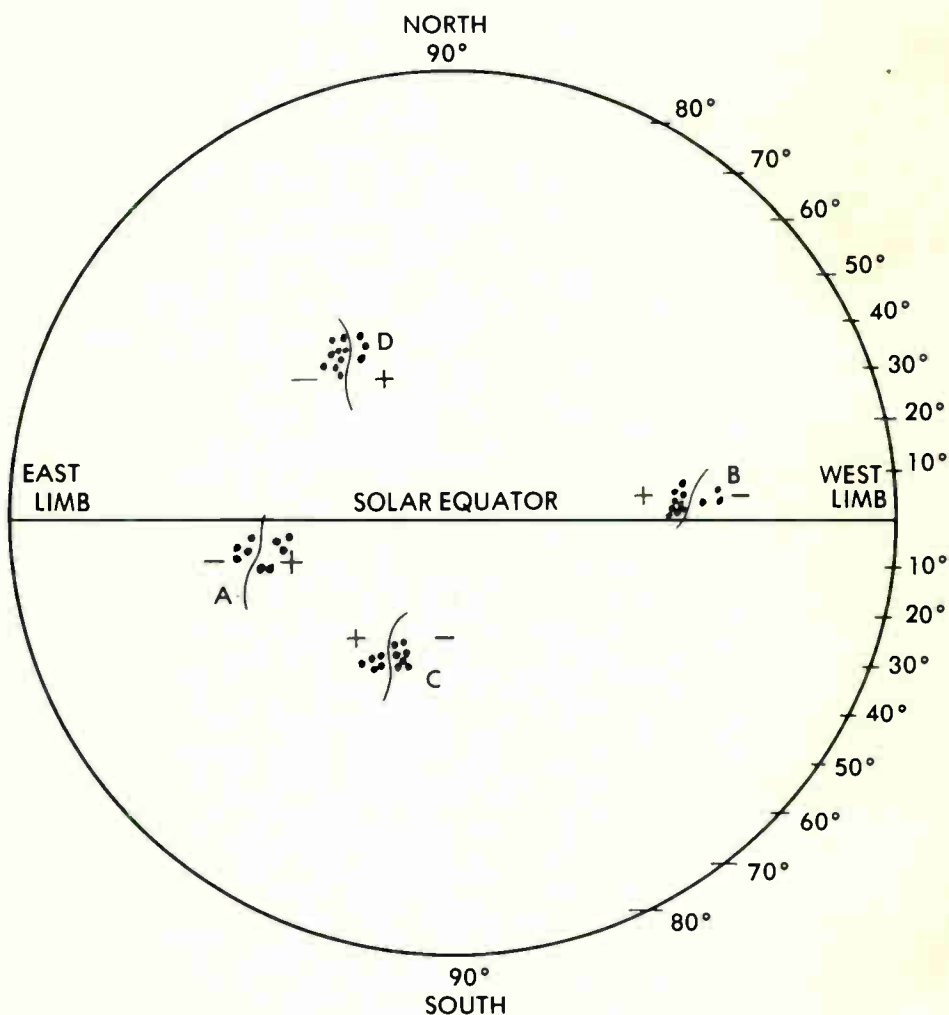


Figure 1. Sunspot regions A and B are associated with an "old" solar cycle, while regions C and D are associated with the start of a "new" cycle. Note that the polarities of the associated magnetic fields for spot groups on the same side of the solar equator are opposite in polarity. As a cycle matures, its active sunspot regions are found at lower and lower solar latitudes.

opposite to those of the old cycle spots (see Figure 1), signaled that

[continued next page]

Sunspot Cycle 21 . . .

[continued]

The First Year's Activity

Table I summarizes the first year's activity for each of the 21 sunspot cycles observed since the Swiss Federal Observatory in Zurich, Switzerland, began keeping records in 1749. We see immediately that the minimum between Cycles 20 and 21 had the highest smoothed sunspot value ever recorded. While several cycles have begun with almost the same value (11), the average number at the minimum is 5. Whether the high sunspot number at the start of Cycle 21 is of significance, however, is questionable. Cycle 19, which began with a smoothed sunspot

number of 3, reached a maximum value of 201 counts, the highest value ever recorded. On the other hand, Cycle 5, one of the lowest cycles in recorded history, also began with a count of 3, but it only reached a peak value of 49. Thus, we are led to search elsewhere for clues to the future behavior of Cycle 21. In particular, let's look at the relationship between the rate at which solar activity increases during a cycle's first year, and the smoothed sunspot number at sunspot maximum.

Figure 2 displays the first year's increase in solar activity for each of the first 20 cycles as a function of the maximum 12-month running smoothed sunspot number reached by each cycle (data taken from Table I). While a spread in the data is observed, the **trend** suggests that the greater the increase in solar activity during a cycle's first year, the higher will be the 12-month running smoothed sunspot number at sunspot maximum.

Let's use this result to examine the activity of Cycle 21. From Table I, we see that the 12-month running smoothed sunspot numbers for Cycle 21 increased by six counts during the first year of this cycle's activity. Using this value (that is, "6"), and Figure 2, the data suggest that the maximum smoothed sunspot number for Cycle 21 will lie between 40 and 145 counts. This result indicates that Cycle 21 may be somewhat more active than it was previously predicted to be, though it is still expected to exhibit only low to moderate sunspot activity.

Conclusion

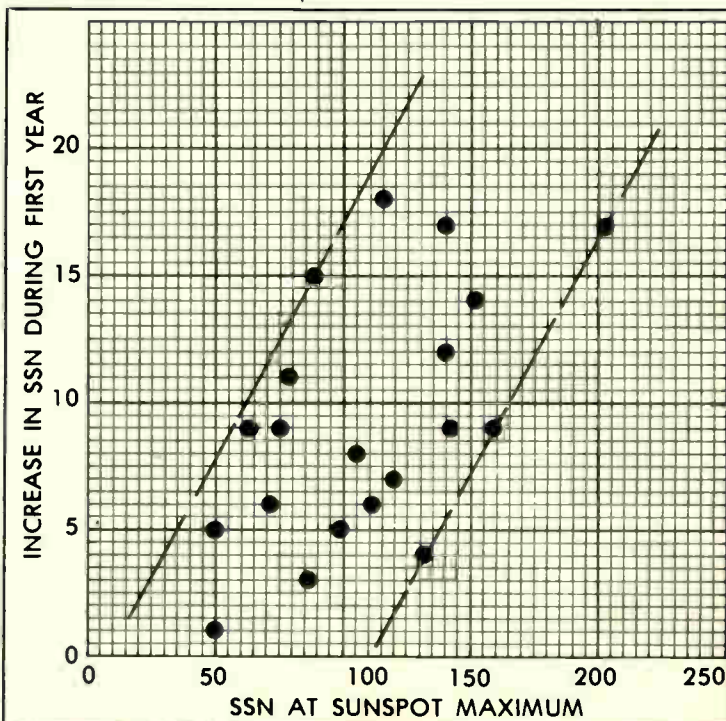
While the activity of Cycle 21 will produce ever-increasing periods of coast-to-coast and intercontinental skip, especially during the winter months, solar activity is still not expected to reach the high levels observed in 1958. As such, CB is expected to remain a viable means of personal communication in the years ahead.

Summary of first year solar cycle characteristics and solar cycle maxima.

Table 1

CYCLE	SSN at SUNSPOT MINIMUM	INCREASE IN SSN DURING FIRST YEAR	SSN at SUNSPOT MAXIMUM
1	8	3	87
2	11	18	116
3	7	9	159
4	10	12	141
5	3	5	49
6	0	1	49
7	0	6	71
8	7	9	147
9	11	4	132
10	3	5	98
11	5	17	140
12	2	9	75
13	5	15	88
14	3	9	64
15	1	8	105
16	6	11	78
17	4	7	119
18	8	14	152
19	3	17	201
20	10	6	111
21	12	6	?

Figure 2. First year's increase in solar activity as a function of the 12-month running smoothed sunspot number (SSN) reached at the sunspot maximum (data for 20 cycles shown). The greater the increase in activity during the first year, the higher, in general, will be the SSN at sunspot maximum





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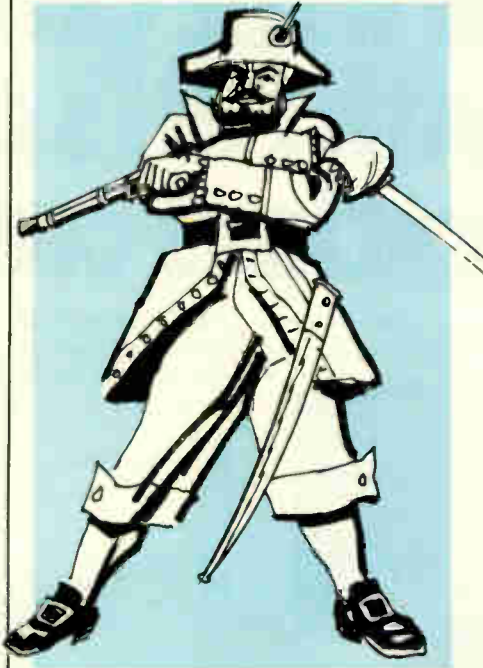
A National Home Study Council Accredited School

The first practical application of radio was ship-to-shore communication. Shipboard radio operators were and still are called "sparks." They got that name because the first shipboard radio transmitters were "spark" transmitters which have long been obsolete. A spark transmitter employs no tubes. The radio signal is generated by a high voltage spark across a spark gap. This kind of signal can splatter over a very wide band of frequencies. In fact, when KFT, a public coast station in Everett, Washington, used its 5000-watt Kilbourne & Clark spark transmitter to communicate with a ship, the entire AM broadcast band was wiped out all over the city. In spite of its simplicity, but because of its interference-causing capability, the spark transmitter was banned in the U. S. almost 40 years ago and replaced by transmitters using tubes.

Large ocean-going ships still use radiotelegraphy to transmit and receive messages in International Morse Code. Most also have radiotelephone systems used mainly for utilizing High Seas Telephone Service.

Long ago, many of our radio pioneers including Ero Erickson, author of this article, went to sea as radio operators. It was a way to see the world as an "officer" and get paid for it. They also gathered valuable experience with radio communications. Unfortunately, opportunities to go to sea as a radio operator are now very limited. There are fewer U. S. ships and those radio operators that are available are tightly controlled. Those were the days, Good Buddy. Ero Erickson tells you a bit about his experiences as a 'Sparks' in his own inimitable way.

The Master's Voice



The ship's master is the absolute authority at all times . . . except when his orders are countermanded by the home office. By radio.

By Ero Erickson,
Radiotelegrapher 1st Class

For centuries, the Captain on the high seas has been the boss. He (and now, maybe, she) has been the absolute master and authority aboard, which includes power to perform marriages, officiate at funerals and the ability to throw you in the brig (in irons: the "slammer"). It was so when vessels in Roman times were propelled by sweeps muscled by human power. Technically, it is still pretty much the same in nuclear-powered vessels plying the seven seas. The

singular difference today is the presence of the Radio Operator, who is the link with the home office.

The Captain can be countermanded via radio, in whatever mode of transmission, be it code, voice AM or FM, or "side band" from the manually operated shore station, or recently initiated automatic contact by orbiting satellites.

The Federal Communications Commission issues a personal radio operator's license, which attests to the holder's qualifications to operate code or radiotelephone equipment in compliance with rules and regulations. There are a half dozen classes of commercial licenses of the type you hold to make a living at operating. Citizens Band, Amateur and Station licenses are not interchangeable. If you have one class of license, you can't cross over and use it improperly, elsewhere. The highest grade commercial license holder cannot operate a CB set which is unlicensed, just because he holds a document which takes study and practice to get. Conditions are changing in licensing structure, as witness the fact that the FCC at this time is reviewing the requirements and rewriting the proposed new rules. Hearings will be held in Washington, with interested parties being invited to comment.

Admittedly, the current examinations are not up-to-date with the complex state of the art of radio because, for one, the transistor had not been invented when the Communications Act of 1934 was passed into law. The certificate in the commercial category still refers to service endorsements by "The Master of the Ship". It's a safe bet that some dry land radio operators have never seen a real seagoing ship, except perhaps on TV.

When the Great Lakes waterway opened for "salties" (ships from the salt water seas), they immediately became boats. Every vessel on the Great Lakes has by custom been called a "boat". When they leave the fresh water, they become ships again.

[continued on page 64]

Bad sound, unnecessary evil.

CBing brings me in loud and clear. No longer do you have to strain to hear me weak or garbled.

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OK, CB. I'll take you up on your offer. Send me 12 issues of CB Magazine and bill me for just \$10.00—a saving of 44% off the newsstand price. Also, send me a copy of your booklet "Emergency Use of CB Radio" absolutely free. If I wish, I may cancel at any time and receive a refund for all undelivered copies. The free gift is mine to keep in any case.

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Channel Master's Omega Base Antenna



Omega CB antenna installed below TV antenna

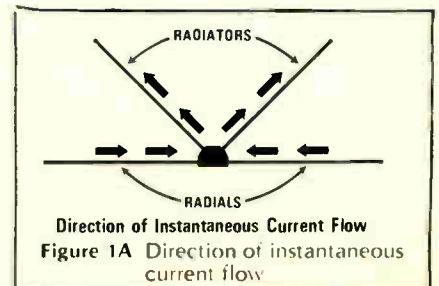
The new Omega CB base antenna overcomes a major problem associated with base station installations: mounting the antenna. With Channel Master's new CB antenna you have four options. You can mount the antenna above or below an existing TV antenna; on a separate mast of its own; or in the attic (provided there is at least 6' 2" clearance).

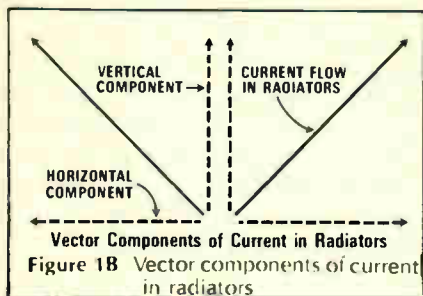
Model 5055 is an omnidirectional, dual quarterwave, co-phased ground plane antenna. It is vertically polarized and

incorporates a unique co-phase design to achieve excellent performance.

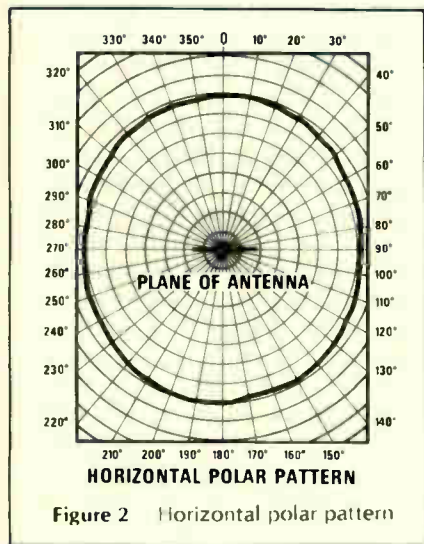
The dual quarterwave radiators are at a 45 degree angle enabling the antenna to be mounted below a TV antenna, and are in phase with each other electronically. If we look at the vector components of the current flowing in the radiators (Figures 1A and 1B), it is evident that the horizontal components cancel each other (go in opposite directions), while the vertical components reinforce each other

(travel in the same direction). Since CB transmission is normally vertically polarized, this is desirable because we want to



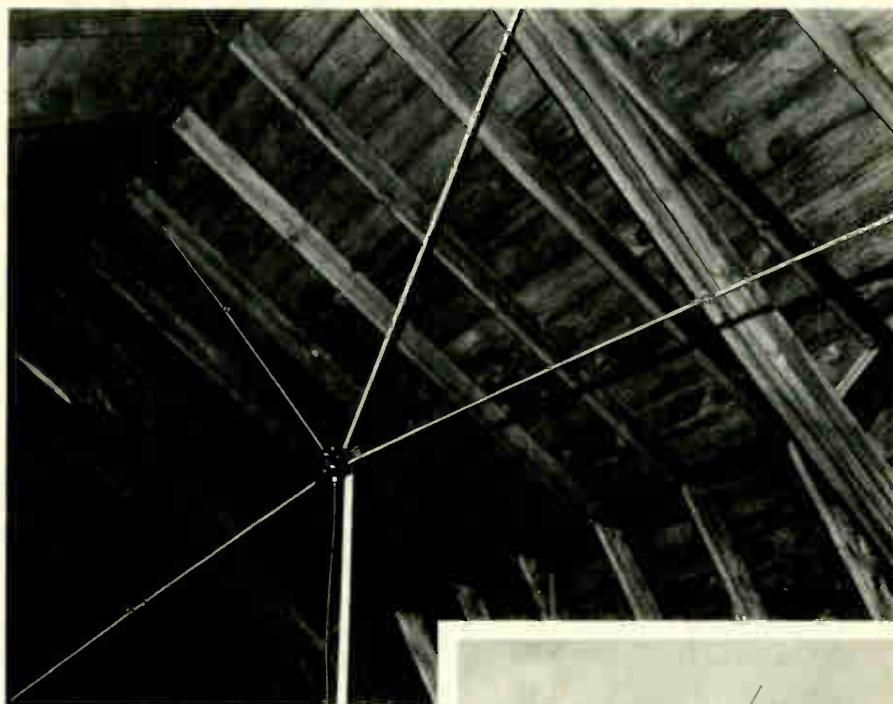


eliminate the horizontally polarized radiation and reinforce the vertically polarized radiation. The net result of the current flow is the same as if Omega were functioning as a pair of dual co-phased CB antennas. This unique design and its electronic performance result in an excellent omni-directional radiation pattern (Figure 2).



Another unique feature of Omega is its shunt matching coil which assures a precise 50-ohm impedance match of optimum performance. The matching coil also provides a direct DC path to ground, thereby minimizing precipitation static and background noise. The heavy-duty shunt coil will not burn out and is unaffected by varying weather conditions.

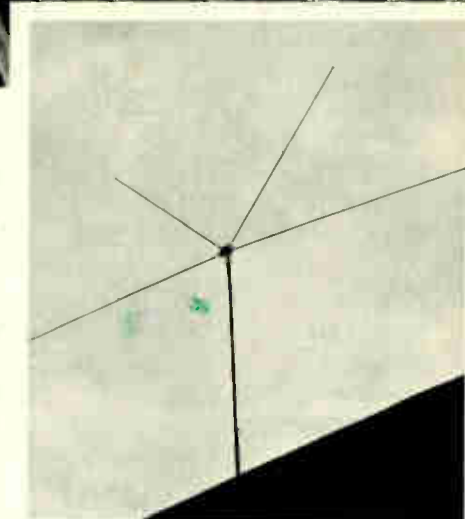
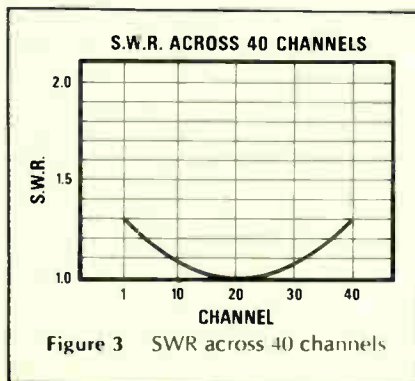
Omega was designed for years of all-weather performance. The



Omega CB antenna installed in an attic

element housing is made of sturdy, durable ABS plastic — the same material used in many of Channel Master's strongest outdoor TV antennas. All screws, bolts and mounting hardware have been zinc plated and are protected by a gold iridite coating. The antenna's radials and radiators have been gold EPC coated and are resistant to salt air.

Preassembled construction enables Omega to be installed within minutes. Just remove the antenna from its carton, swing the elements into place and secure; tighten four collar couplers . . . and it's ready for mounting! That's all there is to it.



Omega CB antenna installed on its own mast

The Omega can be mounted on a 1-1/4" or 1-1/2" masting. The unit requires only 6'2" of vertical space.

Omega's manufacturer claims a 4 dB gain, maximum SWR of 1.3:1 (Figure 3) and Omega works with 23- or 40-channel transceivers, both AM and SSB. For best results, Channel Master recommends using its 100% shielded signal-guard "8" coaxial cable to assure the lowest possible line loss and to keep noise pick-up to a minimum.

More information is available through your local dealer, or by writing Channel Master CB, Division of Avnet, Inc., Ellenville, N.Y. 12428.

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The Master's Voice . . .

[continued]

In the 1930's much of the equipment were spark transmitters, which (had they stayed around) could wipe out every television picture in town, when keyed. There still may be some spark rigs left as emergency stand-by back-ups on tramp steamers. When used, they covered the entire band and, in CB lingo, "bled over" into all frequencies.

I recall sending to WNY, the New York harbor station, while approaching along the "Jersey" coast, only to have WSC (Tuckerton, NJ) break in with a booming "QRT UR QRM is all the way down to 15 meters!" That signal was like a shrieking police whistle and a command to knock it off. In kinder language, it said that I should cease transmitting because the interference was causing a lot of problems to the base station operator. He

My mouth began to taste like
battery electrolyte because there
were 250 volts of direct current in
the earphone cords . . .

probably was on short wave copying some far away ship.

Being a newcomer on the bulk freighter, "The Henry D.", I was really rattled to have such big signal chase me off. I had visions of the FRC (the old Federal Radio Commission) yanking my license. The key became unmanageable like a slippery electric eel due to the big sweat. My mouth began to taste like battery electrolyte because there were 250 volts of direct current in the earphone cords which were poorly insulated by the woven cloth covering. The metallic fillings in my teeth had started to act like plates of a wet battery.

This initiation indelibly impressed my conscience about the ill effects of interference. Even now, I listen a bit on the telephone before speaking. Many hasty people have hung up,

thinking I wasn't there. One side advantage is that I can tell if the call is long distance due to hearing the microwave carrier effect. After the jarring experience, I always send the railroad Morse code "c", which sounds like "I E" in radio code and is intended as a "Clear?". It protects local ears. Sometimes, I get a yen to give some of the loud and discourteous CBers a similar shock treatment, to cure them of unnecessary bad habits.

...a newcomer on "The Henry D.", I was really rattled to have such a big signal chase me off.

Earlier, when I first got aboard the "SS HENRY D." after a train ride to Boston, everything conceivable happened. Apparently, just plain beginner's luck. The bosun's mate got me up at 7 A.M., pounding on the door of the shack (radio room) to inform me that the clam shell boom had destroyed the 2-wire flat top antenna between the high masts. "The ole man wants it fixed", he said. When I went to the bridge, he had other ideas. He wanted a typewriter purchased with the five dollar bill he handed me!

Nowhere in Boston could I buy a "mill" for half a saw buck. Since I needed the job pretty badly, I said, "Yes, SIR" and took off from the dock to the street car (a nickel fare), on 'mission impossible.' A long walk in downtown Boston, looking into store

I got the message, loud and clear
— "Sparks! Where the hell have
you been? We've held up the ship
for over an hour."

windows for a typewriter, didn't get me far. I discovered that I passed the same store several times. The winding, narrow

[continued on page 66]

Double Your Power!

Here's how you can get 100% more modulating power, increase your range and get greater clarity at the same time.

Nothing is more frustrating than asking for a 10-13 and getting no response. You wonder, is anybody out there? Is it my rig, am I getting stomped on, or what?

At last there's a way to really insure you're getting out with the most power your transceiver can deliver—by using the sophisticated, new electronics in the Big 10-4 microphone.

Here's how it works

The human voice when seen as an input signal is asymmetrical. That means when you try to increase the signal coming from all other mikes, the peaks are clipped out before the troughs really begin to modulate. And you know what that sounds like—splatter, screech, and fringe noise—all the things that get in the way of your message.

Now—Amplification without Distortion

The brand-new Big 10-4 microphone has an innovative, space age electronic circuit made up of over 40 miniaturized components that at last solves this problem. By redistributing the peaks, the Big 10-4 creates a more symmetrical signal and can amplify your voice to full modulation before clipping occurs.

The Peak Redistribution Modulation circuit or PRM gives you a phenomenal increase in power—a gain of over 4dB in usable modulated RF (radio frequency) power. And that means you more than double your talk power! At the same time, you get the best quality sound your set can deliver because the entire signal is modulated (before clipping) and the whole range of your voice is being transmitted. It's the most natural sound you've ever heard.

Puts You Ahead of the Game

Because of its unique circuitry, the Big 10-4 lets you talk further down the road so you can get a fix on conditions sooner. You'll get the bear story, traffic, and weather conditions faster. And you don't have to repeat yourself because your new, added power will get you out without getting stepped on.

There's an added safety factor, too, giving you more confidence because you know that when you need to the Big 10-4 will get you through.

Fingertip Power Control

A slide switch right on the face of the mike lets you control the increase in power with the flick of your finger—without ever taking your eyes off the road. This precision control feature gives you an infinite variety of gain settings so you can get the range you want and still be easy on your buddy's ears if he's close by.

Absolutely Free—Wired for your set

The US CB Service Company will connect the input jack for your Big 10-4—at no charge. Just be sure to fill in your make and model number in the coupon below so we can install the jack compatible with your set.

The only way you're really going to appreciate the Big 10-4 is to give it a complete, rugged road test and experience the increased range and clarity you get. Take a full two weeks to try it out and decide if you want to keep it.



Double Guarantee

The US CB Service Company, the makers of the Big 10-4, stand behind their microphone in a truly unique way. Not only do they give you a 2 year limited warranty on parts and workmanship, but they also guarantee that the Big 10-4 will double your modulating power and give you greater clarity or you pay nothing.

Your check not deposited for 30 days

We hold on to your check until you have had ample time to try out the Big 10-4 and decide whether or not it's for you. (In fact, we retain your payment for a full 30 days before processing it. That's how confident we are that once you get your hands on the Big 10-4 you won't want to let go.)

If getting out is important to you, then you owe it to yourself to take the Big 10-4 for the two week road test.

Specifications:

Sensitivity	—50dB
Gain	16dB
Increase in output power through PRM	4dB
Impedance	0-2500 Ohms
Switching	Relay or electronic
Cord	5 wire, color coded, shielded
Power source	9 volt battery

Your Big 10-4 comes complete with • 9 volt battery • 5 foot coiled wire • Input jack already attached to fit your set • Detailed wiring guide • 2-year Double Guarantee

14-Day Free Trial Offer

Yes, send me the Big 10-4 mike with the patented PRM electronic circuitry for the Full-use, No-risk, 14-day Free Trial period so I can put it to work on my set. Enclosed you will find my credit card number or my check for only \$29.90 plus \$1.45 for Handling & Insurance. I understand that I can try the mike for 14 days and receive my check or charge slip back from you if I decide to return it.



Please check the appropriate box Check enclosed
 Master Charge BankAmericard American Exp.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Master Charge	Credit Card Number	Mo. Yr.
Interbank No.		
Signature _____		Exp. date _____

Print Name _____

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Important: Input jack wired for your transceiver:

Print Make _____

Print Model Number _____

Mail with your check to: US-CB Service Company
 450 Livingston Street, Norwood, New Jersey 07648 276

The Master's Voice . . .

[continued]

streets, apparently built on cow paths before the Revolution, got me turned around completely. The sun came out shortly, revealing a few landmarks which set me right.

Apparently, divine providence watches over dumb apprentice radio operators because there, in the window of a pawn shop, was a Royal Pica typewriter. With minor haggling, I got it for five dollars and took off for the street car with the non-portable mill under my arm.

Far off at the end of the long dock, the Captain was blowing the whistle. With a permanently cramped right arm, I struggled in double time. At the foot of the gangplank, with half of the crew hanging over the rail, I got the message, loud and clear — "Sparks! Where the Hell have you been? We've held the ship for over an hour." I almost dropped the machine, when he asked for the receipt which I forgot to get. Thinking it over, I figured that he had a notion that I had gone west with his fin, never to return. Maybe that's why he held the ship.

It turned out that the "Old Man" was a Finn and a kindly man of great bulk, who would publicly castigate me for being unsmart, but privately, later — he would say that he had to enforce discipline on his ship and do favors like advancing a few dollars of "spending money", while proclaiming to others that he didn't have an extra cent aboard.

We shoved off for Providence, R.I., to unload more lumber. Since it was winter time, the Captain worried about icing conditions which might cause damage to the ship. He called me to the bridge and asked me to contact the Standard Oil tanker, "Emery Dean", which was steaming out. I looked up several listing books and found the call letters in the Berne (Switzerland) list. There was no response to several calls, which meant that the operator

was off watch. "Ok", he said, "Take a message to the Skitkovitch Stevedoring Company and ask them if we should use tugs upriver."

I started the quench gap and called WCC (Cape Cod). He said, "Up" which meant: go to 675 meters and send it. Fine. It seemed that I was getting pretty good at this. Standing around with my earphones on, I could see a young seal swimming along with the ship—a cute little bugger and a sort of an escort. Suddenly, my day dreaming came to an abrupt halt when I realized that WCC was supposed to call me with an answer. I hadn't heard him. I looked at the dial of the 3-tube receiver and got a mild shock. I had left it on the "working" frequency! Quickly sliding down to 600 meters, I called WCC, who very sarcastically (at least it sounded that way) sent: "Where have you been? — UP".

...current examinations are not up-to-date with the complex state of the art because, for one, the transistor had not been invented when the Communications Act of 1934 was passed into law.

The message on the "Up" said to use tugs due to the ice — which rattled me so badly that my notes were hard to read. Time was running out and the Captain would be in trouble, I thought. I'll get fired for the delay, but copied the notes on a message form. I tried the typewriter but it had jammed. Finally, I got it together and feeling important, I hurried to the bridge and handed it to the Captain, who was coming down the companion way. He took one look at it and said, "Sparks for cry sakes — we're already tied to the dock!" (I looked over and sure enough, we were and I hadn't noticed that the engines weren't running.)


So what could I say (Sir)? I slinked away and for the rest of the day, I stayed out of sight. Later, reflecting on the fiasco, it developed that the Captain wasn't mad at me at all, because actually, my bumbling per-

formance had saved many dollars in tug fees. It had made points at the main office for the Captain and showed him to be a fearless navigator with expert control of his twin screw steamship.

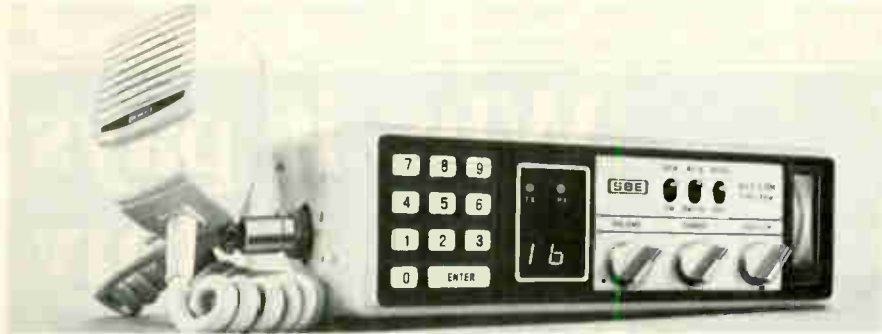
Maybe some day, I could be a fearless master, I thought, however, subsequent chronology and aptitude didn't make it so. There are, however, quite a few wireless and code operators who moved up to become captains of ships, military, industry and government. Consider for example, Captain Kurt "Stay-Put" Carlson of the American Export Line, who has been televised time and again for sticking with his sinking "Flying Enterprise" and finally jumping overboard when it sank. The whole world watched his dedication to Rules of the Sea, which he survived. He started out as a combination mate/operator, which means he operated the wireless as well as standing a deck watch as second mate.

Then, there is the late General David Sarnoff, who won fame as the land-based operator who handled the distress traffic from the Titanic, to become a captain of industry as the President of the Radio Corporation of America. Let's not forget Senator Barry Goldwater of Arizona, who spent considerable time in Asia teaching the Chinese the Morse code and is now a very active radio Amateur W7UG.

Retired Chief of Police of Muskegon, Michigan, Fred Castenholtz, used to be a radio operator/technician of the department before he advanced to the top spot. In the landwire area, one remembers Chet Huntley of broadcast network fame who lived in a railroad depot out west and worked pounding brass. Show people like Gene Autrey strummed his guitar while working down at the railroad station before he became famous. It's probably the way he exercised his sending hand.

Of course, there are many more who provide historic proof that operating a communications radio station stimulates creativity, be it the citizens band hobby radio, amateur, civil or military, or just plain working for an interesting living at it. 

Most Sunday sailors' boats are equipped with CB; a growing number are adding VHF marine radio, where shore stations operate on marine channels.



SBE's Key-Com 55 was first VHF-FM entry with keyboard channel selection. Also totally synthesized, unit offers 55 channels for marine, plus 34 receive-only for police, fire and ambulance monitoring.



The new TI-2000 VHF-FM marine radiotelephone is a fully synthesized 55-channel, 25 watt transmitter and 76-channel receiver. Channel selection is by keyboard entry.

available through use of a digital frequency synthesizer.

VHF marine radios operate within the 156-162 MHz band. They can be used for ship-to-ship anywhere and for ship-to-shore communication when within radio range (15-50 miles) of Coast Guard, Limited Coast and/or Public Coast stations. When within range of a Public Coast station, the operator of a properly-equipped VHF-FM marine radio can utilize Marine Telephone Service to place and receive telephone calls to and from almost the entire world through the telephone network.

More boats, however, are equipped with CB radios than marine radio because there are many inland waters (lakes and rivers) that are not served by shore stations operating on marine channels. In such areas, only the use of CB radio is practical. Where VHF shore stations are within radio range, many skippers have equipped

The New "SMART" Marine Radios Have Been Introduced

By Jack Helmi

Not long after the introduction of new "smart" CBs (see August/September 1977 CB MAGAZINE) that utilize microprocessors, a new "smart" VHF-FM marine radiotelephone for communicating on the marine channels was announced by Texas Instruments. SBE had previously introduced a keyboard-access marine radio; others in the highly-competitive marine radio field can now be expected to introduce similar units.

The typical VHF-FM marine radio transmits on 25 watts and is

operable on up to 12 transmit-receive channels and two receive-only weather station channels. By installing appropriate crystals, a 12-channel unit can be operated on up to 12 of the 55 VHF marine channels. However, all of these channels are not available for use by recreational vessels. And, the weekend sailor seldom has use for as many as 12 channels. Many skippers will undoubtedly buy a VHF-FM marine radio even if only a fraction of its channel capacity is required. All-channel operation, as in the case of 40-channel CB sets is easily made

their boats with both a CB and a VHF marine radio. The CB is used for communicating with CB stations on shore and on other boats. The marine radio is used primarily for navigational purposes and for telephone service.

VHF marine radio is not new. Some 30 years ago, Leo Sands, editor-in-chief of CB Magazine, pioneered in the application of VHF marine radio and designed systems for many tugboat companies on the Atlantic Coast.

[continued next page]

Smart Marine Radio. . .

[continued]

CB has come a long way since 1958. VHF marine radio took longer to be adopted by recreational vessel owners, but they are now doing so. And, the marine radios are getting "smarter."

For example, the Texas Instruments TI 2000 VHF-FM marine transceiver is an all-channel 25-watt radio that features a fully synthesized 55-channel transmitter and 76-channel receiver, including four weather station channels. The set operates on all USA and ITU (International) channels with no additional crystals required. Depending on the channel selected, the 2000 automatically selects simplex, duplex, or receive-only operation that is appropriate on that channel.


The new marine radio has 12 keys on a front panel keyboard for quick, simple, direct channel selection. Channel memory allows instant revert capability to the calling channel or to the last communication channel used. For example, if the skipper is talking on Channel 58 and wants to bring another party into the conversation, he simply presses the revert key and the set is switched to Channel 16; Channel 58 is stored in memory. After making contact, he may return to Channel 58 simply by repressing the revert key. The last working channel is also remembered when the microphone is placed in the holder clip which automatically switches the unit to Channel 16 (156.8 MHz), the safety and calling channel. Thus, the set is automatically ready to receive calls following conversation, and the last working channel is automatically stored.

A three-position switch on the front panel selects 25 watts maximum power, one-watt power for harbor or short-range use, or PA for ship hailing with an accessory external speaker.

The 9-pound radio can be mounted in any position in its special anti-theft tray. Case sealing and buried conductor circuit board construction ensure

long life in the marine environment. The set operates from a 12-VDC power source. Through the use of optional adapters, operation on 110 VAC or 24 to 36 VDC is possible.

The new design incorporates a front panel with volume-off-on switch, 25W/1W/PA switch, US/ITU switch, preset weather

channel and channel revert function keys, and a 10-key channel entry keyboard. Speaker and PA jacks are provided to accommodate remote speaker or hailer options. A compatible remote control accessory, providing for operation from two locations, will be available in 1978. 

Why it pays to buy CB equipment where you see the CEDA Seal



CEDA, the Communications Equipment Distributors Association, is composed of the major wholesalers in the personal communications industry, working together to maintain standards of quality, service and consumer protection.

When you see the CEDA Seal in a CB dealer's window, it means you've found a CB specialist, one you can trust, because he's pledged to uphold CEDA's standards. Associate Dealer Members of CEDA are equipped to handle your problems and answer your questions, and serve your CB needs not only before you buy, but *after*.

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OR PHONE (618) 549-1242.

The Coast Guard provides a duplex radiotelephone service on 4, 6, 8, 12 and 16 MHz as part of its responsibilities relating to marine safety, and search and rescue. The principal communications consist of the collection of Automated Mutual-assistance Vessel Rescue (AMVER) System reports and weather observations. In addition, the Coast Guard will handle maritime safety-related traffic from all ships having appropriate HF/SSB capability, in those instances where communications could not be established on regularly designated safety channels, such as 2182 kHz or 156.8 MHz.

The weather observations supplement reports received from regular weather reporting stations and ships which may be too far from a storm center to provide accurate weather conditions in coastal waters.

The AMVER System is a maritime assistance program that facilitates and co-ordinates search and rescue efforts in the oceans of the world. Necessary data are collected by means of a communications system whereby merchant vessels and other qualified vessels report their sail plans and periodic position reports to the Coast Guard for entry into a computer that maintains dead reckoning positions of participating vessels throughout their voyages.

Calling and working frequencies for ship-shore-ship communications will be in the duplex frequency mode as indicated in the table. Frequencies shown are carrier frequencies and emission is single sideband voice.

**HF COAST GUARD
RADIOTELEPHONE
FREQUENCIES**

(Frequencies in kHz)

COAST	SHIP
4428.7	4134.3
6506.4	6200.0
8765.4	8241.5
113113.2	12342.4
17307.3	16534.4

'Go to sea' with the Coast Guard — or pace the bridge of ocean liners, with a scanning monitor receiver

Scanning The FM Marine Band

By Roy Newhall, KWI-6010

Many who love the sea, and are as fortunate as I am to live within a few miles of its shoreline, have real adventures in store for them by listening-in on the radio voices of the tankers, the tugs, the trawlers and the weekend sailors who ply back and forth along the horizon, moving up and down the coastal waters.

These ships which operate within the U. S. Coastal Waterways use a VHF/FM radiotelephone to communicate with one another, with their marine bases ashore and with the Coast Guard. In order to monitor the FM Marine Band, one must use an FM receiver capable of covering frequencies between 156.300 MHz and 162.550 MHz. Most hi-band VHF scanning monitors fall well within this category.

I have logged well over 12,000 hours of marine monitoring along the Connecticut shoreline of Long Island Sound and along the sheltered shores of Cape Cod during the past few years. I'll list the most commonly used marine frequencies and explain how each is used. You will have to decide which interests you.

Safety at sea was one of the very first uses to which radio communication was applied, shortly after the first code messages crackled across the Atlantic Ocean between Europe and America. Most sizable commercial ships were equipped with "radio rooms", and radio operators who "spoke" International Morse code were a standard part of the ship's complement. Later, radiotelephony followed, using amplitude

modulated (AM) signals on frequencies ranging from 2 MHz to 5 MHz. These frequencies were fine for long distance communication between vessels on the high seas. But as marine radiotelephones became more popular, the band became very congested. It was evident that a more reliable service was necessary for short range coastal communications.

The VHF/FM marine band was approved for use during the late 40s, but implementation of the new service was scheduled over a long period so that ship owners would not suffer great losses of investment in equipment already installed. Full implementation was completed and use of AM on the old band was eliminated on January 1, 1977. Now all coastal radiotelephones use FM in the VHF band.

The new marine radio band actually offers three separate services in one; first there are the safety services which use selected frequencies controlled by the Coast Guard, there are also public communication channels which permit a vessel to connect directly into land telephone facilities and place phone calls anywhere throughout the world, and finally there are channels set aside for ships to talk with one another and with land-based limited coast stations which provide marine services. The scanning monitor will most likely be most interested in the Coast Guard safety channels because that is where most of the action is.

[continued next page]

Scanning . . .

[continued]

Private (non-commercial) yachting traffic accounts for the largest volume of traffic during the summer vacation months, but commercial traffic may be heard on the band year 'round. Of all these busy voices heard from the sea, most are happy and carefree while others are strictly businesslike.

Once in a while, however, we hear frantic, urgent calls for assistance, and we stand by plotting azimuths and distances on our nautical charts while a real-life drama unfolds. Sometimes a vessel is lost in dense fog, or has run aground, or is merely out of fuel and needs a tow. At other times, a vessel may be sinking, or a man has been lost overboard, or the most feared of all marine tragedies . . . fire. We have heard all of these events at our monitor station within the past three years. In most cases the Coast Guard works quickly and effectively to avert tragedy, but in some cases the vessel, and even lives aboard, are lost.

There are many times when monitor "buffs," using scanning receivers, have a big advantage and can act as unofficial "ears" for the Coast Guard and other safety agencies. For one thing, their scanners rapidly sample the critical channels every few seconds, while Coast Guard transceivers are dedicated to the channel they are working at the moment. Also, there are gaps in the Coast Guard monitoring facilities, especially in capturing the weaker signals from small craft without lofty antennas. With many monitors scattered all along the coastline, there is a far better chance that a distressed vessel will be heard. Monitors who work a relatively smaller local area also have a better chance of obtaining an accurate "fix" on the location of a vessel, especially if they know the local shoreline and have detailed nautical charts available. While it has not been FCC policy to grant authority for FM marine monitors to operate land-based transmitters, most monitors have access to a telephone which is

TABLE 1

Channel	Frequency	Channel Use
6	156.300	Intership safety. (Required on shipboard.)
16	156.800	Primary calling and emergency channel. (Required)
22	157.100	Primary Coast Guard working frequency
12	156.600	Secondary Coast Guard working frequency
83	157.175	Coast Guard/CG Auxiliary working frequency
21	157.050	Inter-Coast Guard communications channel
9	156.450	Common communication channel, all ship and shore
68	156.425	Non-commercial ship-to-ship and ship-to-shore
70	156.525	Non-commercial intership only
WX-1	162.550	National Weather Service
WX-2	162.400	National Weather Service

TABLE 2

FREQUENCIES OF DUPLEX MARINE TELEPHONE CHANNELS

Channel	Ship	Shore	Channel	Ship	Shore
24	157.200	161.800	84	157.225	161.825
25	157.250	161.850	85	157.275	161.875
26	157.300	161.900	86	157.325	161.925
27	157.350	161.950	87	157.375	161.975
28	157.400	162.000			

frequently more effective than radio when there is emergency traffic.

I have seldom seen an occasion when the Coast Guard was more preoccupied on its working frequencies than when the "Tall Ships" sailed the waters both inside and outside of Long Island Sound on their way from Newport to New York Harbor for the Bicentennial celebration on July 4, 1976. Many of the crews were volunteers and few of the foreign crews spoke English well. The "working frequencies" fairly "crackled" with requests for navigational assistance, weather reports, and other types of communication. Our local Coast Guard stations accommodated

America's guest ships as best they could, and were busy giving assistance.

When a small Portugese vessel went aground inside Long Island Sound, there was no one there to answer her calls for assistance. The dry cell batteries which powered her FM marine radio were almost dead before my station detected her signal and alerted the Coast Guard via landline so that they could dispatch a cutter to her assistance.

Later that same summer, we heard a call broadcast on Channel 6 (not monitored by the Coast Guard) from a small 1-watt "walkie-talkie." The operator was reporting a boat fire. The

vessel had run aground on a nearby island and, as he called, the operator announced that they were abandoning ship . . . he could not reach the main radio. In this case, after notifying the Coast Guard, I was able to reach the pilot of a patrolling aircraft operated by a local radio station on my CB base rig. He arrived first on the scene and broadcast a running account of the incident over his radio station. The craft burned to the waterline and sank before help could arrive, but the occupants swam ashore, chagrined and dripping . . . but safe.

Last winter, long after most of the pleasure craft had been put in mothballs, I witnessed two tragic accidents on two successive weekends. In both instances, crew members were swept overboard into the choppy, icy seas. On the first occasion, it was the skipper who was lost and neither of his two passengers could manage the boat . . . nor did they know how to place an emergency call on the ship's radio. My scanner stopped on Channel 6, which is not monitored by the Coast Guard. A woman was screaming "Man overboard, man overboard." I notified the Coast Guard by landline and they immediately dispatched a cutter which could communicate on Channel 6, the ship-to-ship safety channel. Although the cutter was able to establish contact, neither of the crew had any idea of their location. By use of direction-finding equipment and triangulation, the Coast Guard finally located the craft and put a crewman aboard . . . but the skipper wasn't found until the spring ice had cleared the Sound.

In the second accident a week later, all crewmen were capable and knew where they were. But the sea was too rough and a man cannot survive in water with floating ice for more than a few minutes. This man, too, was lost . . . they were friends of this writer.

The moral to these stories is, of course, that the sea can be very treacherous, even to those who know it and respect it the most. Marine radio is often the only link between a few fragile lives bouncing like corks on an angry

sea and those who stand a constant vigil to help them when they need it.

The FM marine radio service was carefully planned by the FCC, the Coast Guard, and other air-sea rescue services. It enjoys the "capture effect" of frequency modulation (FM) and "cellular effect" of skip-free, line-of-sight range, results in high quality, reliable communication within 20 miles or more of the shoreline, where all but a very small portion of marine traffic is concentrated.

The Coast Guard has committed itself to the FM marine service and has spent 15 years equipping its stations with high quality facilities and building remotely controlled sites to fill the gaps between its "manned" facilities. Vessels on the high seas still utilize the medium frequency marine band, but only with single sideband equipment and high power to span the oceans. The Coast Guard still must maintain watch on these frequencies, as well.

We do not mean to slight the value of CB in this article, because both we and the Coast Guard are aware that there are many more CB-equipped pleasure boats than there are those which are equipped with FM marine radios.

Most monitors will no doubt confine their listening to the Coast Guard controlled safety services and the intership and ship-to-shore communications frequencies. There are nine channels which are used frequently. These channels and their frequencies are listed in Table 1. You should keep in mind, however, that channel usage may vary somewhat from one area to another.

There are eight FM marine channels dedicated to marine safety. These are all under Coast Guard control. The two safety channels not listed in Table 1 are used to pass Coast Guard administrative traffic, and are not of primary interest to the marine monitor. The most important channel in the entire marine band is Channel 16 (156.8 MHz), which is used to initiate radio calls to any other station. Once communication has been established, users are required to switch to a

working channel to carry on their business. For communication with the Coast Guard, the vessel will be asked to switch to Channel 22 or Channel 12 if 22 is busy. Though not required by regulation, every vessel should have at least one of these channels available. Although Coast Guard base stations do not operate on Channel 6, all Coast Guard vessels do use it when attempting to contact and assist another craft.

Channel 83 is of importance to the marine monitors because many of the Coast Guard Search and Rescue missions are carried out through volunteer Coast Guard Auxiliary vessels. This channel has been set aside for Coast Guard Auxiliary use. Much action will be found here.

Channel 21 is a frequency set aside for the Coast Guard to contact its own units. Most all calls between their base stations, their vessels and their helicopter will be found here. All USCG units stand a constant watch on Channel 21.

There are actually about 24 channels set aside in the FM marine service for commercial vessels, non-commercial craft and port operations. The only common channel set aside for use by all these functions is Channel 9, and for that reason it is usually the channel monitored by marinas, fueling facilities, etc. Private yachts (non-commercial) will normally converse on Channel 68, (used for both intership and ship-to-shore) or Channel 70 (intership only). Uses of commercial channels are far too numerous to discuss here, although the most common intership frequency used by commercial captains to chat with one another is Channel 13 (156.675 MHz).

There are nine pairs of duplex channels that are set aside for direct radio connection between vessels and the local telephone company, depending upon location. Although these channels are numbered 24 through 28 and 84 through 87, each channel occupies two separate fre-

[continued next page]

Scanning . . .

[continued]

quencies that are spaced exactly 4.6 MHz apart.

In communicating with the telephone company, the ship transmits on the lower frequency of the pair but listens for the phone company to respond on the higher frequency. For example, to reach the New York City marine operator, a vessel would call on 157.250 MHz. The New York marine operator would respond on 161.850 MHz. The differences between transmit and receive frequencies are accommodated automatically by the ship's radio-telephone, but to monitor both sides of a conversation, the listener must understand the scheme, as it is listed in Table 2.

Monitoring Public Communications channels differs from one area to another,

depending upon the procedure used by the particular operating phone company. In most urban areas, such as New York City, the phone company obliges by retransmitting the ship's signal on its own transmitting frequency (as a "repeater" would operate). This is done to alert other users that the "line" is occupied. In such cases, the monitor need only listen to the higher frequency of the pair in order to hear both sides of a conversation.

Techniques used by other telephone companies may differ: some transmit a tone signal to indicate a busy channel, while others do not transmit anything (this later scheme is not common because it does not work well). Where the line is held open with a transmitted tone, it presents a problem for most scanning receivers which will, of course, remain locked onto the busy channel. Some modern scanners, such as the Bearcat 210, will automatically release the channel when they recognize that particular tone.

This monitor does not really believe there is much to be gained by listening-in on the public telephone channels. The only traffic you will find there amounts to private or business calls between individuals. Remember that if you reveal anything at all that you hear while monitoring phone calls, the Communications Act of 1934 provides for a \$10,000 fine and/or a year's vacation in the cooler, even if you do it in the spirit of justice.

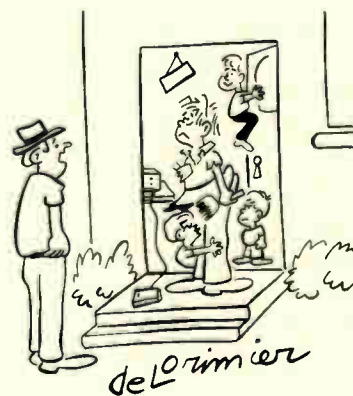
I use a 16-channel programmable scanner for my own monitoring activities, and 11 of those channels continuously scan marine frequencies 24 hours a day. I live on a hill within a mile of the shore. At my monitoring station I copy every Coast Guard base station between Brant Point (Nantucket), Massachusetts and Cape May, New Jersey. I normally can hear most any vessel for 20 to 40 miles at sea (depending upon the height of the ship's antenna).

These ranges are several times the predicted range for line-of-

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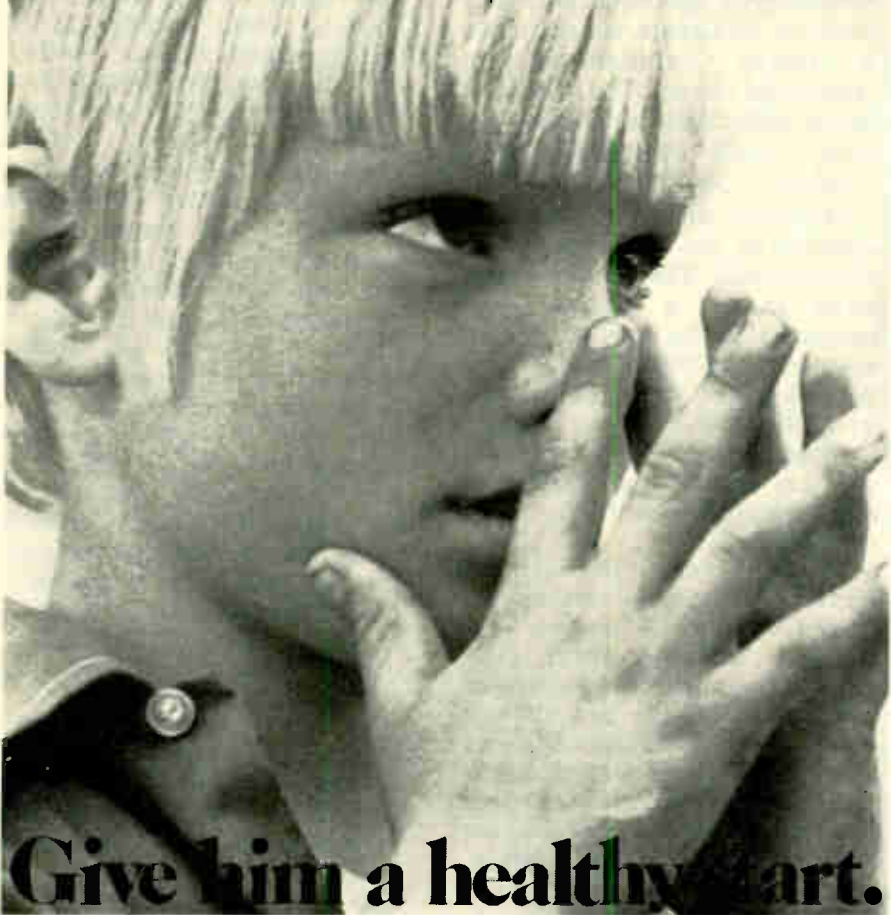
"You the guy that called for the 10-33?"

sight transmission, but I can only explain them in one way . . . the very heavy humidity that lies within a few feet of the ocean's surface, especially during the hot summer months, refracts VHF radio waves much more than the standard 1.6 times correction factor applied to normal radio distance formulae. I would expect that other readers who live near the coastline should also experience this effect.

I wish all my readers were as fortunate as I to live near the sea

because the FM marine band offers exciting listening. The band is only effective on the water-Guard. These areas include the major navigable rivers and the Great Lakes. I believe that every boat, no matter how tiny, should carry at least a hand-held radio. For those who cannot take advantage of FM marine radio, I would urge the use of CB . . . it does offer an acceptable alternative for small craft. 

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Navajos . . .

[continued from page 22]

many of the young people to the Navajo culture. "With the exception of some remote areas, the majority of Navajos speak English, and many of them have not even learned their native language." He continues, "In the business community, we have to deal with non-Navajos much of the time and English prevails. But many of us are still more comfortable speaking in Navajo. It is better for me to communicate in my own language, especially with children. In Navajo, we can make a better relationship to traditional stories. The kids get a better understanding. It takes too many words to convey your meaning in English."

The education of children is essential to the economic future of the Navajo. The last few years have shown a marked improvement in the graduation rate among young Navajos. Leonard tells why. "For many years, there was little motivation for Navajos to attend school. The parents did not care about it, and there was no encouragement for the children."

Today, many exceptional Navajos, Leonard Haskie included, serve as models for students confused about their place in the world. The feelings of alienation from the loss of their cultural identity are slowly being overcome. Leonard and other achievers spend much of their time lecturing to students about the possibilities in their future. On a regular basis, Leonard travels to schools, lecturing to junior and senior level civil engineering students. As a consultant for the National Science Foundation, he attempts to recruit them into the science related fields of training being offered at Northern Arizona University.

Despite such efforts, Leonard is aware of lingering problems. "Everyone wants to get into a professional field, but not all can go to college. We have no funds

for it. There was a time when we had all the money we needed and no interested students. Today, it is just the opposite. We have too many potential college students and too few funds.

"Some students have to settle for a trade school. Others can join the military service and receive educational opportunities that way. Some can attend colleges and universities which have special financial programs set up for the Indian. Those who cannot take advantage of these opportunities may be left out all together."

Leonard Haskie is a good example for young Navajos to follow. He grew up on the Reservation, at Shiprock, New Mexico. After completing his undergraduate work at Northern Arizona University, he went on to Brigham Young University for his Masters Degree. Since graduation, Leonard has served six years as a civil engineer for the tribe, one year as an associate professor at Northern Arizona University, and presently, at the age of 32, is the Tribal Director of Design Engineering. For Leonard, the ties to his culture are important. He lives with his wife and three children on his small cattle ranch near Shiprock. His weekends are spent tending the ranch, when he is not busy consulting or studying for his Ph.D. "In a couple of years," he declares, "I would like to go to Stanford and get the degree. But when I am done, I will return. This is my home."

In the meantime, Leonard Haskie will continue in his efforts to improve the life of his people. He will travel thousands of miles, studying projects, supervising architects, lecturing to students, and keeping in touch with the cultural heritage of his tribe. Wherever he goes, his CB will be along, a useful tool in the progress of the Navajo future.

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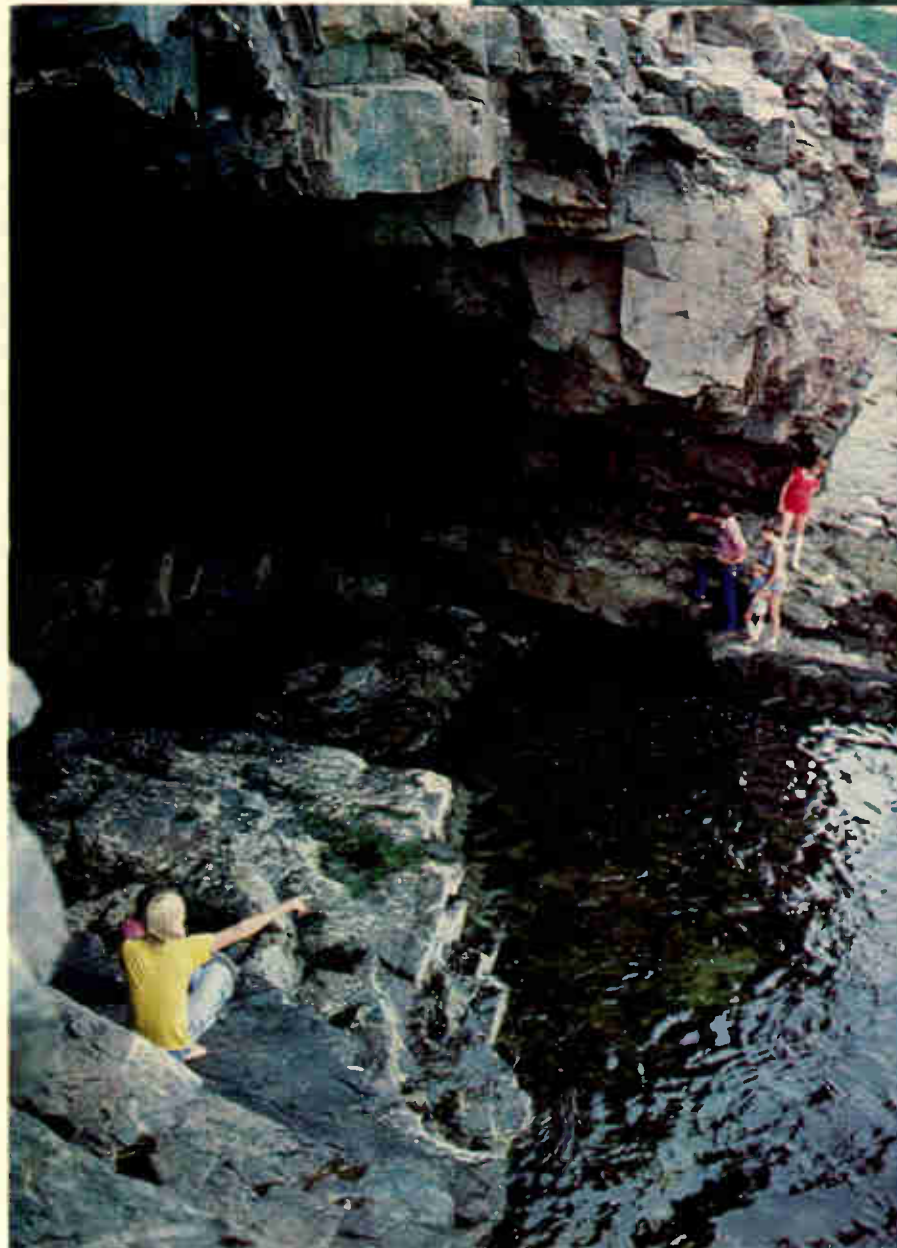
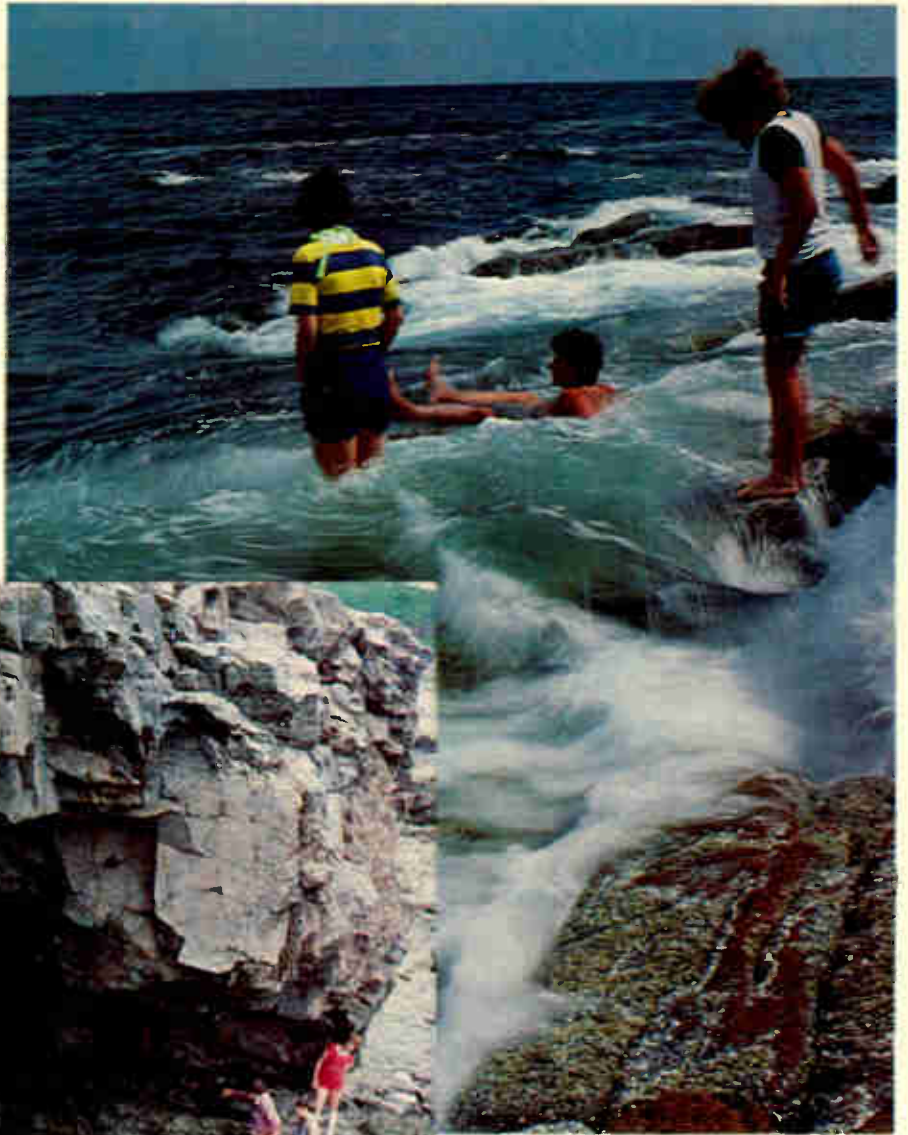
CB Magazine

Bar Harbor . . .

[continued from page 39]

dead in the water between Bar Harbor and Nova Scotia. A fisherman heard the distress call, and relayed it to Floyd, who telephoned the Coast Guard. They maintained contact in this manner until the Coast Guard could reach the craft.

Monitoring from the largest rock-based island on the Atlantic Coast has its strange side. With Cadillac Mountain jutting 1,500 feet about the sea, Abbott



This tourist explores a cave along the Mount Desert Island coast. Many have underestimated the rugged terrain, becoming stranded by, or even drowning in the ocean or one of the many lakes.

Even in July, the water borders on 50 degrees and nights drop into the 60's, making ocean swimming a brave man's endeavor for visitors from the south.

describes the island as a "giant antenna." "Side band operation is unbelievable. Bleedover is terrific."

Mount Desert Island, one of the few places on the Atlantic Coast which could always reach Europe by radio during World War I, seems to attract skip.

As Mrs. Simeonau tried to contact a breaker, Clough mused, "Either skip or a southern visitor." It proved to be a skip, and Clough explained in his down east voice, "In the winter, we go a lot on accent." But with all the park visitors in summer, one can't tell the difference without an-

[continued next page]

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Bar Harbor . . .

[continued]

swering. Even that is not a sure thing. One member answered a break from a man who said he was in Portland. Portland, Maine is about 100 miles from Bar Harbor. After some confusing double talk, the monitor determined the man was indeed in Portland — Portland, Oregon.

Yet locally, Abbott says, "Our problem is the mountains." Because they block transmissions, it takes four monitors to cover the island completely. "Beams don't help. Nothing helps."


The mountains are also the scene of the auto accidents which make up most REACT calls. Abbott contends, "There are more accidents here in the summer than in a large city." The area around Cadillac Mountain is also where the REACT members proved last spring they had the stamina for extensive search and rescue efforts. Following the discovery of an apparent suicide note in an abandoned car, local, state and park officials assisted by REACT, combed the carriage roads and mountain trails. Some of the trails are treacherous, with iron ladders for scaling cliffs; many of these ladders have been knocked down during the previous winter.

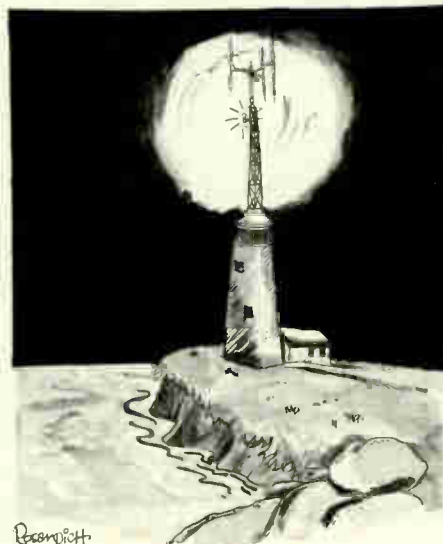
In three days, REACT members alone searched 69 miles of trail

and 18 miles of carriage roads, with the 42 search and rescue workers putting in a total of 372 man hours. The girl was not found. Abbott noted women are included on the three-man teams. "Women can do as good as men, if not better at times."

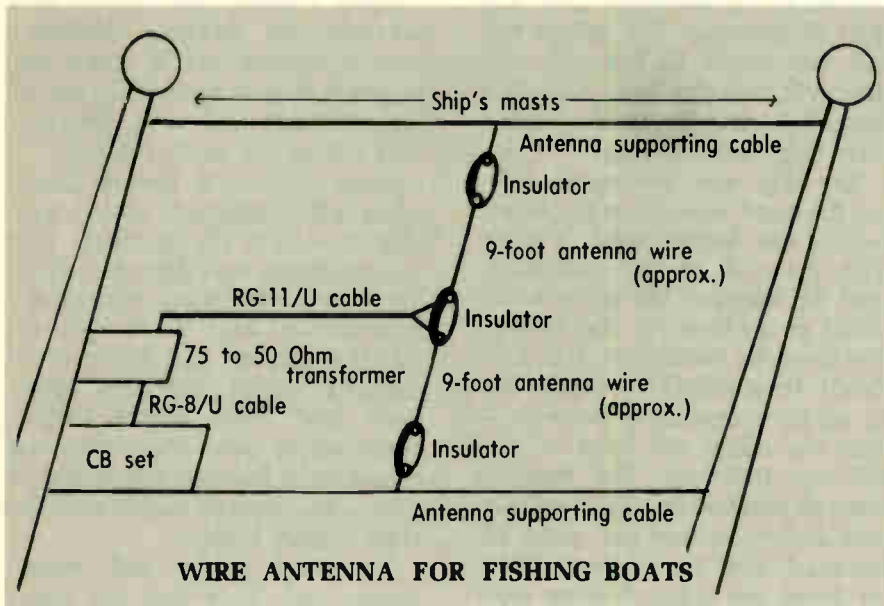
Their portable CB units, purchased with funds from bake sales, proved valuable, Hobbs says. "The immediate problem is not to lose anybody doing the looking." He said search headquarters knew where everyone was at all times.

Perhaps Mrs. Simeonau has the honest explanation of a REACT member's enthusiasm for their monitoring. "We're just a little bit nosy . . . we don't want to miss anything." Hobbs agrees he does feel hurt if a red light and siren goes by and he hasn't heard about it first on his CB or police scanner.

But more and more, REACT members are hearing what is happening in Hancock County, and hearing it first. Hobbs says many incidents are now being reported which would have gone unreported in years past. Traditionally independent, the Maine citizen took care of his own problems because it was too difficult to reach authorities. REACT is bringing public services closer to both residents and summer folks. Hobbs states, "They now feel that it is all right for them to depend upon it." 



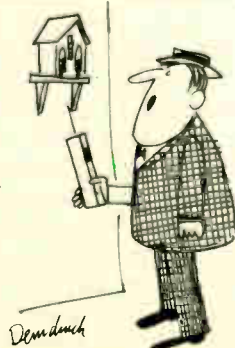
Wire Antenna For Fishing Boats



The twin masts of fishing boats have been used to support a half-wave dipole antenna. These masts are often considerably taller than the approximately 18 foot height required for a 27-MHz half-wave antenna. A light but strong supporting cable is strung between the masts near the top. At the center of this cable is fastened one end of a strain insulator. An antenna wire slightly less than 9 feet in length is fastened to the lower end of this insulator. The other end of this wire is fastened to a second insulator, to which is attached another approximately 9 feet of antenna wire and a third insulator. The free end of the third

insulator is securely fastened to the midpoint of a second supporting cable stretched between the masts lower ends so that the whole assembly is tight under sufficient tension so that the antenna will not sway in a gale-force wind. This is illustrated in Figure 1.

The antenna is fed through RG-11/U 75-ohm coaxial cable connected to the antenna wires where they are attached to the second insulator. (At this point, the antenna impedance is approximately 75 ohms.) The 75-ohm coax is run horizontally to a 75-to-50 ohm matching transformer. From the matching transformer, RG-8/U 50-ohm coax is run to the transceiver.



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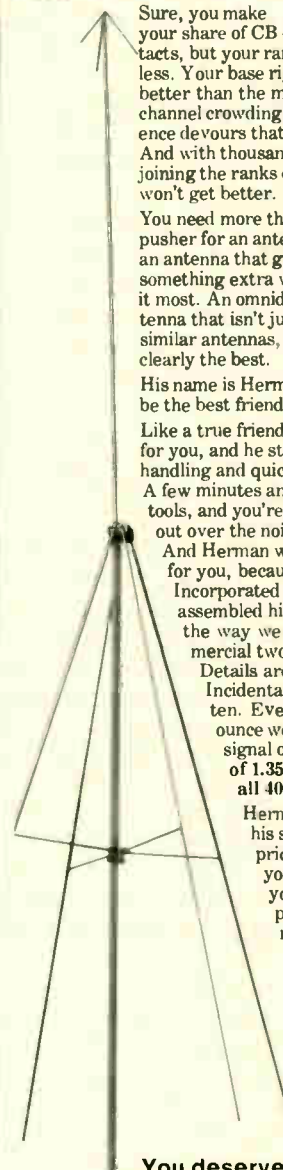
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The Silent CBer . . .

[continued]

the night, Doug told himself, and stretched back in the swivel chair, raising his arms over his head to pull out the tightness in his back.

Then a voice crackled faintly from the speaker, "Please help me!"

Doug snapped to attention, his head close to the set.

"Please help me!" the voice, muffled and weak, said again.

There was a pause, and Doug turned up the radio to just short of full volume.

"Someone please help! I've had a wreck!" It was a woman's desperate voice. "Will someone please answer?"

Is it skip or local? Doug was almost moving his lips when the question passed through his mind. The signal was weak but steady. As weak as it was, it couldn't have lasted very long if it were skip.

"Help me! Is anyone listening?" Her voice began to sound frantic. "I'm off the highway. I've had a wreck."

Which highway? The question clicked in Doug's mind. He grabbed the microphone from the desk top, wanting to scream into it, to ask her for her 20. He looked at the microphone bitterly, realizing how stupid it would have been for him to block the channel trying to talk. He dropped the black plastic microphone to the desk top.

"I'm south of Bos. . ." she said, the last part garbled as a Pennsylvania signal stepped onto the channel.

Did she say Boston?

Another signal from New York shot into the speaker. The skip was beginning to build again, he knew, and he still wasn't sure what she had said.

Tell me where you are, Doug pleaded to himself. Tell someone. Can't anyone hear you? Someone please hear her!

He turned the volume to full, cranked the squelch open, and stuck his ear against the speaker. The noise was deafening, but he opened his senses, straining to sort her out of the skip.

"... south of Boswell . . ."

He had heard it, he knew he had. Boswell, about 35 miles north of the ranch on the highway. That's got to be it, he told himself. Turnersville, where his father slept in a motel, was 25 miles in the other direction.

Doug pulled back the curtain. It was still snowing, maybe harder. His mind raced. How long can she last? It must be below zero now. If I drive to Turnersville, that will take 45 minutes. The police will call the police in Boswell, and they will look for her. And that could take maybe another hour. How long can she last?

The skip was screaming now, but his mind was out in the snow, feeling the heavy wind, packed with the chill of the mountains. And he weighed his options. He could go looking for the woman and hope he found her. But if he didn't, then what? Would he use up an hour driving to Boswell — time she might not have — and still not find her. The road to Boswell climbed into the foothills, and if the car had just gone off the road, then it would very likely be down the slope, hidden from the road in the cloud of snow.

But maybe I could find someone along the way and send them to a telephone to call the police. While the police worked their way down from the north, I could be going north.

He couldn't remember any houses along the road. Ranchers on the way to Boswell lived off the road on an old railroad line.

There is a service station where the highway starts climbing into the foothills, Doug remembered. Someone there could call for help. And I could be looking all the time I drive to Boswell.

He stopped considering options. He would drive to Boswell and stop someone along the way and have them call or, if he didn't meet anyone, have someone at the service station make the call.

Doug rushed through the house to the kitchen door, grabbing things along the way that he thought he would need. The first aid kit in the bathroom. Two wool blankets from the hall closet. And a hand heater that he lit with matches in the pantry. He stuffed a few matches in his shirt pocket and grabbed his fleece-lined

hunting coat and gloves.

The snow-filled wind bit at him like a desperate animal, blowing in rasping gusts and chilling him before he had taken three steps outside the warm house. Bracing against it, he trudged to the Pinto. The little car, covered with a foot of snow, was even more egg-like. He knocked the loose powder off the front and rear windows, jumped behind the wheel and started the engine. Without waiting for the car to warm up, he put it in gear and edged out of the driveway and onto the road that led to the main highway.

Snow drifted in places. Doug never left second gear on the two-mile stretch to the highway. The main highway was deserted when the little car crept to a stop at the intersection, and there was no sign that anyone had driven on it recently. What tire ruts there were had been almost totally obscured by more snow. Flowing ridges were the only indication of where the asphalt ended and the right-of-way began.

The car's heater still wasn't warm, and Doug had too many cold places for the hand heater to do much good. He trembled uncontrollably. Doug took a long breath in the bitter air and eased off on the clutch. The Pinto slid for a few feet as he made the corner and headed north into the falling snow. When he had the car in a straight course, and more or less in the right lane, he switched on the mobile CB. He found Channel 11 and turned up the volume so he could hear above the car noises and his chattering teeth.

Signals fell into each other, cancelling out the modulation in a siren-like racket. He turned the heater fan to low, but that didn't help. The skip was cresting, and he knew it would cover the woman's signal. Doug kept the volume up, just in case, and held the car on 30 miles-an-hour. The wind blew the Pinto about, and the bottom shaved small drifts, but he held the speed and the course.

The highway was level across the open pasture land, but the snow compacted Doug's vision to a murky tunnel. He could see directly in front of him, but anything else was no more than a

grey image to the side. Something to the left caught his eye, and the braking car slid 30 yards past the object. Doug reached under the seat for his flashlight and stepped onto the snow. The flashlight picked up the form of a vehicle, a feed truck that had apparently broken down and left off the right-of-way for morning repairs.

Doug returned to the car and slowly started. The skip was still thundering, and he knew that if it didn't settle, the chances would be slim that he could hear the woman. It was by chance alone that he had been able to pick up the signal on his base, and now he was relying on a mobile with its short antenna and miniature speaker.

More snow, and no wreck. He didn't even see another vehicle. He crept along 10 more miles. Up ahead, the service station lights filtered through the night and the snow.

Doug slowed when he made out the sharp angles of the service station. The revolving sign in front wasn't lighted or revolving, and the lights he saw from the distance were security lights and not those around the pumps. Only a faint bulb glowed behind the station's glass walls. Doug could see the cash register, a desk and rows of spark plugs, cans and fan belts. But no attendant. No one sat behind the desk or pushed out into the snow when he pulled onto the lot. A "closed" sign hung on the door.

He cursed himself for not going to Turnersville for help. In 15 miles he had not seen another car, not even a fresh rut. Desperation flared inside him like a bonfire, warming him with fear that he had made the worst possible mistake. He had no choice now, he knew he would have to find the woman.

The Pinto again crept onto the highway, but not onto a flat, straight surface. Ahead of the little car lay the foothills. Doug kept up his speed, fearing that the car would not make the climb. His snow tires held their grip, though, and he began to top each hill. He thought of his mother and the way her car had stalled, the way the truck's lights had hit him full in the face, the way the air thundered with the horn. And the

crash, tearing at him and everything around him. He fought the memories just as he had fought the cold, putting his concentration on something else — topping the next hill, and then the next.

If the car left the road, then there's got to be some sign of it that the snow hasn't completely hidden, he told himself. Doug scanned from side to side, looking ahead only to make sure that he was in his lane and that he would have enough speed to make it over the next hill. Snow-coated trees lined both sides of the road, giving way only to rocks or drop-offs. Doug stopped his car four times to shine his flashlight into the depressions, but he found nothing. The heater never could catch up with the blistering cold that swept into the car each time he stopped to look, and Doug was almost always trembling. The hand heater was useless against the icy air that shrouded him. He kept driving, bobbing his head from side to side.

Something made him stop, grabbing his attention almost like a stop sign or a siren. He wasn't sure what had made him slide to a stand still along a slight downhill part of the highway. To the left was a long row of pine trees. He threw his flashlight beam on the scrubby little trees. The trees were bunched 10 to 20 yards deep, and beyond them the ground seemed to fall away. Part of the row was green. That was what stopped him. Every tree along the highway was coated with snow except for part of the row.

Doug jumped from the car, leaving the engine running, and looked closer at the trees. They had been run over. He could see where limbs were pulled off. Tire ruts, partially filled in by the snow, lead into the trees. The young trees, not much more than seedlings, had bounced up again, almost as if they were spring-loaded.

He ran into the green barrier, pushing away the limbs that slapped at his face, following the snow-cleared path. And then he saw the car. The sedan was on a flat shelf of ground 10 feet below the highway level. Its front was crushed, and the hood bulged up

in the middle. The car rested against an outcropping of rock that had stopped it just short of a sheer drop into a chasm.

He half ran, half slid down the incline. Through the left side glass he could see a figure lying in the front seat. It was a woman, pulled into a tight ball with an overcoat covering her. She appeared to be asleep, and Doug feared for a chilled moment that she was dead. Then he saw the rising and falling of the overcoat, and she jolted as if she had been hit with a hard, sudden pain. Doug opened the door and leaned inside the car.

The woman jolted again, but she seemed unaware of Doug. He shook her shoulder, and she began to react half consciously. Her eyes rolled toward the flashlight beam, and she realized that someone was with her. She tried to sit up, and Doug sensed a bulkiness about her, something more than the numbing fatigue of cold and darkness.

She was pregnant, and from the way her body bulged under the coat, Doug guessed that she was very, very pregnant. She was young, in her early 20's. Long brown hair fell to her shoulders and made her white face seem all the more pale and deathlike. Dried blood formed a small dark patch under a puffy, distorted nose.

"Thank God," she said. "Did you hear me on the CB?"

Doug nodded, making the motion as exaggerated as possible. He looked at the faint glow of the CB. The number 8 was lighted on the channel knob. She had switched channels, he realized, figuring that the young woman did not know how to properly use the radio and not know to stay on the emergency channel or the local hailing frequency.

He peeled off his jacket and blanketed her shoulders. The wind whipped into the car, and Doug slid onto the seat and closed the door. The woman looked at him, expecting him to say something.

He took the pad and pencil from his pocket and quickly

[continued next page]

Smokeys . . .

[continued from page 28]

chatter to keep you convinced the CB's on; most locals just dispense with all the trick breaker-break stuff and get on and talk.

"Hey Big Mac, you got the Ground Hog here, and I seen you rolling down the hill there on Three Mile Turn. Where you be headed?"

"Oh, I'm aheaded for that Sacramenta town to breathe in some of that good valley smog. I seen that four wheeler of yours running up the hill and I wuz afraid you wuz gonna run off the road hiding behind them big ole Hollywood sun glasses, an' I couldn't be sure it was you, but I figgered to give you the shout anyway. C'mon back now!"

"Yeah, well you got me spotted, for sure, Big Mac! I'll tell you, I wouldn't want to go near that valley today. I just picked up the weather report, and it's going to touch one-oh-seven down there, and I'll be thinking about you sweating it out down there.

"You talk about hiding out . . . well this old boy's going to be hiding out for sure on three week's vacation, and I'll be hooking up the old pickem-up truck to that fifth-wheel trailer and we'll be running up through Oregon and Washington and seeing a little country. While I'm gone, the Preacher and Sierra Gopher will be taking care of things for me, so you truck 'em easy so we can chat with you when we get back, you hear?"

"Well, you have a good one, and say hi to Naked Nancy down there by Bush 16, and I'll be talking with you in about three weeks."

"That's a four-ten on that, Big Mac. I'll be rolling your way again in about three weeks and talking to you on the superslab. This is Ground Hog, S.O.B. number 3 going 10-10 on the side KSW-9165 clear."

Big Mac's a trucker; Ground Hog's a Smokey. They're friends on the air and in person. They have another thing in common — both are S.O.B.s. — No, not what you're thinking, but — Save Our Bears and that fairly new organization, formed in January,

1976, now boasts a membership of over 10,000 members, from each of the contiguous 48 states and every Canadian province.

The idea for the S.O.B. Club developed during a local meeting of the Interstate 80 Control CB Club, a national organization dedicated to helping CB ers along nation-spanning I-80. Much of the discussion at the Rocklin, California, chapter meeting was the amount of air-time being devoted to time and radio checks, and Smokey reports. One member claimed he was an S.O.B., and had a card to prove it, because he didn't give time checks or Smokey Reports on the trucker's channel. The card was obtained in Oregon, and had nothing to distinguish it from many other dime store novelty items, but to Officer R. I. "Dick" Phillips of the California Highway Patrol, it provided the inspiration for the Save Our Bears Club.

Together with Highway Patrolmen Chuck Vaughn and Don Hogg, Phillips designed a new card, complete with the Official California Grizzly Bear emblem emblazoned on the front, along with the motto "Travel The Double Nickel Day And Night, Smokey Bear Won't Bite".

While the cards were being printed, the three talked up the idea of the S.O.B. Club over the airwaves and in personal contacts, and soon had a long waiting list for the yet to be delivered cards. Truckers wanted to become S.O.B. s, some perhaps to prove they were bonafide S.O.B. s, but many also expressed the desire to clear the airwaves of the mindless chatter of time checks, Bear Hunts, and the endless rounds of "How many pounds am I hitting you?" and "what's your twenty, old buddy?"

"Breaker break one niner for a short radio check."

"Don't rightly know why you want a radio check there, radio-check breaker. I'm hearing you like you sitting here next to me, and there's no one here in the cab of this ol' Pete but me, so I know you got a radidio an' it be working jes' fine. Now if you still want a radio check, look at that black thang you got in your hand; that's the mike. There's a curly cord comin' out of it, and you lookit

where it goes. Now it's proolly attached to a black box in your dash or under it. It's got a coupla knobs and a light or two. That's your radio, and you jus' checked it all by youself! Seriously, folks, we got better things to chat 'bout on this here channel. We got a dozen an a half truckers out there ready to fall asleep as' you gonna put 'em in slumberland with all that radio check nonsense."

For the officers, the S.O.B. Club was an opportunity to prove their humanity and the fact that the face behind the windshield, the body behind the badge, had a personality and human shape and form.

Don Hogg became Official S.O.B. Club Member Number 3, with Chuck Vaughn S.O.B. Number 2, and Dick Phillips holds the undisputedly deserved S.O.B. Number 1. Soon after the cards were printed, word got around and other Highway Patrolmen wrote and called asking about the S.O.B. Club. The initial printing, funded by the original triumvirate, was soon exhausted, but more were printed and blocks of numbered cards were sent to interested Smokeys at a cost calculated to cover the cost of printing and mailing. The numbers issued to Patrolmen had passed 5,000 by October of 1976, 10,000 by January of 1977, and 18,000 by September of 1977. As of this writing, well over 10,000 member cards have been passed out by patrolmen.

Running a day's patrol with Don Hogg, we got a better insight how the S.O.B. Club worked. States Hogg, "The S.O.B. Club has brought the truckers and CHP Officers into a closer working relationship. I now have several friends who are truckers I didn't even know until the S.O.B. Club was started."

"Break one-nine for a Smokey report. We got a Smokey east-bound on eight just now going past the Baxter turnoff."

"Hey breaker — you get them Smokey s angry, they gonna run away and hide and you won't see them out here when you need 'em. You better get yourself in line and join this S.O.B. Club, that's Save Our Bears, and quit putting the bell on our buddies. They good people, and besides, you put out

the report, they jus' likely to pull a flip flop and come up on you and put the chomp on the top ten inches of your antennae and hit you up for a couple dollahs worth of Green Stamps to boot. These Californy bears can and do get mean, but you treat 'em nice and they jes' smile and treat you nice on back. They real people, and you find that out if you join the ol' S.O.B. Club. But us S.O.B.'s don't want or need your Smokey reports."

The S.O.B. cards generally are issued personally by officers. Needless to say, an organization the size of the prestigious California Highway Patrol cannot have within it an organization calling itself S.O.B.'s without an official report somewhere on file. Dick Phillips, in a March 28, 1976 report to his superiors, wrote in typical police report style . . . "On February 18, 1976 the first S.O.B. cards were issued to truck drivers that use I-80 who had eagerly awaited their arrival since we had first mentioned the cards in early January. With this we got to know the truckers on a personal level. Each card that was issued was issued by a Patrolman. This way, each member had a passing acquaintance with at least one of us. Each member agreed not to give "Smokey" reports and that just knowing each other we could help each other and pass along needed information; i.e. traffic conditions, weather reports, traffic hazards, and suspected drunk, reckless or sleepy drivers. Also to assist those who were in need of assistance, fuel, tires, or mechanical help."

Phillips report continues, "It was never expected that this little club would catch on like it did, but we are proud of every S.O.B. in the nation. We have tapped a vast natural resource the (C.B.) air waves and reaped a wealth of friendship and cooperation for ourselves and the department.

Perhaps the S.O.B.'s had succeeded in tapping a vast natural resource; perhaps the report writer was merely guilty of writing some excessively flowery prose, or justifiably proud of his part in launching a program that grew to such proportions in so short a period of time. But the

fact is, an October, 1977, S.O.B. Jamboree at Marine World-Africa USA drew in excess of 4,000 S.O.B.'s.

Possibly, the club's phenomenal growth has been partially due to the fact that the time was ripe for something like the S.O.B. Club to happen, in much the same manner that the fuel crisis and trucker slowdowns of the early '70s made the times 'right' for the awakening of the dozing CB giant.

Every new CBER with a set 'right out of the box' can barely wait to get his ears up and a mike in his hand, a phenomenon recognized several years ago by the FCC in one of their many "if you can't beat them — join them" liberalized CB rulings which created the instant user initial-zip code-instant license. And virtually every CBER who's stayed with a set long enough to get over the first broadcastwillies has found himself (or herself) motor-mouthing for the sheer pleasure of talking and being heard.

After the mike's hung on the dash for several months or more, and the look and feel of new have worn off the set, slow, subtle changes come over the CBER. The immediate thrill of being a broadcast personality is gone, but the memory of the good CB uses linger on; the lady with the kids for whom you summoned a wrecker; monitoring the aid which summoned help for that near fatal accident, contact with a Smokey who later ran down the weaving driver.

And the motoring CBER also knows after several months what the Smokeys have known all along; that CB alone is no 100% Insurance Policy against Bears marauding your car in search of Green Stamps. Many CBERs know the sinking feeling of finding a black and white in their rear view mirror even though the radio hasn't issued anything but 10-36's and radio checks for the past ten miles.

"Break for a Smokey report. Got one running eastbound at Blue Canyon."

"Thanks for the report, breaker. I haven't been eastbound at Blue Canyon for over half an hour. Wonder if the patrol's got two of us out here

without even telling me about it? Thanks for the info, breaker!"

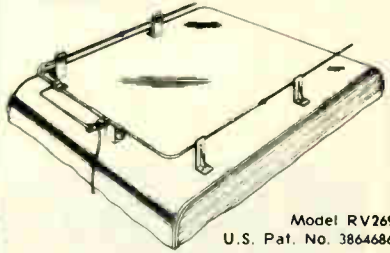
Officers with CB ears have known that CB can make any area sound like wall to wall bears when only one car's patrolling the area. Report a Smokey westbound at mile 72, and the Smokey may obligingly run a flip-flop maneuver for all the CBERs and soon a Smokey report from mile 65 eastbound will hit the waves.

Horse sense, CB usage, and CB users fortunately tend to mature with time, and after the initial new's gone, the little box on the dash is no longer looked on as a toy for giving radio checks and Smokey reports, but a great emergency tool and a wonderful way for passing those sometimes necessary long hours behind the wheel. The hours can be just as lonesome in a patrol car as they are to a salesman headed home from two weeks in the territory or in the cab of an eighteen wheeler headed 3,000 miles cross country, and California's S.O.B.'s are helping to shorten the time between those CB sets coming out of the box and being used in more tolerable, more civilized ways.

For information concerning the S.O.B. Club, contact:

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The Silent CBer . . .

[continued]

scribbled: "I am mute. I cannot speak. My hearing is fine. Are you hurt?"

She was still in a fog, and she read the note slowly, trying to digest the words. Then she looked up at Doug, almost in despair. He took the pad from her and wrote another note.

"Everything will be OK," the note read in his trembling, cold-bitten style. "I will take you to Boswell to the hospital. Do not be afraid. You will be OK. My car is on the highway."

The woman read the second note faster, and she seemed to calm down a little.

"I . . . I'm not hurt bad," she said after a moment. "But I think I'm going into labor. The pains are beginning to come like the doctor said they would. It's a month too early. My husband had to be out of the county. We don't have a phone, and when the pains started I drove to a neighbor's home, but nobody was there. I was driving myself to Boswell

when I —" She jerked with a quick spasm and gasped for breath.

Doug felt helpless. He was afraid to grab her, but she needed comfort. Slowly, almost reverently, he put his hands on her shoulders. She looked up at him as if she were trying to assure him now that everything would be all right. On her face, along with the start of a smile, were drops of sweat breaking out against the bristling cold. On the pad, he composed another hurried note.

"Wrap your arms around my neck. I will pull you out and then pick you up," he wrote. "You will be OK."

She bit her upper lip and nodded. The wave of pain seemed to have passed, and Doug wanted to be in his car and on the way to Boswell before she had another. He opened the door and moved half out of the car. Leaning across the seat, he felt the woman's arms tighten across his neck. He backed further out of the car, and the woman scooted to the end of the seat. Doug

reached under her legs with his left arm and around her back with his right, gripping the flashlight as best he could. Inhaling one biting gulp of air, he lifted out and up and stood still against the wind for a few seconds to gain balance.

She clung to him, and through the bundle of her coat and his, Doug could feel movement — the baby. Until that moment he had only thought of her as a person distressed, someone with a problem alien to him. The kicking of the baby, though, was like a message. He was holding two lives in his arms. The air lashed at his face like switches, chewing on his ears and scratching his eyes. But he was more aware of the muffled poundings.

Doug turned to the slope. Over the crest and through the row of pines he could spot twinkling traces of his car lights. He played his flashlight beam along the slope. It was more gradual to the right of where he — and the woman's car — had come down.

He walked toward the slope with slow, deliberate steps,

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making sure his footing was firm on each move. His pace slowed more as the grade sharpened. The pine trees marked level ground, and the incline steepened just in front of the trees. He lifted his left foot to the level edge.

The woman jolted and gasped, throwing Doug off-balance just when his feet were precariously spread apart. His right foot slipped, and the knee slammed into hard rock covered with only a thin layer of snow. Pain shuddered into the knee and up and down the leg. Doug cried out, but a rasp was all his throat allowed. He held tight to the woman, and she screamed when Doug dropped. Her grip around his neck pulled closer, and Doug's muscles tightened and ached against it.

"Are you all right?" she asked. Doug nodded.

He held his balance and waited for the pain to ease. Digging in his right foot, he pushed up to level ground and let the momentum carry him the first few paces. Each step was a throbbing blow to his knee, but he kept walking with a full, even stride, working his way through the prickly thicket and onto the highway just behind the Pinto.

The exhaust pipe steamed the air with friendly, warm vapors. Doug walked to the right side and felt for the door handle with his left hand. It was too much for him, though, to cradle the woman's legs and stoop down to grab the door handle.

"I can get it," the woman murmured weakly. She uncurled an arm from around Doug's neck and found the door button. The door popped open a few inches, and Doug stepped back while the woman held onto the glass.

He lowered her to the car seat and helped her sit upright. Under the dome light, Doug could see that she clinched her fists into tight balls. He limped to his side and slid behind the wheel. The throbbing in his knee stopped and a soft discomfort spread into the joint. It hurt, but not so badly that he couldn't press the gas pedal.

Beside him, the woman gasped. He looked at her and she managed a smile.

"I'll be okay," she said with a strained, anxious tone.

Doug nervously grinned and nodded. He looked again to the road and eased off the clutch. The Pinto slid forward and gained speed, and as the engine warmed up the heater swept the chill out of the car. The snow weakened and stopped, and Doug switched off the wipers.

More skip clattered from the radio, and Doug scanned the dial for a local signal, someone the woman could ask to alert the hospital. But no one was on the air in Boswell. He kept a steady speed, skimming the small drifts and skirting the larger ones.

Once inside Boswell, he found the turn for the hospital and drove to the dimly lit front door. No one was in the lobby, and he assumed that the door was locked for the night. The woman gasped rapidly. She couldn't walk in, and he knew he couldn't carry her. He used the closest thing he had to a voice — the car horn.

He thumped three short blasts and then bore down on the horn for an unceasing blare of sound. Lights flashed on, and the illumination poured out of the

lobby and across the snow to the Pinto. Nurses appeared in the lobby under the new light. One unlocked the door and, gripping against the cold, ran to Doug's window. He rolled it down and pointed to the woman next to him.

"I'm going into labor," the woman said across him. "I've been in a wreck. He helped me, but he hurt his leg carrying me out."

"I'll be right back," the nurse exclaimed as she ran to the door.

In a moment, she and two other nurses returned with a wheel chair and helped the woman into it.

"Thank you," she said to Doug, looking at him through the open door. Doug grinned and nodded.

"We'll be back in a minute for you," the nurse said.

He switched off the engine but left on the power for the CB. The sky was clearing, and moonlight filtered through the thinning clouds. Bits of skip popped and spurted out of the tiny mobile speaker. Then the skip died away and, like the night, the radio was quiet. (18)

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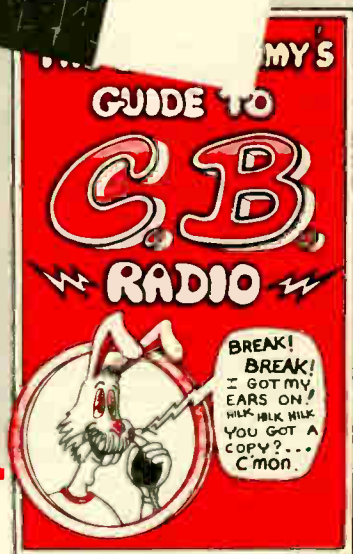
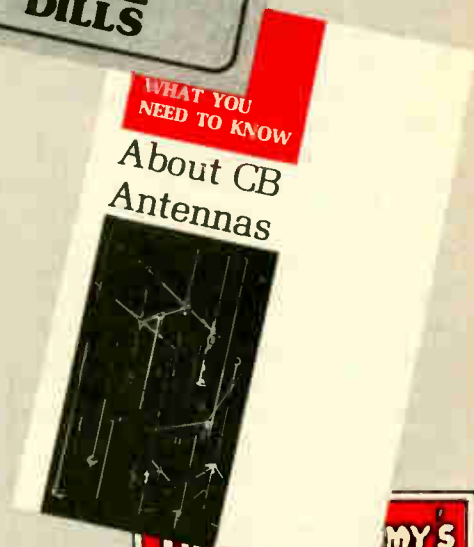
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Questions and Answers

CB Magazine cannot reply to all questions by mail due to volume received. The most representative of all letters are selected for answers in this column. All questions received are presumed to be authorized by the sender for usage; names will be withheld upon request.

SSB CLARIFIER

Q. It has come to the attention of some members of the Blue Ridge sideband CB Radio Club and myself that on the 40-channel AM/SSB CB radios the clarifier control does not tune the transmit frequency as it does on most of the 23-channel radios. On the 40-channel radios the clarifier tunes the receive frequency only. I have checked out several top-of-the-line 40-channel radios and have found no exceptions to this. If there is one, please let me know. If I am right, I feel that this is an unnecessary restraint for sidebanders. If an FCC ruling was the cause of this, then what was the reasoning behind it? (Terry Webb, KHU-2857, Red Ash, Virginia)

A. Shortly after the FCC required new CB sets to be type accepted, the FCC ceased granting type acceptance to SSB rigs in which the clarifier controls both the transmit and receive frequency. There are "some" 23-channel sets in use that have this feature, but none of the new 40-channel sets may have means for adjusting the transmit frequency. By making it possible to vary the transmit frequency with the clarifier control, the FCC undoubtedly felt that in some cases the transmitter could be set beyond the CB frequency tolerance. If the tolerance is 0.005 percent (1350 Hz) and the clarifier has a range of 750 Hz each way, the transmitter could be off by 200 Hz in an extreme case. Some of the new sets have a tolerance of better than 200 Hz. When they all meet that standard, bye-bye clarifiers.

GMRS CHANNELS

Q. We have a CB club here in California consisting of 16 members, and I am applying to the FCC for a license to operate on the GMRS Frequencies in the 460-470 MHz band. Can all 16 of us in the Old Timers Club be assigned the same frequencies and can we all work on the frequencies that the FCC issues to me? Can we all use the same call sign assigned by the FCC? (J.M.D., Temple City, California)

A. You can get a club license which could cover all of the transmitters owned by the members and all could use the same call sign. But, the members then would only be permitted to use their GMRS units for communicating about club business. Better would be for each member to apply for his own license authorizing operation on the same frequencies. If you install a repeater station and apply for a club license for it, the cost of acquiring and maintaining the repeater can be divided among the members on a non-profit basis. You have the choice of single-frequency operation on one of the base-mobile frequencies or two-frequency operation on a paired channel.

SWL BY PREAMP

Q. I have a sideband mobile radio which I use as a base station with a receiver preamp. One night I turned the radio on and the band was dead. So then I turned on the preamp and zap I was getting short wave reception right on my CB. What would cause short wave to come over my CB on the full 23 channel? (Harold Horton, KYQ-0988, no address given.)

A. Your preamp could be oscillating and acting as a broadband converter. Check your cable shields for proper grounding. Or, if you are near a high power short wave broadcast station, it could be overdriving your preamp.

STOLEN ANTENNA

Q. I have three CB units. I bought the last one on September 19 when we went on vacation to Nevada. We had it installed while we were there. What I don't fully understand is that we were supposed to get an insurance paper with the radio. About 40 hours after we were home, somebody ripped off our antenna. We did not get any insurance paper. All we got was the receipt for the radio. Were we supposed to get insurance papers when we got the radio? (Lee D. Rysavy, KRC-5291, Lake Andes, South Dakota)

A. You should have demanded insurance papers when you bought the equipment if the dealer sold you insurance. If he didn't, you have no claim. However, you might be able to deduct the loss from your income tax. See your tax accountant.

USE OF VFO

Q. I know it's illegal to use a VFO (variable frequency oscillator) to transmit, but is it legal to use a VFO to receive? I read that on certain longwave frequencies you may transmit without a license. Where may I acquire the equipment? (K. F., Winterport, Maine)

A. Use of a VFO to set a CB transmitter between CB channels is illegal. Use with a receiver is not illegal. For

[continued next page]

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example, a short wave receiver, tunable through the 27-MHz band, contains a VFO (the local oscillator). Connection of an outboard receiver VFO to a CB transceiver type accepted after September 10, 1976, would nullify its type acceptance (certification under Part 15 of the rules). Many CB sets have a built in receiver VFO capability in the form of a clarifier (SSB) or a delta-tune circuit (AM). The 160-190 kHz band is available for unlicensed operation under Part 15 of the rules. We do not know of any factory made equipment for that band.

FEDERAL FREQUENCIES

Q. Being a scanner fan, who lives in the Los Angeles area, I get around the downtown area quite often. Lately, I have been noticing full dress police cars the color of which I think is blue, white and gold. When I say full dress, I mean not unlike LAPD or any other local PD except the name on the side said "Federal Police." Upon seeing the name I talked to the local CB shop and they knew nothing about it. So I asked Betty Bearcat and she told me that she did not have the frequency information. She also told

me that she cannot give out information on US Government two-way frequencies even though I told her the name was "Federal Police," not FBI. If you can be of any help in locating the frequencies used by them and other information such as what their duty entails, it would be very much appreciated. I really love CB Magazine. That's why I chose the five year subscription so I wouldn't miss a single issue. Keep on printing. (Tim Tanaka, KEW-3707, South Pasadena, California)

A. We checked with 2 Government Information Offices and were told that the cars you saw were probably those of the Federal Protective Service, a government agency, which provides security services for federal buildings. The frequencies they use, just as in the case of the FBI, are not public information. Perhaps some reader who is a lawyer could advise us as to whether such information could be obtained under the "Freedom of Information Act." Some information, particularly information concerning the national security, should be kept secret. We are glad you like our magazine.

CB INSTALLER REQUIRES NO LICENSE

Q. Is it necessary to have a commercial radio operator license to install CB radios for others? (R. W., San Diego, California)

A. No, it is not. Anyone who knows how can install CB sets for others, and can also tune antennas. But, an unlicensed person should not tamper with the internal controls and circuits of a CB set.

TELEPHONE INTERFERENCE

Q. My neighbor says he can hear me on his telephone when I operate my base station. Do I need a low pass filter? (No name and address given)

A. Installing a low-pass filter on your base unit won't solve your problem. Ask your neighbor to complain to the phone company. This type of interference is not your fault unless you are using an illegal linear.


BLEEDOVER

Q. I would like to have your thoughts on bleedover. I hear CBers fighting over bleedover 5-6 miles apart and they don't have power. I think the man getting bleedover should trade rigs. Someone has to be blamed, so let's get it straight. Whatever your answer is, if I am right or wrong, it will be hung right by my licenses. (Delmar Dorethy, KKY-0168, Littleton, Illinois)

A. If one suffers bleedover from a legal station five miles away, the adjacent channel selectivity of the receiver is inadequate. A new, more selective rig, particularly one with an RF gain control is undoubtedly needed.

ANTENNA PROHIBITED

Q. A number of CBers here are involved in a situation wherein a home owners association, a corporation, is prohibiting external antennas of any sort. They demanded that I remove my 5/8-wave dipole or face a lawsuit. I complied, not because I felt they were within their rights, but because I needed time to assemble the necessary evidence to present to the Superior Court. Please tell me how I could obtain a copy of the law establishing the Citizens Radio Service. (V. L. S., Concord, California)

A. You're not alone. If you live in a condominium read the CC and R statements. If they prohibit external antennas, you might have to settle for an indoor antenna. The law establishing the Citizens Band Radio Service is Part 95, FCC Rules and Regulations. The law giving the FCC the power to do so is the Communications Act of 1934. Both are available from the Government Printing Office, Washington, DC 29402. You might first try calling the Government Information Center in San Francisco to find out if either or both books are available in the Bay Area. The original CB rules that went into effect on September 11, 1958 are contained in the book "Class D Citizens Radio" (the first CB book ever published) which is available for \$6.95 from A. S. Barnes & Co., Cranbury, New Jersey 08512. 

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January 21, TEXAS. Event: 2nd Annual 5th Wheel Jamboree. **Sponsor:** 18 Wheeler CB Club. **Place:** National Guard Armory, Irving, Texas. Monitor Channel 10 & 19. **Time:** 10 a.m. to 10 p.m. **Events:** Prizes, Trophies, Refreshments, Games. **For more information**, write: Ralph Watson, 2408 Community Drive, Dallas, TX 75220.

February 18-19, ARIZONA. Event: 13th Annual CB Jamboree. **Sponsor:** Yuma CB Radio Association. **Place:** Yuma County Fairgrounds, Yuma, Arizona. **Events:** Prizes, Displays,

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February 25, MARYLAND. Event: 2nd Annual Jamboree. **Sponsor:** Glen Burnie Network SSB Club. **Place:** Blob's Park Dance Hall, Route 175, Ft. Meade, Maryland. **Time:** 11 a.m. to 5 p.m. **Events:** Displays, Prizes, Films. **For more information**, write: P.O. Box 43, Glen Burnie, MD 21061. Or, call Joe Pannuty, 301/987-5345.

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