

**EXCLUSIVE: FCC UNVEILS NEW CB RULES! P. 33.**

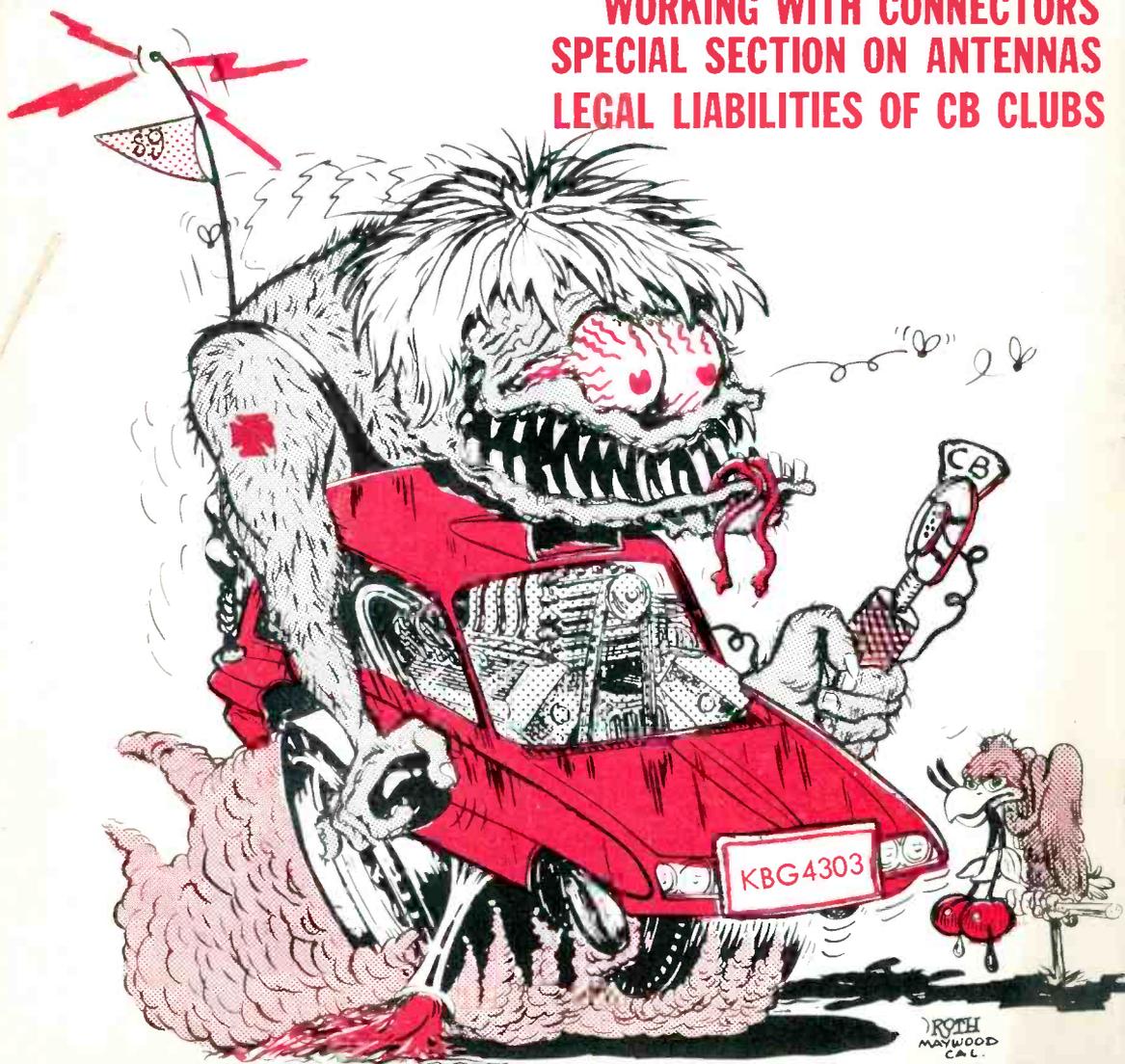
SEPTEMBER 1964

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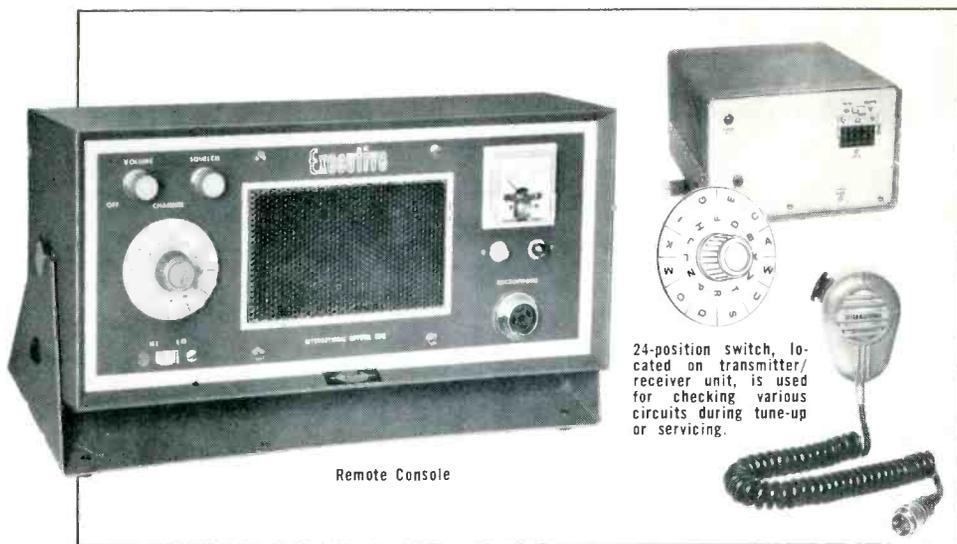
**S9**

*the citizens band journal*

**PART 15 BASE STATION  
REMOTE CONTROL FOR YOU  
WORKING WITH CONNECTORS  
SPECIAL SECTION ON ANTENNAS  
LEGAL LIABILITIES OF CB CLUBS**



**The OFFICIAL CB RADIO MAGAZINE**



Remote Console

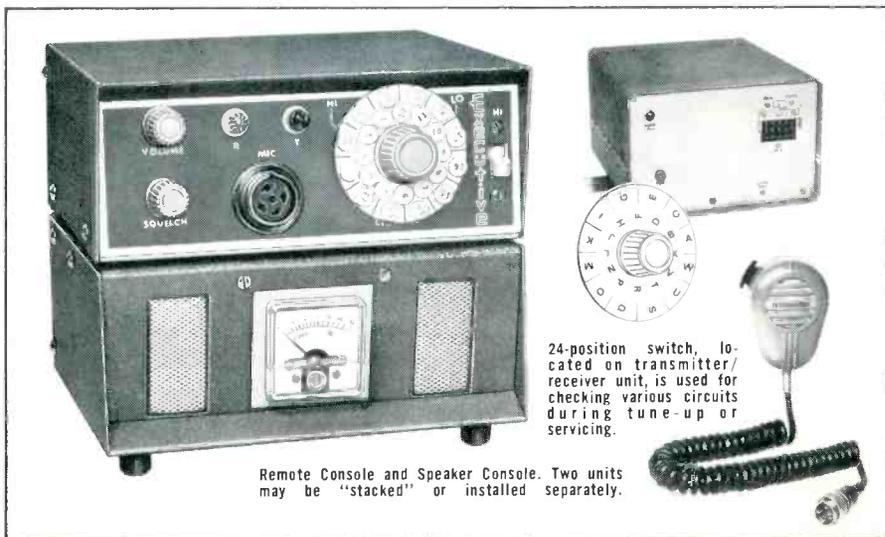
24-position switch, located on transmitter/receiver unit, is used for checking various circuits during tune-up or servicing.

**International Executive 750-HB2**

# introducing

(with  
**Built-in  
 Test Circuits**)

**International Executive 750-HM2**



Remote Console and Speaker Console. Two units may be "stacked" or installed separately.

24-position switch, located on transmitter/receiver unit, is used for checking various circuits during tune-up or servicing.

It's totally new . . . a Citizens Band transceiver with built-in test circuits. Now at the "turn" of a switch, located on the transmitter/receiver unit, you can instantly check the operating performance of various circuits within the set. Makes tune-up and servicing easy. Checks filament, plate and input voltages, transmitter forward and reflected power, modulation, etc.

This "years ahead" built-in test feature has been incorporated into International's two new transceivers. The 750-HB2 with its functionally designed remote console\* for desk-top installation, and the 750-HM2 for mobile communication. Both transceivers have 23 crystal controlled channels, and operate on 115 vac, 12 vdc, and 6 vdc.

**Write for the name of your nearest International dealer. See the 750-HB2 and 750-HM2. Ask him about his trade-in / trade-up plan.**

\*Base station remote console available separately. Ask for RMO-24 HB2

---

**NEW** Built-in test circuits. **NEW** Delayed/Expanded AVC. **NEW** Simplified cabling. **NEW** Built-in S/Meter and Transmit/Meter as standard equipment. **NEW** Microphone with improved characteristics for better "close talk" quality. **NEW** Speech Clipper/Filter Amplifier.

---

#### TEST CIRCUITS WILL CHECK . . .

- |                              |   |                             |
|------------------------------|---|-----------------------------|
| Receiver Signal Strength And | ● | Transmitter Frequency Adder |
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| Receiver 1st Oscillator      | ● | Transmitter Forward Power   |
| Receiver 2nd Oscillator      | ● | Transmitter Reflected Power |
| Receiver 1st IF Amplifier    | ● | Transmitter Modulation      |
| Receiver 2nd IF Amplifier    | ● |                             |
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| Microphone Audio             | ● |                             |
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| Transmitter Buffer           | ● |                             |
| Transmitter Power Amplifier  | ● |                             |
| Transmitter Oscillator       | ● |                             |





the citizens band journal

Vol. 4, No. 9

September, 1964

S. R. COWAN, KBI7182, PUBLISHER

14 Vanderventer Ave., Port Washington, N. Y.

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We simply mean solid aluminum, "108" radials (four of 'em!) for maximum RF decoupling of radiator, easiest installation — and greatest load bearing.

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Same specifications as Z-9R Transmitter Crystals. Supplied for all 23 CB channels. Calibrated .005%. Be sure to specify channel number, make and model of equipment.

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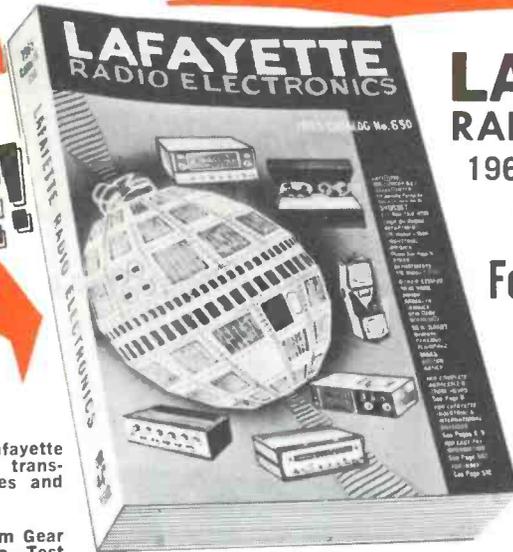
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HA-300

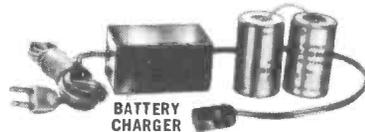
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# NEW! LAFAYETTE 23-CHANNEL CRYSTAL-CONTROLLED DUAL CONVERSION 5-WATT CB TRANSCEIVER

**WITH  
ADVANCED "RANGE-BOOST"  
CIRCUIT**

**Model HB-400**

Efficient, dependable 2-way communications in any fixed or mobile application is assured with this rugged, new 5-watt CB transceiver. A military-type frequency synthesizing circuit makes it possible to transmit and receive over the full range of 23 channels with crystal-controlled accuracy—no extra crystals to buy and install! Advanced Range-Boost circuit can be used to increase sideband power during transmission—lets you get through when noisy conditions make reception of your signal difficult!

Highly efficient circuit design uses 13 tubes (including two nuvists) and 8 diodes to provide top performance under a wide range of operating conditions. Dual-conversion receiver offers high  $.3 \mu\text{v}$  sensitivity and low noise, plus excellent adjacent channel rejection. Includes every needed feature for optimum reception—crystal-controlled "fine tuning" capability on all channels of  $\pm 2.5 \text{ Kc}$  (Delta Tuning), high-efficiency variable noise limiter, variable squelch, and Automatic Volume Control. Also included is an illuminated meter which indicates relative RF power output or received signal strength in "S" units, and plug-in facilities for the Lafayette PRIVA-COM selector call unit.

Operates in a fixed or mobile location with equal ease . . . has built-in power supply for either 117V AC or 12V DC. Specially designed "Vari-Tilt" mounting bracket simplifies mobile installation—permits fast removal of the transceiver too! And, there's nothing else to buy—you get all crystals and a built-in vibrator for 12V DC, plus 2 power cables. Measures a compact 12"Wx5"Hx10"D (including controls and plugs at rear).

Model HB-400.

99-3001WX

**16950**



*Double Side Band Full Carrier*

- ✓ Meets All FCC Requirements
- ✓ Precision-Engineered and Ruggedly Built For Reliable 2-Way Radio Communications

- Frequency Synthesized Circuit Provides 23 Crystal-Controlled Transmit & Receive Channels—No Extra Crystals to Buy!
- Continuous One-Control Channel Tuning
- Full 5-Watt Input
- Push-To-Talk Microphone & Electronic Switching
- Dual Conversion Receiver With  $3/10 \mu\text{v}$  Sensitivity
- Delta Tuning Offers "Fine Tuning" of  $\pm 2.5 \text{ Kc}$  on Receive
- Variable Squelch, Variable Noise Limiter, AGC
- Built-in 117V AC & 12V DC Power Supply
- "Vari-Tilt" Mounting Bracket for Easy Mobile Installation
- Plug-in Facilities For Lafayette Selective Call Unit

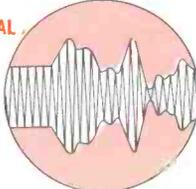
## ADVANCED "RANGE-BOOST" CIRCUIT

*Increases Your Effective Range—Lets You Get Through When Others Fail*

Want to effectively increase your range? You can—with Range-Boost! A simple turn of a switch on the HB-400 increases the average percentage of modulation and lets your voice cut through QRM and noise to reach further . . . gives you more "talk-power" when you need it—without overmodulating!

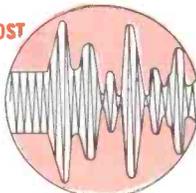
### CONVENTIONAL

Average Percentage of Modulation Is Lower



### WITH RANGE-BOOST

Average Percentage of Modulation is Higher—Sideband Power is Increased



# NEW! LAFAYETTE ALL-TRANSISTOR DUAL CONVERSION 5 WATT CB TRANSCEIVER

**FEATURING  
AUTHENTIC MECHANICAL  
FILTER**

## Model HB-500



Small, Compact . . . Measures Only 11 $\frac{1}{4}$ "Wx6 $\frac{1}{2}$ "Dx3"H.  
Low Current Drain . . . 350 ma on Receive, 850 ma on Transmit.

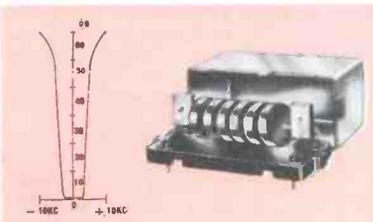
- 12 Crystal Transmit Positions plus 12 Crystal Receive Positions
- 23 Channel Tunable Receiver with Precise Vernier Tuning
- Dual Conversion Super-heterodyne Receiver
- 15 Transistors, 3 Diodes, 1 Zener Diode plus 1 Thermistor
- Zener Diode Voltage Regulated Receive Oscillator for Superior Frequency Stability
- Dependable Sealed Relay Switching
- Automatic Noise Limiter
- Variable Squelch
- For 12 Volt DC Mobile Operation (Negative or Positive Ground) or for 117V AC Operation when used with Matching Solid State AC Power Supply (Optional)
- Meets All FCC Regulations Part 95

If you're looking for a high-performance CB transceiver in a small, compact size, you'll want the HB-500! Using advanced solid-state circuitry, this transceiver offers full 5-watt performance, yet is small enough to fit conveniently into the most compact car. And, battery drain is so low as to be negligible—the transceiver draws no more than .35 amps on receive, .85 amps on transmit. As a result, you need neither heavy-duty battery nor generator—an important advantage in mobile applications! The transmitter features full crystal control on any 12 of the 23 CB channels. Dual conversion receiver with better than  $.5 \mu\text{v}$  sensitivity offers 12 crystal-controlled channels, plus full 23 channel tuning capability. A 455 Kc mechanical filter provides ultra-sharp receiver selectivity—virtually eliminates adjacent channel interference! Other features include an efficient Automatic Noise Limiter, variable Squelch for silencing the receiver on standby, spotting switch for exact frequency location on tunable receiver, "S" meter and illuminated channel dials. This rugged transceiver offers instantaneous, cool-running operation and features printed circuit, all-transistor design. Equipped with mobile mounting bracket, push-to-talk dynamic microphone, crystals for operation on channel 12. Operates on 12V DC (neg. or pos. ground) or on 117V AC with optional solid-state power supply. Imported.

Model HB-500.

**139<sup>50</sup>** 99-3027WX

## HIGHLY SELECTIVE MECHANICAL FILTER



With CB channels only 10 Kc apart, selectivity is important! In the HB-500, ultra-sharp selectivity is achieved by means of a true mechanical bandpass filter in the 455 Kc IF section. At 10 Kc on either side of the center frequency, the filter provides 60 db of attenuation — an extremely high rejection ratio that assures complete adjacent channel rejection!

## Model HB-501 Solid State AC Power Supply

Matching solid state AC power supply for HB-500 for fixed station operation (at home, business office). Transceiver rests on power supply to form attractive integrated unit. Size 11 $\frac{1}{4}$ "x6 $\frac{1}{2}$ "x3 $\frac{1}{2}$ ". Imported.

99-3028 ..... Net 16.95



# READER MAIL

*A free ACDA membership certificate goes to anyone else who complains about a detrimental CB association (even ACDA).*

## ACDA

Dear Tom:

As a true independent would you please accept me in ACDA, the official dis-organization of S9! Being a subscriber to S9, CB's most infuriating publication, I'm enclosing an address strip from a recent issue to get me into the group.

M. A. Pickens, KGF1755  
Minneapolis, Minn.

Tommy,

Your ACDA sounds like the organization I've been looking for. I wouldn't be surprised if it got as popular as the ACBA.

Johnnie Ramsey  
Cedartown, Ga.

Dear Tom:

We've read your articles on the ACBA and they got both my husband and I thinking, especially since we had joined and found it to be a waste of money.

Seemed like the only time we would hear from them is when they wanted some money. We never knew how many members they had. They had so many different addresses, so I guess they move around a lot.

Today we received their National Survey Questionnaire, along with membership forms and a form to renew. Neither one of us are rejoicing. Don't know how others feel about it, but in our opinion, some of the questions are too pushy. Tom, I'm sending you this questionnaire.

We're beginning to wonder what kind of association this ACBA is. I know one thing, we want no part of it. Maybe some of the ACBA members will open their eyes and think strongly about it. Thanks for opening our eyes. (Name with the ACBA!

(Down withheld by request)  
Indiana

Dear Sir:

I am a member of ACBA and feel it's just like a gigantic money milking machine. I'm also disappointed with the new *CB Magazine* (the one which replaced *Horizons*), not much in the way of advertising or news of interest to CB'ers.

Can you or would you start or help start a real national CB organization which is not out to exploit CB'ers?

Leland D. Snyder, Pres.  
Friendly Communications Club  
Blossvale, N. Y. 11308

*Leland, as we have mentioned previously, we are not particularly hepped up on the prospect of starting a national CB organization. We feel this way because we have seen the hopeless botching done by others who have tried, also because we don't yet see the need for such an organization, and mostly because it's tough enough for us to creak S9 out of this place once a month without the added headaches that would go with a properly run club. Of course, your letter entitles you to a free membership in the ACDA, the official S9 club to condemn detrimental associations. Your ACDA two color chintzy certificate is in the mail to you.*

## GAS CAN WARNING

Dear Tom,

I believe a word of warning to S9 readers is indicated with regard to gas cans kept in CB mobile units (PROJECT EMERGENCY, S9, July, page 20). With many kinds of plastic cans on the market, readers may substitute one which is not only unsuitable but downright dangerous. Some plastics cannot hold hydrocarbons (gasoline, kerosene, diesel fuel, etc.) and will eventually dissolve upon contact with them. Plastic bleach jugs have been used for emergency gasoline containers with very unhappy results. The emergency vehicle itself could become the emergency. Make certain that any plastic gasoline container was designed to hold gasoline. Some state fire laws prohibit putting gasoline in anything but metal containers, a good idea.

H. E. Province, KKR0705  
Jackson, Miss.

## SALUDOS AMIGOS!

Dear CB Friends,

Since my name and address were printed in S9's Cardswappers Column I have received 600 different cards. I reply to all cards accompanied by an International Reply Coupon which can be purchased at most U.S. and Canadian post offices. Unused U.S. stamps (15¢ for airmail) may also be sent. Please send me information on the S9 QSL Swappers Awards.

Emanuel Tavares Filho, PY1-13332  
P.O. Box 359  
Niteroi, R. J., Brasil



1958...the RCA Radio-Phone Series

1959...the RCA Mark VII

1963...the RCA Mark VIII

and now 1964...

# THE NEW RCA MARK NINE

the latest and greatest RCA CB radio of them all

Look at some of the new features...



### NEW! Combination "S" Meter and Relative RF Output Meter

"S" Meter indicates the relative strength of incoming signal in "S" units. RF Output Meter (EO) indicates relative strength of the signal being transmitted.

### NEW! Spotting Switch

Permits precise manual tuning of receiver without use of receiver crystals. Receiver can be tuned (or "spotted") quickly to any incoming channel. This means, when you buy crystals for extra channels, you can (if you wish) omit the RECEIVE crystals and buy only TRANSMIT crystals.

### NEW! External Speaker Jack

Lets you connect an external speaker to the set, so incoming calls can be heard in remote locations.

RCA, a pioneer in the development of citizens' band radio, has been providing quality equipment since the inception of the Class D Citizens' Radio Service in 1958. Now, these years of experience culminate in the great new RCA Mark Nine.

- 9 fixed crystal-controlled TRANSMIT/RECEIVE channels, separately controlled
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- Push-to-talk ceramic mike with coiled cord

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415 South Fifth Street, Harrison, N. J.

Please send more information on the RCA Mark Nine CB Radiophone

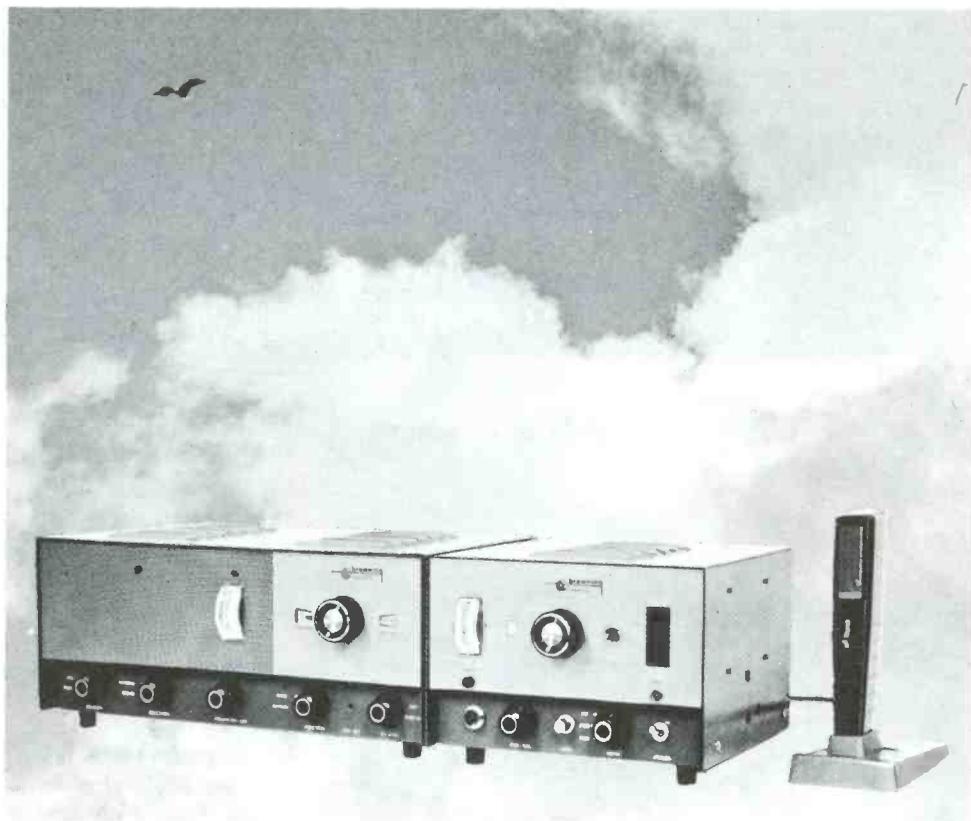
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The Most Trusted Name in Electronics



## **Browning Eagle sales are soaring high.**

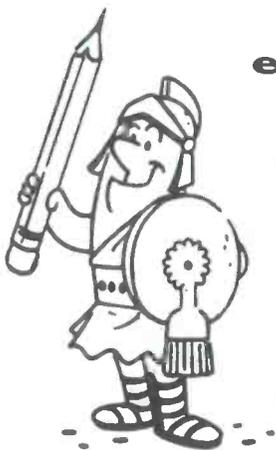
No wonder. The Browning Eagle CB base station has so many new features, every CB'er wants one. For example, the Eagle R-27 receiver has an RF gain control, AVC defeat switch, a switch for broad or narrow selectivity, a cascode nuvistor front end, and twelve tuned I.F. coils. The Eagle S-23 transmitter has a compression amplifier and a clipper filter stage for highest percent of modulation, a built-in SWR meter and naturally, all 23 channels. That's only the beginning. There are many other reasons why you'll want to own the new Browning Eagle base. Want more facts? Send for free copy of Browning's CB catalog and the location of our franchised service center nearest you.

Write on company letterhead for information on a few franchise territories still available.



**browning**  
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editorial

# KBG4303 rides again!

by TOM KNEITEL  
EDITOR, S9

## MISS S9

Regular readers will recall that our June cover pictured S9's Gal Friday, Lilia, placing a CB callsign plate on a mobile unit. It was my contention, at the time, that CB'ers would certainly dig looking at a YL at least equally as well as looking at a hunk of electronic gear on the cover of the magazine. The Circulation Department didn't agree, but grudgingly did consent to go along with the June cover just so that they could come around the following month and watch the boss flog me with a piece of wet RG8/U for producing a non-selling issue.

We learned one thing from the June issue; that CB'ers *don't* spend all of their waking hours dreaming about 6CL6's and PL-259's. The June issue was a gigantic seller on the stands and the Circulation people of late have been slinking down behind their copies of *Playboy* every time I happen by. In addition, Lilia received hundreds of QSL cards and quite a few pieces of fan mail.

"Not-being-alooof" is S9's middle name, and if an occasional peek at a CB-oriented YL is well received, we will anxiously oblige. Besides, it gives me a chance to look up from my typewriter and see something different than the same old messy desk.

S-o-o-o-o we thought that we would cook up a CB pin-up girl—Miss S9. We would like to have Miss S9 with us on a regular basis to pass along a hint or two for better CB'ing, to show you a new rig, or (if she has nothing *really* constructive on her mind) to look at instead of a photo of me. We haven't decided if we should keep the same Miss S9 over a period of time, or if we should use a new one each time she appears.

In the mean time, we are open to suggestions and would appreciate your sending us photos of any CB'ing gals who wouldn't mind being the cause of high blood pressure among our male readers. We are especially inter-

ested in applicants within 50 miles of New York so that we can work out photographic details with the S9 Art and Production Departments. By the way, YL's are welcome to submit their own photos. We will not run any of the photos which are sent in as the Miss S9 photos will be specially shot for us. We will keep the photos in our files, so don't send anything which can't be spared. And fellas, save yourself the postage on those wild gag postcards of the hags, we've seen them already.

## BIG CONTEST

We are always being shown photographs of "customized" CB rigs—that is, commercially made transceivers which have the operator's personal touch to make them blossom out into unique works of art. These might include cabinets, new face plates, lights, new knobs, new or modified circuitry, etc. It seems to us that such creativity should certainly be recognized and rewarded by S9 and we are therefore going to ask you to send in photographs and a brief description of your own customized rig. Besides the fame and glory which will befall you if we run the photo in S9, we will give the owners of outstanding units free one year subscriptions to S9. Runners up will have to settle with only fame and glory.

In addition, we are giving a similar chance to you artists who like to do your dreaming and customizing on paper. Work up a slick artistic presentation of a dream rig, send it into us and you have a crack at a different competition with similar fame and prizes as mentioned above. Please, no crude ball-point on loose-leaf efforts. We're looking for *good* stuff which we can use to make readers drool. If you have a pet name for the rig, add it to the illustration. All entries become the sole

*Continued on page 72*

# WILL SUCCESS SPOIL THE *Courier 23*



**\$189<sup>50</sup>**

slightly higher west of Rockies including all crystals, mounting brackets, power cords and noise-cancelling microphone.

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See your e.c.i. dealer or write direct for details on all e.c.i. products.

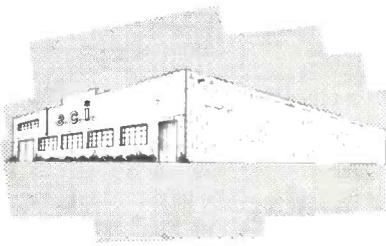
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56 hamilton ave.,  
white plains, n. y.

Gentlemen:  
Please send me literature on e.c.i. CB equipment.

name .....

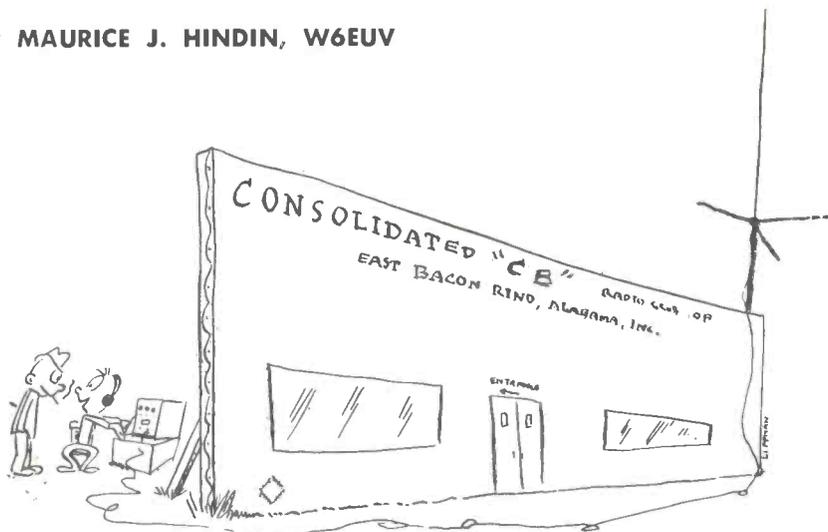
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electronics communications, inc. 56 hamilton ave., white plains, n. y.

by MAURICE J. HINDIN, W6EUV



## CB CLUBS AND THE LAW

Like the unbled filter condenser, the unincorporated radio club or association, typical among CB operators throughout the country, is potentially a source of violent shock. The shock comes usually in the form of a summons to appear in court to answer a legal action for damages. Once a danger is recognized, however, we can take steps to protect ourselves. The real danger occurs when we are not even aware that danger is present.

The CB radio club usually takes one of three forms. The first is the small, neighborhood group of operators who get together at non-scheduled meetings, has no name, has no organization, and undertakes no organized activity. The second type of club is a little more formal in organization. It may have regular meetings, officers, a constitution or by-laws, and plans for organized activity. The third is the club which is qualified as a non-profit corporation. The size of the club is not important.<sup>1</sup>

If your club is incorporated, you have already reduced your individual potential liability to the legal minimum and you do not have to read further. If, however, you are a member of an unincorporated club of either the first or second type described above, read on. It may save you lots of money in legal fees, court costs, and possible damage judgments.

### THE DANGER

Most of us have been brought up to recognize that if we commit some negligent, care-

less, or foolish act, we are legally responsible for the damages and consequences. Few of us, however, relish the idea of having to pay for the negligence, carelessness, or foolishness of someone else. That is what we are faced with legally by membership in an unincorporated club. The legal theory involved has its origin in the liability aspects of common-law partnerships or joint ventures.<sup>2</sup> Without attempting to go into all of the ramifications of partnership or joint venture liability, suffice to say that the general law is that each partner or joint venturer is personally liable and responsible legally for the acts and obligations of the whole partnership or joint venture. This is true regardless of whether or not you yourself made or committed the particular act in question, or whether the liability was incurred by a fellow partner or joint venturer.<sup>3</sup> The extent of the liability and particular variations of the general law vary from state to state. It is impossible in a short article, such as this, to analyze the problem in the light of the laws of each state. Suffice to say, there have been enough instances cited where liability could attach to innocent club members to make everyone who is a member of an unincorporated club take a long hard look at the danger.

### THE REMEDY

Unlike the partnership or joint venture, a

1. Even a joint venture of two or three operators can involve all in personal liability.

2. 25 R.C.L. p. 45; Am. Jur. p. 675; 40 Am. Jur. p. 127ff; 130ff; p. 224ff.

3. 40 Am. Jur. p. 226ff; Annotation 17 LRA 204.

corporation is an entirely new and separate entity and separate and distinct from its members. The general law imposes no liability or responsibility on the individual members for the debts or obligations of a corporation.<sup>4</sup> One member is not liable legally for the acts, negligence or carelessness of another member.<sup>5</sup> This is true even if the corporation is itself liable for the acts of its members. The person who actually did the negligent or illegal act will, of course, be liable. The corporation may be also liable but the other members will not be liable unless they actively participated in the act of negligence themselves.

This aspect of limited individual liability makes the incorporation of all service clubs highly desirable. More and more clubs are incorporating, and very wisely.

### HOW TO DO IT

The laws of most states provide for the incorporation of non-profit organizations. The chief difference between a non-profit corporation and a general corporation (organized for profit) is that when qualified as a non-profit corporation, no taxes are involved and in many states not even tax returns are required to be filed by a non-profit corporation.

To incorporate, Articles of Incorporation

4. 13 Am. Jur. p. 544ff.  
5. 13 Am. Jur. p. 546, 547.

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must be prepared. Since Articles of Incorporation must be drawn to comply with the incorporation laws of the particular state where the club is located and are, of course, a legal instrument, it is best to secure the services of an attorney to prepare the articles. When filed, they become the basic charter or constitution of the corporation, so care should be exercised in the preparation. After the articles are filed, in most states with the Secretary of State of the state, the corporation is in being. An organization meeting is then called when directors are elected, by-laws are adopted and the actual organization of the club activities undertaken.

A corporation has other advantages over an unincorporated club. Some of these advantages are as follows:

1. A corporation has perpetual life or a fixed term. The life of an unincorporated association is uncertain.

2. A corporation is a legal entity. It can own property, sue, be sued, buy, sell, or otherwise deal as an individual. An unincorporated association in some states is treated as a partnership in which title to property must stand in the joint names of the individual members. A partnership normally cannot sue in its own name, and if suit is brought against it, all of the members are necessarily made parties to the litigation.

3. Management of a corporation is well defined. A board of directors, elected by the members, control the activities of the corporation. Control of unincorporated associations in many cases is indefinite, loose and creates unnecessary internal friction.

The cost of incorporating is very low; the filing fees in most states for the non-profit corporation is under twenty dollars. Attorney fees for incorporation likewise are generally very low. It seldom costs each club member over a dollar or two as his share of the incorporation expenses. After the club is incorporated, there are no recurring costs or charges.

This article in its entirety is intended simply to point out a source of potential legal liability. The laws of your particular state may afford members of unincorporated clubs some form of specific protection. This is something that cannot and should not be left to guess work. Prudence would dictate that members of an unincorporated radio club should promptly check with a competent local attorney and ascertain the full extent of their personal liability under the laws of the state where they reside. If, as is the situation in most states, the CB operator finds that membership is an unincorporated club affords him no legal protection but creates an uncontrollable liability, steps should be immediately taken to incorporate the club.



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Light but rugged, it increases  
CB range. SPECIFICATIONS: 8  
db Forward Gain; 40 db Front  
to Back; 52 ohm coax Feed;  
horizontal or vertical polariza-  
tion; Longest Element, 9'3";  
Boom, 65 1/2"

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NET

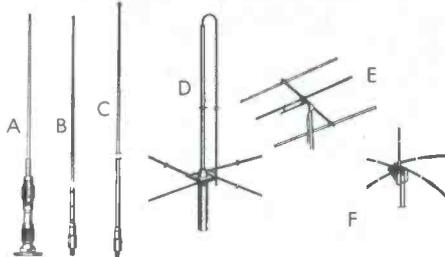
### CB-5 GROUND PLANE

Half wave gives more gain than  
1/4 wave without bulky trans-  
formers. SPECIFICATIONS: VSWR  
(50 ohm cable) 1.3:1 • Band-  
width (under 2.1 VSWR) ± 4%  
• 750 watts max. power input  
• 50 ohm nominal input imp.  
• Intl. feedline RG-8A/U  
Termination SO. 239

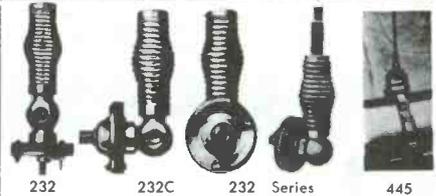


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- B CBS-311 mounts on top, fender or trunk lid. 52 ohms, 60 watts, RG 58 or equiv., 1.5 mc min., 1.1 to 1 at resonant frequency. For auto, plane or boat. **5<sup>25</sup>**
- C FG-103 universal 103" fiberglass whip with 3/8" x 24 thread base fitting. **6<sup>95</sup>**  
(Not Shown) 100-1035 Stainless Steel 103" whip with 3/8" stud threaded to fit all mounts. **6<sup>95</sup>**
- D SR-600-11 base station monopole for 11 meters. Radiating and ground plane elements grounded to reduce lightning damage. Write for specs. **24<sup>50</sup>**
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BASE MOUNT	DESCRIPTION	CB NET
232	D'ble Tapered Spring—Swivel Base	8.75
232C	D'ble Tapered Spring—Swivel Base Coax. Conn.	8.75
232SS	D'ble Tapered Spring—Spec. Stainless	12.95
232SSC	D'ble Tapered Spring—Spec. Stainless — Coax. Conn.	12.95
232X	Heavy Duty—D'ble Tapered Spring—Swivel Base	9.85
232XC	Heavy Duty—D'ble Tapered Spring—Coax. Conn.	9.85
232XSSC	Heavy Duty—D'ble Tapered Spring—Spec. Stainless — Coax. Conn.	14.95
232XSS	Heavy Duty—D'ble Tapered Spring—Spec. Stainless	14.95
232XX	Extra Heavy Duty Spring	10.85
232XXC	Extra Heavy Duty Spring—D'ble Tapered—Coax. Conn.	10.85
232XXSS	Extra Heavy Duty Spring—D'ble Tapered—Spec. Stainless	15.95
232XXSSC	Extra Heavy Duty Spring—D'ble Tapered—Spec. Stainless—Coax. Conn.	15.95
445	Universal Mount—Threaded, 3/8" 24—Chain Mount	7.95

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# is cb a disease?

## CHECK YOUR SYMPTOMS

BY MARY M. HEROD, KKA0529



Well, is CB *really* a disease?

Let's be technical (no sweat there) and define disease. According to Webster, a disease is any mental, moral or physical disorder; malady or illness. In order to make a self diagnosis, read the following symptoms and decide for yourself. You may have only a mild case, or it may be acute. If you haven't caught it yet, don't laugh; it's so contagious, there's no cure, it must run its course.

The outstanding symptoms are as follows:

(1) Do you wear a splint on your mike finger?

(2) Has it become necessary to wear earmuffs winter and summer, because you feel nude without a headset?

(3) Do you dash infrequently out of the house on an emergency (like going to work or some other civilized didoo) armed with an umbrella (when the sun has been out for two consecutive weeks) to hide from neighbors who hear you blasting out on their TV's?

(4) Would you be the first to admit you haven't seen much of your doctor, grocer or Indian chief, and when you do go shopping for goodies, it's in an electronic store, every-time?

(5) Have you carelessly gazed out your shack window and whistled at some slick chick, only to find it's the Mrs. back after a two-year absence (and you didn't even know she had gone)?

(6) Do you plead, "That's a big 10-4," with a sheepish grin, when the court clerk reads that the charge is driving with one hand and trying to operate off a beam with your mobile unit?

(7) Did you take time to put up an antenna on your honeymoon shack?

(8) Were you disappointed, when the doc told you it was four boys, and what you really needed for a lot longer than nine

months was four new crystals to match your buddies' rigs?

(9) Do you have a bow-legged mailman, who delivers and sends all your wallpaper?

(10) Do you have a rubber arm that turns on your base set from outside, so you won't miss anything, when you shut your mobile unit off?

(11) Have you got a shirt left that you can mortgage to pick up a swinging 23 channel job? On second thought, better make it two, because that antenna you have up there now will never match.

(12) Do you get frantic when there's a knock at the door, because there wasn't time for housework, and you might kill yourself falling over the wires to open it?

Break, break!

Have to go 10-7 to go to work, my umbrella doesn't work and I have to go early to shop for goodies we didn't get to buy on the honeymoon, because the four boys were too young to go mobile without getting arrested for driving with one hand with a splint. There was a knock at the door that I almost missed, because my earmuffs were on to go out. It was hard to get the door open without a shovel, and I tripped and almost killed myself on some wires. I thought my rubber arm would fall off before the door finally opened and the mailman was standing there, so bent in the knees that he looked like my husband, whom I just found out has been missing two years. Thank goodness, it's only him, it could be the fellow from the bank to repossess the house and antenna again, or it could have been a summons server.

Catch you in there again. 73's to you all and hope you are feeling better next time around. This is KKA-0 (nuttin) 529 clear!



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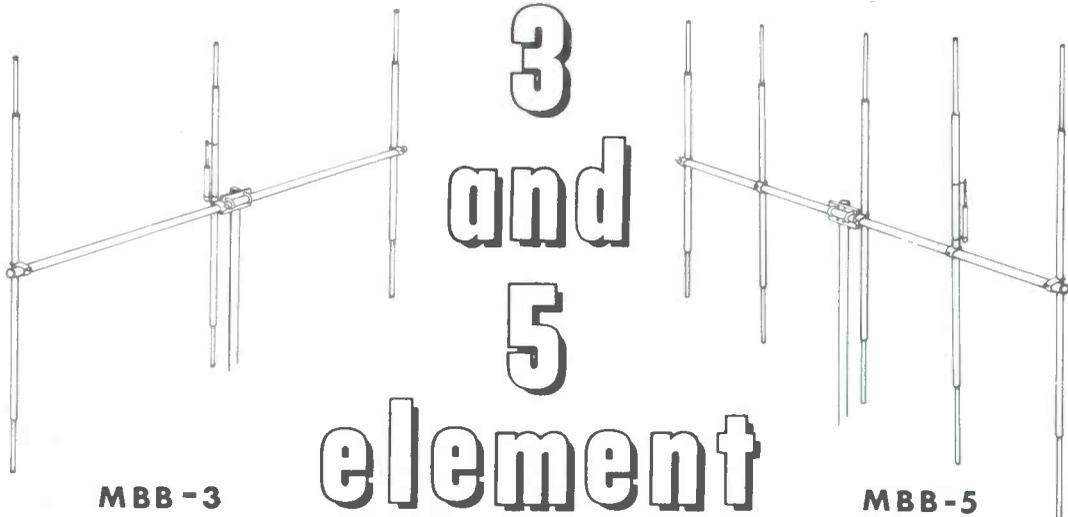
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# 3 and 5 element

**MBB-3**

**MBB-5**

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**MOSLEY MBB-3**

**ELECTRICAL SPECIFICATIONS**

**MOSLEY MBB-5**

20 db. or better	Front-To-Back Ratio	20 db. or better
30 db. or better	Front-To-Side Ratio	30 db. or better
8 db. over ref. dipole	Forward Gain	10.3 db. over ref. dipole
10.1db. over iso. source		12.4 db. over iso. source
52 ohm gamma	Matching System	52 ohm gamma
1 KW A.M. or C.W.	Power Ratings	1 KW A.M. or C.W.
2 KW P.E.P. S.S.B.		2 KW P.E.P. S.S.B.
1.5/1 or Better	Standing Wave Ratio	1.5/1 or Better
60° horizontal	Beam Width at 1/2 Power Points	40° horizontal
85° vertical		70° vertical

**MOSLEY MBB-3**

**MECHANICAL SPECIFICATIONS**

**MOSLEY MBB-5**

12 ft.	Boom Length	24 ft.
17 ft. 11 1/2 in.	Maximum Element Length	17 ft. 11 1/2 in.
9 ft. 8 in. horizontal	Turning Radius	14 ft. horizontal
6 ft. vertical		12 ft. vertical
41 lbs horizontal	Maximum Wind Load - EIA Std.	102 lbs. horizontal
59 lbs vertical		146 lbs. vertical
17 lbs.	Assembled Weight	36 lbs.
23 lbs.	Shipping Weight	42 lbs.

**\$ 60.37** ————— **CONSUMER PRICE** ————— **\$ 87.36**

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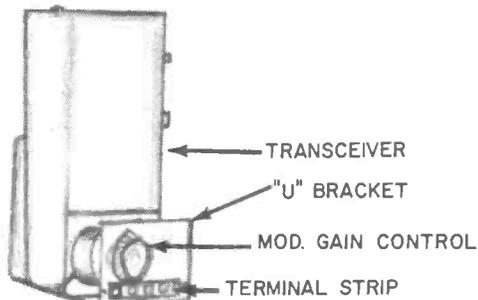
**BY RICHARD PETERSON, PACIFIC 760**

Almost every Part 15 fan knows that the most efficient P-15 base station uses a roof-top transmitter and an efficient antenna for receiving. If you're interested in increasing the range of your P-15 station to 5 miles or more (for less than \$30), perhaps you'll want to try this circuit.

For a P-15 base station, two Knight-Kit C-100 transceivers are necessary. One walkie-talkie is used in the "shack" as a receiver and modulator pre-amp. The other unit is mounted on a mast outdoors and serves as the transmitter. The two units are connected together by 3-conductor intercom cable.

Referring to the schematic diagram, the receiver is modified as follows:

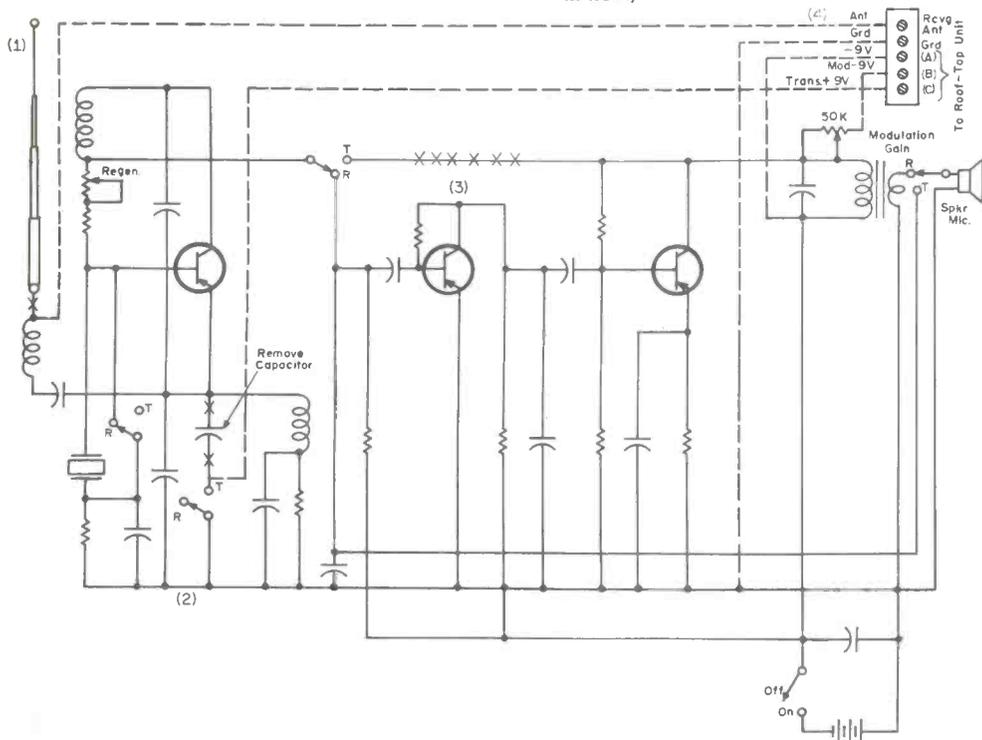
- (1) Remove whip antenna.
- (2) Remove capacitor as shown.
- (3) Disconnect switch terminal as shown.
- (4) After mounting a "U" bracket on the back of the transceiver, install the 5-terminal strip and 50,000 ohm po-

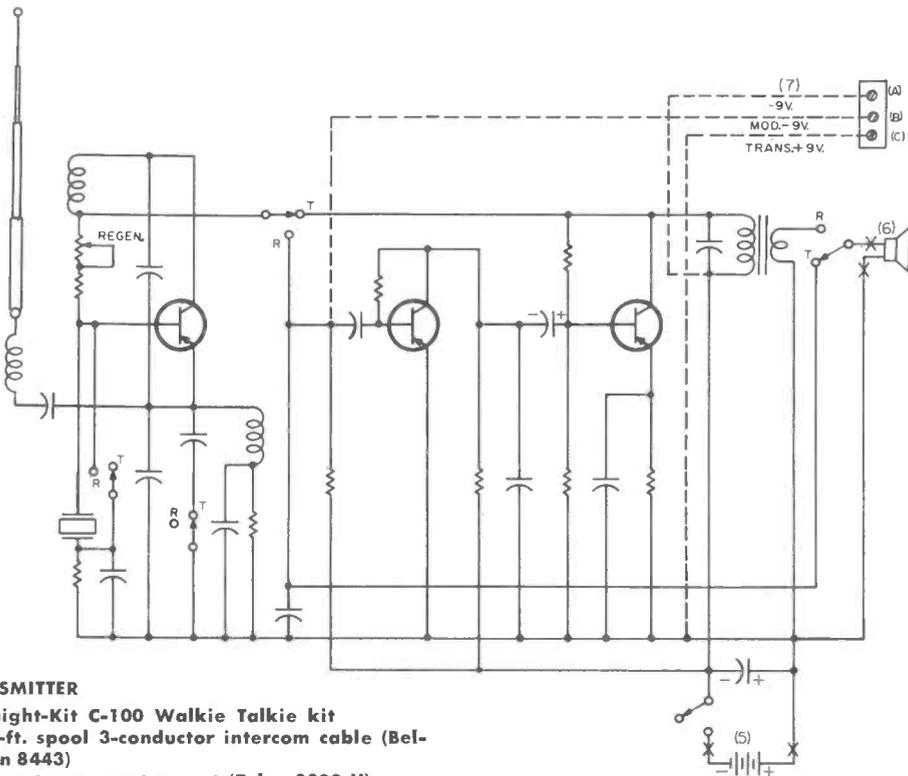


## PARTS LIST

### RECEIVER

- 1—Knight-Kit C-100 Walkie Talkie kit (Allied Radio Corp.)
- 1—5-terminal strip (H. H. Smith 866)
- 1—50,000 ohm potentiometer (IRC-CTS Q11-123)
- 1—10 meter folded dipole antenna kit (Ameco FD-10)
- 1—Bracket for mounting terminal strip and potentiometer on receiver (made from scrap aluminum)





**TRANSMITTER**

- 1—Knight-Kit C-100 Walkie Talkie kit
- 1—25-ft. spool 3-conductor intercom cable (Bel-den 8443)
- 1—TV antenna mast mount (Telco 8800-U)
- 1—2-terminal strip (H. H. Smith 857)

tentiometer. Terminals and potentiometer are then connected to points in transceiver as shown on schematic.

The unit used for a transmitter is modified by:

- (5) Removing battery.
- (6) Disconnecting speaker leads and removing speaker.
- (7) Mounting 3-terminal strip in transceiver. Terminals are then connected to points in transceiver as shown in schematic.

A TV antenna mount is then fastened to the back of the transmitter so that, when the unit is mounted on the mast, the antenna will be horizontal.

The folded-dipole antenna, used for receiving, is then put up as high as possible. The lead-in from this antenna is brought into the "shack," and connected to the "antenna" and "ground" terminals at the rear of the transceiver.

The transmitter unit is then mounted on a mast or pole placed at least 20 feet away from the receiving antenna, as high as possible. Before the mast is raised, the 3-con-

ductor intercom cable is connected to terminals "A," "B," and "C" of the transmitter unit. The transmitter should be placed in a plastic bag to keep moisture and dust from the inside of the unit. After the mast is raised, the 3-conductor cable is brought into the "shack" and connected to the receiver unit. Care should be taken to see that the wires connected to terminals "A," "B," and "C" at the transmitter are connected to the corresponding terminals on the receiver.

Before the station is put "on the air," all connections should be rechecked for possible errors. If you're satisfied that the units are connected properly, the station can now be checked out. Have a friend who lives nearby listen on his P-15 rig as you vary the modulation gain control. After a satisfactory setting is found, this control should not be readjusted.

Remember that your P-15 rig may be used to contact *only* other Part-15 stations, and must not be used if it interferes with Class D CB communications. When in doubt, refer to your copy of the S9 Part 15 Handbook for operating rules for P-15 stations.



# any\*

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# CANADIAN CB CAPERS

We are looking for Canadian readers to become S9 AREA PUBLIC RELATIONS EDITORS (APRE's), similar to the system used so successfully by John Krejc in his "CB CHIT CHAT" column. Canadian readers who would like to become local S9 reporters (and earn some ready cash) please drop me a note and let me know that you're interested.

XM49-405

by JOHN BURNUP, XM49-405

926B CUMMINGS AVE.  
OTTAWA, ONT., CANADA

The other day after a local emergency I overheard some CB'ers remark that there was no sense in helping as they did not need their CB equipment. I think that the sooner CB'ers realize that they are first a citizen then a CB'er we will get better co-operation from local authorities. Please remember that we should all help out in any emergency and if it is needed we are equipped to handle communications, this is an asset that we have at our disposal. Let's not just be glory seekers from the point of view of radio only.

How many clubs have a Public Relations Representative whose prime function is to acquaint the local officials and citizens of the services they can offer the community? Maybe you are missing out on something if you don't.

XM64040, Lloyd MacDonald writes to say that a new club, the Cape Breton Citizens Band Radio Club, P.O. Box 263, Sydney, Nova Scotia, has just been started. He desires information and any help he can receive from established clubs. They particularly would like a copy of your By-Laws or Constitution. They are monitoring Channel 9 and would like to hear from all CB'ers.

From XM52-2315 Max Wolpert, APRE Montreal, comes news of the Chateaugay General Radio Club. He writes to say that the club has over a hundred members and are unique in having a Teenage division for CB'ers from twelve to eighteen years of age. They have made a few changes in their executive. The new President is XM51-071, Vice-President, XM51-378, Marcel Lapierre, and XM52-2024, Brahm Felgar, Director of Membership. XM51-109, Joan Shaw, retains her job as Secretary. XM52-1054, Jerry Pemberton, remains as Treasurer. The club publishes an excellent paper called the *Relay*. All correspondence may be addressed to, The Chateaugay General Radio Club, 675-17th Ave., Lachine, Quebec. Teenage division to Brahm Felgar, 4025 MacKenzie Ave., Montreal 26, Quebec. Club paper is, *The Relay*, 442 Grosvenor Ave., Montreal, Quebec. This club has had a very good history in handling emergencies. I hope to be able to get a record of their achievements.

The South Western General Radio Association are making plans for hosting the first National Convention ever to be held in Canada on the 11th, 12th, and 13th of September, 1964. To quote from a letter received from their Secretary, Peter Harding, 26 Grosvenor St., London, Ontario. I will give it in part. There is a \$15.00 delegate fee which allows you or your sponsoring club a Souvenir gift. Friday the 11th free refreshments served in the evening in the display rooms, Saturday your luncheon meal, coffee breaks morning and afternoon, the Banquet dinner, ticket to the G.R.S. Ball and entertainment. The only thing left to pay on your part will be your room. Your wife may be included for only \$5.00 extra with your registration fee. The hosting club will sponsor an outing for all delegates on Sunday. Display response has been terrific. S9 *the citizens band journal* will be represented by myself and other firms such as Antenna Specialists, Johnson, Electro Voice, CB/XM, Bencom, Atlas Radio, R.C.A. Victor, Daystrom representing Heath Company plus many more.

Please come equipped with all your club resolutions and also it would be greatly appreciated if these resolutions could be sent to Peter well in advance so the time element can be worked out.

Advance registration would be recommended as this convention is gaining great momentum and should be the biggest event of the General Radio Service Year.

The Chemical Valley General Radio Club have a problem. In Sarnia, Ontario there are about fifty members and immediately across the river (about a mile) are about two hundred CB'ers in the Port Huron, Michigan area. To get along with their American neighbors they have selected Channel 18 for monitoring and the Americans Channel 5. Frank Dayton, local S9 APRE, thinks it would be nice if all clubs in the area between Sarnia and Toronto would post signs informing CB'ers of their monitoring channels. Frank also thinks that something should be worked out by the Canadian and American Governments to allow CB equipped motor vehicles to communicate in an emergency either across the border or in each others country. Try writing to your member of Parliament, an election year will be coming up.

Watch for a new development in my next column.

Remember the Convention in September, see you there.

**S9**

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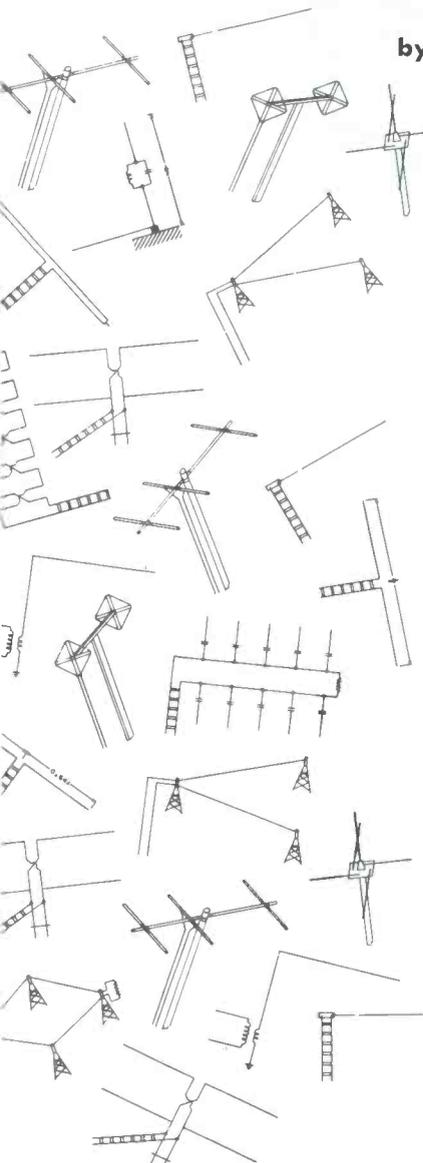
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# Antennas: Fads & Fallacies

by HERB FRIEDMAN, KB19457



It wasn't too many years ago—the beginning of CB to be exact—that selecting an antenna was absolutely no problem. The CB'er only had a wide choice of base station antennas; he could select any antenna *as long as it was a ground plane*. For mobile service things were more complex; the CB'er had a wide choice of mobile mounts and whip lengths, *as long as they were spring mounts with 96 inch antennas*. That's right, 96 inches—cut for the 10 meter ham band. Luckily, several manufacturers quickly realized that ham antennas weren't exactly the best choice for optimum CB performance so they sold "antenna extensions" which were supposed to resonate a mobile whip on 11 meters. Of course, since the CB'er had virtually no choice of antenna types something had to be done to give the extension purchaser a feeling of competence—something to show that a CB'er could make a technical decision. So instead of being limited only to an extension which would lengthen a whip to 108 inches, the CB'er was given a choice of about ten extension sizes.

Of course, the antenna picture wasn't all black. We were fortunate to have "surplus" dealers take an interest in CB, and it was no longer necessary to pay an outrageous price for a base station ground plane (like fifteen bucks). Many surplus dealers were proud to offer "army surplus" CB groundplanes for less than \$10. True, some of these surplus wonders were cut, by the dealer, for 11 meters; but many surplus specials had as much relationship to CB as up to down. Seemed like it never occurred to anyone to ask when the "army" used CB.

Well times, like women's swim suit styles, change; and today, you're virtually certain that anything sold as a CB antenna is a *good* CB antenna. The only problem is which antenna is the right antenna for *you*. There are so many types and styles in both base and mobile antennas that a newcomer is apt to presume that only one or two are *really good*. Of course, as the old timers know, antennas are designed for specific applications, and one antenna which works great for Joe CB might be the worst possible choice

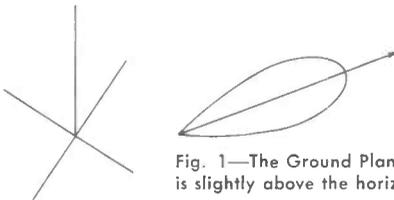


Fig. 1—The Ground Plane vertical radiation is slightly above the horizon.

for Jack CB. It's really a question of what antenna is best for *you*, and what do you do with it after you've got it.

The basic CB antenna, to which all other antennas are compared, is the ground plane shown in Fig. 1. The ground plane's principle advantage is its omnidirectional radiation pattern—it radiates energy with equal intensity in all *horizontal* directions. This means that a mobile can receive a GP's signal from any compass direction. However, the vertical pattern, the one shown in Fig. 1, is really the important factor. Notice that the signal radiates upward some nominal twenty degrees. If the GP is located on a tall building it is quite possible that when a mobile complains of poor reception the signal is quite strong—thirty or more feet above the car.

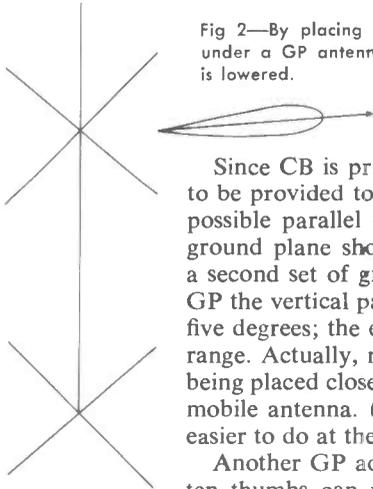


Fig. 2—By placing a second set of radials under a GP antenna the vertical radiation is lowered.

Since CB is primarily a mobile service, some means had to be provided to insure that the signal radiated as close as possible parallel to the earth; so the ground plane over a ground plane shown in Fig. 2 was introduced. By placing a second set of ground radials a half-wavelength under the GP the vertical pattern was pressed downward to a nominal five degrees; the effect being an "extension" of the working range. Actually, no more energy is being radiated, it is just being placed closer to the ground and therefore closer to the mobile antenna. (It's like increasing power output only it's easier to do at the antenna.)

Another GP advantage is simplicity. Even someone with ten thumbs can put one together because a GP is just a collection of four or five elements and a handful of nuts and bolts.

Another popular early antenna was the Coaxial Antenna shown in Fig. 3. The Coaxial's advantage is a low vertical radiation to start with—there is no need for an extra set of ground plane radials. It's a good antenna and except for a lower radiation angle it's performance is similar to that of a ground plane. The thing that prevented the Coaxial from attaining the popularity of the GP is its complexity, and its mounting difficulty. A Coaxial requires some small ability to assemble intricate parts and you can do a proper assembly if you have no more than five thumbs. (Of course, if you have only two thumbs you can put a Coaxial together blindfolded.)

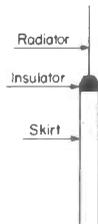
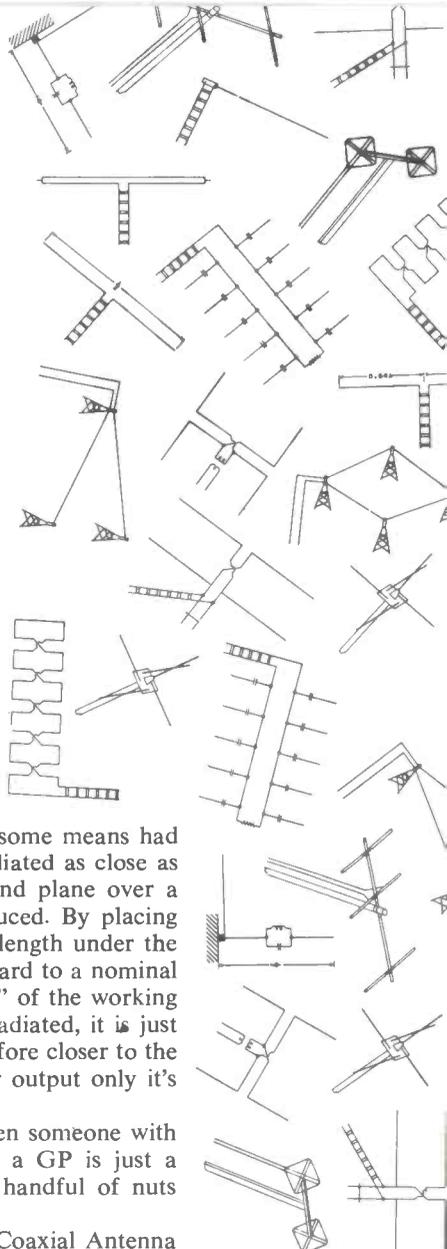


Fig. 3—In the coaxial antenna the skirt which is connected to the transmission line braid (ground) replaces a GP's radials.



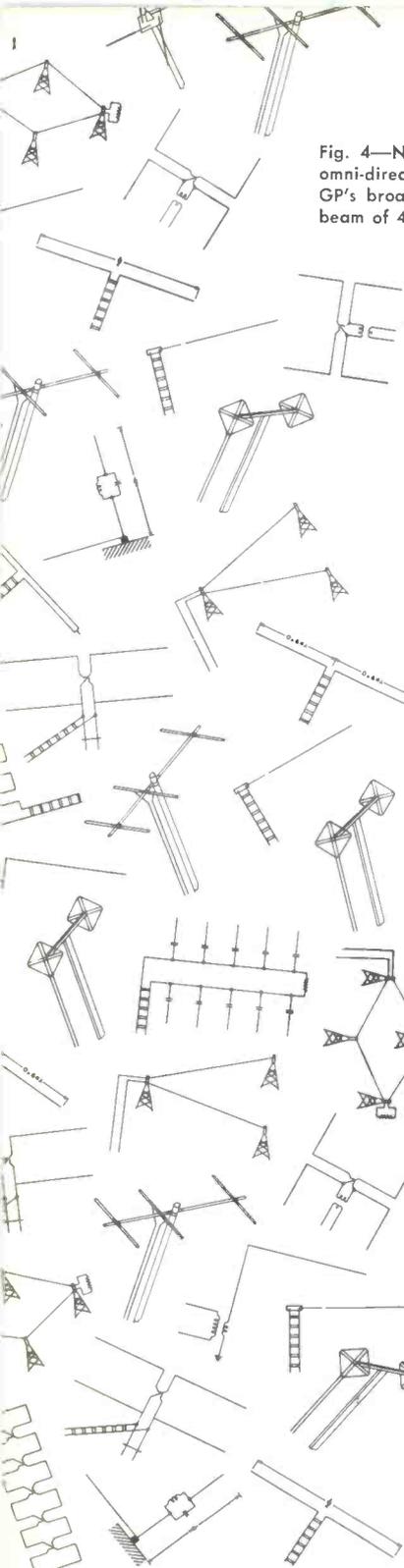
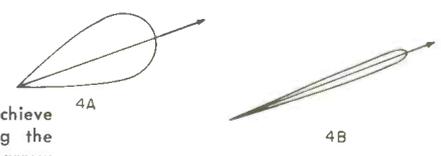


Fig. 4—Non-beam beam GP's achieve omni-directional gain by compressing the GP's broad pattern of 4A into the narrow beam of 4B.



Unlike the GP, which has a relative even weight distribution the Coaxial is top-heavy when you're ready to mount it; and unless you take extra care during installation a Coaxial can easily wind up lying in the street. (But again, if you have only two thumbs the Coaxial makes a fine basic antenna.)

As transceivers became more sophisticated so did the antennas, and today the GP and Coaxial are fast giving way to "gain producing" non-beam beams. Are you confused? So are we. A non-beam beam is the best description of those "ground planes" which have more gain than a ground plane. Yes, we know, we're still confused. What we're referring to are those antennas which are called Co-Linear, Magnums, High-Toppers, etc., etc., etc. Many of these antennas look like overgrown GPs but they offer a lot more than a GP, they offer antenna gain. That is, if a GP will deliver a just barely readable signal to a mobile ten miles out, the overgrown GP will deliver a stronger "arm-chair copy" signal. Figure 4 shows how it's done. The GP's vertical energy distribution is shown in Fig. 4A; notice that the pattern is broad. On the other hand, our overgrown GP in Fig. 4B has a narrow pattern; the energy which the GP squirts into the air—doing nothing for communications—is compressed downward, resulting in a stronger signal at the receiving station. The same amount of RF energy is being fed both antennas, it's just that the overgrown GP places more energy where it can do me good.

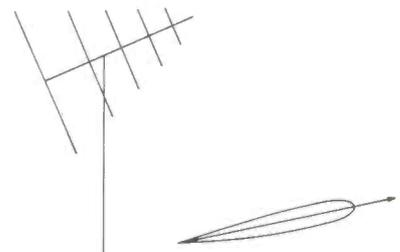


Fig. 5—A beam (YAGI) achieves gain by compressing vertical and horizontal energy into the forward direction.

The horizontal distribution of the Co-Linear, Magnum, etc., is that of the basic GP—omni-directional. Since it does provide gain over a GP we can call it a non-beam. See?

A real BEAM is of course the ultimate in CB antennas. A beam, as shown in Fig. 5, presses both vertical and horizontal energy into the forward direction (but not all), and gains up to 10 db are possible. What does 10 db mean in practical terms. Well, if you substitute a beam having a 10 db gain for a GP it's like using a ground plane but increasing the transceiver's power input to 100 watts. That's

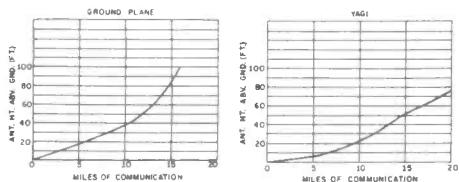


Fig. 6—

right—100 watts. Perhaps the chart (Fig. 6) can make the point clearer. Figure 6A shows a typical range for a CB rig feeding a GP. Figure 6B shows the range obtained for the same signal strength with a beam. For example, an antenna mounted 20 feet above ground delivered 2 microvolts of signal at 7 miles. The same transceiver feeding a beam 20 feet above ground delivered 2 microvolts at a distance of nearly 10 miles.

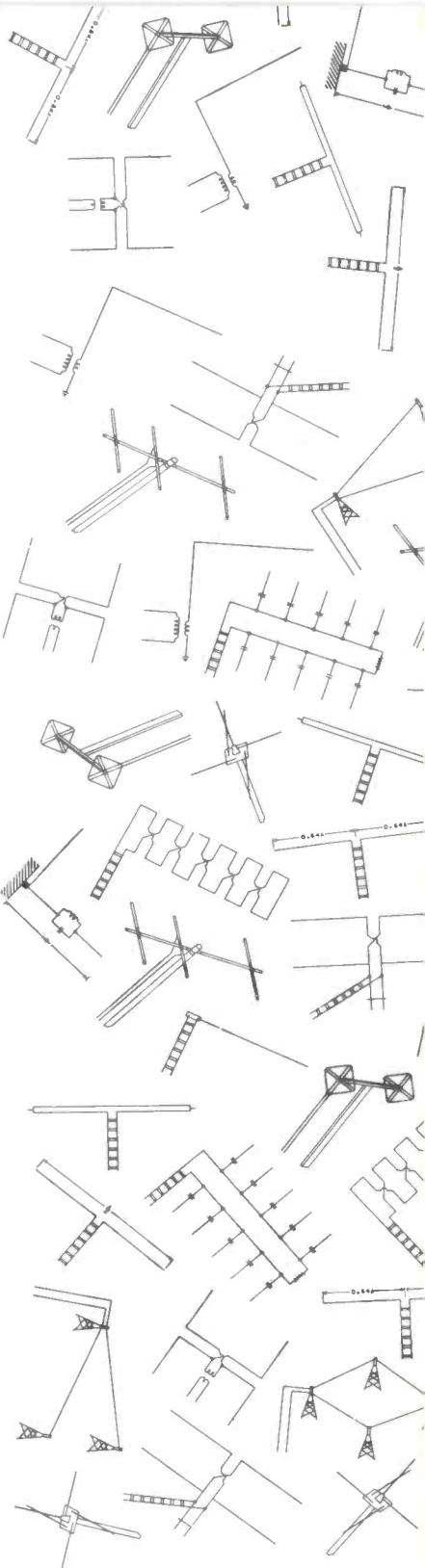
Just as the beam presses transmit energy into the forward direction, so too, it receives best from the forward direction. As example, a typical CB beam may have a front to back ratio of 24 db. This means that if you point the beam at a station and receive his signal S5, the signal will fall to S1 if the beam is rotated 180 degrees so the back of the antenna points to the transmitting station. Of course, this characteristic permits the beam user to “phase out” an interfering signal. If the received signal lies, say, to the west of the beam, very little energy is going to be received from signals on the same channel lying to the north, south and east. Naturally, unless you’re only interested in working stations in a narrow, specific direction the beam must be equipped with a rotator so it can be pointed to any compass azimuth.

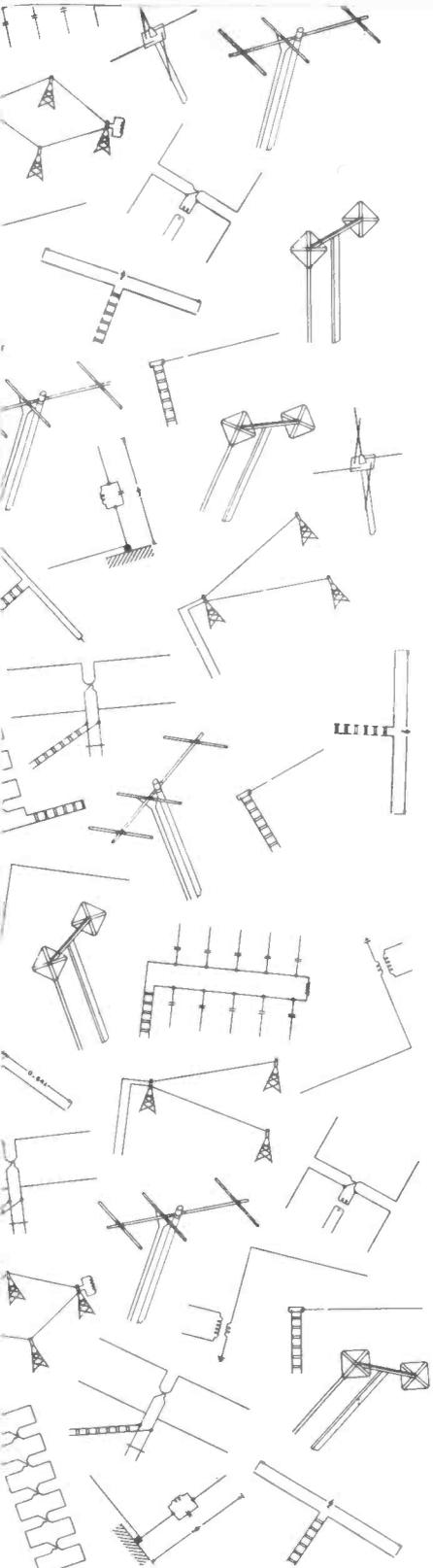
An important consideration when using beams is polarization. Polarization is not a problem with common CB antenna because they are all polarized vertically—both base and mobile antennas stick straight up. But beams can be mounted either horizontal or vertical, and it is important for the CB’er not to be talked into horizontal beam polarization just because he can save a few bucks on a horizontal beam.

Maximum energy is intercepted—by a receiving station—when both the transmit and receive antennas have the same polarization—the vertical mobile must work a vertical base. If a base station is horizontally polarized the signal at the vertical mobile can be up to 4 s-units (24 db) less than that of full vertical polarization. In short, if you use a beam with 10 db gain, and mount it horizontally, the received signal can be up to 14 db less than the signal obtained from a plain old GP—you’d do better with a walkie-talkie.

However, if you’re interested in communication between two fixed points such as a home and a factory, then it matters not one whit what polarization is used as long as both locations have the same polarization.

While we’re on the subject of beams let’s not overlook using the non-beam beam as a beam (Now there’s a tongue twister!) Stick any two antennas side by side, feed them simultaneously, and you’ve got a beam; the radiation will favor one particular direction. True, you’re not going to get





any fantastic gain like you will from a real beam (or YAGI as it's called) but you can get a definite *beam effect*. And if the two non-beam beams (I like that term) are fed with different signal phasing—either by changing the length of the transmission line or using a phasing network—the horizontal pattern can be rotated 360 degrees even though the antennas remain stationary. To our knowledge only one CB antenna manufacturer (Hy-Gain) has this system; and if it appeals to you, just look up his ad in recent issues of S9 for more information.

Sometimes you are going to run across an add for a non-beam beam that looks confusing. While it will claim a transmitting forward gain of  $X$  db, the receiving gain will be specified higher. Now at first glance, this is like impossible, man; an antenna receives the same way it transmits. What we have in this case is an “receiving improvement” which includes signal-to-noise ratio, here's what it's all about.

In addition to the desired (and undesired) signals and assorted atmospheric noises (hash), an antenna is also subject to precipitation noise caused by rain, snow, wind driven dust, and “air friction” which builds up static electricity which generates noise when the antenna discharges the static electricity. If an antenna can be coated or covered to reduce precipitation noise impulses the effective signal-to-noise ratio would be improved. The effect as far as the ear is concerned is that of a “normal” antenna with increased power at the transmitter, or of an antenna which suddenly obtained gain—the ability to intercept “extra” signal. With such a treated antenna, it can be claimed that the receiving gain exceeds the transmit gain (the treating has no effect on the transmitted signal).

## MOBILE ANTENNAS

Surprise, surprise, this is going to be short, because strange as it may seem mobile antennas are not the complex, mysterious things most CB'ers think they are. Since anyone has yet to see a production model of a mobile antenna which exceeds an *electrical* quarter-wavelength all comments apply to quarter-wave mobile antennas—and all mobile antennas of any value are an *electrical* quarter-wave. Even if they are only 12 inches long they are still an electrical quarter-wave.

There is one firm rule for mobile antennas—“the more steel the more signal output.” Now that we have laid down an undisputable rule we shall proceed to shred it to ribbons.

A quarter-wave antenna radiates primarily from the high current area which happens to be at the base of the antenna. If the lower half of the antenna is replaced by a loading coil the predominant radiation is from the loading coil and that hasn't too much area. So how come you know of loaded antennas which equal in performance a full length whip? Simple, loaded antennas are usually placed in a more optimum position because they are small. A full-length bumper mounted whip uses the car body for ground. A whip on the left rear bumper (or fender) has for a maximum ground the diagonal car body to the right front—so the

whip has maximum radiation over the right front fender and minimum to the sides of the car. But place a loaded antenna in the center of the car roof and it has a more or less evenly distributed ground under it so the antenna pattern of more or less omni-directional and the loaded whip appears to outperform the full length whip. But place the full length whip in the center of the roof and it outperforms the loaded antenna.

So how come loaded whips are so popular? Are the CB'ers being taken in by slick advertising? The answer is no. With rare exceptions, who wants 108 inches of steel sticking up over the car roof? No, the loaded whips offer convenience and *effective* performance.

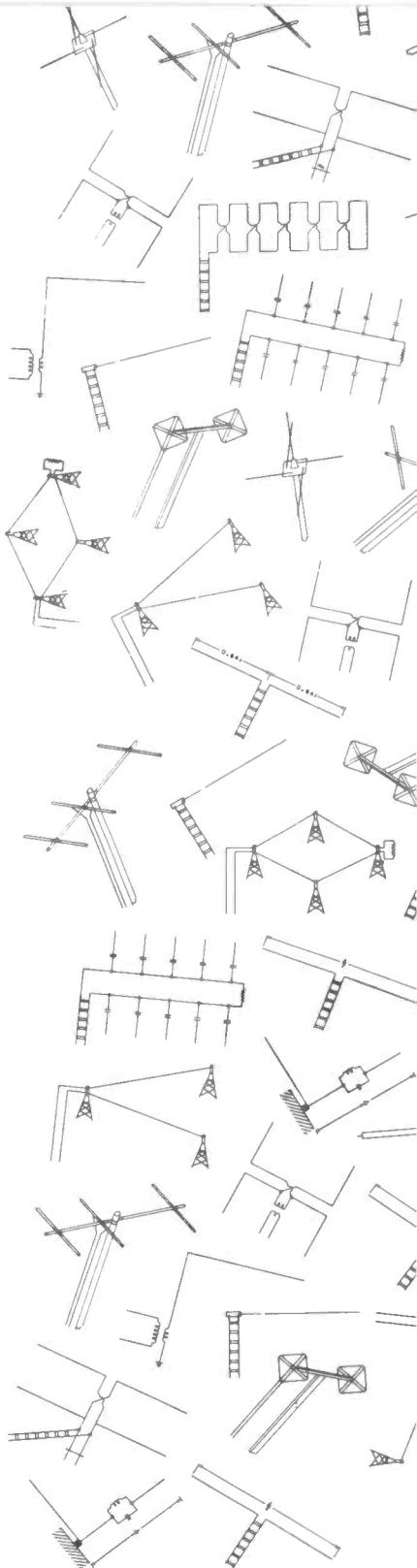
You might not want a long tail trailing off the rear fender so you place a loaded whip up on the front cowl. Performance is close to a whip, the local hoods can't make spears out of it so they don't steal it, and no extra holes retains the car's trade in value—you are happy. The loaded whip offers certain conveniences without necessarily affecting performance—and that's the difference in *reliable* mobile antennas, convenience. It's six of one, half a dozen of the other. You pays your money and takes your choice—and you won't be wrong.

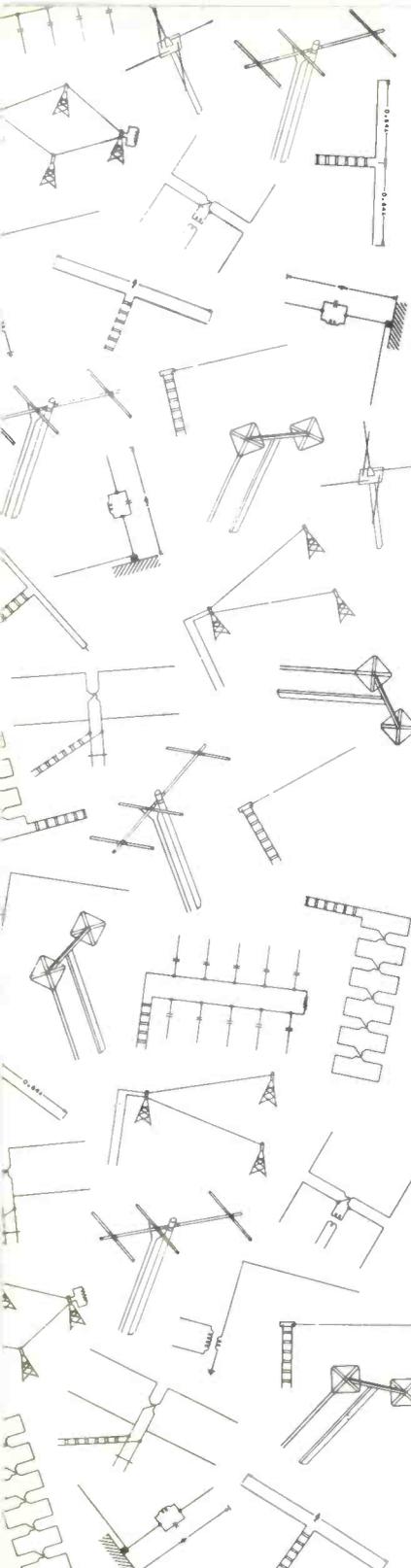
### COAXIAL CABLE

And now to the subject of the greatest and misinformation—coaxial cable transmission line. In CB it makes no *effective* difference what in heck you use for transmission line. True, some power is lost in the transmission line but it's a spit in the ocean. Ordinary RG-58A/U has a loss of 2 db per 100 foot. The receiving station can only *hear* changes of 3 db or more—so big deal, *if* you have a 100 foot transmission line the loss is less than the receiving station can hear. What's that? You're fussy; so use that heavy, unwieldy, expensive RG-8/U, it only has a hundred foot loss of 1 db; let's see the receiving station that can hear that. And how many CB'ers have runs of 100 feet—very few. The usual installation with RG-58A/U would most likely have a loss of one half db or less. And trying to improve on this with ultra low loss coaxial cable is wasting time and money.

What's that? You have seen mobile rigs that boosted their signal 5 S-units by changing from 58 to 8. Sheer nonsense. Maybe the operator finally got around to soldering a few connections when he installed the RG-8/U. You could use lamp cord for a mobile transmission line and still put out a near optimum signal. (Try it, clip the cord off your desk lamp.)

Now to CB fallacy *Number 465*—"you can lower the SWR by trimming the transmission line." Anytime you can do this you have something wrong with the antenna, and trimming the line only covers up the defect, it doesn't improve it. SWR is the ratio of antenna impedance (radiation resistance) to the transmission line impedance compare to 1. That's all, nothing else. It has nothing whatsoever to do





with the length of the line. It is the meter which is at fault. The common meter used by hams and CB'ers will indicate a low SWR when the SWR is really high when by some odd luck the transmission line has been trimmed to a multiple of one half-wavelength of the operating frequency. The SWR losses still remain. Anytime you can lower the SWR by trimming the line you'd better get out and find out what's really wrong. And keep in mind that some darn good CB antennas have a normal SWR of 2:1. Better check the manufacturer's specifications before you tear the antenna apart.

Though the meter has the disadvantage of indicating erroneously on half-wave lines, this feature is also an advantage. Unless a loaded antenna is specifically designed with a 50 ohm matching coil its radiation resistance is less than 50 ohms. In addition, a fender or bumper mounted whip has a radiation resistance of about 30 ohms. Now if you use just any odd length of transmission line to connect these low impedances to your rig's 50 ohm output the transmitter may not load to a full 5 watts. (See previous S9 articles for the WHY?) But, if a transmission line equal to a half-wavelength (or some multiple) of the operating frequency is used the transmitter sees a resistive load and 99 times out of 100 the transmitter will load properly. So connect the meter, trim the line for the lowest SWR reading, and then if you remove the meter, insert a section of line equal to the spacing between the meter's connectors (to retain the overall line length). Remember, the meter must be inserted directly at the transceiver antenna connector. If it's somewhere in the middle of the line the technique is meaningless.

We hope we've covered antennas from A to Z. Back issues of S9 will fill in the swiss cheese (like man, the theory). We've tried to keep it strictly CB, not so much for you, but for chuckles. You see, some ham writer always comes along, lifts a few disconnected thoughts out of a CB article, and "proves" that someone goofed. S9 couldn't care less whether CB technique can be used or is appropriate to ham radio. So we'll wait until someone "proves" we made a mistake and then laugh our fool heads off.

**S9**

# CITIZENS RADIO RULES CHANGED

After considering the more than 2,500 comments led in Docket 14843, and other related information before it, the Commission adopted a Report and Order amending Part 95 (formerly Part 19) of its rules governing the Citizens Radio Service, effective Nov. 1.

The Commission notes that the trend on the part of many Class D citizens licensees to use their stations for hobby-type operations has grown to the extent that the utility of the service for its original purposes has been substantially impaired.

Some of the significant provisions of the amended rules are:

1. The primary purpose of the Class D citizens authorization as a means of communication between units of a single licensee is emphasized.
2. Communication between units of different Class D stations (interstation) is permitted only under certain stated conditions and is restricted to seven designated frequencies (Citizens channels 9, 10, 11, 12, 13, 14 and 23).
3. All interstation communications are limited to no more than 5 consecutive minutes with a silent period of at least 5 minutes before another transmission is permitted.
4. The rules are modified to make it clear that call sign identification shall be made on each frequency used and identification shall include the station being called. Licensees commencing a communication on one frequency and then switching to another channel must give the proper identification of its station on each channel.
5. In general, all users of citizens radio equipment are required to obtain their own licenses and operate under their own call signs. Thus, except in the case of a station used solely for the control of certain remote objects or devices by radio, a citizens radio station may be operated only by the licensee, by members of his immediate family living in the same household, or by employees of the licensee acting within the scope of their employment.
6. The former provision of the rules which prohibited the operation of a citizens radio transmitter under more than one station license has been deleted. Accordingly, radiocommunication for such organizations as civil defense agencies, volunteer fire departments and auxiliary police should, in the future, be conducted under a single station license issued to the organization rather than under licenses issued to individual members of such organizations.
7. The practice of licensees "loaning" their call signs to other persons in order that the latter may operate radio apparatus pending the filing of and action on an application is specifically prohibited by Section 301 of the Communications Act and Sections 95.83(c) and 95.87 of the Commission's rules.
8. A new section has been adopted in the rules which spells out various prohibited uses. Some of them are:
  - (a) Activities in violation of law.
  - (b) Carrying communications for hire.
  - (c) Communications containing obscene, indecent or profane words, language or meaning.
  - (d) Communications in the nature of a broadcast or those not directed to specific persons.
  - (e) Malicious interference.
  - (f) Transmissions of music, whistling, sound effects, etc.
  - (g) Communications to stations of other licensees relating to technical performance, capabilities, testing of any transmitter, including transmissions concerning signal strength or frequency stability of transmitters.
  - (h) Communications advertising or soliciting the sale of goods or services.
  - (i) Communications to another station over a distance of more than 150 miles. (This new limit is far beyond the groundwave communications range under normal conditions. Normally the groundwave range would not exceed 25 miles.)
  - (j) Person engaged in selling citizens radio apparatus shall not allow customers to operate under the seller's station license.

9. An individual whose own radio station license has been revoked or cancelled is prohibited from operating another licensee's station of the same class until he is again issued a license of that class by the Commission.

Because there are now some 700,000 citizens radio stations, the Commission is unable to furnish copies of the revised rules to meet requests of individual licensees. However, all citizens licensees are now being required to maintain a current copy of Part 95 of the rules covering this service, hence the subscription method afforded by the Government Printing Office entitles subscribers to receive a copy of these and subsequent citizens rule changes. Meanwhile, the text of the new rules will be published in an early issue of the Federal Register, which may be purchased from the Government Printing Office, Washington, D. C. 20402. The Commission will supply a copy of the text to publications and organizations representing citizens licensees, and reference copies may be consulted at the Commission's Washington offices.

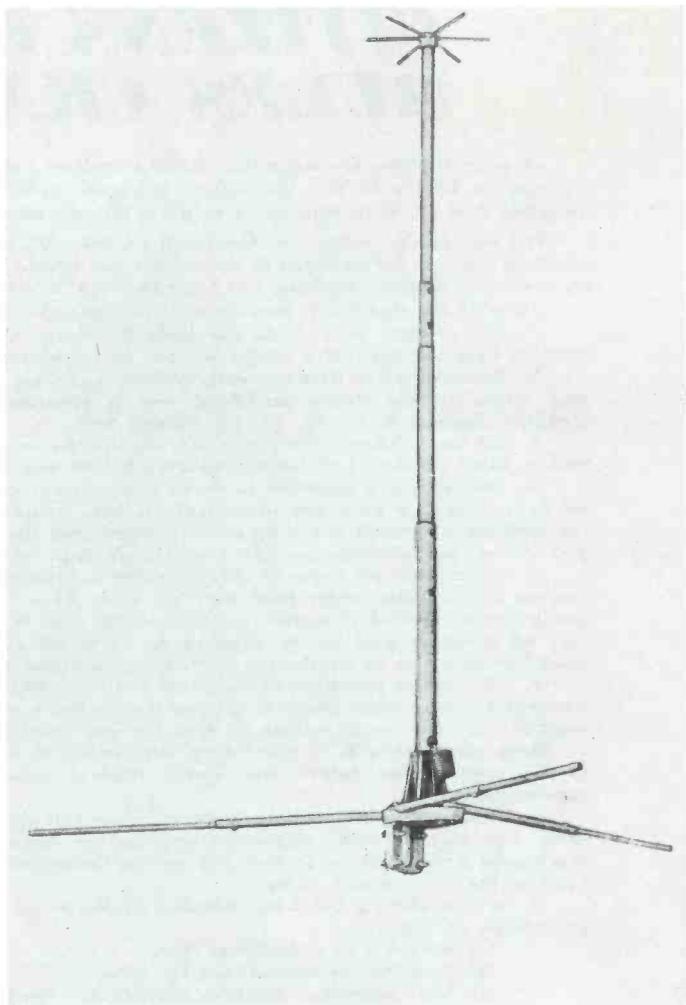
# **Greatest Base Station CB Antenna Ever Built**

Tenna CGP-27G Colinear Ground Plane concentrates RF energy at a lower angle of radiation than any other design. This  $5/8$  wavelength omni-directional fixed base station antenna gives a 3.4 db gain over a ground plane and thereby doubles the effective radiated power—vastly increasing the usable CB range.

The base of the CGP-27G is made of cast aluminum, the mast holder is reinforced phenolic and all exposed fittings are epoxy sealed against corrosion, and it is anodized in glittering gold.

Designed for outstanding performance, built to last and pre-constructed to save installation time. You'll appreciate the meticulous attention to detail and thoughtful planning that went into the CGP-27G, the greatest base station CB antenna ever built!

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## **CGP-27G**

CITIZENS BAND



### **THE TENNA MFG. CO., INC.**

19201 Cranwood Parkway, Cleveland, Ohio 44128

# Antenna Rotors Exposed!

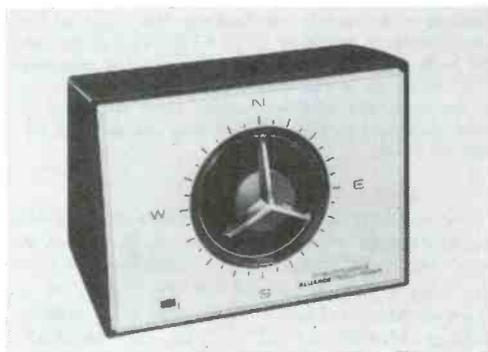
**THE INSIDE STORY**  
by **TOM KNEITEL, KBG4303**  
**EDITOR**

One of the most generous things a manufacturer can do is to naively invite a ravaging hoard of hungry and thirsty editors to be their guests. It was Alliance Manufacturing Company's turn to be descended upon and they cordially invited five editors from leading electronics publications to come to Alliance, Ohio, for a tour of the facilities and for a symposium (bull session) on antenna rotors.

July 1 was the day, and we arrived in Alliance along with staffers from *CQ Magazine*, *Radio Electronics*, *PF Reporter*, and *QST*.

Getting down to business, we got an advance look at Alliance's new model C-225 *Tenna Rotor*, an all automatic, transistorized, advanced device which could do everything but whistle Yankee Doodle. A classroom at Mount Union College was taken over and Alliance's Sales Manager, George Gemberling, gave us a run-down on the C-225. This was followed by a fascinating lecture description by consulting engineer A. F. Deming. Fred discussed the novel circuitry and the developmental history of rotors, and why there was a *need* to develop the C-225.

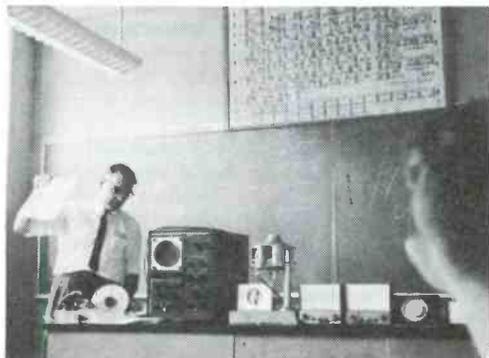
We then learned some very interesting facts on how so-called *wind loading* can knock down even the most "sturdy" antenna installation, if the antenna has poor mechanical design. Without going into a great amount of detail here



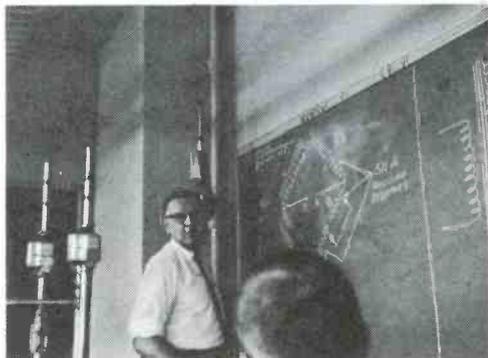
Control unit of the Alliance C-225. Modern styling should pacify even the fussiest XYL.

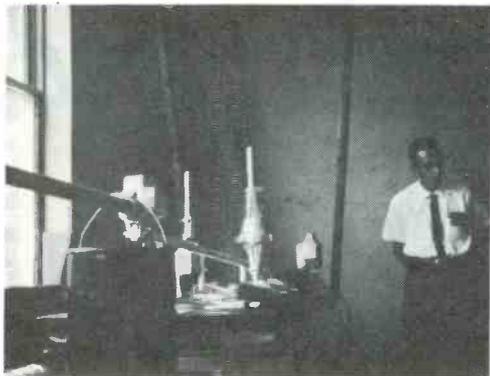
(it's the subject for an entire article which we expect to run in a future issue), we found that a 5 CB element beam which Alliance tested, weighed about 30 lbs. The metal surface of the beam was 9.2 square feet. In a 110 MPH wind, the 30 lb. antenna would present a rotor with the prospect of 618 foot-pounds (this relates to torque, or twisting pressure). A popular 3 element CB beam was rated at 166.5 foot-pounds in a 110 MPH wind.

During the afternoon we were treated to a look at Alliance's confidential testing labs,



A. F. Deming, one of the engineers who designed the C-225, describes the theory behind the unit





Snapped while nobody was looking. This is one of the torture tests, it consisted of a 69 lb. bucket of nuts and bolts which was hung on a horizontally mounted C-225 rotor. As it was moved further and further out on the pole, the effective weight load increased. It could go almost to 900 lbs., but they couldn't get the rotor to break.

where we saw a number of rotors of various manufacturers undergoing the most grueling tests you could imagine. We actually saw torture tests being performed on the C-225, on a Channel Master Model 9524, and on Cornell-Dublier Models AR-22, TR-44 and Ham-M. Some of the tests included seeing how much



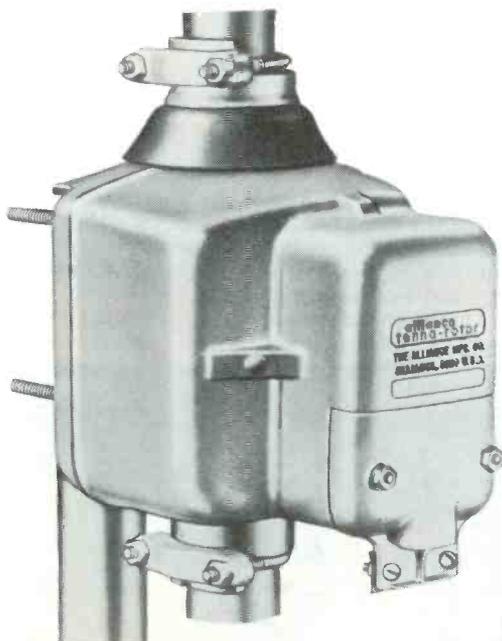
Jack Bennett shows some of the disintegrated rotor parts which resulted from Alliance's torture tests.

dead weight could be hung on the end of a horizontally mounted rotor before it shattered, a test for running torque (turning power under resistance), and windmilling tests (to see if a wind blowing on the antenna would turn the rotor while it was shut off). The C-225 came through the tests very admirably, and the test with the dead weight was a dazzler. They told us that it would support about 750 lbs., but they eventually pushed it up to somewhere near 900 and they couldn't get it to break no matter how hard they tried. Competitive models disintegrated far below the C-225's rated 750 lbs.!

These tests were explained by Jack Bennett, Resale and Products Engineer. We didn't think that photos were permitted in the testing room, but I did get off a few while nobody was looking.

About this time we all realized the reason why Alliance had invited us. If they had sent out a press release with these facts, the normally skeptical editors would probably have said "just another exaggerated sales pitch" and filed it in the nearest receptacle. So their idea was to let us see for ourselves that this relatively inexpensive, small and lightweight unit, could not only equal, but outperform by far, the expensive (and larger) units which have made reputations for themselves throughout the years. As far as I was concerned, they made their point.

For those of you who are interested in the C-225, we can tell you that it offers quiet operation (no click-click), positive mechanical stop at end of rotation, factory lubricated for life, rotates at a speed of 1 RPM, all external hardware is either stainless steel or corrosion resistant materials. It is guaranteed to hold, support, and turn, any standard CB beam under any conditions—what more could you ask?



Up on the roof, the rotor unit is small and lightweight, offering low wind resistance while maintaining high torque power.



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**NEW HAMPSHIRE**

MANCHESTER — 1247 Elm St.

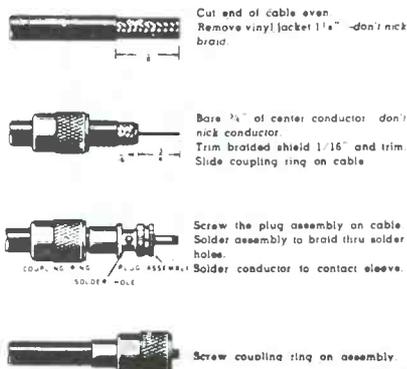
# COAX THAT CONNECTOR

by JOSEPH KARO, KCA4822

## HOW TO HOOK UP THOSE LITTLE DEVILS

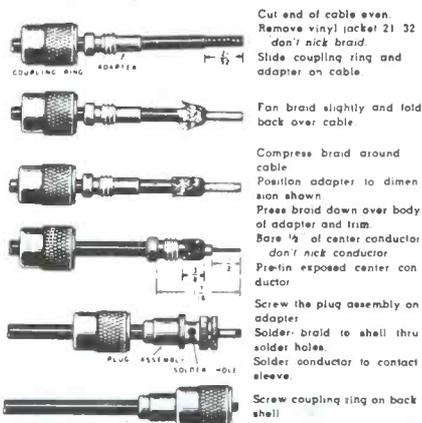
Coaxial connectors have long been a problem to radio men, and a source of unending headaches to CB'ers in particular. Actually the problem isn't really a problem at all, once you get the knack of attaching the little devils to at the end of a length of cable, be it they *heavy coax* such as RG-8/U and RG-11/U, or the small diameter like RG-58/U and RG-59/U.

### ASSEMBLY OF CABLES TO 83-1SP PLUG



When PL-259 connectors are used with a small diameter cable, a sloppy job usually results unless a standard adapter is used. These adapters are low in cost and really simplify the job tremendously. Our diagram shows just such an adapter on RG-58/U coax. The braid has been exposed for a distance of about 3/4", frayed and pushed back, and the center wire bared for 1/2" and

### ASSEMBLY OF CABLES TO 83-1SP PLUG USING ADAPTERS 83-168 AND 83-185



When attaching a PL-259 connector to heavy coax, the jacket must be cut back for 1 1/8" and the inner conductor bared for 3/4". The shield should be cut back to 1/16" from the edge of the inner dielectric. The coupling ring should be removed from the connector and slid onto the coax in the proper direction. Now carefully tin the outer shield, the center conductor too. Screw the cable into the plug body until the coax is seated. Some braid will be exposed through the hole in the plug body and should be soldered to the plug body. The center conductor is soldered to contact the hollow pin on the plug. The coupling ring screwed back into position to complete the job.

tinned. Again, as with the heavy cable, put the coupling ring on the coax and screw adapter assembly into the plug body.

A final test with an ohmmeter should be given to all connector assemblies. It is surprising how much trouble a small piece of wire braid, twisted in the wrong direction, can cause.

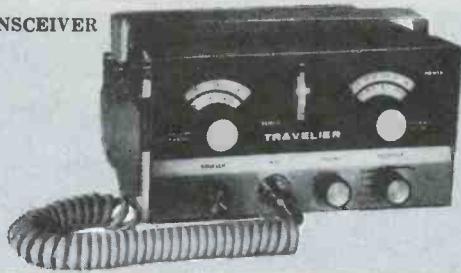
Now that you are all experts on coax connector assembly, you should find better results in that CB gear. The antenna that never worked just might load up like a dream, the noise level may drop a DB or two, who knows. Anyway, the satisfaction of doing the job right will be with you.



## AC POWER SUPPLY



## TRAVELIER TRANSCEIVER



## TRAVELIER *transceiver*

### Transmitter:

- 23 channel crystal controlled
- Power Output: 3.25 watts minimum

### Receiver

- 9 tube superhet circuit with RF stage
- Sensitivity: .1 microvolt for a 6 db down signal-to-noise ratio
- 23 channel variable control

## SATELITE *base station*

### Transmitter:

- 23 channel switching — Channel 9 crystal supplied
- Cathode-ray modulation indicator
- 3 tubes plus 3 silicon diodes
- 5 watt input—100% Heizing modulation

### Receiver

- .1 microvolt sensitivity cascade amplifier
- Dual conversion IF — 10 mc. and 455 kc
- Highly readable 2 1/2" square "5" meter with front panel zeroing control
- Local-distance switch with audio compressor position to prevent overload from nearby stations
- 5 fixed receive channels with band-spread tuning and overall 23 channel continuous tuning
- 14 tube performance with 8 tubes and 5 diodes

### Power SWR Meter:

- Measures RF power output into dummy load (52 Ohm)
- Measures maximum forward antenna current for antenna tuning — used in conjunction with reverse position — measures relative standing wave ratio (SWR)

## DEMCO Presents....

*the all new 23 channel TRAVELIER transceiver*  
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Only Demco offers you a complete true Base Station and a new Mobile rig that has everything. Outstanding Demco quality is the result of specialization by the country's leading electronic experts in the CB field!

Both the Satellite and Travelier have 23 channel crystal controlled transmitters, and the Travelier also has four crystal controlled receive positions. No other manufacturer can give you all these features.

The Satellite Power Modulator, a compression audio amplifier, greatly increases your talk power when used with the Satellite Base Station or most other CB radios.

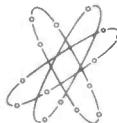
The matching AC Power Supply converts your Travelier to Base in a matter of seconds! No wiring, just plug in.

To fully appreciate the beautiful, yet rugged, styling and construction of the Travelier and Satellite you must see and try them for yourself.

### Free Brochures:

For prices, complete specifications, and schematics of the exciting new Travelier Transceiver and Satellite Base Station, write to:

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## SATELITE POWER MODULATOR



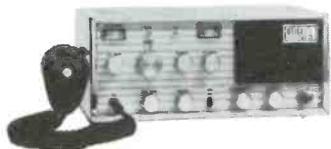
## SATELITE BASE STATION



# Ask mos



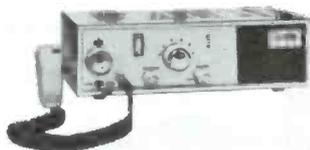
## UTICA T & C III



- 23 Channel crystal controlled transmit and receive.
- All crystals supplied.
- NOT A SYNTHESIZED CIRCUIT.
- Built-in dual power supply, 117 VAC, 12 VDC transistorized supply.
- Push-pull modulation.
- 14 tubes — 5 diodes with 24 tube performance; 2 transistors.
- Built-in PA system.
- BFO for sideband reception.

**\$259<sup>95</sup>**

## UTICA T & C II



- 6 channel crystal controlled transmit and receive.
- Calibrated "S" meter with output-power modulation indicator.
- External speaker terminal.
- Dual conversion Super-het receiver. The most stable tunable receiver on the 11 meter band. Gets all CB channels.
- Press to talk ceramic mike with coil cord and mike jack.
- Your choice of crystals and one power cable.
- Ideal for car, home, office, truck or boat.
- Built-in 117AC and 12VDC transistorized power supply (6VDC available on order).

**\$162<sup>50</sup>**

## TOWN & COUNTRY MC-27



- 6 channel crystal controlled transmit and receive.
- Dual conversion Super-het receiver with amazing sensitivity and selectivity.
- Built-in 117AC and 12VDC transistorized power supply (6VDC available on order).
- Press to talk ceramic mike with coil cord and mike jack.
- Your choice of crystals and 1 power cable.

**\$142<sup>50</sup>**

# anybody why UTICA is the t wanted CB equipment...

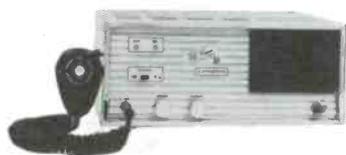
**"More quality, more performance  
and more features for the  
money," that's why**

The best salesman in the world can't sell a CB fan just any old transceiver. CB people know what they want. They know quality, they recognize performance, they understand features. They insist on value.

Compare these Utica transceivers with anything on the market. Compare performance. Compare quality. Compare features. Compare value. If you're an old CB hand, you **know** Utica is unbeatable. If you're just getting into the field ask any old timer — or send the coupon below for complete information.



## UTI COM "30" AM BUSINESS RADIO



- 30 watt input power.
- Built-in dual power supply, 117 VAC, 12 VDC transistorized supply.
- Built for 1 or 2 channel operation.
- 12 tubes — 4 diodes for 21 tube performance.

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**GIZMOTCHY 2 in 1, vertical-horizontal beam antenna. ....\$55.95**

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# Tantalizin' Tubes

YOU'LL NEVER FIND IN A CB RIG

by LEE AURICK, KCD5514

RADIO CORPORATION OF AMERICA,  
ELECTRONICS COMPONENTS AND DEVICES,  
LANCASTER, PA.

Most of the electron tubes that are familiar to CB users are known as Receiving-Type tubes. A few are classified as Industrial Receiving-Type tubes to indicate perhaps, a change in one or more characteristics from the receiving-tube prototype, or a different test specification to qualify the tube for a specific application. The purpose of this article is to acquaint the CB user with outstanding types in other electron-tube families, and to highlight dramatic tube applications that are generally unknown. Although the tube types described are known collectively as Industrial tubes, the range of application of electron tubes today is so broad that it requires a very flexible interpretation of this classification.

It is worthy of note that some of the types described are available in many variations to suit a variety of applications. Price varies almost directly with the degree of specialization required. The optional retail prices shown merely indicate a range for products of this type to give the reader some idea of the complexity of the devices and the technology required to manufacture them. In some instances the selection of a tube to represent a particular family was arbitrary. In other cases, the decision was based upon current commercial interest or unusual technical performance.

## VIDICONS (7735A)



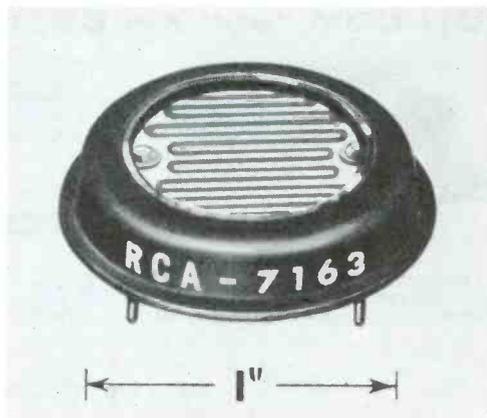
Used in compact industrial and military TV cameras. Virtually all film footage seen on TV is shown by means of this family. A slightly smaller version, about the size of a king-size cigarette, has been used in the two cameras carried into space in each TIROS satellite. Price: \$185-\$550.

## IMAGE CONVERTERS (4449A)



Most tubes in this family are sensitive to radiation beyond the visible spectrum, i.e., ultraviolet; infrared. The conversion to light is made within the tube and displayed on the faceplate. Type 4449A is sensitive to light, and is specifically intended for use as an electronic shutter in high-speed photography. It enables three photographs to be made on one frame in one-millionth of a second. Price: \$130-\$1700.

## PHOTOCELLS (7163)



Members of this family may be found in use almost everywhere. Applications include auto headlight dimmers, door openers, street-light controls, bowling foul-line indicators, and sound-on-film detectors. Fundamental principle is that of a resistor whose resistance varies with the amount of light falling on the light-

sensitive photo-conductive element. The variation in resistance permits a current to flow that is proportional to the incident light; the device therefore is capable of controlling an almost infinite variety of light-activated devices. Price: \$1.50-\$7.00.

**DISPLAY-STORAGE  
TUBES  
(4412)**



The ability to store pictures and other information for many seconds characterizes this family. These tubes find great use in military airborne radar fire-control systems. Many types are capable of extremely bright presentations for viewing in direct sunlight. Price: \$400-\$3300.

**SCAN-CONVERSION  
TUBES  
(7539)**



Tubes of this type are intended to transfer data from one time base to another. They are used in data processing, and to convert radar information into TV pictures for more convenient viewing. Price: Approximately \$1700.

**POWER TUBES (7213)**



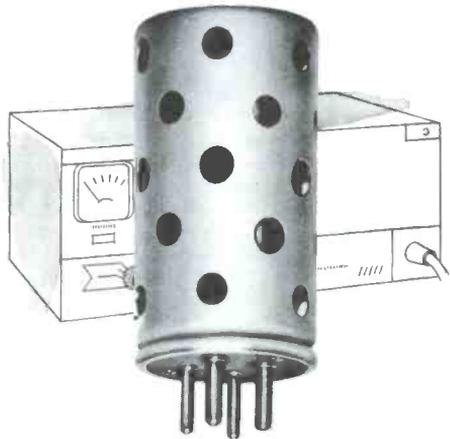
There are many families of tubes within this classification, which is flexibly defined as including tube that produce power from approximately 15 watts to 15,000 watts. Some power tubes will be found on either side of this range. Generally, these tubes perform much the same function as the rf amplifier tube in your CB rig. Cost and size are closely connected with power-handling capability and frequency of operation. Price: \$2.50-\$2000.

**SUPER-POWER TUBES (7835)**

These giants of electronics are capable of handling power of the order of 300,000 watts average (six times more than the most power-

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**ELIMINATE  
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**...with S&G's new Vibrator Eliminator**

Here's a brand new solid state vibrator eliminator that replaces mechanical vibrators in communication equipment.

This new solid state unit eliminates vibrator hash and noise. It's fully transistorized—with no mechanical contacts—and is directly interchangeable with most mechanical vibrators.

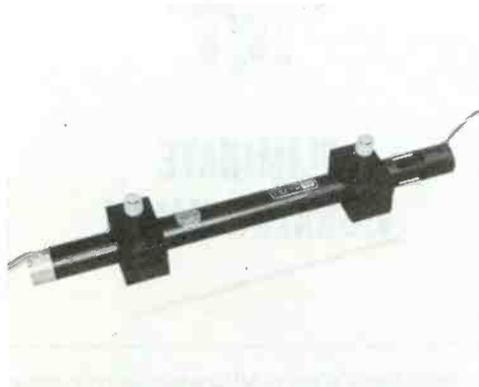
With a 95% efficiency rating, the new S&G Vibrator Eliminator guarantees power conservation and noiseless operation for the life of your transceiver. Write, or if you prefer, "QSL" us for more information. S&G Electronics, Dept. CB-9, Rochester, N. Y. 14621.





ful AM broadcast stations) and millions of watts of pulse power. Widely used in long-range radars, space research, and nuclear particle accelerators. Although the 3.5-volt filament voltage of the 7835 appears modest, the filament-current rating is a whopping 6600 amperes—more than 2300 watts for the filament alone. Price: \$7800-\$64000.

**TRAVELING-WAVE TUBES (7642)**



TWT's are widely used in both receiving and transmitting applications above 1000 Mc. The 7642 is a power type which delivers 18 watts at 1700 to 2300 Mc. It was designed specifically for satellite use. Price: \$900-\$3000.

**INTEGRAL-CAVITY PENCIL TUBES (7533)**



The cavity (tuned circuit) is built around the tube. For operation, it is only necessary to apply the correct voltages and connect an antenna. Type 7533 is used in radio-sondes for weather observations; other versions are ideally suited for a variety of compact applications, such as in aircraft identifiers and high-way traffic radar equipment. Price: \$7.00-\$60.00.

**MAGNETRONS (7111)**



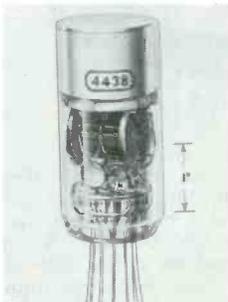
The majority of airborne radar equipments use tubes of this type to generate the high-power signal required. Magnetrons are extremely efficient generators of radio-frequency power above 500 Mc. Type 7111 can produce a minimum peak power of 200,000 watts in the frequency range from 8500 to 9600 Mc. Price: \$700-\$1200.

**IMAGE ORTHICONS (5820A)**



More sensitive than the Vidicon and capable of producing an extremely high-quality broadcast picture. Tubes of this type are generally used in studio TV cameras. A color-TV camera requires three, one for each color channel. Extremely sensitive low-light-level versions are now being coupled to large telescopes, where their sensitivity surpasses that of the human eye. Price: \$1100-\$1900.

**MULTIPLIER PHOTOTUBES (4438)**



This family of tubes is light-sensitive, and produces an output current proportional to the light striking the faceplate. A scintillating crystal placed in front of the faceplate permits the tube to detect and measure nuclear radiation. Tubes of this type have been flown in the many satellites studying radiation in space. Price: \$100-\$500.

Although this compilation in no way exhausts all the families of electron tubes, it does present the most important types that are being used daily in numerous commercial, industrial, military, and scientific applications.



# Introducing the Eico 777



**New  
deluxe CB transceiver  
dual conversion superhet,  
6 crystal-controlled channels,  
3-way power supply. Build it for \$99.95.**

**Compare it feature by feature with CB transceivers costing many dollars more!**

- Dual conversion superhet receiver (1750 kc 1st IF; 262 kc 2nd IF), with RF stage for razor sharp selectivity.
- 6 crystal-controlled transmit/receive channels, easily selected by illuminated front panel switch.
- Illuminated dial continuous vernier tuning of receiver for all 23 channels.
- Series type noise limiter circuit for quiet reception, plus adjustable squelch and AVC.
- Illuminated, direct-reading S-Meter indicates received signal strength.
- Spotting switch for exact receiver tuning.
- Full use of 5 watts input maximum legal power, and high intelligibility of transmission, with 3 watts clean audio modulating power.
- External controls for matching plate load of RF final amplifier to antenna for optimum power transfer.
- 3-way power supply — 6 or 12 VDC battery power or 117 VAC.
- Kit builders can put 777 on air without supervision of a person holding a commercial radio-telephone license. Transmitter oscillator circuit and RF final mounted, wired, tuned and sealed to comply with FCC regulations.
- Sturdy Posi-Lock® mounting bracket permits 180° rotation with positive lock every 30°.
- Kit \$99.95; wired \$149.95.

**770 SERIES 5 WATT, 4 CHANNEL CB TRANSCEIVERS—AS LOW AS \$79.95** Your choice of 5 watt transceivers for 117 VAC; 117 VAC/12 VDC or 117 VAC/6 VDC. 4-channel, crystal-controlled transmitter and superhet receiver with RF stage, 1  $\mu$ v sensitivity, noise limiter and adjustable squelch. Receiver tunes all 23 channels—can be crystal-controlled on 1 channel. Model 770: 117 VAC only. Kit \$79.95; wired \$109.95. Model 771: 117 VAC & 6 VDC. Kit \$89.95; wired \$119.95. Model 772: 117 VAC & 12 VDC. Kit \$89.95; wired \$119.95.



**NOTE: 777 has rear socket for selective calling attachment.**



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# The DASH-BOX

## A REMOTE CONTROL HEAD FOR YOUR TRANSCEIVER

by JIM KYLE, KEG3382

One feature of commercial (police, taxi, etc.) two-way installations long envied by many long-legged CBer's is the remote-control head, which allows the bulky transmitter and receiver to be stowed out of sight and out of legroom in the vehicle's trunk, while retaining full control capability at the driver's seat. Until just recently, however, no CB unit included this feature even as an option. International Crystal's new line of EXECUTIVES includes units with this feature.

It's not too difficult to put one together for your present rig with only a slight bit of ingenuity. It works best for those transceivers which have crystal control of receiving frequency, either solely or as an option, but it *can* be done for any of them. The result will be a completely uncluttered underdash area, with no loss of CB operating flexibility.

We might as well warn you at the outset, though, that this is an "idea" article rather than a detailed how-to-do-it. Since each model of each make of transceiver requires slightly different techniques in remote-controlling, it's obvious that we couldn't possibly publish detailed adaptations for all. (Maybe if you'll vote in a favorite, we might work up a detailed description for it—drop TK a line.)

The remote-control head, no matter what transceiver it is to be used on, must accomplish four control functions. These are (1) to turn the transceiver on and off, (2) to select the desired transmitting and receiving channels, (3) to adjust receiver audio volume, and (4) to adjust squelch level. In addition it must offer connections for the microphone and for the speaker.

The idea of how to do all this is best described by taking each function up individually. It's also best to do this when putting together a control head, because if you try to combine all functions at one time you'll wind up in a tangle of confusion nine chances out of ten.

Power switching is simple. The technique is shown in Figure 1. A heavy cable, preferably shielded (RG-8 coax is excellent), should be run directly from the hot side of the battery to the transceiver installation position. There, this cable connects to the

arm of a power-contactor relay capable of handling the transceiver current requirement, and also to one of the relay's coil terminals. The other coil terminal connects to a single wire running back to the control head, where a SPST switch grounds it whenever the transceiver is to be turned on. When the wire is grounded, the relay operates and power is supplied to the transceiver (the transceiver's built-in switch is always left "on" and the volume control set for loudest volume you'll ever want).

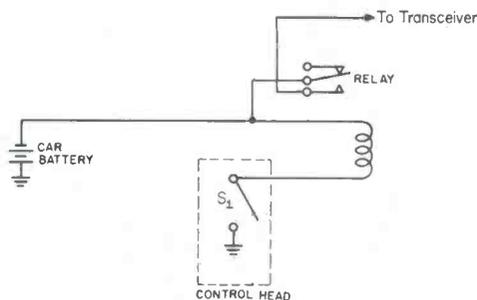


Fig. 1. Remote power control.

The reason for using a ground-side wire for the relay instead of switching a "hot" wire is that if the insulation should wear through in the arrangement used here the only effect would be to turn the transceiver on. With a "hot" wire, an accidental short to ground would at least burn out the wire and could easily set fire to the vehicle. This is, to put it mildly, to be avoided.

Selecting the desired operating channels sounds like the hardest part of the job, but actually becomes as simple as turning on the power thanks to some special switch components now available. These are rotary switches with "homing" type contacts, which are just the opposite of the normal rotary switch. Where in a normal switch all the contacts are open except the one to which the wiper points, which is closed, in a homing type switch all contacts and the wiper are shorted together, except for one contact—the one to which the wiper points. This contact is open.

By wiring one of these switches and a normal rotary switch together with a motor, and coupling the motor shaft to the homing

switch, you can make the normal rotary switch turn the motor "on." The motor will then turn until the "open" contact of the homing switch arrives at the terminal to which the normal switch's closed contact is connected. This will break the motor's power circuit, and the motor will stop.

Adding a DPDT switch section to the normal switch so that the motor's direction of rotation will follow that of the normal-switch knob, and coupling both the motor and the homing switch mechanically to the transceiver's channel-selector knob, brings us out with a remote-control channel selector.

The homing-switch assembly is made of an Oak 399-043K index assembly and an Oak 399-064K switch wafer; it should be mounted on a metal bracket so that the shaft aligns with the shaft of the transceiver channel selector. The switch should be rotated so that the homing wafer is in its normal index position at the same time that the channel selector is in an operating position, and then everything should be tightened down firmly with lock washers so vibration won't knock things out of line.

The motor can be salvaged from a heater-blower or an electric windshield wiper, and geared down to a convenient speed of rotation with any handy collection of gears (Junior's Erector set might come in handy here). Final connection to the switch-selector shafts (which should be joined by a shaft coupling) can be made dial-cord style, with two or three wraps of cord around the shaft and plenty of tension on the cord. A little slippage won't hurt since the motor will turn until the selector is in the right position before it stops.

At the control-head end, any rotary switch with enough positions to take care of all channels available on your transceiver can be used. The arm of the switch goes to the battery, while individual wires connect the terminals of the switch to the corresponding terminals on the homing-switch wafer. The wiper of the homing switch then connects to the motor, and the other terminal of the motor is grounded.

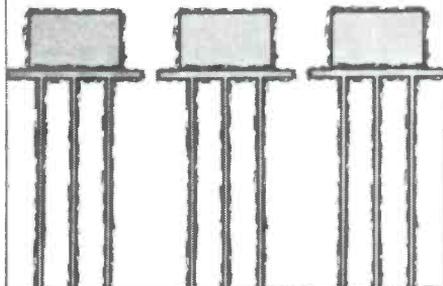
For protection of the transceiver channel selector if it isn't built to turn all the way around, you can add limit switches in the motor gearing so that when the end channels are reached, the motor will automatically reverse and go the other way. This is simpler than the DPDT section in the control head mentioned earlier, not to add being a whale of a lot safer on the transceiver.

If all this seems not to be so simple after all, it's primarily because words are hardly

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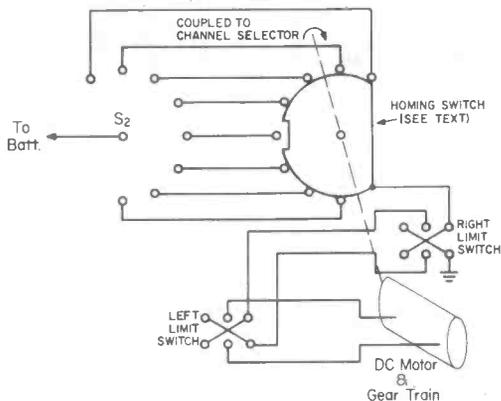


Fig. 2. Remote frequency control.

One of the simplest, and that used most frequently in the commercial two-way gear, is to let the transceiver itself operate at full volume and cut down the power in the leads between the output transformer and the speaker.

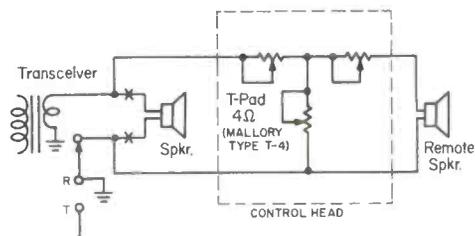


Fig. 3. Remote volume control.

adequate to convey the idea. It's drawn out in Figure 2 for an 8-position channel selector such as that on the Lafayette HE-20C, and should make a little more sense in the schematic version. Note that you'll need one wire for each channel position, in the cable from transceiver to control head. Multi-conductor intercom cable is good for this purpose, as all conductors are color-coded so you can tell which is which.

With power control and frequency control taken care of, let's take a look at ways to control the volume.

This can be done with a T-pad, as shown in Figure 3. All you have to do is disconnect both leads at the speaker voice-coil terminals and substitute a length of "zip cord" to reach up to the remote head. There, the zip cord connects to the input terminals of the T-pad, while an extra speaker which can be mounted almost anywhere in the car connects to the output terminals. The T-pad then becomes your volume control, and operates just as the original did.

Finally, we have to handle the squelch. Probably the simplest answer for this in



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most cases is to very carefully disconnect and remove the original squelch control from the transceiver, and connect in its place a length of 3-conductor shielded cable to the remote head. There, the original control is installed and the cable connected to it, being sure that the proper wires go to the right terminals of the control. Since most squelch circuits have nothing but DC (no signals at all) on the control itself, this works nicely in most cases.

In those few for which it doesn't work out right, possibly the best answer is to forget about remote control of the squelch level and settle for having the other three functions. A reversing motor control could be rigged up for the transceiver-mounted control, but wouldn't have the convenience of a knob. You'd just have a center-off DPDT toggle switch on the remote head, which would increase squelch level when pushed one way and decrease it when pushed the other. The wiring for this is shown in Figure 4.

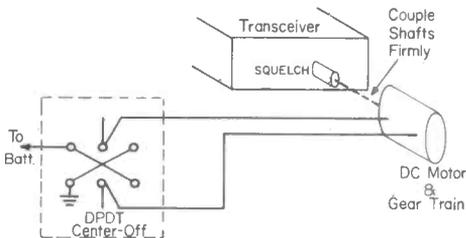


Fig. 4. Remote squelch control.

We musn't forget the microphone connections. Simplest way to do it for those rigs which have mike plugs and sockets (most of them these days) is to obtain a set of one each male and female connectors which fit your mike connectors, and a length of cable with enough conductors to have one for each pin on the connector (some connectors have up to 5 pins). The hot mike lead itself should be shielded; you

can tell which it is by looking underneath the chassis and finding out which pin's connection goes through shielded wire to the grid pin of an amplifier tube. This will be it.

Then you simply put the plug or male on one end of the cable and the female on the other; the female can be mounted in the remote-head box if you prefer. Corresponding pins should connect to the same wire. Now plug the male end of the cable into the transceiver, and the female end will accept the mike.

You may lose a few "high notes" in your voice if you have a crystal or ceramic mike, but the loss will be slight so long as the cable isn't more than 15 feet long. With dynamic or carbon mikes any losses will be too small to be measureable, much less noticeable on the air.

A final finishing touch is a pair of pilot lamps on the remote box, one to light whenever the rig is "on" as a pilot, and the other to light whenever the channel-selector is in motion and hasn't yet gotten to where it's going, as a reminder not to transmit during this time. Hookup for these two lamps with the other circuits described here is shown in Figure 5.

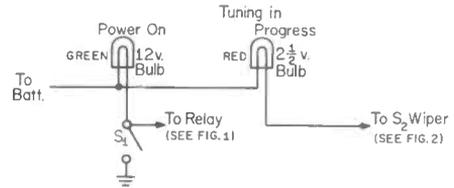


Fig. 5. Pilot lamp hookup.

As described, the entire remote head can be built into a 2 x 2 x 4 utility box easily with plenty of room to spare; this is a far cry in cubic inches from virtually all transceivers. Move over—you have room for 3 people in that front seat now!



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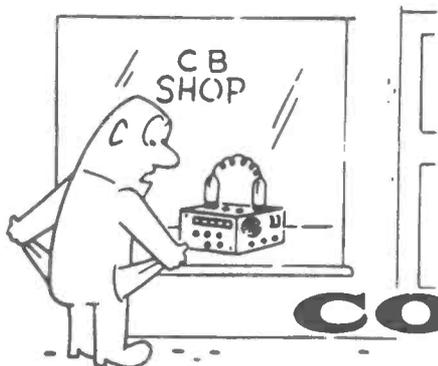
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# ON THE COUNTERS

Master Mobile Mounts, 4125 West Jefferson Blvd., Los Angeles 16, Calif., have some new products which will be of interest to CB'ers.

Model CB-35 combines Master Mobile's new stainless steel layover extension, and flexible 17-7PH stainless steel whip with center loaded coil completely weather sealed in high impact cycolac to withstand rugged use. Master Mobile reveals that anyone can install this antenna and it will maintain a 1.2 to 1 or less SWR over entire CB band.

It is universal as it can be mounted anywhere on the auto, and performance-wise remains the same. It can be utilized with any mount terminating in a 3/8-24 thread and matches a 52 ohm coaxial cable. The whip is easily cut to frequency by removal of the whip stud and adjustment is then made with a set screw type adapter allowing micrometer adjustment for minimum VSWR. The overall length of the CB-35 is 6'3" and CB'ers may purchase it at radio parts jobbers for \$19.95.

Other variations of this unique system include the Model CB-29 adjustable to resonant frequency, consisting of a stainless steel 86" whip plus 36" laydown extension. It nets for \$15.95. The Model CB-32 for mobile deck or fender mounting consists of laydown extension fitted with a 47" top loaded fiberglass whip that has been vinyl covered to insure weatherproofing. It reaches an overall length of 83" and nets at \$16.95. The Model CB-33 employs the same features as the Model CB-32 with the exception that the fiberglass whip with top loaded design is only 18". This affords an overall length of 57" and has the same radiation efficiency and range. It may be purchased for \$16.95 net.

Our old friends at Utica Communications, 2917 West Irving Park Road, Chicago, Ill. 60618, have some new gear, namely the T&C III and the *Uti-Call*.

The *Uti-Call* is a fully automatic tone signal device.

This unique equipment is always on stand-by while the microphone remains in its clip. By removing the microphone from

its clip, the station is automatically monitoring. The keying of the microphone button emits the tone which will activate the receiver of the station called. The *Uti-Call* can be used on most Citizens Band, AM and FM Business Radio equipment and is priced at \$59.95.

The *Uti-Call* is also available in a model that will activate the horn in a vehicle for 1 second when the operator of the receiving station has switched to "horn" position upon leaving the vehicle. \$62.50.



The T & C III is a CB rig offering the following features: 23 channel crystal controlled transmit and receive (not a synthesized circuit), push-pull modulation with excellent linearity, power supply: 117VAC-60 cycle long life transformer with silicon rectifiers, 12VDC-High efficiency, power transistor switching; 14 tubes and 5 diodes with 24 tube performance, 2 transistors; built-in BFO for sideband reception; Built-in PA with manual switching, key lock master switch, heavy duty commercial type construction, improved high selectivity IF amplifier, greater audio output, built-in "D.E." (Distance Expander), 2 dual purpose illuminated meters: receive-signal strength indicator, audio output level; transmit-relative power indicator, modulation indicator, visual transmit/receive indicator lights, adjustable RF gain control, receiver fine tuning control, adjustable: volume control, squelch control, noise limiter, and tone control, auxiliary speaker and earphone jack, dual conversion superhet receiver, complete Push-to-Talk operation with high quality ceramic mike, enclosed gold contact relay, attractive chrome cabinet. It is priced at \$259.95.



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International Crystal, 18 North Lee, Oklahoma City, Oklahoma 73102, offers their new "AOC Catalogue." In case you live on a desert island and haven't heard, "AOC" (Add On Circuits) is International's exclusive invention for letting budget minded but technically fussy electronic buffs find true happiness. The basic concept of "AOC" is to have a large number of fully constructed electronic circuits, each performing a different function, which may be selected and easily hooked up into any number of different electronic devices. The catalogue is worthy of your perusal. Send for it, it's free.



Cadre Industries, 20 Valley St., Endicott, N. Y. 13761, has announced a new 100 mw. Part 15 portable unit, the C-60. It offers 2 channel operation with advanced solid-state circuitry with extra power and sensitivity at \$59.95. Penlight cells or nickel cadmium batteries may be used. Over 70 mw output can be expected with a 1 mv receiver sensitivity. Matched accessories are also available.

New plastic insulators from Budwig Manufacturing Co., P.O. Box 97, Ramona, Calif., offer all the electrical and chemical advantages of molded acrylic plastic. The insulators are inexpensive (99¢ per pair) and are useful for long wire antenna experiments on CB.

Here's an S9 scoop, a brand new transceiver from Alliance Manufacturing, Alliance, Ohio. The new rig is called the "Genie-Fone" and it features 23 channel operation, dual 455 kc/s IF's, delta receiver tuning (plus and minus 3 kc/s), adjustable noise limiter. Power supply is 117VAC/12VDC, or 117VAC/6VDC on special order. Price, in-



cluding all crystals for 23 channel operation, is \$199.95. If you want to shake up a lot of people at Alliance, write to ask them for more details on the *Genie-Fone*; they haven't announced it yet and don't think anybody knows about the unit. Another sneaky service of S9!

Attention ACDA members, we dug up someone who can supply you with T-shirts and sweat shirts bearing the famous "Rat Fink" design. They're worked up by Ed "Big Daddy" Roth, well known far-out designer who is responsible for the madness on our cover this month. Big Daddy actually designs and sells a whole series of different "Weirdo" shirts, each one wilder than the other. An illustrated catalogue to end all catalogues, bearing the most revolting and weird designs for shirts and decals you could possibly imagine will be sent to all who have enough courage. Price is 50¢, the address is Roth Studios, 4616-P E. Slauson Avenue, Maywood, Calif. A design similar to S9's cover this month is available, as well as some even sicker. By the way, some of the gems in the catalogue would look WOW on your next batch of QSL cards.

## S9 Lab Reports

**THE INTERNATIONAL CRYSTAL EXECUTIVE MODEL 750H**

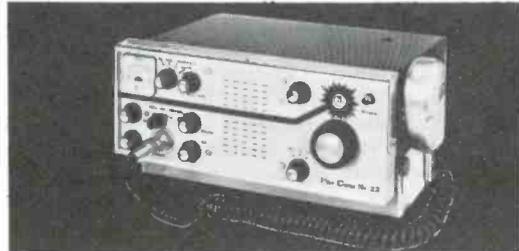
Since the inception of CB, the International line of transceivers has always been a pace-setter in terms of quality, and in the 750H we find practically every feature requested by the CB'ers over the years.

The 750H differs from the usual International line, and from most other rigs, in that it is a remote controlled transceiver. If you've ever tried to slide across the front seat of a CB equipped auto you know how a small

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The console contains the usual controls: Volume, Squelch, transmit and receive indicator lights, mike connector, and the channel selector.

While the 750H comes completely equipped with crystal control for all 23 channels, you won't find 46 crystals. Using a frequency synthesizer, only 14 crystals are needed for



EXEC 750H Mobile Console

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## SPECIFICS INCORPORATED

"Manufacturers of Tailored Electronic Equipment"

186 MECHANIC STREET, SOUTHBRIDGE, MASSACHUSETTS

clipping level and the modulation level can be adjusted for optimum performance for each user. For those of you who don't have access to modulation meters the clipper is factory adjusted for an *average* voice three inches from the mike. Distortion products (harmonics produced by clipping) are attenuated by a pi-net filter.

The overall effect on the receiving end—even with the factory clipping adjustment—is that of a signal with lots of “sock.” It sounds as if the entire carrier is a solid “wall” of modulation.

The power supply is all solid-state. Silicon diodes for the rectifiers and transistors instead of a vibrator. Either 110 AC., 12 VDC., or 6 VDC. power sources can be used. Either the supplied power cable can be rewired for the desired source voltage or optional cables can be ordered.

As you can see we haven't gone into excess detail on the 750H's features. This is the type of unit which has no outstanding feature because everything's good. It's a pleasure to receive, transmit and handle the unit. It's strictly pro all the way, right down to a simple but thorough instruction manual.

The 750H is one of a series of remote controlled CB radiotelephones manufactured by International Crystal. The remote control concept is new to CB and, from the looks and performance of the 750H, it is certainly here to stay. Thus far, International Crystal is the first company to go extensively into this trunk-mounted field at the right moment in a field which has been somewhat overdue for a new innovation in equipment. We recall that back in 1958 International Crystal was the first manufacturer to mass produce any kind of CB rigs!

Further details on the 750H and the other interesting trunk-mounted International Crystal models can be had by sending a card or letter to Uncle George, International Crystal, 18 North Lee, Oklahoma City, Okla.



When performance counts, substitute a

**“CB POWER-PAK”  
model S-BW4\***

(In transceivers using 6BW4 or 12BW4 rectifier tubes)

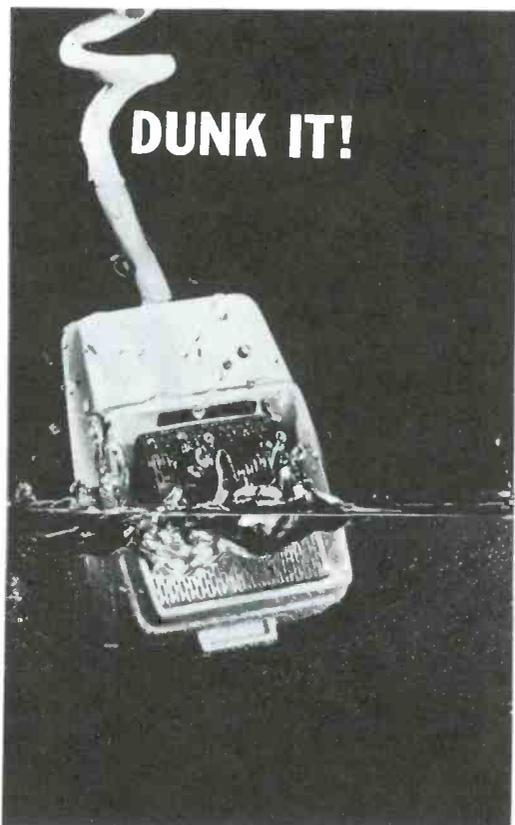
Amazing rectification efficiency boosts  
CB POWER OUTPUT 20% OR MONEY  
BACK. Ideal for CD, REACT, etc., where  
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Mfg'r's price \$5.95 plus postage.

\* Other types available.

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**CERAMIKES STILL GIVE  
TOP FLIGHT PERFORMANCE**

Anything can happen to a CB mike — and generally does. That's why the Sonotone Ceramic CM-30 is built to take such terrific punishment. Its heart — a rugged ceramic element — is mounted in a sturdy but pliant neoprene suspension, and is immune to shock, vibration, and moisture. Its operation is unaffected by even extreme humidity. Its light, short-travel switch will make over 100,000 clean, sharp contacts.

The CM-30M comes in a “shatter-proof” plastic case with a “push-to-talk” switch at the top and a 6-foot retractable cord.

For long life, ruggedness and outstanding performance, make your next CB mike a Sonotone Ceramic. Model CM-30, \$14.00. CM-30M (with convenient dashboard ‘Magnet Mount’), \$16.50. CM-31 (same as CM-30 less switch), \$13.50.

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# ACDA



## (The ASSOCIATION TO CONDEMN DETRIMENTAL ASSOCIATIONS)

Be a free, independent, thinker! Join CB's second largest do-nothing organization!

When you join the ACDA you will have **nobody** telling off the FCC in your name; the ACDA will **not** try to sell you beanie hats and red shirts; we **will not** assess you with a tax; we **will not** announce officers before the election (because we don't have officers); and we **will not** do anything else that you would rather we did not do! Anyone can join!

A membership in the ACDA brings you an outrageous, zany and chintzy membership certificate suitable for wall mounting (mount it **only** if you really are a **true** independent and don't give a hoot what your friends think of you) or for blotting up ginger-ale puddles; you also receive the next 12 issues of CB's **most infuriating**, free-thinking, and helpful monthly publication, **S9**. Belonging to ACDA gives you **full** rights to condemn any Association which is detrimental to CB. Membership for 1 year is only \$5 (including the S9 subscription), 2 years \$9, 3 years \$13. Use the form inserted between pages 48 and 49 of this issue, be sure to mark it "ACDA" on the front. If you already subscribe you can still obtain a certificate by sending a self-addressed and stamped envelope to "ACDA" in care of S9, enclosing the address strip with your name from the back cover of a recent issue.

**OFFER LIMITED, SO HURRY!**

## CB IN ACTION

By Len Haas,  
Sales Manager,  
Pearce-Simpson, KBG7527



A Pearce-Simpson COMPANION II is on its way to Mrs. Robert H. Minster of Rochester, New York for her prize-winning CB IN ACTION letter:

"May 14, 1964

Dear Len:

"I'm convinced—although I'm not from Missouri, you had to 'show me.' A few months ago when my husband brought home our first CB rig I was thoroughly disgruntled. We needed it like a second roof on the house. My kitchen resembles a radio shack more than a kitchen. Surrounded by a bevy of assorted wave lengths, my cooking is done with the accompaniment of police and fire bands, marine and shortwave bands and even a standard broadcast band. This new addition was superfluous. To put it mildly, I was rebellious.

"Today I sing a different tune. A weekend ago our western New York suburb was caught in the aftermath of a mid-west torando. To say the wind blew is minimizing. Gusts of wind from 65 to 70 miles per hour prevailed for approximately eighteen hours. The damage from a storm of this kind is apparent. This is the point where CB proved itself.

We have a large Civilian Defense Auxiliary Police organization in our town, which among other units boasts a very active contingent of CB operators. This unit literally policed the storm area for its duration. Their assistance included reporting damage from fallen trees, protecting the public from live wires, rerouting traffic from danger areas, and generally providing the most service wherever they were needed. They were on duty from early morning until the wee hours of the following day. Innumerable tragedies were averted by their alertness. Many homeowners without power or telephone were grateful to know the CB'ers were standing by in case of further emergencies. Of course their time was given freely and without compensation, and without them our police and fire departments would not have functioned as efficiently in coping with this disaster.

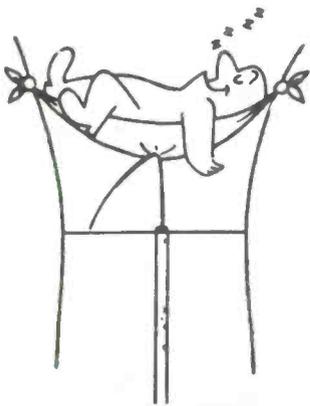
"If it took a tornado to convince me, it was worth it. Never again will I scoff at the small 'chit-chat' which sometimes occupies a channel of our Citizens Band radio. It has become a bona-fide member of the family and one which would be sorely missed if it failed to retort when we turn on the switch. It stands ready as a faithful friend either in emergency or in pleasant communication. Long live CB!"

Yours very truly,

Mrs. Robert H. Minster

WIN A COMPANION II CB

Write us and tell us *your* "CB in Action" story. Your letter on how you or your CB club helped your community with CB can win a COMPANION II. Write Len Haas, National Sales Manager, Pearce-Simpson, Inc., 2295 N. W. 14th Street, Miami 25, Florida.

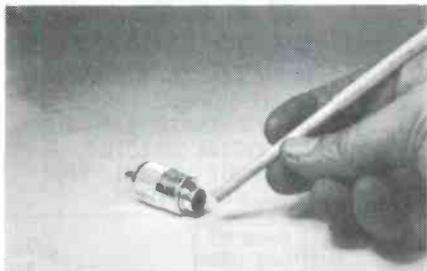


# ANTENNAS

by LEN BUCKWALTER, KBA4480

## GEE MA, A WIZPA!

Take a look at our photo. Is it a plug? an antenna connector? a PL-259? Nope—it's a WIZPA. This nifty little gadget, actually a



dummy load, has more engineering guts than meets the eye. It's the brain-child of Henri Chapdelaine who runs Wizpatronics down east in New Hampshire. Henri sent us one after reading what we said about dummy loads a couple of columns ago (use carbon resistors, avoid wirewound types). Henri agrees. Ordinary wirewound resistors for dummy loads behave like coils, they can't completely convert the rig's RF power into heat. Energy bounces back to the transmitter and you get high SWR (Sloppy Wirewound Readings). That is, until the wire is scrambled. But this is getting ahead of our story.

As Henri points out, the old standby—a No. 47 pilot lamp—has its share of drawbacks. Hooking the lamp to the rig in place of the antenna presents a load which is far from accurate. Changes in power to the bulb as you tune vary its heat and thus the resistance. The bulb also has a coil-like, or inductive, effect that spells mismatch of load to rig. (This probably explains why some CB'ers tune with the lamp, then plug in a regular antenna and wonder why they're not getting out.) Before tossing out the pilot lamp, however, consider its rightful place. It's fine for rough checks on whether the transmitter is producing RF, but shouldn't be used for real accuracy; say, measuring output power to the last milliwatt.

Getting back to the wirebound: Henri found so many good points about wirebound resistors that he pulls a neat trick to rid them of nasty inductance. He uses some sophisticated winding techniques, small size and incredibly short lead lengths. The resistor, pointed to in the photo, is potted inside a standard coax connector which can screw directly to the rig's antenna jack. Accuracy is rated at 1% at 50 ohms. As we discovered, performance makes the pilot lamp or carbon resistor look sick.

In testing, we set up a CB rig and reflected-power meter to see if the unit would deliver low SWR. It did. The meter dipped down to indicate SWR of less than 1.1 to 1, which is just about as good a match as you would want. Some minutes of operating the load revealed that it gets slightly warm to the touch as it converts RF into heat. So if you intend to do any trouble-shooting, or want to see how well your transmitter performs into a stable load known to be accurate at 50 ohms, check on the little WIZPA Model RF-5. Henri has more details if you write to him at Wizpatronics, P.O. Box 51, Candia, N. H.

## PRUNE WHIP...

... is a tasty dish. It's also what you can do to some mobile antennas which suffer from reflected power loss. The recipe is dished out by Milt Mann of B&K/Mark. He recommends this procedure for Heliwhips displaying excessive SWR. (This could be due to the effect of objects in the antenna's immediate vicinity, of the shape of the car, for example.) The process assumes that the antenna is resonating on a frequency below the CB band, true in most cases. With an SWR meter in the line, begin by removing the plastic top cap from the whip. The wire end at the top is slowly and carefully unwound. After one turn is unwound, cut it off and check for a change in SWR reading. The process is continued until SWR is lowered as much as possible. Don't go too far—cut-of turns can't be

*Continued on page 74*

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**NEW WRL WT-1000  
 3 TRANSISTOR  
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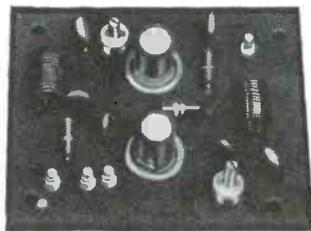
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New...Compact...CB Preamplifier  
 ...Guaranteed to improve reception of any CB receiver. Uses two 6CW4 nuvistors offering up to 20DB gain on RECEIVER SIGNALS. Ready-to-install into any CB unit. **MONEY-BACK GUARANTEE!**

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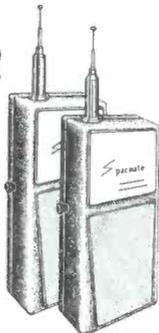
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- FOR HOME – PLEASURE – SPORTS – INDUSTRY
- Operating range – 1 to 5 miles under ideal conditions
- No license or test required
- Includes leather carrying case, battery & antenna.



CLIP AND MAIL CLIP AND MAIL

# CB CASEBOOK

by **LEE AURICK, KCD5514**  
MT. PLEASANT RD. RFD 1  
COLUMBIA, PA.



**WOULD YOU LIKE TO READ ABOUT YOUR COMMERCIAL USE OF CB IN 59? IF SO, WRITE TO US.**

What makes a good CB Club? This question has been asked by many CB'ers and Clubs throughout the country. The Evansville (Ind.) Citizens Radio League, Inc. thinks it has found the answer, and from the scope of projects and accomplishments, this reporter has to agree. It did not come easy, but over a three year span of growth and development these seem to be the facts. A Club must have an active program, dedicated leadership, enthusiastic members and be a working and thinking club. It must be pledged to a service, whether that be to community affairs, individuals or both. Since its incorporation in 1961 with a handful of CB'ers, to its present membership of more than 225, *COMMUNITY SERVICE THROUGH CITIZENS BAND RADIO* has been its motto. This motto was not officially adopted until January 1964, but its meaning has been practiced since the formation of the club. All else is set aside when projects of this nature subject the members to call. Now what is meant by *COMMUNITY SERVICE*?

Let's take a look and see what the Evansville Club has done since January 1964, as told to your reporter by Walt Kleitz, KHB0579.

"Each January the March of Dimes calls on the citizens of Evansville for contributions to carry on its work. This year Rick Jason of 'Combat,' Mary Ann Mobley, former Miss America and Tim Considine of 'My Three Sons' were brought to Evansville to spark this drive with a Telethon that started on a Saturday night at 10:00 and concluded Sunday at 4:00 p.m. All pledges are accepted by telephone and are either mailed or picked up by car. This year, for the second consecutive year, the Evansville Citizens Radio League accepted the responsibility for the pickups and all were made without charge for the local Chapter. Over 110 members participated with 60 mobile units making a total of 800 pickups and collecting \$2500. National officials of the Polio Foundation were amazed and pleased with the efficient way in which the operation was handled.

"No official 'Call Book' had ever been published locally. As a means of identification of club members and any others who wished to be listed, an attractive call book was published. In order to help CB'ers who are mobiling through the area, these call books were made available to the local Chamber of Commerce, at the Information Centers on Highway 41 which runs north and south through the city, and any CB'er will be given a free copy on request.

"To date, what follows has been the most important service rendered to the Community as a whole. In March, the usually serene Ohio River went on a rampage and many localities were flooded, including Evansville's low areas. In the very early stages of the emergency, additional communications were needed. The Evansville Citizens Radio League went on call and immediately applied to the Federal Communications Commission for an emergency license. Mr. Waple, Acting Secretary of the Commission, replied by telegram and granted special call letters KUY1033 for 50 mobile units in this area. For this service the club received three outstanding honors; from the U.S. Coast Guard, a letter of Commendation; from the City of Evansville by Mayor Frank McDonald, the Distinguished Citizenship Award, the highest honor the city can bestow on an individual or organization; and from the National Red Cross, a certificate of merit for the aid given this organization in the Emergency. Needless to say, every member of the club is proud of these awards. This service was rendered to the community without cost! Such is the dedication of the club members to the motto: *COMMUNITY SERVICE THROUGH CITIZENS BAND RADIO*.

"Not all is work. The club sponsors an Easter Egg Hunt each year for its future crop of CB'ers. Dances and parties are held for special events such as Valentine's Day, New Year's Day and many impromptu "Birthday Parties" are held. The 'Coffee and Doughnut' routine is almost a daily affair with many of its members. The Teenagers (now called Asso-

## LET'S CLEAR THE AIR About C/B Crystals

TO THE CITIZENS BAND USER WHO KNOWS AND WANTS THE VERY BEST: Today's James Knights Citizens Band Crystals are built with the same care that is exercised in the production of crystals used in space programs and by the Army, Navy, Air Force and other discriminating users. All Golden Line Crystals exceed the industry standard, set up in the Military Specification MIL-3098. All crystals including Citizens Band, are unconditionally guaranteed.

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Sandwich, Illinois

ciate Members) have their own affairs, too. In fact, the club itself is set up on a family membership basis so that all can participate.

"Last year's Jamboree was such a success and other projects as well, that the club decided to purchase acreage for development and a club house. Seven rolling, wooded acres were purchased 30 minutes from the heart of Evansville for this purpose. The money was taken from the treasury and no special assessment was made from the membership. The ground was paid for with existing money on hand. At the present time, plans are being made to build a 40 x 60 ft. concrete block building, for a meeting hall, and recreation room, with offices to be attached. Ground is expected to be broken in late summer with the building ready for occupancy before the first of the year. From all indications, this will be done without a special assessment and with existing funds.

"Many other activities are planned for the remainder of the year, but the club as a whole will concentrate on finishing the clubhouse so that its facilities will be available for visiting CB'ers and its members this winter."

Our compliments to ECRL. Your S9 reporter would like to hear from other aggressive clubs who have found the keys to organizational success.

**S9**

## CITIZEN BAND STANDARDS BY SONAR

When performance is critical and reliability a necessity SONAR CAN BE DEPENDED UPON. CB standards of Sonar must and will always be above and beyond what is expected. Write for full particulars.



**MODEL G** Featuring the NEW Sonar noise silencer. Dual conversion • RF output meter • Signal strength meter • Crystal spotting switch • Illuminated panel • 8 channels crystal-controlled • Receiver tunes 23 channels • Class "B" modulation

Complete with 1 pair of crystals and microphone

**\$229<sup>50</sup>**



**MODEL E** FCC type accepted • 8 channels, crystal-controlled transmitter/receiver • Tunable receiver for 23 channels • Powerful transmitter 100% Class B modulated • Automatic noise limiter • Lightweight, compact.

Complete with 1 pair of crystals and microphone

**\$179<sup>50</sup>**

### SONAR RADIO CORPORATION

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Please send me complete information on

Model E     Model G Dept. 335

NAME.....  
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# CB CHIT-CHAT

**INDIVIDUALS AND CLUB MEMBERS!!  
SEND US ITEMS FOR THIS COLUMN!**

Address correspondence to:

**JOHN KREJC, KB18077  
60 DIVISION AVENUE  
GARFIELD, N. J.**

New appointments to the A.P.R.E. program this month include: W. E. Wallace, KHD7433, 306 North Main Street, Winchester, Illinois; Raymond H. Scheeren, KB15668, 441 Pamela's Road, RD 3, Box 25, Hopewell Junction, New York; Frank Peterson, 1022 Old Farm Road, Point Pleasant, N. J.; Seth Lang Atwood, KHE1150, 2121 Harlem Blvd., Rockford, Illinois 61103; John S. March, KCG2967, 1143 John Marshall Drive, Apt. 202, Falls Church, Virginia 22044; C. R. Comfort, KFD2121, 38397 Nebo Drive, Fremont, Calif.; Mel Hammer, Jr., 2801 N. St. Clair, Wichita, Kansas; Reed McCellan, Jr., P.O. Box 3345, Pasadena, Texas; Edward Millett, Jr., 52 Fern Street, Bangor, Maine.

of the Skyliners CB Club of White Salmon, Washington, law enforcement units of Wasco County and the enthusiasm of the members of the Wasco County 10-10'ers, the club is now ready to take its first steps. Good luck to the new birth.

The South County Rebels Radio Club meets monthly on the second Saturday at 8:00 p.m. in the Fremont Community Center, Mission View Drive. President of the club is Norman Cheney, KFC0835; Vice President, Kep Spann; Secretary, Fred Getz, KFC2983; Treasurer, Roger Flick, KLA0699.

REACT of Ridgecrest, located in Ridgecrest, California, Mojave Desert, has been in operation since April, 1964. REACT of Ridgecrest is not a club nor a social organization, it has no officers and collects no membership dues. The group monitors channel 11, and Coordinator of the club is Garland E. Whiteside, KEJ6964.

## Expedition to Nashville CB-O-REE

by John B. Thomas  
Tenn. Paper & Box Co.

I have just returned tonight after spending most of two days at the highly successful Donelson-Nashville CB-O-REE at the State Fair Grounds Coliseum in Nashville. Since one of the highlights was an exhibit by Mr. John Dillard of over 10002 cards along with 4 of S9 Certificates, I am taking the liberty of sending you a picture.



Picture shows John R. Dillard, KDB3123 on left and his assistant N. C. Cooper, 6Q4849, Nashville, Tenn. on right. Shown displayed in plastic card packets from TEPABCO, Gallatin, Tenn., are 175 prefixes including all 24 Call Areas.

One of the highlights of the CB-O-REE was the rare card collection of Mr. Dillard, KDB3123 of Monterey, Tenn. John's S9 MSA, PX100, SACA and MSA Certificates are shown in the foreground. In addition, he has another 5000 cards at his service station in Monterey where he always keeps a rare and interesting array of QSL's displayed for the benefit of his CB friends everywhere who are invited to drop by.

## PACIFIC

Recently organized is the Wasco County 10-10'ers, of Wasco County, Oregon. Present membership is at 15, but the club expects to grow very fast. Temporary officers of the club at this writing: President, Don Rueppell, KFG1164; Secretary, Rose Denslinger, KFF-0456; Treasurer, Lucile Hurd, KFG1118. With the help

## NORTHERN

The Hamk 5 Watters, a new club from Mass., boast a small but growing membership. More info from the club will be forthcoming from Paul Lamkron, KKA-3049.

Also recently organized is the Bay State Five Watters from Arlington, Mass. 11 interested CB'ers took this upon themselves to form this newly reporting club. Treasurer and reporting general is Raymond Dick. Oh yes, Ray is the Secretary.

Eastern States Beach Patrol, which monitors channel 8 is headquartered in Braintree, Mass. Their operation consist of emergency work on the eastern seaboard and several expressways, where the roads are not patrolled by local or state police. The group monitors channel 8 twenty-four hours a day for this purpose for emergency work. The unit also belongs to the New England Police Radio League, monitor their own Freq., U.S. Coast Guard 2182 kc/s, and State Police frequency. Also, active in the National Lifeboat Ass'n, National Red Cross and Army Corps of Engineers. CB'ers in the area, interested parties only, should contact: P.O. Box 156, Rockland, Mass. (This is one group that uses the band for its intended purpose. Hats off.)

Regional REACT recently participated in the second polio distributing drive in N. Y.'s Nassau County. The group is preparing for future activities with the CD.

Recently held was the annual dinner of the Lake-land "5" Watters of Morris County, in which this writer had the pleasure of attending. Also, 17 members of the club completed a five week course in first aid training under the guidance of Harry Halit, 2W7432.

The CB Service Club of Western Pennsylvania held its first annual picnic recently at Washington Park, Washington, Pa. and was assisted by the Civil Defense Auxiliary Police of Washington County. Picnic Chairman was Bill Hall, KIC2175. Club President is Tom Hall, 20Q1485. More than 475 adults registered for the event, with distant prizes going to units from Denver, Colo., and Orlando, Florida. More than 100 prizes were given away.

Newly installed officers of the Little Rohdy CB'ers are: President, Joseph Caccia, KBA7213; Vice President, Antonio Calore, KBC1409; Secretary, James Doyle, KBA6918; Treasurer, Michael Perrino. Meetings are held on the 1st and 3rd Tuesdays of the month at the Phillips Street Hall in East Providence, R. I. The club monitors channel 15 for REACT.

The Allegheny County Emergency Service of Wells-ville, N. Y. has been officially incorporated by the laws of New York State. It was felt that this would be a protection of the members and would perpetuate the club. The officers of the club, with Fran Hann, being the head chef KID8950, put on a pancake supper at the local community building to raise money for this project. Over 95 people were served and the profits helped promote this project. Meeting nights for the



Members of the Southern New England Citizens Radio Ass'n, which was formed in 1960. The Ass'n covers Conn., Mass., and Rhode Island.

group are the third Monday of each month here at the CD garage, and the club monitors channel 14 for any necessary assistance of an emergency of direction line. Present membership is about 40 active, with one section operating the CD "weasel," a full track, and an emergency truck. The County Civil Service Chief is a member Lewis Cicirello, 20W4845 U2 and Jim Cicirello, 20W4845 U3, Robert Bush, 20Q5593, are the assistants. A.P.R.E. Bob Boyd, KIC6708.

### CENTRAL

Officers of the M.O.K. for 1964 are: President, Jim Lewis, 17W1707; Vice President, Bill Deuel, KG15332; Secretary-Treasurer, Martha Lewis, 17W4058. Meetings are held every 3rd Wednesday of each month. Calling channel in the area is 9.

The first meeting was held recently of the Parkersburg Area CB Club. Present officers are: President, Marion Mercer, KLM6947; Secretary, Carolyn Griffith, KHJ6265. Meetings are held the 1st and 3rd Tuesday of each month at the home of Ray and Carolyn Griffith. Refreshments will be served by the ladies of the club.

The Middletown Emergency Radio Communications is an official member of REACT, monitoring channel 9 . . . 24 hours of the day. The group is located in Middletown, Ohio, between Dayton and Cincinnati. The club is available for most any type of emergencies and have their own generators and flood lights.

The Wayne County CB Club of Richmond, Indiana was organized in 1961, and now boast a membership of 80. Meetings are held the third Thursday of each month at 7:30 p.m. in Richmond. Monitoring channel is 1. President, Bill Berg, KHB2615; Vice President, Dick Miller, KBH0648; Secretary, Clay Clark, KHC7402; Treasurer, Charles Currens, KHD9722.

The Mid-States CB Jamboree, sponsored by the Wayne County CB Club, Inc., was well planned and executed. It was held Saturday and Sunday, June 13 and 14 at Centerville, Indiana. More than 3000 people attended and all 300 plus prizes given consisted only of CB equipment or related items.

Danny and the Chevelles of Cambridge City, Indiana played at the dance held Saturday evening. Music for the jamboree was furnished Saturday by Ray Scaif and his Bluegrass Travelers of Dayton, Ohio, and Sunday by the Rock-a-teers, three young men ages 12, 14 and 16 from Columbus, Indiana. The Rock-a-teers were excellent musicians and played a wonderful part in keeping things lively even though the weather was rather hot!

Radio station WHON, Centerville, Indiana, broadcast both days directly from the jamboree. Emergency ambulance service was provided by Klute, Beach and Henry. Parking and traffic control was handled very efficiently by the Wayne County Auxiliary Police. There were excellent displays of CB equipment supplied by several large distributors in the Richmond area.

The club's first jamboree was a great success and plans are already in progress for their second jamboree tentatively set for June 12 and 13, 1965. The club hopes for an even bigger and better jamboree next year. Look for more details later!

add more  
voice punch  
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10-9 and 10-1  
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**201 CB**  
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... patterned after professional mobile and SSB amateur radio response curves ... assures maximum intelligibility.

PROFESSIONAL QUALITY DESIGN, CONSTRUCTION ... performs as good as it looks.

"ARMO-DUR" VIRTUALLY INDESTRUCTIBLE CASE ... shock-shatter-corrosion-rust-and-weather-proof.

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Thanks to Jack Garland, KLJ1120, and Terry Dare, KHA4949 for their courtesy in supplying information needed to Charles E. Nigg, KHJ3394, S9. A.P.R.E.



Michigan Citizen's Band Council formed. Pictured here left to right John Boven, KHG2101, KBCA Treasurer. Done Seese, KHG5355, S.M.R.A. President, Madison Heights. Don Ludwig, 19Q2436, Exec. Sec., C.A.A. and temporary chairman of M.C.B.C. Jim Phetteplace, KHH-4662, Editor A.E.R.O. club. The 3 members above with Don Ludwig are the Constitution committee, who here are going over some fine points with Don on the problem of a constitution. Photo by Eddie Sayer, A.P.R.E.

Newly reporting club, the Allen County CB Radio Club of Lima, Ohio is led by President, Tom Bartlett, KHH2845; Vice President, Hershel Ingmire, KHH0623; Secretary, Henrietta Spencer, KHJ0856; Treasurer, Laura Ingmire, KHH0623. The club monitors channel 11 and meets the 1st Thursday of the month at Shawnee Grange Hall, Fort Ameanda Rd., Lima, Ohio. Membership is about 200. Club paper: Tenna Tuners. . . .

The Warsaw Channel Jammers CB Club, Inc. held a pot-luck dinner and good fellowship get-together recently in Flowering Well Park. Don Shireman, KHC-

The Kastle Watters CB Club of Greencastle, Indiana boast a membership of 70 with officers as follows: President, Art Samuels, KHD5822; Vice President, Wayne Nelson, KHD5943; Secretary-Treasurer, Hubert Crodian, KHB1999. The club meets the first Sunday of the month at 6:00 p.m. for their business and social meetings with the family invited. They also hold a coffee break each Wednesday from 8:00 p.m. till 10:00 p.m. at Jones Restaurant, junction of US 40 and 231. The Green castle area monitor channel 11. Thanks to Pat, KLJ9876.

Recently formed is the Rock River Valley CB Radio Club with 135 charter members. President, Irv Camp, KHB0004; Vice President, Wes Williams, KHA5230; Secretary, George Davis, KLJ9558; Treasurer, Keith Weaver, KHD8473. The club is holding a membership drive and hopes to top 200 members by the next meeting. WOW . . . The club meets the second Saturday of each month at the Home Savings and Loan Building in Rockford, at 7:30 p.m. Visitors are welcome, so why not stop in.

Officers of the Hot-liners CB Radio Club, President, Brent Stolpestad, KGF2172; Vice President, Dick LaVoi; Secretary-Treasurer, Mrs. Roland Petersen, KLF1088, S9, A.P.R.E. The club meets on the third Tuesday of each month.

The Hubbard Trail Xtaleers, a CB Radio has been organized in Hoopeston, Illinois. Present officers include, President, Byron Yanders, KHA8782; Vice President, Chuck Snively, KHD3478; Secretary-Treasurer, Ken Crouch, KHC4560. Meetings are held the first Wednesday of each month at 8:00 p.m.

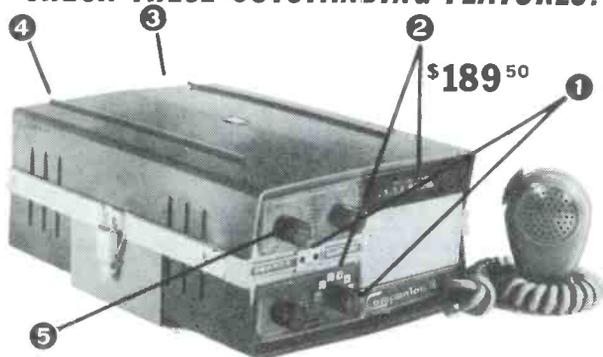
President Ted Feldman, KHC4273, of the Land of Goshen CB Club expressed great satisfaction over the clubs first jamboree held recently. Attendance was over 850, although weather was poor. Good coverage from the exhibitors. Look for a real blast from this one next year.

The Alex-Elwood CB Society Club held their annual jamboree with about 1000 people attending. Over 150 door prizes were given away. S9, A.P.R.E. Ralph Harter won a case of diet cola. The club hopes to have a bigger and better time next year.

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7610, President of the club proudly announces the new publication of the club: **CB BY-Line**. The club paper has been met with much enthusiasm and success. Hats off to the club for their recently planned and much successful car safety check which was held in Warsaw, in cooperation with local police and civic organizations.

Member of the North Area Emergency Radio Team aided enforcement and relief agencies in Smithville, Mo., recently when high waters of the Little Platte River caused giant flood damage. Members aided rescue workers with mobile communications and boat to shore communications.

### ATLANTIC

John Cowart, KDB5986, **CONTAC's** Emergency Director, has been chosen by Atlanta CD Director, Gen. William R. Woodward as the Liaison Officer for all CB activities in Atlanta. Cowart's job is to explain to CB clubs the necessary procedures and requirements for participation in the Citizens Radio Service Civil Defense plan. **CONTAC** is proud that one of its members was selected for this post. President, Lydon B. Johnson, recently visited Atlanta and was presented a **CONTAC** honorary membership card by **CONTAC's** President, Donald Spencer.

### Expedition to Grandfather Mountain Jamboree by The Lone Ghost Rider, KCG2291

On June 12th at 6:30 A.M., the sun rose on three sleepy CB'ers as they drove to Winchester, Va. for the rendezvous to the Grandfather Mountain CB Jamboree near Linville, N. C. the famed "Lawman" and A.P.R.E. for S9 Magazine, Jim Cross, KCF0823, and his sidekick, Dennis Johnson, KCG2379, radioed to the Lone Ghost Rider waiting in Winchester for an exchange point. A 10-20 was set up and we met and packed all of Jim's and Dennis' sleeping bags, chairs, a table, assorted other camping needs, plus about 2,800 QSL cards into my Chevy II. Jim took the shotgun-and-radio position and Dennis took the back seat kibitzer position and the Lone Ghost Rider manned the controls for the long trip into the south. The trip south on Route 11 was speedy, enjoyable and eventful. We came in radio contact with the Lone Ranger, KCD1735 and his YXL from Egg Harbor, N. J. in their Triumph sports wagon in the vicinity of Staunton, Va. and had an eyeball with a cup of java at a welcome Howard Johnson's. As we left the coffee break, an agreement was reached to lead the Lone Ranger in his white charger to the Jamboree via radio and visual signs. As we were traveling down south, we made many contacts with the great bunch of CB'ers bordering within radio range of Route 11 south, who cheerfully gave us road, weather and traffic conditions as we went by their 10-20's. When we reached Bristol, Tenn., Jim got on the radio and asked for information on the best route through town. To our grateful appreciation, a bunch of CB'ers offered to radio-lead us through but a kind mobile led the Lone Ghost Rider and company through quickly and efficiently. Although Jim, Dennis and I stopped and let our QSI's with our Bristol guide, we didn't get the fellows name, so here we want to thank you, ghost guide, for what you did for us. After Bristol everything went smoothly, even over the two mountains on Route 421 and 321, but when we reached the Blue Ridge Parkway we ran into a soupy problem—

fog. To give you an idea of how bad the fog was, try driving backwards, blindfolded, at night with a beautiful blonde on a curvy road at 60 MPH and you will experience the completely helpless feeling we had high in the sky on the parkway (even though we were without the above described problems). To those planning a future trip to Grandfathers Mountain do not fret, the local natives stated this was an unusual item at this time of year, the fog arrives in May. When we reached the Jamboree site, there was quite a number of CB'ers coming in or already set up in the camping area, setting up their tents, antennas, displays and swapping QSL's. The main body of CB'ers were not expected until Saturday and Sunday due to work, etc., but nevertheless 23 states were there when we arrived including Alaska and 3 units from Canada. Friday night consisted of cursing the fog, Jamboree control setting up a *Mobile* 40 foot tubular-sectioned lighted tower, Jim trying to save his sample QSL cards displayed from curling up from the moisture and the Lone Ghost Rider being unable to get down from the summit of Grandfather Mountain due to the closing of the gate at 7:30 P.M. and the Rider's watch being on daylight savings time, whereas the Jamboree area being on EST. But fear not, one radio call, a few minutes and the key man saved Jim and Dennis from an uncomfortable night as the Ghost Rider had all the camping gear still in the car. Through a favor to the manager of the Grandfather Mountain, Jim and I were admitted to the mountain late at night and went to the top where we were completely undisturbed from anyone cross channeling because of being close. It was a fabulous 10-20, better than any CB'er could ask for, and the next best thing would be any location higher than 5,280 feet, which is how high we were, high in the sky. The only restriction on top of Grandfather Mountain is that we could only point our mobile north and south, the east and west were restricted by high rock. When Sunday rolled around for the bright, warm and sunny third day, 3,000 + CB'ers gathered at the foot of Grandfather Mountain with over 30 states present for a giant card swap. All dealers who were selling substitute QSL cards, name pins, bumper stickers, call maps and call letters were doing a real business. I could go on and on about this tremendously successful

CB Jamboree but I believe your eyes are growing blurry so just one last note. Dan Guthrie, the top card swapper in the CB band took Jim, Dennis and I to his CB shack off the Blue Ridge Parkway, away from all outsiders and it is truly magnificent. All that was written about it in *S9* magazine is 100% true. Dan is a real fine fellow and to you Dan and your fellow McDowell County Rescue Squad members and to everyone who helped to bring about this jamboree, you all did a tremendous job and best of all it was lot's of fun with a lot of successful excitement.

## WESTERN

Recently organized is the **Frontier CB Radio Group** of Cheyenne, Wyoming. The club meets the 1st Thursday of each month at 7:30 p.m. and monitors channel 9. Officers are: President, John Halderman, KLE0418; Vice President, Max Wisner, 15Q0931; Secretary, Bill Birnie, KHB1649.

A new CB radio club formed in the Kern River Valley, known as the **Mountain-Airs**. Purpose of the group is to assist civic organizations and emergency services within their community by providing communications or supplementing existing communications system in order to leave police, fire or any other emergency services open for necessary radio traffic during emergency periods. Monitoring channels in the area are 9 and 11. President, Larry Looy, KFB0376; First Vice President, Tom Frazier, KFA1490; Second Vice President, Chuck Evans, KFA0233; Secretary, Ethel Reid, KXX2821; Treasurer, Bill Klahn, KFA-9467; Public Information Officer, Barry Aubrey, KXX-0761.

It may be of interest to you to learn the following: Some time ago, about one year to be exact, it became important to many of the CB clubs in the Van Nuys, Calif., area hereabouts to find and organize a group of mobile rigs to do something besides attend coffee breaks. As a result, through many phone calls and letters, the American Motorcycle Club—District 37—was contacted. The service was offered to monitor and cover their racing events with radio communications as they did not have communications because of the

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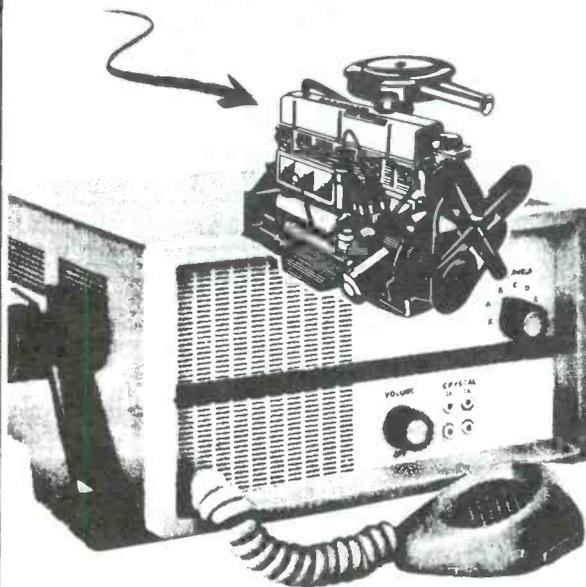
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location of check points and being held in desert and mountainous terrain.

One very active club in the area, and one of the largest, is the Valley Citizens Radio Association, headquartered in the San Fernando Valley. This club is well organized and has a group of very good and efficient officers. They have about 110 active members.

With a great deal of enthusiasm and many headaches for those in charge, the coverage of races began. As was said before, this was about a year ago. Now, many races later, it seems the great zeal has waned somewhat. Through a realistic and understandable viewpoint of those who made these races regularly, it seemed only a very few could participate more than once a month and some not that often. As a result of this slow-down of volunteers, the club (V.C.R.A.) now can only handle about one race every two months.

The Motorcycle Clubs sponsor about 100 races a year. Every race is an official event—point-sectioned by the A.M.A.

To the bike riders, one race is of as much importance as the next; unfortunately, accidents happen in all races—whether long or short, big or small—regardless of the sponsoring group or layout of the course.

About this time, it became apparent to a couple of very active and enthusiastic people, Mr. and Mrs. Charles (Tex & Velma) Trimmer, to do something for the Motorcycle Clubs on every event, regardless of its size or location. They attended meetings and met many people, both from the Radio Clubs and Motorcycle groups, and as a result of this organized a small group of CB'ers who enjoyed the desert and cycle riders as much as they.

It may be well to mention at this point that at no time, on any event, is there any expense to the Cycle Clubs for this radio coverage. Every radio unit must pay all its own expenses, regardless of the cost (and sometimes it's pretty steep).

When you consider that this CB group, actually about ten people, have covered as many as two races every month for the past eight months, that adds up to big gas bills and telephone calls. The greatest satisfaction to all of them comes from the bike riders themselves.

Through a mutual realization of both the radio cars and sponsoring cycle clubs, the location of the units to be the most helpful to the riders have been assigned

to the check points, and the start and finish line, is the Pit area. This seems to be the most effective location for communications; however, sometimes these points are very near inaccessible for an ordinary passenger car. As a result, last minute changes are made by the CB'ers themselves. In these cases, a walkie-talkie is quickly produced and put to very effective use; as is the case where a relay must be used, a hapless radio unit must sit all day in the heat or cold, unseen, and unseeing anything but his rig, anywhere from 8 to 10 hours. Poor soul (but very busy).

When a race is over, as far as the winners being announced, etc., the radio group on the course must stay put until every bike and rider is accounted for, regardless of the time. After all, that is why they are there; for a downed cycle can mean real trouble, without radio it could well be a boy's life. Fortunately, this has not happened yet, and it is hoped never will. Thanks to Mike Cotter, KFA3698, for this info.

Disaster struck San Bernardino, Calif., recently when a large earthquake leveled buildings, tumbled bridges onto freeways and cut off all normal means of communications. Radio and TV left the air as electric power and gas services were cut. Not one local B.C. station had emergency power. Hospitals could function using their own power but couldn't direct field rescue teams. CD Director, C. A. Rodersdorf, Mayor Don S. Mauldin and city dept. heads rushed to city hall according to a prearranged disaster plan. For safety, they assembled in the basement. The first problem was to establish communications. 27 CB units and many ham operators went into action, in only 18 minutes, the group at city hall was in radio contact with county and state facilities, all local hospitals and every Sr. and Jr. High School. Contact was also made with the Governors office at Sacramento. CB units working with rescue teams summoned aid from hospitals and fire dept. units. A CD 'copter dropped 10 second pictures on the roof of city hall, dept. heads and radio operators could decide where to send first and what type of help was needed. R. Randy Ball, Jr., took charge of the CB units. CD Communications Director was Russell Morrison. Most CB operators are members of the 5 Watt Wizards CB Radio Club of San Bernardino. The ham operators belong to the Citrus Belt Amateur Radio



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Club. The CB'ers handled over 150 messages, hams handled 22 messages.

The quake didn't really happen. It was all on paper. But it could have happened. Would your city have been able to react as fast? Are non-club members urged to join CD activities? Find out at your next meeting. The citizens and officials of San Bernardino are proud of their local ham and CB operators. This city is ready if disaster strikes. IS YOURS? ??? Submitted by J. W. Kinsey, 11Q5345, S9, A.P.R.E.

### EXTERIOR

In October 1963 a group of military and civilian personnel, living in or around Schofield Barracks, Hawaii, saw a definite need to organize a new CB Club on the island of Oahu since the nearest club is located in Honolulu and is approximately thirty miles away.

Officers were elected from the nine charter members with Sergeant Lewis Payne, USA, KDD8393, as President, Warrant Officer Charles R. Alsi, USA, KDE1918, Vice President, Captain Roy Ward, Burns Detective Agency, KIG0171, Secretary, Master Sergeant Paul Mabe, USA, KDB9376. Treasurer and Mr. John Balaz, 21W0310, as Liaison Officer and Civil Defense Coordinator.

Meetings are held on the first and third Tuesdays of each month at the Public Library in the city of Wahiawa. The first monthly meeting is held strictly for club business with the second meeting as a Chit Chat session and social meeting. The membership has more than doubled in eight months and has the potential of redoubling within this calendar year. Then on 29 April, 1964, the 50th State CB Club turned out in force to assist in the Nationwide Civil Defense alert and were credited with approximately 95% of the total messages sent to Civil Defense Headquarters in Honolulu by CB units. The members stand ready to assist a stranded motorist, give information and assistance to tourists, assist in civil defense emergencies or any other aid that may be requested.

We are still awaiting the final decision on a State Charter, however, we are here to stay and are behind S9 Magazine 100%. We are interested in the exchange of information, cards, etc., with other clubs or individuals. We are very much interested in the fight against these parasites who solicit membership for non-existent National CB Clubs. Please direct any correspondence to C. R. Alsip, Vice President, 50th State CB Club, 827-B Herian Place, APO 958, San Francisco, California.



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The completely transistorized Model C-225, solid state control features a patented phase-sensing electronic bridge circuit. All you do is turn the knob and the antenna will automatically sync to that direction.

If you can lift and mount your antenna on the Tenna-rotor, it will support it, hold it, and turn it.

\*Recommended mounting one foot maximum above the rotator.

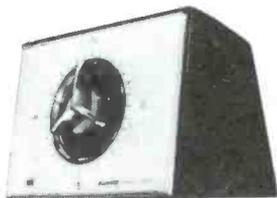
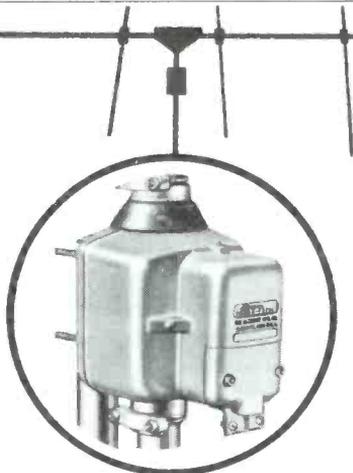
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Model C-225

# CB CALENDAR

It is quite obvious that many of the items in our "CB CALENDAR" column are being "borrowed" by a recently begun CB publication. Our competitors must rely upon 59 for news. While we are indeed flattered that even material, we wish to point out that in their zeal to copy us, they invariably screw up the dates, names and/or locations. If they would have the courtesy to contact us directly, perhaps we could arrange to furnish them with an advance carbon copy of John Krejci's manuscripts each month so that their readers will not be sent on wild goose chases down non-existent highways, on the wrong dates, to attend CB jamborees which have already taken place. A number of complaints have been registered about this.

## COMING EVENTS

2nd Annual Home Show and Radio Communications Jamboree, sponsored by the Lynwood Chamber of Commerce in cooperation with the Southern California Radio Assistance Unit, September 11th and 12th and 13th, at Bateman Hall, Lynwood Community Center, Lynwood, California. Contact: Norm Wasserman at the Chamber or Mike Kurtzman, of the club at P.O. Box 127, La Mirada, California.

4th Annual Jamboree of the Tri-State 11 Meter Club, September 13th at Lake Austin in Jefferson County, Ohio. Monitor channel 9 and 11. Contact: P.O. Box 13, Steubenville, Ohio.

International Convention in Nuevo Laredo, Tamps, Mexico, across the river from Laredo, Texas, September 18th, 19th and 20th. Contact: Manuel Flores, 1314 Iturbide Street, Laredo, Texas.

CB Jamboree, sponsored by the Norwalk Nor-Watters of Norwalk, California. The event will be in conjunction with the Annual Norwalk Fair, October 24th and 25th, at the Fairgrounds proper. Monitor channel 9 and 15.

Seacoasters Citizens Radio Club, 2 Annual CB Jamboree, Sunday, August 30th, Lake Lenape Park, Mays Landing, New Jersey. Rain date Sept. 6th. This should be better than last years.

CB Jamboree, sponsored by the Chicago Citizens Radio League, at the All Saints Picnic Grove, Route 72, Higgins Road, just east of River Road, Sunday, August 30th. Contact: 3905 N. Troy, Chicago, Ill. Monitor channel 9.

Cowan CB'ers Jamboree, September 13th at Smith Auditorium Memorial Park, New Castle, Indiana. Contact: W. Clawson, Box 38, Cowan, Indiana. Remember September 13th.

The Ten-Ten CB Club Inc., Jamboree will be held September 5th and 6th in the National Guard Armory at Ranger, Texas. Contact: Jessie True, 114 N. Seaman, Eastland, Texas 76448.

Southern California CB Jamboree, September 6th and 7th, at the Fairmont Park in Riverside, California.

October 11th, Bell City CB Radio Club, Jamboree, Lake Compounce, off Route 72, Bristol, Conn. Contact: Ted Singleton, 79 Lillian Road, Bristol, Conn.

Batavia CB Radio Club Jamboree, August 23rd at West Batavia Sportsman Club. Contact: Box 142, Batavia, New York.

North Country C Bees, Berlin, New Hampshire, Jamboree, October 10th and 11th. More info forthcoming.

5th Annual Convention and Trade Show, August 22nd and 23rd, Hotel Monticello, Norfolk, Virginia. Host clubs are the Portsmouth-Suffolk-Virginia Beach.

Hootnanny Jamboree—September 4th, 5th, 6th and 7th, over the Labor Day week-end. Albertson Midget Lakes, Georgia. Follow the signs to the lakes, 5 miles north of Dalton, just off highway #71. Monitor channel 11.

Fifth Annual Club CB Family Picnic of the Five-Eleven Radio Club, will be held on September 13th at White Swan Park, Parkway west, near the Greater Pittsburgh Airport, Allegheny County, Penna.

The 1964 Maumee Valley CB Round-Up, largest one-day CB gathering, Sunday, September 20th, at the beautiful Memorial Coliseum, Fort Wayne, Indiana.

September 6th and 7th, CB Jamboree in conjunction with the National Sweet Corn Festival, will be held in Hoopeston, Ill. Contact: Byron Yanders, Hoopeston, Ill. Monitor channel 9.

Quad County CB Club Jamboree, August 30th at the Starke County Fairgrounds, Hamlet, Indiana. Proceeds are going to the handicapped. Let's all try to make this one!!

CB Picnic, sponsored by the Cross-County CB League, Inc. August 29th at Salsbury Park, East Meadow, Nassau County, Long Island, New York. Free admission and lots of parking will be provided. Door prizes—every hour and the grand prize, well you'll have to go and see it for yourself. Prizes also for games. Bring the kids. Monitor channel 12.

The Rebel CB Club of Saltville, Va., is sponsoring a First Annual Rebel CB Jamboree on Friday, Sept. 19th. Prizes, entertainment, games, etc. will highlight the affair and camping facilities are available. Contact Tommy Davidson, KCI0761, Box 532, Saltville, Va.

Third Annual CB Gettogether will be held at the Three Rivers Inn near Liverpool, N. Y. on Saturday, Oct. 17th, starting at 10 A.M. Admission \$4.50, and there's a big, lavish, wild dinner party in the evening. Monitor Channel 11, or write Carl Shaw, 4937 Vine St., Liverpool, N. Y. Tel. OL 2-9333. This was a great affair last year.





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SP-1 Grey 12 ft. Cable & Plug **\$12<sup>95</sup>**

SP-2 Brown

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# CARD SWAPPERS UNLIMITED

Swappers Awards are given to those readers who have sufficiently proven that they have reached certain specified levels of achievement in QSL card swapping. There are 19 different and distinctive Swappers Awards, and if you would like a complete set of rules, address your request together with a stamped, self-addressed envelope, to: Swappers Awards, S9 Magazine, 14 Vanderverter Ave., Port Washington, N. Y. 11050. Here are the winners of the black, red and gold certificates for the past month.

- |        |                                                   |                                                         |
|--------|---------------------------------------------------|---------------------------------------------------------|
| SACA   | 165 Bobby Denholtz, KBI237, Short Hills, N.J.     | 132 Bill McShea, KCG0200, Arlington, Va.                |
|        | 166 Bill Stroud, KJII090, Corning, N. Y.          | 133 Bill Stroud, KJII090, Corning, N. Y.                |
|        | 167 Dewey Watkins, 24Q0244, Washington, D.C.      | 134 Harold Channell, KCF1224, Alexandria, Va.           |
|        | 168 Dick Fuhrman, KBH1789, Dubuque, Iowa          |                                                         |
|        | 169 George Radenheimer, KHH1363, Middletown, Ohio | PX-150                                                  |
|        | 170 Larry Baker, KHH3909, Cabin Creek, W. Va.     | 114 Harold Channell, KCF1224, Alexandria, Va.           |
|        | 171 George Hunt, KBJ1722, Middletown, N. Y.       | 115 Robert Thatcher, KBG7687, Hudson, N. Y.             |
| PX-25  | 298 Herb Girard, KBD0747, Woonsocket, R. I.       | 116 Fred Blackwell, KKK4307, Sherrills Ford, N. C.      |
|        | 299 Larry Robinson, WPE7BUA, Bremerton, Wash.     | 117 George Radenheimer, KHH1363, Middletown, Ohio       |
|        | 300 Ken Pope, KKK0903, Charlotte, N. C.           | 118 Dewey Watkins, 24Q0244, Washington, D. C.           |
|        | 301 Robert Jackson, KCJ4314, Greensboro, N. C.    | 119 Bill Rosen, KHI8546, Latonia, Ky.                   |
|        | 302 Neil Bolding, KHC1371, Indianapolis, Ind.     |                                                         |
|        | 303 John Kasten, 19Q8152, Brookpark, Ohio         | PX-175                                                  |
|        | 304 Jack Vitvitsky, KID4823, Lake Placid, N. Y.   | 109 Ralph Sorensen, 16Q1960, Bay City, Wisc.            |
|        | 305 Gerry Schechter, KBG7387, Bronx, N. Y.        | 110 Fred Blackwell, KKK4307, Sherrills Ford, N. C.      |
|        | 306 Ronnie Martin, KBG6227, Plainfield, N. J.     |                                                         |
|        | 307 Jim Pula, KLP7977, New York Mills, N. Y.      | MSA                                                     |
|        | 308 Larry Ray, KDE2140, Walhalla, S. C.           | 128 George Solomon, KCD2574, Hellestown, Pa.            |
|        | 309 Robert Melnyk, KID4481, Rochester, N. Y.      | 129 D. G. Massam, Toronto, Ont.                         |
|        | 310 Larry Baker, KHH3909, Cabin Creek, W. Va.     | 130 Harold Channell, KCF1224, Alexandria, Va.           |
|        | 311 Art Machado, KLA0346, Sonoma, Calif.          | 131 Fred Blackwell, KKK4307, Sherrills Ford, N. C.      |
|        | 312 Scott Marshall, KIE0991, West Seneca, N. Y.   | 132 Bruce Holt, KGC1311, Colorado Springs, Colo.        |
| PX-50  | 257 Herb Girard, KBD0747, Woonsocket, R. I.       |                                                         |
|        | 258 Jearl Bishop, KCJ4911, Charlotte, N. C.       | SSC-1                                                   |
|        | 259 Bill McShea, KCG0200, Arlington, Va.          | 139 William Holt, 2W7638, Dunellen, N. J.               |
|        | 260 Mike Kaplan, KKD0491, Maplewood, N. J.        | 140 Ed Ross, KCG3689, Eastville, Va.                    |
|        | 261 Neil Bolding, KHC1371, Indianapolis, Ind.     | 141 Bill Stroud, KJII090, Corning, N. Y.                |
|        | 262 John Kasten, 19Q8152, Brookpark, Ohio         | 142 Harold Channell, KCF1224, Alexandria, Va.           |
|        | 263 Jack Vitvitsky, KID4823, Lake Placid, N. Y.   | 143 Bill McShea, KCG0200, Arlington, Va.                |
|        | 264 Robert Melnyk, KID4481, Rochester, N. Y.      | 144 Bill Rosen, KHI8546, Latonia, Ky.                   |
|        | 265 Harry Okey, WPE6ETT, La Jolla, Calif.         |                                                         |
|        | 266 Larry Baker, KHH3909, Cabin Creek, W. Va.     | SSC-2                                                   |
|        | 267 Art Machado, KLA0346, Sonoma, Calif.          | 121 George Solomon, KCD2574, Hellestown, Pa.            |
|        | 268 Scott Marshall, KIE0991, West Seneca, N. Y.   | SSC-3                                                   |
| PX-75  | 198 Donald Farrington, KHD5784, Monmouth, Ill.    | 109 Fred Blackwell, KKK4307, Sherrills Ford, N. C.      |
|        | 199 Bill McShea, KCG0200, Arlington, Va.          |                                                         |
|        | 200 George Masny, KKD3296, New York, N. Y.        | SSC-4                                                   |
|        | 201 John Kasten, 19Q8152, Brookpark, Ohio         | 105 Fred Blackwell, KKK4307, Sherrills Ford, N. C.      |
|        | 202 Johnny Pearson, KDE0146, Nashville, Tenn.     |                                                         |
|        | 203 Dick Fuhrman, KBH1789, Dubuque, Iowa          | SSC-5                                                   |
|        | 204 Scott Marshall, KIE0991, West Seneca, N. Y.   | 104 Fred Blackwell, KKK4307, Sherrills Ford, N. C.      |
|        | 205 George Hunt, KBJ1722, Middletown, N. Y.       |                                                         |
| PX-100 | 183 Donald Farrington, KHD5784, Monmouth, Ill.    |                                                         |
|        | 184 Bill McShea, KCG0200, Arlington, Va.          | 2W7638                                                  |
|        | 185 John Kasten, 19Q8152, Brookpark, Ohio         | Bill Holt, 314 Mountainview Terr., Dunellen, N. J.      |
|        | 186 William Calvert, KIC5720, Duncansville, Pa.   | 18Q8866                                                 |
|        | 187 W. L. McKeever, KDC1358, Lakeside, Ohio       | Richard Cary, Rt. 4-Box 176, Russell Springs, Ky.       |
|        | 188 Bill Giles, KJK0688, College Park, Md.        | 19Q8152                                                 |
|        | 189 Scott Marshall, KIE0991, West Seneca, N. Y.   | Kasten TV Service, 5916 Westbrook, Cleveland, Ohio      |
|        | 190 Arno Felmer, KED0775, New Braunfels, Texas    | Ivan Smith, 419 Water St., Danville, Pa.                |
| PX-125 | 131 George Solomon, KCD2574, Hellestown, Pa.      | 24Q0244                                                 |
|        |                                                   | Dewey Watkins, 1811 Irving St. N. W., Washington, D. C. |
|        |                                                   | KBA5557                                                 |
|        |                                                   | Ted Cummings, Bellflower Rd., Billerica, Mass.          |
|        |                                                   | KBD0747                                                 |
|        |                                                   | Herb Girard, 348 Carrington Ave., Woonsocket, R. I.     |
|        |                                                   | KBD2689                                                 |
|        |                                                   | L. Dawson, R. F. D. 3, Houlton, Maine                   |
|        |                                                   | KBG6190                                                 |
|        |                                                   | George Miller, 32 Manning Ave., N. Plainfield, N. J.    |
|        |                                                   | KBG6227                                                 |
|        |                                                   | Ronnie Martin, 1128 W. 3rd St., Plainfield, N. J.       |
|        |                                                   | KBG7687                                                 |
|        |                                                   | Robert Thatcher, R. R. 1-Box 59-B2, Hudson, N. Y.       |
|        |                                                   | KBG8079                                                 |
|        |                                                   | Alvin Allen, 610 Prospect Ave., Spring Lake, N. J.      |

If you would like to be listed as a QSL card swapper in our monthly listing, you must do the following: send us a separate card for each month you would like to be listed (you may send several month's worth of cards at the same time), and enclose 10¢ in cash (no stamps, checks, or money orders) for each month you are to be listed. Try not to write on your cards. Address the material to: Card Swappers Unlimited, 14 Vanderverter Avenue, Port Washington, N. Y. 11050. Deadline for listing in the November issue is September 12th.

Our Swappers' listing is a bit shorter this month than usual. Our 10¢ charge seemed to have the desired effect of weeding out many of the deadbeats who send in huge batches of cards without any intention whatsoever of actually swapping.

Here are this month's swappers:

KB14231 Wayne Hess, 167 Wilder St., Hillside, N.J.  
 KB15603 Buck Jones, 69 No. Wantagh Ave., Levittown, N.Y.  
 KB18077 John Krejci 60 Division Ave., Garfield, N.J.  
 KB10206 Jean Holt, 314 Mountainview Terr., Dunellen, N.J.  
 KCD2631 Bruce Herr, R. D. 3, Quarryville, Pa.  
 KCD4607 Joseph Wunder, 107 West Meyran Ave., Somers Point, N.J.  
 KCD5294 Aral Moser, Rt. 1-Box 307AA, Coplay, Pa.  
 KCD5294 Arlan Moser, Rt. 1-Box 306, Coplay, Pa.  
 KCE0001 Tom Gerhart, 38 E. Lincoln Ave., Robesonia, Pa.  
 KCF1224 Harold Channell, Box 126, Alexandria, Va.  
 KCG1648 J. W. Smith, R. R. 2, Jane Lew, W. Va.  
 KCG3371 Clifton Carey, 911 South Division St., Salisbury, Md.  
 KCG3970 Kenneth Hogue, R. 1, Beverly, W. Va.  
 KCJ1066 Kermit Minter, 314 W. Maryland Ave., Draper, N.C.  
 KCJ2292 Hazel Stubbs, P. O. Box 1076, Rockingham, N.C.  
 KCJ2780 R. K. Harris, 513 McDonald Ave., Charlotte, N.C.  
 KCJ3095 Donald Kelley, Glen Allen, Va.  
 KCJ4187 Joel Smyre, 747 S. Brady Ave., Newton, N.C.  
 KCJ8028 Buck Buchanan, 2923 West Marshall St., Richmond, Va.  
 KDE1319 Sneaky Cotheru, Rt. 2, Twin Lakes, Ga.  
 KDI5059 Rick Kramlich, P. O. Box 5095, Fort Myers, Fla.  
 KED0572 Vernelle Cates, 2708 Virginia St., Baytown, Texas  
 KED1832 Charlie Payne, 3106 Babin St. N., Texas City, Texas  
 KFA4077 Lowell Smith, 11142 Penn St., Lynwood, Calif.  
 KFA6460 Jim Bowcutt, 1521 So. Laroowood, Hacienda Heights, Calif.  
 KFA9923 Helen Morse, P. O. Box 1395, Ontario, Calif.  
 KFB0248 Frank Neal, 3120 Leonard St., Bakersfield, Calif.  
 KFC3128 Harry Fanburg, 25 Creekwood Way, Hillsborough, Calif.  
 KFD4362 Ron Leshar, 2585 Painted Rock Dr., Santa Clara, Calif.  
 KFI1219 Jack Sudduth, 8103 16th S. W., Seattle, Wash.  
 KFJ0479 Agnes Sudduth, 8103 16th S. W., Seattle, Wash.  
 KGC0267 Ray Turek, 137 Teal St., Denver, Colo.  
 KGC2378 Helen Turek, 137 Teal St., Denver, Colo.  
 KGF1755 Mal Pickens, 4032 12th Ave. So., Minneapolis, Minn.  
 KGC1311 Bruce Holt, 2639 Summit Dr., Colorado Springs, Colo.  
 KG16364 Babe Bucklin, 1817 Lincoln Ave., Des Moines, Iowa  
 KG17918 Edmon Triplett, 1230 11th St., Des Moines, Iowa  
 KHA8376 Gordon Velpel, 801 S. Franklin St., Garrett, Ind.  
 KHB4303 Irv Weinstein, 1746 N. Sawyer Ave., Chicago, Ill.  
 KHD0502 Kenneth Perkins, 303 Parkside, Valparaiso, Ind.  
 KHD1193 Ed Wulf, 308 Edwardsville Rd., Wood River, Ill.

KHD4705 George Newberry, 1027 W. Douglas St., Freeport, Ill.  
 KHD5225 John Ulman, 4303 Dearborn Ave., Hammond, Ind.  
 KHD5667 Richard Wojtalik, 2127 N. Sayre Ave., Chicago, Ill.  
 KHD6438 Charles Weatherholt, On highway 140, Alhambra, Ill.  
 KHD8077 Peter Barbera, 1834 W. Armitage, Chicago, Ill.  
 KHD8210 Adelaide Harris, R. R. 5, North Vernon, Ind.  
 KHE1460 Robert Irvine, Medical Dept., USS Annapolis (AGMR-1), N.Y.  
 KHG1923 Bob Gillespie, 31805 Denmore Rd., Willowick, Ohio  
 KHG6303 Walter Dodds, 4216 W. 22 St., Cleveland, Ohio  
 KHI2703 Jim McClure, Rt. 1, Box 217, Yawkey, W. Va.  
 KHI8546 Bill Ross, 4334 McKee St., Latonia, Ky.  
 KHJ2446 Gus Cottin, R.d. 2, Bantam Ridge, Wintersville, Ohio  
 KHJ3180 Chuck Nestor, 24 Townsend Ave., Norwalk, Ohio  
 KHJ3477 Donald Belitz, 13474 Enid Blvd., Lake Fenton, Mich.  
 KHJ4679 Irene Wilkinson, 500 Magnolia Ave., Cuyahoga Falls, Ohio  
 KHJ4747 Don Senger, 2650 Mandale, Orchard Lake, Mich.  
 KHJ7270 Bob Wilkinson, 500 Magnolia Ave., Cuyahoga Falls, Ohio  
 KLA0174 Tom Rogowski, 2915 Noddin Way, Portsmouth, Ohio  
 KIC0172 Bob Rogers, 227 Green St., Wilkinsburg, Pa.  
 KIC2881 Mike Ripski, 72 Mooney Rd., Plymouth Twp., Pa.  
 KID0186 Kathy Reshater, 102 1/2 Walnut St., Binghamton, N.Y.  
 KID0435 Emerson Stanton, 609 Fern St., Clark's Summit, Pa.  
 KID1889 Jack Washington, 10128 Frankstown Rd., Pittsburgh, Pa.  
 KID5968 John Norman, Box 249, Watkins Glen, N. Y.  
 KIE0413 Helen Washington, 10128 Frankstown Rd., Pittsburgh, Pa.  
 KIE0991 Scott Marshall, 1505 Center Rd., West Seneca, N.Y.  
 KJ12853 Ray Myers, 69 Baldwin St., Binghamton, N.Y.  
 KJ13337 Stanley Penz, 1524 Mf. View Ave., Utica, N.Y.  
 KKA4210 Dick Clogston, Starks, Maine  
 KKA5600 Jean Doucette, R. R. 1, Pasay Rd., No. Grosvenor Dale, Conn.  
 KKA5996 Bob Doucette, R. R. 1, Pasay Rd., No. Grosvenor Dale, Conn.  
 KKA7345 Terry Sidelinker, 37 Pine St., Orono, Maine  
 KKA8456 Joe Cambo, 31 Woodbury Ave., Norwalk, Conn.  
 KKD0491 Mike Kaplan, 37 Fairview Terr., Maplewood, N.J.  
 KKD1281 Fred Becker, 1332 Lincrest Terr., Union, N.J.  
 KKD3429 Cliff Sharg, 132 Greenway, Albertson, L.I., N.Y.  
 KKD5839 Richie Kure, 11 Emmett St., New Hyde Park, L.I., N.Y.  
 KKG0960 Robert Ream, 608 High St., Lancaster, Pa.  
 KKI0233 Houston Mullins, 321 Yorkshire Lane, Manassas, Va.  
 KKM5712 Michael Smith, P. O. Box 43, Enka, N.C.  
 KKM8338 Harold Runion, 74 Brownwood, Asheville, N.C.  
 KKK2108 Lewis Mann, P. O. Box 2, Victorville, Calif.  
 KKK4820 Dorothy Mann, P. O. Box 2, Victorville, Calif.  
 KLA0346 Art Machado, P. O. Box 132, Sonoma, Calif.  
 KLA1786 Ruth Kerr, 632 Charter St., Redwood City, Calif.  
 KLA1875 Harold Hanes, 2585 Painted Rock Dr., Santa Clara, Calif.  
 KLA2059 Glenn Jordan, P. O. Box 537, Fallon, Nevada  
 KLA3668 Jim Sargent, 18 E. Columbia Way, Sonoma, Calif.  
 KLA3944 Wanda Machado, P. O. Box 132, Sonoma, Calif.  
 KLH0863 Ted Hesseltine, 2242 Morton Ave., Des Moines, Iowa  
 KLJ0532 Jack Rabe, 2237 N. Lawndale, Chicago, Ill.  
 KLJ3382 Earl Gordon, 419 West Grand Ave., Decatur, Ill.  
 KLJ6791 Lou Rubenstein, 9901 Calhoun Ave., Chicago, Ill.  
 KLK0610 Irene Thomas, 615 Prospect St., Crawfordville, Ind.  
 KLM1561 Helen Nestor, 24 Townsend Ave., Norwalk, Ohio  
 KLM3815 Frank Vargo, 33 West Rutgers, Pontiac, Mich.  
 KLM3893 Robert Elam, 714 Livingstone, Pontiac, Mich.  
 KLM3953 Buck Rucker, Fultonham, Ohio  
 KLM5051 Jim Swartz, 62 Stadium Dr., Tallmadge, Ohio  
 KLM6883 Ernest Roberts, Box 275, East Fultonham, Ohio  
 KLM9195 Mark Mamas, 1509 Coles Blvd., Portsmouth, Ohio  
 KLN1718 Ray Bending, R. R. 1, Edison, Ohio  
 KLP0120 Ned Neupauer, 414 Market St., S. Williamsport, Pa.  
 KLP3111 Paul Miller, 8 Clark St., Canton, N. Y.  
 KLP3147 Tony Clavelli, 14 Denesha Place, Fulton, N. Y.  
 KLP4360 Earl Bonenblust, 515 Whiting Rd., Webster, N. Y.  
 KLP5005 Bud Fowkes, 1031 5th Ave., Box 261, Duncansville, Pa.  
 KLP6232 Irv Pachter, 75 Ludlow St., Saratoga Springs, N. Y.  
 XM49405 John Burnup, 926B Cummings Ave., Ottawa, Ont., Canada  
 XM49466 Margaret Burnup, 926B Cummings Ave., Ottawa, Ont., Canada  
 XMS2477 David Pinsky, 4895 Bourret Ave., Montreal, Que., Canada  
 North. 2595 John Hall, R. D. 1, Hornell, N. Y.  
 Pacific 587 Leonard Tate, 5470 Camden St., Oakland, Calif.  
 Royal 16 Gregg Calkin, 174 Waterloo St., Saint John, NB, Canada  
 BR525120 Rex Dean, 251 High St., Berkhamsted, Hertfordshire, England  
 WPE3CG Dewey Watkins, 1811 Irving St. N. W., Washington, D. C.  
 WPE3FHM Jack Washington, 10128 Frankstown Rd., Pittsburgh, Pa.  
 Angelo Bione, P. O. Box 8, Christopher, Ill.  
 Ed Morehead, 3511 F. L. M. Sq., Box 4472, Randolph AFB, Tex.



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# WASHINGTON OUTLOOK

There are so many FCC actions this round that we have had to temporarily revise our method of presentation, otherwise this entire issue of S9 would be devoted to FCC activities.

Good news first, and here are the CB'ers who were previously under fire from the FCC but have now had the cases against their licenses dismissed by the FCC:

14W1699, R. J. Frye, A-1 Radio TV, Moses Lake, Wash.

KCG0418, Shirley F. Brooks, Baltimore, Md.  
KEJ1468, Marvin E. Brown, Norwalk, Calif.  
KFA5077, Norman Alfred Hall, Gardena, Calif.

The following CB'ers have received stays of effective dates of license revocations from the FCC:

6Q1698, Mike Hiott, Round "O", S. C.  
KCG0478, Earl L. Johnson, Baltimore, Md.  
KEJ4095, Nick Bruns, Baldwin Park, Calif.  
Hearings were terminated on the actions against the following CB'ers:

10W3106, Richard D. Allen, Ft. Worth, Texas.

KBC5513, Joseph F. Lewis, Jr., Dorchester, Mass.

KDD1131, Hall H. Jackson, Atlanta, Ga.  
KD13651, David S. Bernheim, Tampa, Fla.  
KFF0605, William B. Walsh, Jr., Vancouver, Wash.

Getting into the new actions taken against CB'ers, we find that the following CB'ers were asked to show cause why the FCC should not revoke their licenses:

6W4430, Harold G. Gordon, Rome, Ga.  
7W1781, E. N. Carlson, Micro Electron. Svce., Hollywood, Fla.  
8Q0774, C. Chrestensen, Two-Way Sales, Belzoni, Miss.

8W1526, Bledsoe Electric Co., Jackson, Miss.  
10Q0927, Donald Barratt, Dallas, Tex.  
11W4069, Paul Sigur, Compton, Calif.  
11W9404, J. W. Sprong, Los Angeles, Calif.  
19Q1365, Thomas H. Janes, Plainwell, Mich.  
KAI4663, Ronald W. Manuel, Covina, Calif.  
KDB2107, Manning G. Ryals, Columbus, Ga.  
KDB5274, Wyman E. Shipes, Appling, Ga.

KDC0285, John F. Clufetos, Mt. Clemens, Mich.

KDD8741, Cecil Hamrick, Atlanta, Ga.  
KDH1235, Carl J. Hall, West Palm Beach, Fla.

KDI5273, Richard E. Sutor, Miami, Fla.  
KEB1318, Charles E. Porter, Jackson, Miss.  
KEJ0705, Lawrence W. Sears, Los Angeles, Calif.

KEJ6807, William Shannon, Bell Gardens, Calif.

KFA1203, Wesley P. Miller, Anaheim, Calif.  
KFA5558, Ronald W. Manuel, Covina, Calif. (ex-11W4738).

KFA7737, Melvin Godfrey, Las Vegas, Nev.  
KFA9933, Lincoln B. Simmons, Los Angeles, Calif.

KFF0285, Donald L. Brubaker, Camas, Wash.

KHG9401, Richard A. Haynes, Columbus, Ga.

KHH1848, James H. Hicks, Jr., Troy, Mich.  
KHI9185, Jack Bentley, Wyandotte, Mich.  
KID4055, Joyce Piscitti, Wolcott, N. Y.  
KKM0913, Thomas N. Thompson, Austell, Ga.

We now come to those CB'ers who have actually had their licenses revoked by the FCC:  
6Q2976, Virginia Ave. TV, Atlanta, Ga.  
6W4919, Jim Harper, East Point, Ga.

7W2440, Franklin E. Gray, Jr., Ft. Lauderdale, Fla.

7W3445, C. Knoll, Knoll TV Svce., Sarasota, Fla.

11W8599, Donald M. Goddard, Fullerton, Calif.

12Q0802, Jack W. Crawford, Napa, Calif.  
20Q4153, Michael J. Marshall, Rochester, N. Y.

KBG1104, Israel Garcia, New York, N. Y.  
KCF1906, Clark E. Boston, Baltimore, Md.  
KDD1812, Lucille H. Long, Powder Springs, Ga.

KDD8835, Edwin T. Russ, East Point, Ga.  
KDH1734, Vincent R. Banville, Sr., Ft. Lauderdale, Fla.

KEJ1777, William B. Johnson, Mentone, Calif.

KFA7558, Lucille Bruce, Anaheim, Calif.  
KFA7893, Nick A. Teminich, Los Angeles, Calif.

KFC1335, Richard J. Lovett, Vallejo, Calif.  
KGB0234, Raymond G. Parmiter, Longmont, Colo.

KHG8150, David W. Norby, Rockford, Mich.  
KHI3883, Charles A. Little, Grand Rapids, Mich.

KHI1815, Jack Bentley, Wyandotte, Mich.  
KIJ0167, Jose Gascot Brana, San Juan, P. R.

Getting into the areas for monetary forfeitures, the FCC asked the following CB'ers to send in some cash for violations of the CB rules:

KDI1685, Kenneth J. Hunter, Ft. Lauderdale, Fla. (\$200).

11W7482, Robert V. Laster, Compton, Calif. (\$100).

KDB1404, Doyle R. Harbin, Avondale Estates, Ga. (\$100).

KDE1125, Ernest M. Ray, Waleska, Ga. (\$100).

KFA0936, Walter H. Dupee, Los Angeles, Calif. (\$100).

KFA4967, Ivan R. Stratton, Norwalk, Calif. (\$100).

KFF0652, Thomas W. McBroom, Portland, Oreg. (\$100).

KHG9022, Willard H. Matheuw, Waverly, Ohio (\$100).

These CB'ers had their \$200 fines reduced to \$50:

KCF1516, William R. Wilson, Pasadena, Calif.

KCF2789, Monroe V. Jory, Jr., Riviera Beach, Md.

KDB4602, Jack J. Delfunt, Ardmore, Tenn.  
The following CB'ers had their \$100 fines reduced to \$25:

6W1350, Joseph M. Worsham, Forest Park, Ga.

20Q0701, John W. Gropp, Ontario Center, N. Y.

KBG3510, Arthur W. Smith, Teaneck, N. J.  
KEJ4695, D. Cacioppo, Danny's TV Svce., Anaheim, Calif.

KGI2853, Charles W. Evans, Kansas City, Mo.

KIC4175, D. & S. Pedone, Sam Pedone Trucking, Buffalo, N. Y.

KID0620, B. H. & M. L. Jensen, Beck's Cycle Shop, Canandaigua, N. Y.

So this round's grand total is 21 CB licenses revoked, 28 CB'ers told that they may lose their licenses, and \$1225 in fines against CB'ers. Not particularly pleasant.

The FCC tells us that some 200,000 interested persons have seen their "UHF Story on Slides," produced by the FCC in cooperation with the Committee for the Full Development of All Channel Broadcasting. About 1300

copies are available for free 30 day loans to schools and clubs. The 15 minute slide-audio tape presentation traces the development of all-channel TV broadcasting, its future prospects, and gives some helpful hints on UHF antenna installation. Loans will be made to CB clubs upon receipt of a letter stating the conditions of showing. Projection and other equipment are not furnished by the FCC. Address all requests in *writing only* to the Chief Engineer, Federal Communications Commission, Washington, D.C. 20554.

In case you're interested in statistics, the "authorized station" count in the CB service at the beginning of June was 670,917. Processing time was 21 days in May, and the FCC received 12,833 applications during that month, issuing 26,136 licenses (this includes holdover applications from months prior to May).

In an exclusive S9 scoop, we learn that there are presently four bills in the House of Representatives (HR 11872, 11875, 11877, 11897) which, if passed, would kill the requirement to renew all licenses in the Safety and Special Radio Services Division of the FCC, and this would presumably include the Citizens Radio Service. The four bills are identical and were introduced by four different Republican Congressmen, Dole of Kansas, Ostertag of New York, Younger of California, and Brotzman of Colorado.



## KBG4303 RIDES AGAIN

*Continued from page 11*

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Address everything to: Custom Rigs, S9 Magazine, 14 Vanderverter Avenue, Port Washington, N. Y. 11050.

## ALL SLICKED UP

In line with our ever-expanding "slicking up" of S9 (contests, *Miss S9*, new jazzy offices, etc.), we strike this month with blinding, dazzling, rootin'-tootin' COLOR! One more way for us to say *thank you* for putting your faith in our concept of a free press—a rather novel idea in CB publishing. Admittedly, we have gone out on a few limbs, we have tromped on a few toes, tweaked a few noses, and have run some exceptionally "far out" masterpieces.

As you know, S9 generally runs 64 pages each month (that's *double* the size of anything else offered to CB'ers for 50¢ a shot). Eighty page "special" issues come along now and again but aren't as frequent as we would

like to see them. It looks like these giant 80 pager will be rolling off the presses on a fairly regular basis as things now look—with a super special 96 pager thrown in for kicks every so often.

The subscription price for S9 still holds at \$5 per year, however as soon as the Accounting Department realizes what's going on they would be crazy not to stomp into my office and announce an increase in the rate. Unless you are exceptionally wealthy, or you don't figure on reading S9 each month (when was the last issue you passed up on the newsstand?) right now would be a shrewd time for you to dash off a subscription, using the postage paid envelope in this issue. Don't get left out in the cold.

### CURRENT EVENTS

Former readers of *10-4 Magazine* will probably be happy to learn that their unfulfilled subscriptions will be completed by one of the many recent entries into the CB publishing field, unfortunately the *most* lackluster of the bunch. *10-4* had long been trying to find someone to assume this subscription obligation, and had offered it to S9 last year. We turned it down, feeling that we would rather grow by drawing from within S9's live wire newsstand readers, than by trying to pad out the subscription list with the obsolete remains of *10-4's* unfortunate venture into CB publishing.

If you've been following the *Association to Condemn Detrimental Associations (ACDA)* which we introduced in the July issue, you will be interested to learn that this nutty club, started as a gag, has captured the fancy of S9 readers. We had to print up additional membership certificates to meet the demand. Do you belong? See ad in this issue!

Just for the record, the story we did on CB'er Peter Lind Hayes drew 20 times the reader mail we have ever received on any single feature article. Every day Lilia sends out a box of letters and QSL's to Peter's CB shack.

Biggest "inside" yuk-yuk in the CB industry is the "Most Comprehensive CB Directory Ever" published this summer. While the publishers say that they made "every attempt to list each and every item of CB equipment available in the nation today," and announced that it was "the largest directory of CB equipment ever published anywhere"; they apparently forgot that, in 1963,

under the name of *CB Horizons*, the very same people at the new publication published a CB directory which was 40 pages larger. In fact, the new directory is little more than a poor and thinly disguised condensation of the 1963 *Horizons* directory—but the fantastic goof of all time was that the new directory, while claiming to list "each and every item" slipped up on many companies, including *International Crystal*—which is one of the major companies in CB, and also in Oklahoma City, home town of the directory publishers! Oh hum!

Another recent laugh was the "questionnaire" which the ACBA sent out to their members. Many members were so infuriated by the questions that they sent them here for me to look at, as if I could do something about them. As a result I think that S9 received more of these things back (with the questions unanswered) than did the ACBA. Some of the questions which the ACBA asked their members included gems such as "Do you ever talk to skip stations?" "Would you take part in a long distance relay?" (they're illegal on CB), "Do you think the ACBA is an anti-FCC organization?" "Did you join the ACBA because you were told or thought it would fight the FCC?" and "If your dues were increased to \$4 for membership and Journal, would you remain a member?"

Other questions asked if the ACBA should become snotty ("forceful") with the FCC, and inquired as to how many FCC citations were earned by the operator (maybe they're giving out an award for the King of Citations). No less than four questions were asked, in loaded terms, with the intended aim to get the members to condemn Part 15 units and suggest that ACBA headquarters should get the FCC to "do something to eliminate unlicensed walkie talkie interference."

Of course, the ACBA neglected to ask for useless questions, such as the name and address of the operator, or his age. Since no age or geographic data can be determined from the questionnaires, no valid statistical conclusions on a national basis can be derived. All they accomplished was a few less members. The ACBA seems to be its own worst enemy.

### LATEST USE FOR CB?

What with all the commotion about the proper and improper uses of CB, and all the FCC warnings, official notices, show cause notices, etc., etc., we wonder about the *need* for the CB rig at the Tuscaloosa, Ala., national headquarters of an organization which is known as *United Klans of America, Knights*

Tell your friends about S9	S9	S9	S9
	S9	S9	S9

of the Ku Klux Klan, Inc.

I know that the FCC is very adept in nailing the CB'er who dares to say one single unsubstantive "hello" to a friend who happens to share his channel. Perhaps the FCC feels that the KKK, which is on the U.S. Attorney General's "list" of odious organizations, has substantive messages. We can just imagine what they might be. Just a thought.

### CLUB OF THE MONTH

We didn't think it was possible, but someone actually came up with a "national CB club" which is even wilder than ACBA was at the height of their audacity.

Notification of the existence of the club comes from S9 reader Stanley Schneider, KBI-9512, Bronx, N. Y. Stan says that he received an invitation to join a Newark, N. J. national club. To join he had to prove that he owned a halfway decent car and the facility to monitor Channel 22. His car had to have two Army blankets, first aid kit and a knowledge of first aid, two red flares, two gallons of gas, a compass, an axe/hammer combination, a crow bar. He would have to monitor Channel 22 for a minimum 5 hours a day and be on 24 hour call, 7 days a week. Also, he had to send \$5 to club headquarters.

I have a big picture of Stan sitting there listening to Channel 22 for years and years, just waiting for his chance to "serve." Stan says the whole thing made him chuckle when it came in the mail.

### CONFIDENTIAL REPRINT

The article "CB Confidential" which we ran on page 9 of the June issue went over rather well and many requests for reprints came in from clubs and individuals. We have never before done any reprints but since the article is of such importance, we ran off a limited number of reprints. "CB Confidential" is the only article we have ever come across which spells out in plain, straightforward, man-in-the-street talk, just what you should and shouldn't do on the 11 meter band—it answers 90% of the questions which you write to ask us about.

The reprints are free (1 to a customer), if you send us a stamped, self addressed envelope. Bulk orders are 25¢ for 10 copies, plus 10¢ postage per order. Write to: "CB Confidential," S9 Magazine, 14 Vanderventer Avenue, Port Washington, N. Y. 11050. Don't do us any favors, these are less than "cost," there aren't too many of them, and they'll probably go fast. You will be the one who might suffer in the long run if you don't have this information. These reprints are dandy for passing out at club meetings or for inclusion in the next issue of your club paper.

### HOPPING MAD

One of the ACBA's angry young men sent out a wild hate-S9 letter to all ACBA Directors. This was in response to our little story about the "ACBA booze party" in the July S9 (page 60).

The ACBA letter seems to imply that the party either never took place or that the ACBA people didn't pick up the tab, it's hard to tell from the wording used. However, it *did* actually take place, just as reported in S9.

Mr. ACBA goes on to advise the Directors that when he sees them he would tell them "some other things about the so-called Editor of S9 that will be quite revealing." So you see that perhaps yours truly has some dark shady past which is now on the verge of a violent revelation. When I read this I immediately purchased a trench coat so as to look the part which ACBA has invented for me.

One of the ACBA Directors is a "double agent" (that is he is with the ACBA but keeps S9 fully informed as to the nutty goings on) tells us that the ACBA blackmail squad has



Drunk again?

secured from the deposed ACBA dictator, Bob Cooper, a set of hilarious photos which we took back in the old *Horizons* days. These were to be the accompanying photos to a story on how to build a vertical antenna out of beer cans which were soldered together end to end. The shots show yours truly in various stages of readying the cans for soldering (they had to be empty, get it?). Anyway, we painted on

false can opener marks on each of the beer cans (we really didn't open any of them in the office) and we were going to take some shots of soldering them together to top off the illustrations for the article. What happened was that, since it was a Sunday afternoon, I went home and Bob Cooper, who took the shots, couldn't figure out how to solder the cans together. It was finally decided that the whole project was really pretty stupid to begin with and, until now, that was the end of it. Our inside man in the ACBA somehow obtained and sent us a smuggled set of these photos and I must say they certainly brought back fond memories of the gay old *Horizons* days in California.

Someday we'll run the *whole* set for you and you'll roll on the floor. In the mean time we will let the gang at ACBA try to figure out who it is within their ranks that has been so generous in leaking out the supposedly "secret" ACBA facts all these months.

### THANKS

Perhaps I haven't taken time out to tell you something which probably should have been said months ago (or, maybe I have said it and don't recall), but I did want to comment on the fact that I have been with a number of electronics publications over the past few years and have yet to come across any group which equals *S9ers* in spirit, individuality, and cooperation. In a word, you're *real folks*, as we used to back home—you have always come through when we've asked you for a lending hand, whether it was giving us a plug with a prospective advertiser, or sending in for some kind of survey we were taking.

I'm certain that there isn't another Editor in the world with so many wonderful friends and supporters. I wish that I could meet every one of you personally and I hope that you will always find our efforts at *S9* worthy of your continuing support. Thanks.



### ANTENNAS

*Continued from page 57*

replaced.

If you blink at the idea of the cut-and-try method, another technique is available. It's not quite as efficient, but can improve performance. You'll need a piece of thin pipe, which is able to slip over the top section of the antenna. Length of the pipe is approximately an inch. Slide the pipe up and down, over the whip top section. At some point SWR should drop . . . and the pipe is taped permanently at this point. The function of the pipe, in this instance, is to electrically shorten the antenna—which brings the resonant frequency up into the CB band.

Some CB'ers might wish to use the pipe method simply as a means of determining

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whether the antenna is actually resonating below the band. (Too long, in this case.) If the pipe is able to resonate the antenna, this is evidence that the turn-cutting approach will work. (Owners of a grid-dip meter, however, would be able to use this instrument to find the actual resonant frequency of the antenna, to be described in a future column.)

The final method applies in those rare cases where high SWR is being caused by antenna that is electrically too short, and thus resonates somewhere above the band. It requires the same pipe section described above. The difference is that the pipe must first be sawed in half *lengthwise*. You end up with two half-cylinders. One of the half-cylinders is slid up and down the top section of the antenna to find the lowest SWR reading on the meter. Once it's found, tape the pipe section in place. By adding capacity to the antenna turns, the pipe electrically lengthens the whip, thereby lowering its resonant frequency back into the CB band.



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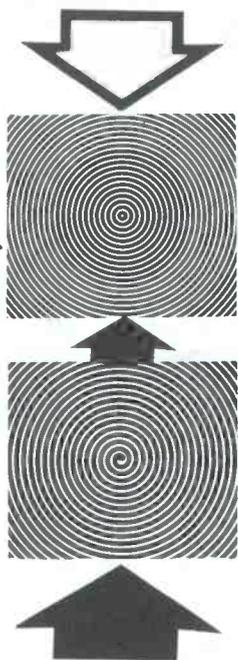
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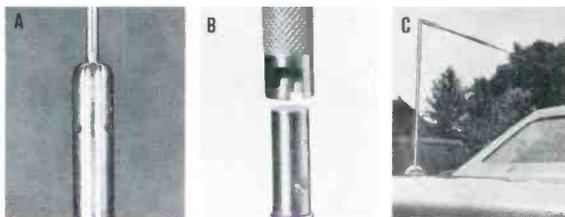
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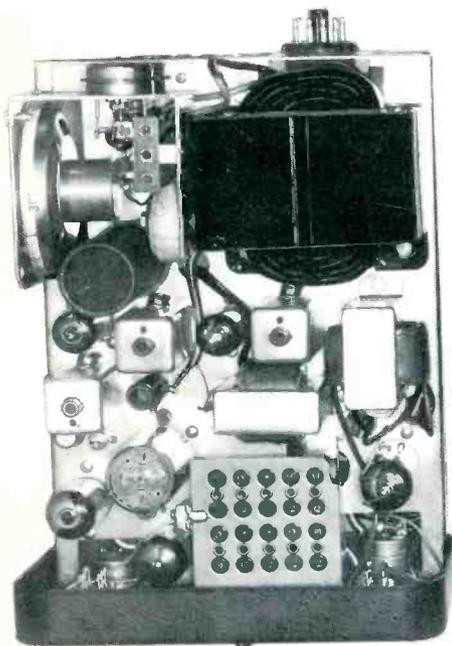


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