

7 ONE EVENING CB PROJECTS BY KYLE — P. 19

S9

JANUARY 1965

50c

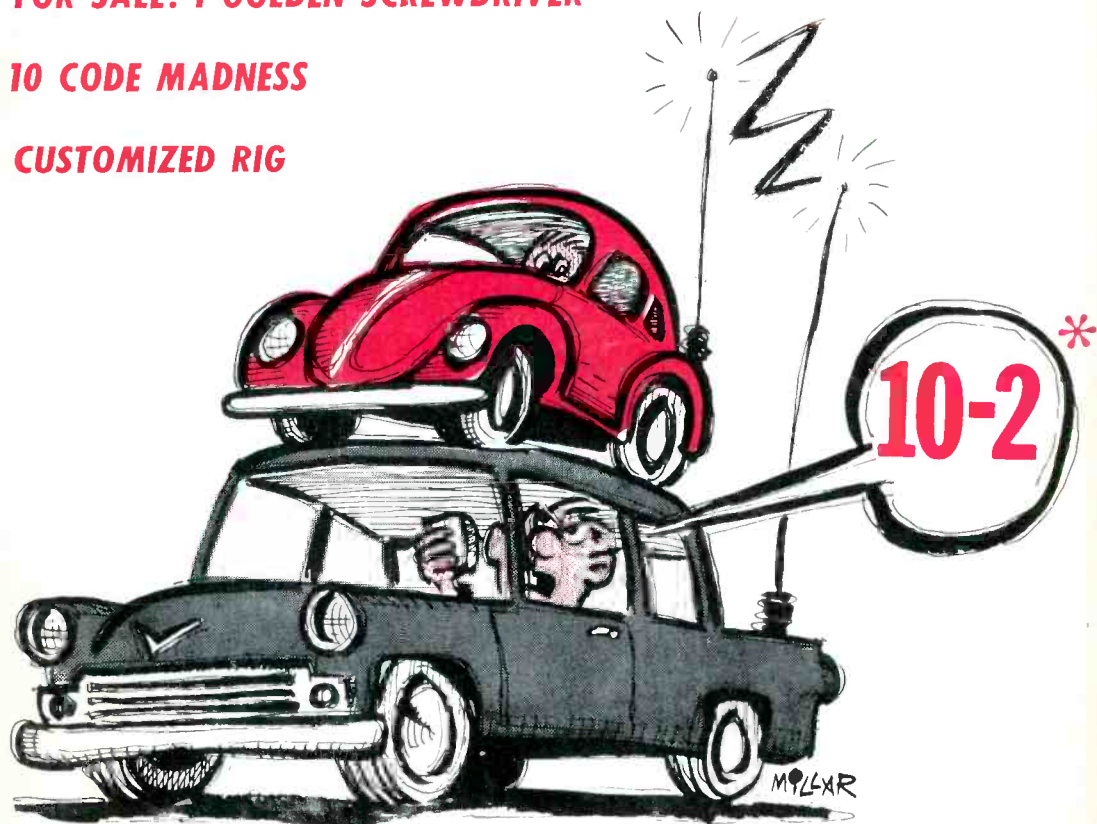
the citizens band journal

TALKING THE PLANK

FOR SALE: 1 GOLDEN SCREWDRIVER

10 CODE MADNESS

CUSTOMIZED RIG



* Translation between pages 16 and 17

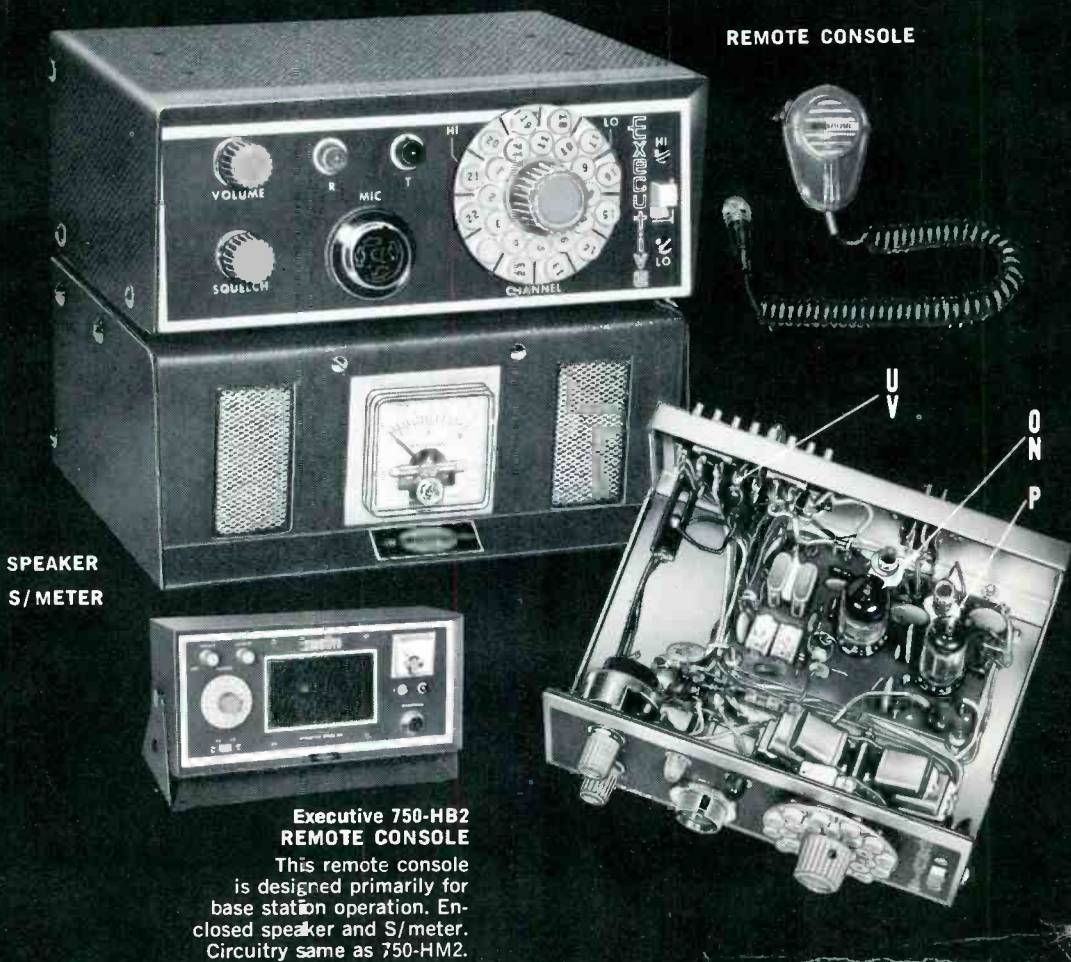
The OFFICIAL CB RADIO MAGAZINE

International's Executive 750-HM2 transceiver with 24 built-in test circuits, is truly the most versatile transceiver manufactured for Citizens Radio communication. • At the turn of a switch, the test circuits provide a fast and positive check on the operating performance of receiving and transmitting circuits

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CITIZENS BAND
TRANSCEIVER**



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S/METER**

REMOTE CONSOLE

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a sensitive and selective dual conversion receiver combined with a highly stable and efficient transmitter. The 23-channel crystal controlled transmit and receive frequency selector circuits are housed in the remote console. ● Features include a new delayed / expanded AVC, new speech clipper/filter amplifier, new built-

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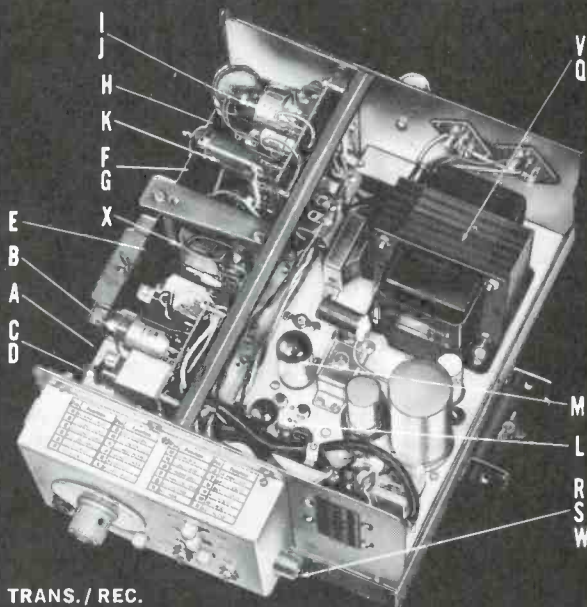


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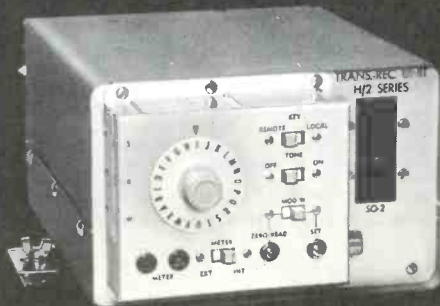
TEST SWITCH POSITION

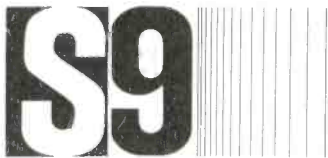
CHECKS FUNCTION

- A RF Amplifier Cathode
- B 1st Converter Screen
- C 2nd Converter Screen
- D 2nd Rec. Osc. Grid
- E 1st IF Amp. Cathode
- F 2nd IF Amp. Cathode
- G 2nd IF Screen
- H Rec. S/Meter-Trans. Audio Out
- I 1st Audio Plate
- J 2nd Audio Cathode
- K Audio P.A. Cathode
- L Buffer Grid
- M Rec. Relay Voltage-Trans. P. A. Bias
- N Trans. Osc. Grid
- O Trans. Adder Grid
- P Channel Osc. Grid
- Q Power Supply B+ Voltage
- R Reflected RF Power
- S RF Power Output
- T Bat.+ Volts Neg Gnd.
- U Bat.—Volts Pos Gnd.
- V Fil. Voltage Level
- W Percentage of Mod.
- X Rec. & Trans. Audio Level



TRANS. / REC.





the citizens band journal

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

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STAFF

editor **Tom Kneitel, KBG4303**

edit. asst. **Lilia Neira, N-1812**

Canadian editor **John Burnup, XM49-405**

club editor **John Krejc, KBI8077**

contributing editor **Lee Aurick, KCD5514**

overseas editor **Herman Fong, 21W0170**

part 15 editor **Dean Detton, N-17**

contributing editor **Jim Kyle, KEG3382**

adv. representative **Dick Cowan**

adv. representative **Jack Schneider, 2W5669**

circul. mgr. **Hal Weisner, KBG4528**

prod. mgr. **Cary L. Cowan, KBG4036**

publ. consultant **David Saltman**

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Z-13P



Z-9R

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READER MAIL

CHANNEL 22A

Tom:

My new CB rig offers a Channel "22A" on the channel selector. What's the story on using this channel? I thought that CB had only 23 channels, with 22A it makes 24.

Bill Davison, KKK6812
Ventura, Calif.

Rigs having frequency synthesis can frequently produce this particular channel (which is on 27.235 mc/s). This is NOT a CB channel and may not be used by CB'ers. It's only authorized use is by certain stations in other radio services which are specifically authorized to use the channel with FCC type accepted equipment. Our advice is to pretend you never heard of Channel 22A.

THAT OL' TIMER

Dear Tom,

I always enjoy reading articles in S9 which are written by someone who signs himself "The Ol' timer." Why doesn't this talented fellow sign his name and call sign on these articles? Who is he?

Tom Wilkerson, PACIFIC 720
Kirkland, Wash.

The so-called Ol' Timer, by his own choice, remains an unknown immortal. His articles arrive here from the mid-west, do not bear any return address or signature, and despite repeated efforts on our part to identify him, he seems to have been able to cover his tracks. His reasons? We really don't know, but we suspect that he treads on a few too many toes to want to make a celebrity of himself.

FROM ENGLAND

Dear Sirs:

Since you ran my name in S9, a few months ago, I haven't stopped receiving cards for swapping. It's in the hundreds now and I don't think I'll ever get caught up on them. Please tell S9'ers to hold off.

Pete Jackson, G-9703
Warwickshire, England

CALLING CHANNEL

Gentlemen:

Your promotion of Channel 9 as the National CB Calling Channel is indeed a valuable contribution to the CB Service. Its proper use would at least double the present utility of the band. Let's get everyone working on it!

John B. Holmes, Jr., KKT3776/W5ALG
Houston, Tex.

S9—

Members of the Utah Citizens Band Association, at a general meeting on November 10th agreed with my recommendation that we concur and cooperate

in your campaign to establish Channel 9 as the National CB Calling Channel.

William A. Boldt, KLE2186
Director of Public Relations
Utah Citizens Band Assoc.
Salt Lake City, Utah

Dear CB'ers,

Hats off to S9 with the National CB Calling Channel. Penalties should be worked out for those who tie up this channel.

Jon G. Batley, KH11466
Cleveland, Ohio

We are very pleased with the reader response to the Channel 9 plan which was outlined in the November issue of S9. It's up to our readers to carry the ball on this idea.

10 CODE

Sirs:

Where can I get some copies of the CB 10 Code?
Guy L. Roese,
Mineola, N. Y.

Tom:

Please send me 3 copies of the National CB 10 Code.

Shannon Nichols, KKK2438
Hopewell, Va.

Copies of the CB 10 Code are still free and available by request (and with a stamped, self addressed envelope) from: 10 Code, S9 Magazine, 14 Vanderver Ave., Port Washington, N. Y. 11050. Requests for more than 20 copies should be on a club letterhead and signed by an officer of the club.

ACDA

Sirs.

Rush my membership certificate in the ACDA. Sounds like a perfect way to blow off excess steam.

Ed Childs, Secy.
Wawenock Trailblazers CB Club
W. Southport, Me.

Tom,

Please enroll me in the Association to Condemn Detrimental Associations (ACDA), it's the best organization I've ever heard of. Say, did the "other one" fold up yet? I've heard rumors.

Kurt Heinrich, KHC3731
Franklin Park, Ill.

Dear Sir:

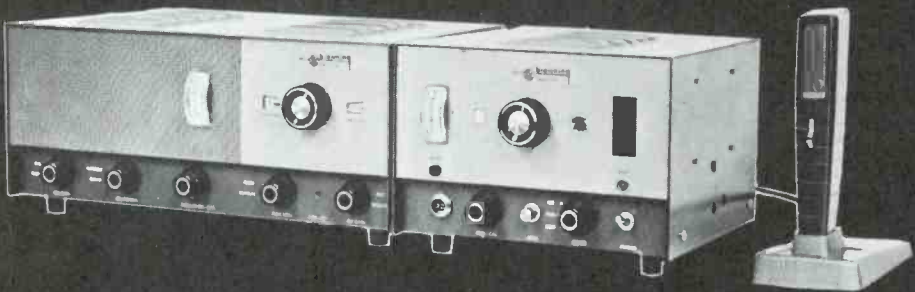
How about sending me that famous ACDA "chintzy" membership certificate.

Ben Michel, KLD0488

Dear Mr. Kneitel,

Keep up the tremendous work you're doing with

Continued on page 74



My name is Browning Eagle and I've got a secret.

Shhh! If you would like to belong to the world's most exclusive CB radio club, just write to us and we'll send complete details and a free copy of our latest catalog. Recently someone wrote and asked, "Is the Browning Eagle base station expensive?". Heck, no! Not when you consider that you're buying the best there is. Everything's built in, no extras to buy. The Eagle gives you more features than any other make. You can send and receive over greater distances on the same amount of power. It's a depend-

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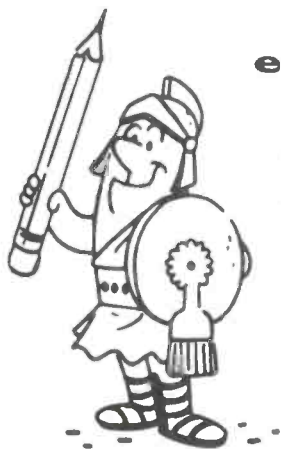
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editorial

KBG4303

rides again!

by TOM KNEITEL
EDITOR, S9

PUBLIC IMAGE—YEAR 7

This coming September the Class D service will be seven years old—and its been a rough grind all the way. In this span of time we saw the service born from a scraggly group of pioneer experimenters using makeshift equipment; today we are almost a million strong and our equipment reflects the latest developments in electronics coupled with slick exteriors.

Everything has grown *except* our image—despite the fact that CB'ers have proven their worth to the community time upon time. What are the reasons for this and what can be done to give the service a better public image?

First off, let's get one thing straight—the CB service has generated, within its own ranks, many *bad*-will ambassadors. If you've been active on the band for a few months you'll know what I mean, I couldn't go into a full description in this issue. Next, we have come under fire from many members of the ham fraternity (as discussed here last month) who are still disgruntled over the FCC's locating of the CB service on a little used ham band. One surprising sidelight is that there are about 35,000 ham operators who entered radio through the gates of the CB service—many of these fellows can be heard today on the ham bands poking fun at CB'ers.

In addition to the foregoing, we have had our share of "nut" clubs which, in the name of "all CB'ers," try their damndest to irritate officials at the FCC.

Lastly, we have suffered from a rather poor press in the nation's newspapers. All interference seems to be blamed on CB operators, regardless of its true source. Just recently both the *New York Times* and the *Washington Post* devoted considerable editorial space to the fact that CB'ers are creating most of the interference being heard and seen on TV sets. Hidden away in a remote paragraph was a brief explanation that the interference is usually the cause of faulty TV receiver design and not the result of improper CB operation. Anyone who

read either story, however, immediately got the impression that, regardless of whose fault it was, if there were no CB'ers there wouldn't be any problem of TVI.

These, and other factors, have been tossed into the pot to give us a heavy burden to overcome. This coming year let us all give our utmost to promote CB to its best advantages in the eyes of the general public. Each club, each individual, has a responsibility to support the CB service—to give the service just a little more than the honor of their presence. Keep your local newspapers fully informed of the community services provided by the CB service, be careful of the CB clubs and causes which you support, try to educate those few hams who remain disgruntled (invite them to a club meeting), and participate in programs intended to provide public services.

WE CHECKED

A common question and subject for CB debate is about the proper name for the various units in a CB system. Do you call the units "Unit 1 and 2," "Base and Mobile," or "Control and Mobile"? We asked the FCC in Washington for some guidance and their word is that the rules say only that you give your call-sign, the names of the individual units is strictly up to the individual operators. So, it would be proper to identify the same station with the following names: "KXX2211 Base," "KXX2211 Control," "KXX2211 Factory," "KXX2211 Unit 1," or even "KXX2211 Irving." It's the FCC call-sign which is really the important part of the station identification.

Another often asked question is whether Canadian CB'ers are (or will be) able to operate their CB gear while visiting the United States. As you probably know, U.S. CB'ers may operate in Canada under the newly created "Tourist Radio Service."

The FCC people tell us that it will *not* be possible for Canadian CB'ers to operate in the States, as such operation would be possible

Continued on page 73

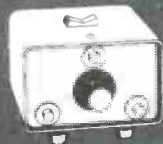
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TALKING THE PLANK

A TRUSTY OLD 2x4 BOARD BECOMES AN ELEGANT CB ANTENNA

by GILBERT OSMOND, 1W3324

There's nothing fancy about this antenna, it gives exceptional results, it's inexpensive and simple to construct and — and *nothing*; what more could you ask for?

Our plank antenna consists of a 2 x 4 board at least 11 feet long, 9 feet of 300 ohm open line TV lead, three stand-off insulators, and a grounding pipe. Here's how you hook all of this miscellaneous hardware together to enable you to "talk the plank."

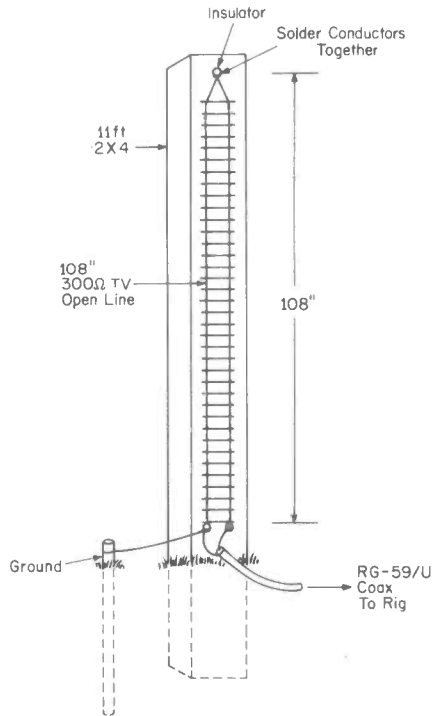
CONSTRUCTION

Since the plank will need some weather-proofing, the first thing to do is to brush on a coat of linseed oil. When this dries (and it should take the better part of a day), give the board a few coats of spar varnish or any other material which you have handy.

When this is dry you can get to work on the electrical portion of the antenna. First, place a standoff insulator (E. F. Johnson 135-24 or equivalent) at one end of the plank, attach it to one of the 4 inch surfaces, in the center.

Measure off exactly 9 feet from the insulator and, on the same side of the plank, place two additional insulators of the same type. Place them side by side. This leaves you ready for stringing the actual radiating portion of the antenna.

The antenna radiator is comprised of a 9 foot length of 300 ohm open line TV twin lead, such as in the 1965 Lafayette catalogue on page 375 (stock number 34-G-4610) with the 1-inch spacing between conductors. This stuff is popular for UHF TV installations and your local TV service shop should be able to provide you with a 9 foot length for about 25¢. If you can't obtain the lead with the 1-inch spacing, the ½-inch type will also work.



Solder the conductors together at one end. This is the end which goes to the top of the antenna (the end with the single insulator). Place the junction of the two conductors in the threaded portion of the insulator and tighten the nut. A dab of epoxy or nail polish here would add to the weatherproofing.

The other end of the twin lead is run down towards the two parallel insulators. Do *not* solder the conductors at this end. Place the two conductors in the insulators, one in each



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.01% Tolerance . . . \$1.50 ea. — 80 meters (3701-3749 KC)
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FT-241 Lattice Crystals in all frequencies from 370 KC to 540 KC (all except 465 KC and 500 KC) \$1.25 ea.
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— but do not tighten the nuts yet.

Now it's time to decide where you are going to plant this antenna — yes *plant!* When you have selected a spot, dig a hole there about 2 feet deep. A fence post digger would come in handy here because the hole doesn't have to be very wide since it has only to accommodate the 2 x 4 plank.

About 6 inches away from the plank-hole, sink your ground rod. We used a 6 footer (Lafayette 18-G-7216GWX) which can be purchased for less than 70¢. Getting this thing banged into the ground can be a little time consuming and rough on the old biceps, but it can be done with a little patience. If you live in an area where the ground is frozen when you are trying to install this, forget it and locate your plank near a water pipe. The water pipe can be your ground. Another way of accomplishing all of this is to spread out four wire radials at right angles to each other. Each of these should be 108 inches long. Bury them in the ground a few inches below the surface.

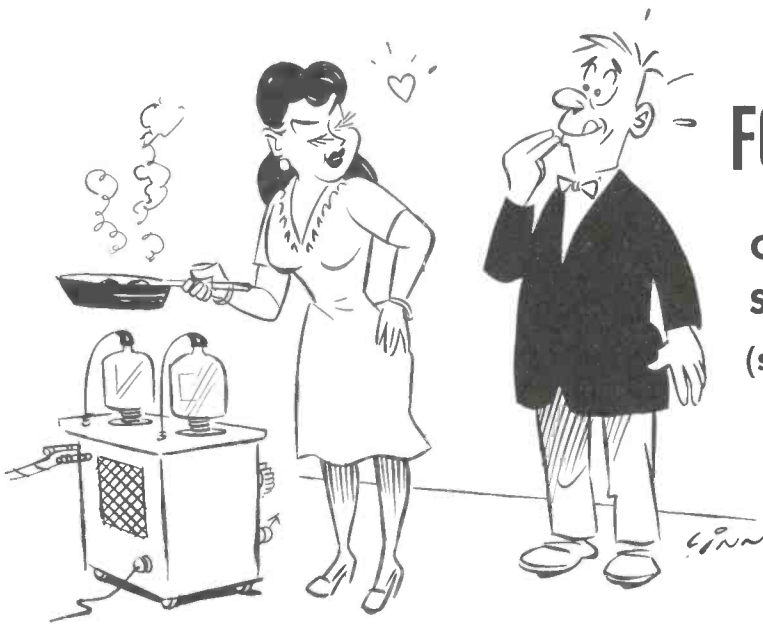
Now comes the part where the coaxial cable is connected to the antenna. Since the input impedance of this antenna is about 100 ohms, you will get better performance by using 72 ohm coax rather than CB's old standard 52 ohm coax.

Solder the center conductor of the coax to one side of the antenna, about an inch below the insulator. A short wire is then run from the braid of the coax to the wire end which goes through the other insulator. A third wire is also hooked into this junction, this will be to the ground rod.

Now place the plank into the hole which you dug. Pack the dirt in around the edges to make it a snug fit. The insulator nuts can now be tightened, the wire to the ground system connected, and the coaxial cable run to the transceiver. Weatherproof the connections from the coax at the base of the antenna by means of several layers of plastic electrical tape. If you wish, you can improve the appearance of the installation by burying the coaxial cable a few inches beneath the ground on its run back to the shack, although the coax will have a shorter life span if it's buried — unless you make a deluxe installation by running the coax through some metal tubing before it's buried. You can get steel TV masting for about 13¢ a foot.

Tuning up the antenna isn't difficult if your CB rig (like most) has a pi-output net. Just tune the antenna trimmer for maximum signal strength on a field strength meter (with the rig's mike button pressed in, of course).





FOR SALE:

**ONE GOLDEN
SCREWDRIVER
(slightly used)**

by **MARY M. HEROD, KKA-nuttin-529**

Well, hell-oooooooo d'ere, long time no modulate! C'mon back, this is KKA nuttin 529 atcha. Let's 10-63 to Channel 24. Part 59 rule on chitchat, is that a big 10-7?

Happy to hear I'm blasting in. If you knew my 10-4, that would be a bigger 10-20, than you think.

Wrong numbers? That's because I have an inferiority complex. Goes way back to the day the FCC notified us that from then on, I would be known as "nuttin." What a revoltin' development that was, but when the FCC sees fit to register you as nuttin, that's what it is—nuttin. Now, I can't remember numbers any more.

This is a new rig I'm working off now, so it should be right up there, but that's what I wanted to tell you about.

The last time I copied you on the old set, you gave me a reading of 8. Man, I got shook. Even on a Scotch meter, the signal should have been better than that, with the set shut off, so I pulled the plug.

My better half always pleads poverty, when something needs fixing, so I decided to take a day off and check everything out myself.

I had to go on a shopping spree to get a few incidentals like a schematic, a big ladder, a solder gun, and a golden screwdriver.

Did you ever shop for a golden screwdriver? The clerks look at you like you're from Mars.

The most ridiculous purchase of all was the schematic. Who needed it? I'm not that stupid, huh?

The rig was in worse condition than your reading indicated. When I tried to turn it on, and nothing worked, I knew I really had an all day job on my hands.

First of all, the coax cable had to come off. All that needed was a little soldering.

The most logical thing to tackle next was the mike. If you can find the screws, that hold that case together once you take them out, you're a better technician than I am. The inside was in fair condition. It only took half an hour to straighten it out.

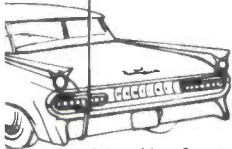
The ground was only partly on. Three wires weren't even attached. How does that grab you for sloppy assembly? How could you get top performance like that?

Then I took the case off the rig. What a mess of jangled wires, fuses, capacitors, coils, and transformers all crowded together like sardines. It looked like Grand Central Station on New Year's Eve.

The soldering gun I bought sure came in handy at this point. Obviously, someone had really fouled that set up; so in no time I had the gun on and we were ready for business. The iron had two lights; red indicating low heat and green for maximum. Well, you know what happens when a woman gets the green light. I was as busy as popcorn over an open flame, trying to get as much done as possible before the blinkin' light turned red. The gun burned out before I did, so that finished that.

There wasn't anything more that could be done, but put the thing back into the case. Now, I had problems. For some rea-

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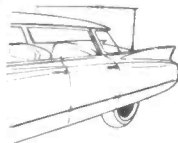
Under field test conditions this antenna outperformed any other CB unit and maintained a 1:1 standing. Wave Ratio over entire CB frequency. It's stainless steel with layover extension and weathersealed center loaded coil plus flexible 17-7

PH whip. Can be mounted anywhere on car for dependable performance. Removable whip steel. Can be cut to frequency. Fits any 3/8-24 thread mount. Overall length is 6'3". 11 Meters, 27 Megacycles. **MODEL CB-35**

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Model CB-32 — 16.95 Net

This 83" antenna has stainless steel lay-down extension with 47" top loaded fiberglass whip for radiation efficiency and increased range. It has simple peaking adjustment and more than 4 db signal to noise improvement. Matches 52 ohm coax cable. 11 Meters, 27 Megacycles.

Model CB-33 — 16.95 Net

Same as CB-32 except whip is only 18" and overall length only 57". 11 Meters, 27 Megacycles.

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son, the kooky thing wouldn't fit back in.

It was getting late, so I got the ladder out and climbed up to examine the antenna. Nobody ever mentioned how flimsy those things are made, but experience is still the best teacher. The center pole looked good and secure, but the radials were somewhat off. Working from the pole I walked out a bit to level one of the lower radials. The incline of the roof was much steeper than it looked climbing up, so I lost my footing. Naturally, I hung on to the fool thing, looking like, "Me, Jane" until the radial snapped. My high heels caught in the rain gutter breaking my fall. (Well, you didn't expect me to get up there with just my sunglasses on, did you?) Reluctantly, I made my way down the ladder, a piece of antenna still frozen in my grimy fist. By that time, it was really late, and something had to be done before Mr. KKA 0529 came home, so I threw the whole cotton pickin' mess in the car and brought it to a new electronics store on the main drag so they could finish the repairs. It wasn't that I gave up, there just wasn't time.

Well, now, let me tell you, you never heard such a commotion as there was in that goody shop over my rig. They asked all kinds of questions, walked around it, held it upside down, sideways, every way. My technical knowledge floored them. The things I know haven't made the books, yet. They nodded and shook their heads in utter disbelief, as I detailed my work.

Finally, the VIP's in the store had me stand by, while they had a consultation. When it was over, the Manager asked if we could make a swap deal. He showed me the rigs I could choose from. Like I said before, I'm not stupid, so I asked him how much it would cost. He showed me a bill of sale marked paid, so it was a deal.

Since that time, it has occupied a priority space in the main show window with a sign reading, "Has RIG-A-MORTIS set in, etc., etc., etc.?" They are making a fortune selling new sets with that ad. I probably have contributed more to technical progress single handed, than any other flock of their technicians put together, and they are taking full credit, mind ya.

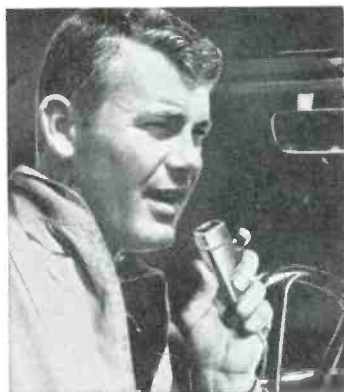
If it hadn't been for the fact that we received a bill in the mail for \$249.99 for working supplies, my husband still wouldn't be aware that there is more than one genius in our family. Man, are those golden screwdrivers ever expensive!

You'll never guess what the trouble with the old set turned out to be. It came to me after some forced meditation. I forgot to put the plug back in!

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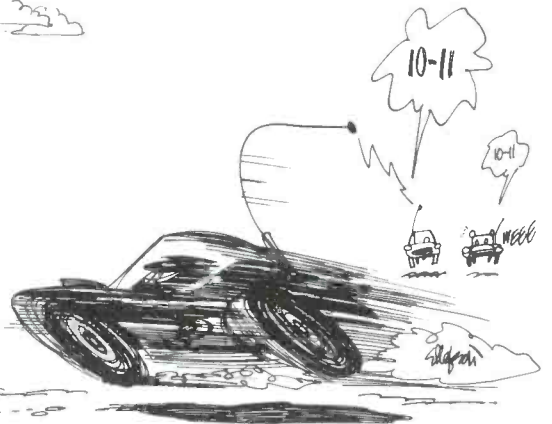
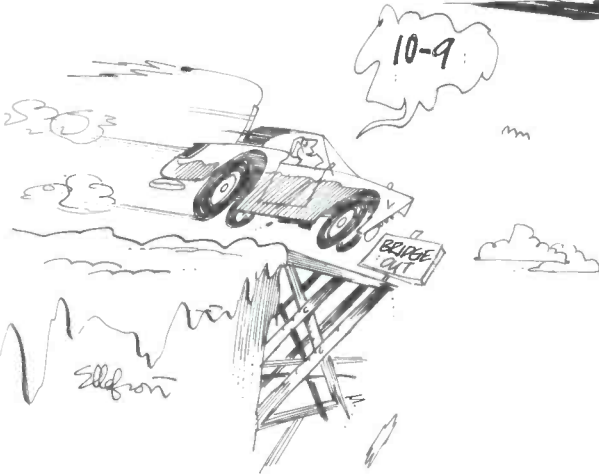
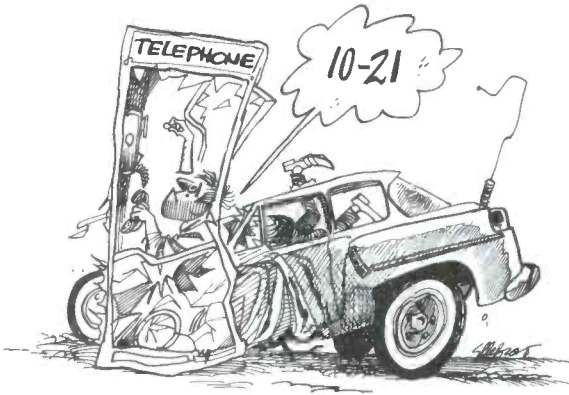


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10 CODE MADNESS!

These cartoons were designed for use on QSL cards made by R. C. Enterprises, 806 W. Carson, Torrance, Calif. We thought that they were clever enough to appear in S9—so we hope you like them. For those of you who aren't conversant with the CB 10-Code, you can dig up the punch lines on the insert between pages 16 and 17 of this issue.





CONTEST

WINNER

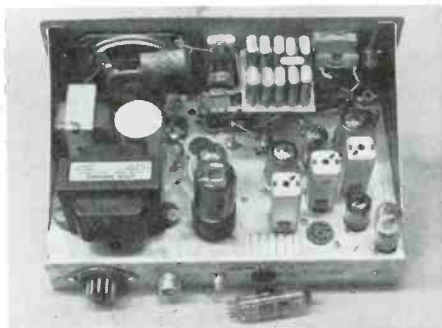


THIS ONE'S A BEAUT!

Take a few guesses as to what kind of rig this was before conversion to a custom unit. Give up? Well it *was* a Lafayette HE-15B; that was before Lewis Dunwell, 2Q4907/WA2ZVI, of East Quogue, N. Y. got his fingers into it.

Lew entered this rig in our customizing contest and won in a breeze with this beautiful job. He hasn't picked an official name for it yet, but he leans towards the handle "Li'l Stinker."

The first addition to the unit was a relay for push-to-talk, then a Lafayette HE-20 carbon mike circuit was added to the original mike jack for a telephone handset. Another IF stage was added which gives what Lew calls a "fabulous" improvement in reception. In the photos you can see the additional IF stage located between the original IF cans. Near the rear deck are two additional tubes. In the empty tube socket goes a 12AZ7 to complete a TNS noise limiter. The tube in the corner is an



S-meter amplifier. The S-meter is from a Utica T&C II. The 12 channel crystal socket is an International Crystal job.

Continued on page 75

***se·lec·tive** (sĭ lĕk'tĭv) *adj.*

having the function or power of selecting; making selection characterized by selection. *1. Radio.* having good selectivity of being... *2. Elect.* ins... like, by vi



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Illuminated, angled front panel. 23-Ch. tunable receiver with illuminated dial. 8-Ch. crystal-controlled transmit & receive. 1-Ch. external crystal socket—transmit & receive. Transistorized power supply. Illuminated S & RF meter. Crystal spotting. Electronic switching. PA system jack. Complete with: microphone, cords, 1 pr. of crystals and snap lock mounting brackets. Cigar lighter plug-in, easy to install. Nuvistor low noise front end.

Illuminated S & RF meter. Crystal spotting. Electronic switching. PA system jack. Complete with: microphone, cords, 1 pr. of crystals and snap lock mounting brackets. Cigar lighter plug-in, easy to install. Nuvistor low noise front end.

USL T 1050 A \$11995



23-Ch. tunable receiver with illuminated dial. 6-Ch. crystal-controlled transmit & receive. Illuminated S & RF meter. Crystal spotting. Earphone jack. Nuvistor low noise RF front end. 6V or 12V power supply available (optional extra). Unit comes complete with: microphone, AC and DC cords, 1 pr. of crystals and mobile mounting brackets. Squelch & full series noise limiter. TVI trap. Signal-to-noise ratio: better than 10 db at 1 microvolt. Full plate modulation.

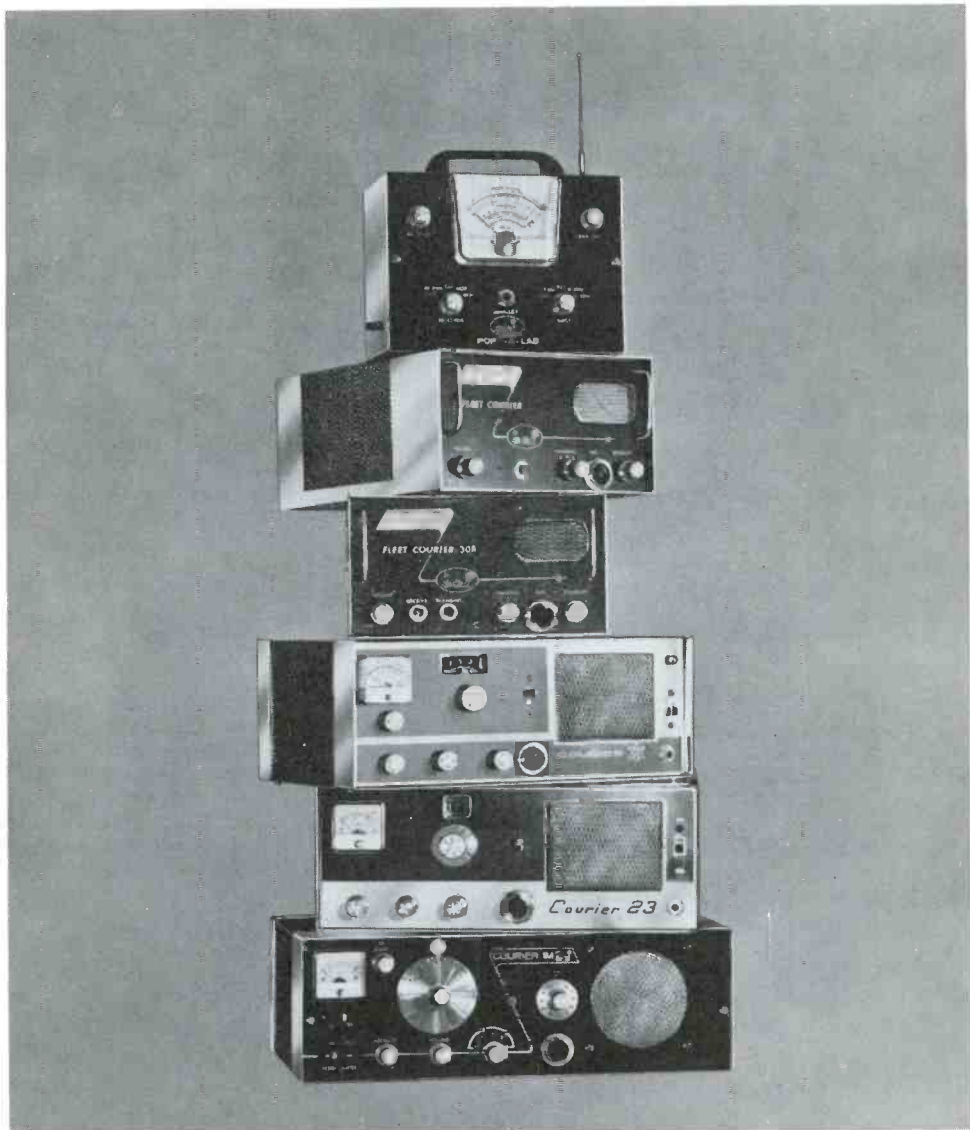


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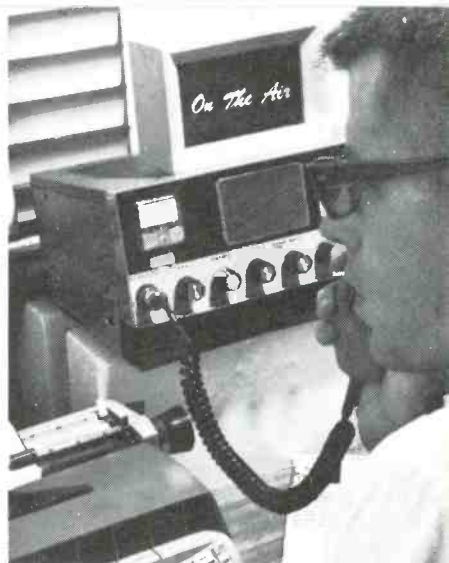


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CB's Simple Seven

by JIM KYLE, KEG3382

A WEEK'S WORTH OF ONE-EVENING CB PROJECTS



Wintertime's here and the evenings are getting pretty long. This is a fine season to heat up a soldering iron and learn a little more about basic electronics by putting together some small accessories for your CB gear.

Just to help out along these lines, we've whipped up a batch of projects for you. All are designed to occupy no more than one evening in construction time, and cost is correspondingly low. However, all of them have some usefulness in your CBing (though some of them won't appear to at first glance).

You don't have to be a whiz at this electronics game to enjoy these projects, either. About the only special skill required is that of making a good solder joint, and this you can learn (if you don't already know) in about five minutes. Start the clock, heat up the soldering iron, and let's get with it.

The secret of a good solder joint is heat and enough of it. Contrary to the ideas of many beginning constructors, almost no solder itself is required. Next to heat, cleanliness is most important. Let's run through a simple practice job to see how it works.

First, make sure the iron is hot enough that the solder melts instantly upon contact. It must also be clean. To keep it clean, wipe it with a wad of cloth (half a dozen thicknesses are enough to keep from burning your fingers if you wipe fast, and you *should* wipe as rapidly as possible). A clean, hot iron will have a shining silvery appearance.

Clean the ends of two wires. Fine sandpaper is excellent for this purpose, but I usually use the cutting edges of my side-cutting pliers. For larger material I scrape with the edge of a knife.

Melt a single drop of solder onto the tip of the iron and immediately touch this to the joint, so that the molten solder acts as a "transfer" pillow between iron and joint. This aids in getting the joint itself hot. Do *not* assume that the joint is made if the drop happens to stick; what you have is a cold-soldered joint, which is the main cause of trouble in all electronic wiring. Keep the iron in contact with the joint until the wires themselves are hot enough to melt the solder. To test, touch the solder to the wires while keeping it clear of the iron and the "transfer" drop. When the solder melts and flows into the joint, remove both iron and solder supply. Don't disturb the wires until the soldered joint loses its shiny appearance and turns slightly dull.

You'll have best results with "eutectic" solder, which melts at 361° and solidifies instantly. However, this kind is hard to find. Ordinary 60-40 will do nicely, and 70-30 isn't much worse. Steer clear of the 40-60 solder found in many hardware stores; it's almost impossible to make a good electronic joint with this stuff.

Don't use any kind of flux. Buy rosin-core solder; it has enough flux in it for all your needs. And never use acid-core solder; it will ruin all the parts it comes in contact with.

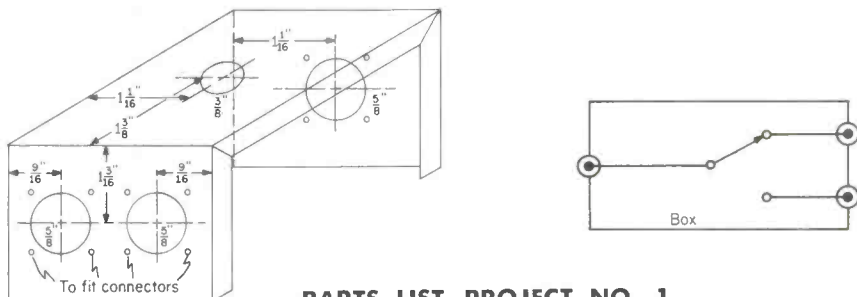
Practice soldering as described here until you can make a complete, good joint in 15 seconds or less. When you get this good, you don't even need to worry about getting transistors or diodes too hot while soldering!

Now let's get to this week's worth of projects. The week, incidentally, is figured at one every night. If you put in an active Saturday on the bench, the whole batch may not last you more than a single day!

PROJECT NO. 1—AN ANTENNA SELECTOR

If your base installation includes either one rig and two antennas, or one antenna and two rigs, you have need of an antenna selector switch. Even if, like most of us, you have only one antenna and one rig, you still need a selector switch, for you can use it to cut in and out a dummy load for *legal* checkout and adjustment of the rig.

While you can buy a factory-built switch of this type for around \$7 to \$8, you can build one for half this cost. Even at the same price, it is an ideal project with which to start this two weeks of construction.



PARTS LIST—PROJECT NO. 1

1 Minibox, $2\frac{3}{4} \times 2\frac{1}{8} \times 1\frac{3}{8}$, Bud CU-2100A or equivalent.

1 Single-section 11-contact rotary switch, Centralab PA-1001 or equal.

Coax connectors to fit your feedlines, one for each selector position plus one extra. If more than three positions are to be used, purchase larger Minibox.

No. 20 tinned copper bare wire; solder.

The first step is to decide how many positions you want on your selector. The commercial ones offer three positions; most users need only two. The basic switch mechanism used allows up to 11. As described here, two positions will be used. When you decide how many positions you want, get all the parts together.

In the way of tools, you'll need a pair of side-cutting pliers, the soldering iron, a pair of long-nose pliers, a hacksaw, and a drill with $\frac{3}{8}$ -inch and $\frac{5}{8}$ -inch (for SO-239 type coax connectors) bits. You can get by without the drill if you have a reamer capable of making a $\frac{3}{8}$ -inch hole and also a $\frac{5}{8}$ -inch chassis punch; with these, you'll need a hammer and nail to punch the initial hole for the reamer.

Start construction by laying out hole locations on the "outside" half of the box (the half which has lips that fit over the other half) as shown in the drawing, and drilling or punching the holes. The layout shown is for SO-239 connectors with two selector positions. If you want three selector positions, ignore the directions for the single-hole end of the box and put two holes in each end. For more positions, or for different types of connectors, make your own layout following the drawing as a general guide to parts placement.

Next, cut the switch shaft to length with a hacksaw and smooth the cut edges. Mount the switch and connectors in place if you are using only two selector positions.

If you are using more than two selector positions, you must modify the switch stop for the proper number of positions. This is done by removing the little metal "teeth" inside the switch front plate, one at a time. Remove one tooth (next to the moving stop) for three positions, two teeth for four, etc. The instruction sheet packed with the switch explains in detail how to determine which teeth to take out. The easy way to remove them is to bend them back and forth with the long-nose pliers until they break free.

When the switch is modified and checked to make sure it is working properly, mount it in place in the $\frac{3}{8}$ -inch hole. Orient the contacts so that the "arm" contact is close to one coax connector and the various switch positions which are being used are close to the others. This will usually require a little compromise; the object is to get all the leads short, even if some have to be a little longer than necessary.

Now, using the No. 20 bare tinned wire, connect the switch arm to one coax connector and the various positions you're using to the other coax connectors. Run the wire as straight as possible and in no event have any sharp bends. If a bend can't be avoided, make it a gentle curve.

Solder all the connections. When soldering to the switch, be careful that solder doesn't run down into the switch mechanism itself and ruin it. If you don't use excessive

amounts of solder there's little likelihood of this happening.

Now trace out, by eye, which coax connector goes to which position. Set the switch as far counter-clockwise as it will go and call this position 1. Mark the coax connector connected to this position as connector 1. Turn the switch one notch to the right for position 2 and connector 2, and so forth. Leave the "arm" connector unmarked. Return the switch to position 1.

The final step is to letter the unit so that anyone can tell what's what. You can use decals, transfer-type such as Letraset, or *Dymo* embossed labels as you prefer. Label each connector. Attach the switch knob so that it is symmetrical; for two positions, have the knob point 15 degrees left of center on position 1 and it will automatically be 15 degrees right of center on position 2. With three positions, center position 2. Then label the various switch positions.

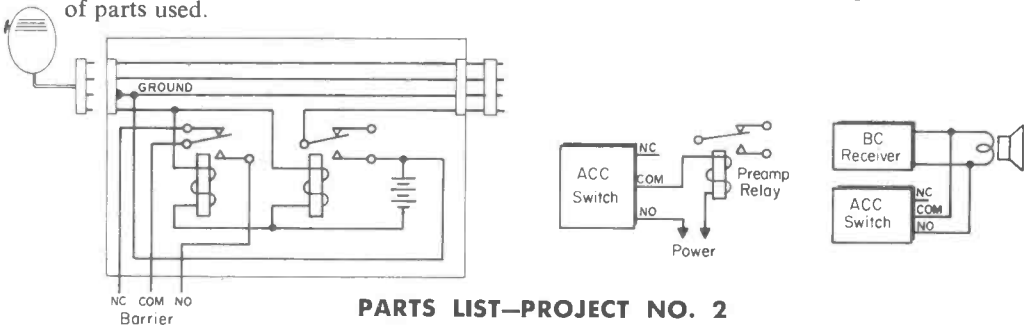
And that completes the first evening's project. Not too difficult, was it? And the item comes in handy all the time.

PROJECT NO. 2—THE ACCESSSWITCH

Quite a few of today's crop of station accessories are of a type which need to be switched along with the transceiver, when you press the push-to-talk button on the mike.

In earlier times, it wasn't too difficult to find a spare contact on the antenna relay to do the job. However, with electronic switching this isn't so easy.

The Accessswitch is an accessory switch, which inserts into the mike line between mike and rig, and will in turn switch any types of accessories. One typical use might be to control the relay which cuts a Nuvistor preamp in and out of the antenna line. Another, not so typical, might be to silence a broadcast or FM radio in the room whenever the transmitting side of the rig is in operation. Cost shouldn't be over \$5, despite the number of parts used.



PARTS LIST—PROJECT NO. 2

- 2 DC relays, 250-ohm coil, 14-mA current rating, SPDT contacts, Sigma model 11F-250-G/SIL (\$1.75 each) or equal.
- 2 Manganese-alkaline 4½-volt penlite cells, Burgess AL-133 or equivalent.
- 1 set Microphone connectors to duplicate those on your mike cord and on your rig.
- 1 3-contact barrier strip, Cinch-Jones 3-140 or equivalent.
- 1 Battery holder for 2 penlite cells, Keystone 140 or equivalent.
- 1 Minibox, 3 x 4 x 5, Bud CU-2105A or equivalent hookup wire, 6" coax, hardware, solder.

Get the parts together, as well as approximately the same tools you used on project no. 1. The hacksaw won't be needed this time, however. From here on in, unless special tools are needed, we won't mention the tools for each project.

Disassemble the Minibox and take the "outside" half again. On the inside, draw a pencil line down the center of the 4 x 5 side, dividing it into two 2 x 5 segments. Place the battery holder near one end of the box with its two mounting holes on this center line, and mark the hole positions. Drill ⅛-inch holes, for 4-36 x ¼-inch screws to hold the battery holder in place. Spot the two relays close together in the clear space near the other end of the box, locating their mounting holes in the same manner. It will look nicer if you mount the relays so that the screws (which can be seen from the outside) are spotted symmetrically either side of the center line.

The reason for telling you to find the hole positions this way instead of furnishing a layout diagram is to give you experience at making your own layouts. As you can see at this point, a much smaller box could have been used for this project.

Mount the battery holders and the two relays. Don't connect anything yet, however.

Spot the female mike connector (the one identical to the one on your rig) on one of the Minibox ends, drill hole, and mount. In the matching position on the other end, drill a ¼-inch hole for the short cord to the rig. This cord can be as long as you like; it should have one conductor for each terminal on the mike plug, whether it appears to be used or not. Connect the mike plug to one end of the cord, keeping track of the connections.

Mount the barrier strip on the end of the box where the mike cord comes out. Don't forget holes for the wires.

Now check the schematic diagram in your rig's instruction manual and find out which contacts on the mike plug are the push-to-talk switch. Most often, one of the two contacts is the common ground for the mike while the other is a switching line. Note which wire is the switching line.

At this point, we're ready to begin making connections. Start at the battery holder. "Strap" together (connect one to the other) the two terminals at the end of the battery holder farthest from the two relays. Connect one of the near terminals to one coil terminal of the nearest relay, and run a wire from this coil terminal to the corresponding coil terminal of the other relay.

Connect the wires of the mike cord to the corresponding terminals on the mike connector, *except* for the switching line. Connect the mike-cord switching line to the movable-arm terminal of one relay. Connect the normally-open terminal of this relay to the remaining battery-holder terminal not yet having any connection to it, and run a wire from this terminal to the common ground wire at the mike connector.

Strap the two relay coil terminals still not connected to each other, and run a wire from them to the switching-line terminal of the mike connector. Test things so far by inserting the two batteries in the holder, plus-to-minus, and plugging in your mike. Both relays should operate when you push the press-to-talk button. If not, check wiring.

Finally, run a wire from the movable-arm contact of the relay having no connections yet made at its contacts to the center terminal of the barrier strip, a second wire from the normally-open contact of this same relay to one of the outside terminals of the barrier strip, and a third wire from the normally-closed contact to the remaining barrier-strip terminal. Label the terminals "NC", "COM", and "NO", for normally-closed, common, and normally-open. Reassemble the minibox, and the project is completed.

To use the Accessoswitch, unplug the mike from your rig and plug the Accessoswitch into the mike jack instead. Then plug the mike into the Accessoswitch. The mike will work normally.

However, whenever the button is pressed to transmit, the Accessoswitch will also make and break contacts at the barrier strip. The NC-COM pair of contacts are a closed circuit normally, but open on transmit. The NO-COM terminals normally are open, but close while transmitting.

To operate a pre-amp cut-in relay, wire the NO-COM contacts in series with the cut-in relay and its power source, as a switch. The relay will be energized while transmitting, cutting the preamp out of the circuit.

To silence a radio receiver while transmitting, connect one wire to each of the two voice-coil terminals of the receiver's speaker. Bring these wires to the NO-COM pair of terminals. Whenever you transmit, the speaker will be short-circuited and the receiver can produce no sound.

Should the batteries fail, nothing will happen when the mike button is pressed. With normal use, the batteries should last for more than a year without attention. In any event, their failure can do no damage.

PROJECT NO. 3—POWER OUTPUT MONITOR

Is your rig still putting out the same amount of power it was six months ago?

Unless you happen to be one of the few CB'ers with rigs featuring built-in power-output meters, the only way you can tell is with some fancy test equipment.

However, impending troubles in transceivers frequently make themselves known by a gradual slump in power output. Thus a simple power output monitor can tip you off that trouble's ahead.



This is probably the simplest and least expensive of all our week's worth of projects, but it's one of the most useful. Cost is under \$1.

PARTS LIST—PROJECT NO. 3

- 1 clear-jewel dial bulb assembly for 5C bay, bulb, insulated frame, Dialco type 710 or equivalent.
 - 1 No. 49 dial bulb, 2 V, 0.060 A.
- Solid insulated hookup wire (not stranded).

This project requires slight surgery on your transceiver. It will end up having a pilot bulb on the panel which lights dimly whenever the transmitter is on, and which flickers with modulation.

The first step is to study the panel of your transceiver to find a spot at which to mount the bulb. Be sure it doesn't interfere with the function of anything already there, and won't spoil the appearance of the rig.

Then carefully, so as not to mar the finish of the unit, drill a $\frac{7}{16}$ -inch hole for the bulb assembly. Mount the assembly in place and tighten the nut to hold it firmly.

Now study the manual for your transceiver and locate the transmitting final-amplifier tank coil. The way to find it on the schematic is to trace back from the antenna to the plate of the RF output tube; the coil may be in series with this path or in parallel, but will in either event be connected to the RF output plate either direct or through a capacitor. Once found in the circuit, identify the coil in the rig itself.

Next, estimate the distance from the coil to the bulb assembly just added and cut a piece of wire about three times this long. At the center of this length of wire form a loop just large enough to slide over the coil. Twist the remaining wires together as shown in the sketch.

Temporarily slip the loop over the tank coil and run the twisted leads back to the bulb assembly. Keep the leads as clear of the chassis and other components as possible. Solder the leads to the two terminals of the bulb assembly.

Plug the dial bulb into the socket, connect the rig to a dummy load (not to an antenna, please) and press the mike button. The bulb should glow. Move the loop away from the tank coil until the bulb's glow is just easily perceptible; all the power going into the bulb is being taken from your output, so you don't want to have any brighter glow than is absolutely necessary.

Now talk into the mike and watch the bulb flicker more brightly. If possible, tie or tape the loop into position so that it won't shake into a new spot, and the project is complete.

To test output, simply use the rig. If the bulb glows with about the same brightness as before, power output is about the same.

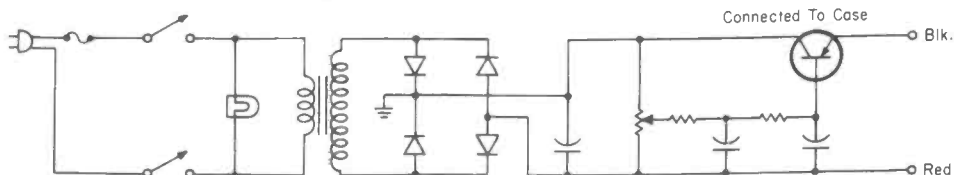
This monitor can be used for tune-up, provided that a dummy load is employed (tuneup while connected to an antenna is prohibited for non-licensed operators but anyone may tune into a dummy load). Simply adjust for maximum brightness of the bulb. If it ends up being too bright, move the loop away from the coil slightly and retune.

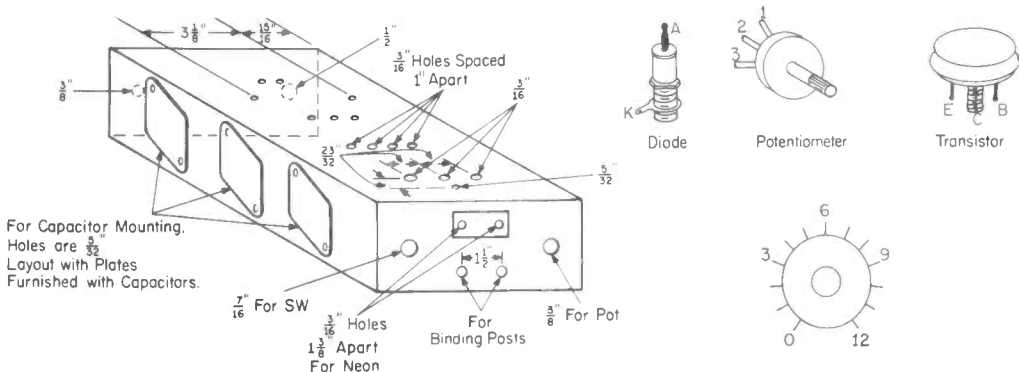
PROJECT NO. 4—THE POWRMATE

Ever want to check out the power supply of your mobile rig in the middle of a blizzard? It gets pretty cold working out in the car then, but to check out the DC power portion of the rig you have to have a battery.

Or maybe you like to work with transistors. As we proceed through this week of construction, we're going to run into a few transistor projects. These, too, require batteries.

The answer to both situations is the Powrmate. It's a line-operated "substitute battery" which provides up to 2 amps at 12 volts, for checking out mobile rigs, yet can be adjusted to any voltage from zero up to 12, for powering transistor projects.





Though it costs a bit more than most of the rest of these projects, it's still only half the price of a commercial equivalent. If you buy all parts new, except to spend about \$20. This cost can be cut in half with a bit of judicious surplus-store scrounging if you can pick up a suitable transformer and high-value capacitors, since these items amount to more than \$10 of the cost.

PARTS LIST—PROJECT NO. 4

- 1 12-volt 2½-amp filament transformer, Triad F26X or equivalent.
 - 1 Chassis, 5 x 7 x 2, Premier ACH-426 or eq.
 - 3 1000-mfd, 25WVDC electrolytic capacitors, Sprague TVL-1230 or equal, with phenolic mounting plates.
 - 4 50 PIV 2-amp silicon power diodes, Lafayette 19G5007 or equivalent.
 - 1 Stud-mount power transistor, 2N173 or equivalent, Lafayette 19G1503 is excellent for purpose.
 - 4 Rectifier mounting kits.
 - 1 250-ohm 5-watt potentiometer, Mallory VW-250 or equivalent.
 - 2 100-ohm 2-watt resistors.
 - 2 Insulated-mounting binding posts, Lafayette 99G6120 and 99G6121 (one of each).
 - 1 Neon pilot-lamp assembly, Lafayette 39G5207 (if substituted, change chassis layout to suit substitute).
 - 1 Line cord with plug.
 - 1 DPST toggle switch.
 - 1 Fuseholder, chassis mounting.
 - 1 3-ampere fuse to fit fuseholder.
 - 3 10-32 machine nuts to fit transistor and diodes.
 - 6 ¼-inch spacers for 6-32 bolts.
 - 1 tube Silicone grease for rectifier mounting.
 - 6 6-32 by 1-inch machine screws.
- hookup wire, solder, small hardware (6-32 nuts and bolts).

Though the number of parts appears impressive, the Powmate is still a single-evening project. It involves primarily drilling a number of holes in the chassis, mounting the parts, and a very small amount of interconnecting wiring.

No special tools are needed, but an electric drill will speed the operation. Bit sizes needed will be 5/32 inch, 3/8 inch, 7/16 inch, and 3/16 inch. A reamer can be used for the two largest sizes, and may even be safer if you are not used to drilling aluminum.

Mark hole centers on the chassis as shown on the layout diagram, taking critical dimensions directly from the parts rather than by measuring. Drill all holes and de-burr the edges with a knife.

Mount the transformer in place first, with the two black wires toward the rear of the chassis. Thread the wires through the holes provided for them. Next, mount the fuseholder, switch, and binding posts. Cut the potentiometer shaft to a length convenient (if you add a pointer knob, make the shaft just long enough to let the knob clear the chassis) and mount the potentiometer.

Spread a thin layer of silicone grease over the bottom of the transistor and place the transistor in position so that its leads project down into the chassis. Mount with a 10-32 nut, tightened down enough that grease oozes out all around the edge of the transistor. Do not twist hard enough to break the stud!

The diodes all mount from the inside of the chassis, with the nuts on the outside.

Use the mounting kits. This will require that the hole in the chassis be reamed out to just clear the teflon washer provided in the kit. Then fit the washer into the hole.

Smear grease over the bottom of the diode, then place one of the two mica washers in the kit over the stud and smooth it down onto the grease. Smear more grease over the washer and place the stud through the teflon washer in the chassis. The second mica washer then fits over the stud (no grease is necessary on this side) and the metal washer follows it. Add the lock-washer/solder lug, then the nut, and tighten down until grease oozes out.

Put the phenolic mounting plates on the three capacitors and secure them by a slight twist of the lugs. Ream out the mounting holes in the plates to take the 6-32 by 1-inch bolts, if necessary. Do not mount the capacitors yet, however.

Install the neon pilot assembly by poking its two studs through the holes drilled for them and pressing the speedclamps over them from the inside. Thread the line cord through its hole (it's a good idea to use a grommet or a cord-clamp here) and bring enough through to reach the switch, plus about two inches. This will be about 9 inches of wire. Then tie a knot in the wire so that it won't slip back through the hole.

At this stage, everything should be in place except the two resistors, and the capacitors (on their plates but not mounted on the chassis). It's time to start wiring.

Begin by hooking up the diode bridge circuit. Use the sketch to identify the K and A terminals of the diodes. The K is the solder lug on the outside of the chassis, and the A is the insulated post at the other end of the diode. Connect the K terminals of two diodes together, and the A terminals of the other two together. Then connect one A terminal of the K-connected pair to one K terminal of the A-connected pair, and finally connect the remaining free A and K terminals together.

The transformer has five wires. Two are black, two red, and one is red/yellow striped. Cut the red/yellow striped one off short where it comes through the chassis and tape the end to prevent shorts. Connect one red wire to one A-K connection on the diodes, and the other red wire to the other A-K connection. Run the wires close to the chassis to leave plenty of room free for the capacitors.

Put a solder lug under one transformer mounting nut, and run a wire from it to the A-A diode connection to ground it. Run another wire from the K-K diode connection to terminal 1 (see sketch) of the potentiometer, and run a wire from terminal 3 of the pot to the ground lug.

Connect the black wires of the transformer to the outside terminals of the switch; connect the neon-pilot wires to these same terminals and solder. Separate the two wires of the line cord. Run one to the fuseholder terminal. Use the short end just cut from the line cord to connect to the other fuseholder terminal. Run the other line cord wire, and the fuseholder wire, to the center terminals of the switch.

At this point, you can check your construction work so far by connecting a flashlight bulb to terminals 2 and 3 of the pot. Turn the pot all the way down. Visually check wiring against the schematic and the instructions to make sure you haven't misconnected anything, put the fuse in the fuseholder, turn the switch off, and plug in the cord. If nothing smokes, turn the switch on. Turn the pot up slowly. If the bulb glows, all is well. Unplug the unit, remove the bulb, and proceed.

Put the capacitors in place temporarily to measure lead length of the resistors. One resistor goes from the can terminal of capacitor 1 to that of capacitor 2, and the other from that of capacitor 2 to that of capacitor 3. Without removing the capacitors, solder the resistors in place. Then remove the capacitors, handling them carefully so as not to disturb their relative positions.

Connect the center terminals of all three capacitors together, and leave a long enough wire on capacitor 3 to reach the red binding post. Then put the six spacers in place on the mounting screws, and mount the capacitors in place permanently.

Connect the center-terminal wire to the red binding post and run the wire on from the binding post to terminal 1 of the potentiometer. Ground the can terminal of capacitor 1, nearest the transformer, to the ground lug. Disconnect the resistor from capacitor 1 and run a wire from the now-free end of this resistor to terminal 2 of the pot.

Connect a wire from the can terminal of capacitor 3 to the B terminal of the transistor, and run a wire from the transistor's E terminal to the black binding post.

Check to see that the K-K diode terminal, the center terminals of all three capacitors, terminal 1 of the pot, and the red binding post are all connected together, and that nothing else is connected to them. Check that the A-A diode terminal, the can of capacitor 1, and terminal 3 of the pot are all connected to ground and that nothing

else is grounded. Finally, check that the black binding post and terminal E of the transistor are not connected to anything but each other, and the wiring is finished.

To calibrate the output-control pot knob, the best way is to use a voltmeter and measure the output voltage for each setting. Allow several seconds for the voltage to change after each movement of the knob. If you don't have a volt-meter, you can use the scale provided here. However, its accuracy will be only approximate due to variations of components, line voltage, etc.

The red binding post is the plus output and the black is the minus. Never short them together, and never let either of them short to the chassis. If you do, you'll be replacing a transistor; the fuse can't act fast enough to protect it.

Output of the Powrmate is just as solid as that from a battery. The transistor multiplies the filtering action of the capacitors, and it's like having a whole roomful of capacitors in the circuit.

If you fear any particular application may be overloading the Powrmate, touch the transistor case. It should be warm but not hot. If it's too hot to touch, you're probably drawing too much current. This will eventually damage or destroy the transistor. More current can be taken at 12 volts than at lower settings, so the touch test is the best way to tell.

PROJECT NO. 5—AN ON-THE-AIR LIGHT

Most of us like at least a few gadgets around just to look at. They may not get our signal out an inch farther or make it sound any more intelligible, but still we like them. This "on-the-air" light is one of those things.

Unlike commercial models, this one flashes. It hooks into the transceiver control system (without direct connection to the transceiver) so that when the transmitter is in action, the light flashes a red "on-the-air" warning. When you're not on, the box is dark and no working is visible.

PARTS LIST—PROJECT NO. 5

- 1 5 x 7 x 3 Minibox, Bud CU-2108A or equal (wood may be used, as it was for one in photograph).
- 1 Dual flip-flop flasher module, Cordova BB-8, available from all mail-order firms.
- 2 No. 47 pilot bulbs.
- 2 lampholders, S.C. bayonet base.
- 1 6-volt lantern battery (or Powrmate set to 6 volts).
- 2 Insulated binding posts or 1 2-contact barrier strip.
- 1 5 x 7 sheet 1/8-inch plastic or window glass.

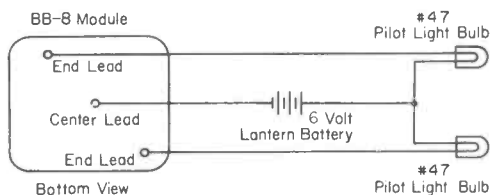
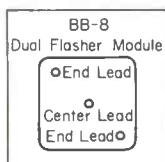
Start by cutting a 3 x 5-inch hole in the top of the minibox, or building a wooden box as shown in the drawing. We used an 8-inch tilting-arbor power saw to cut the lumber for the box; if you have no power tools, it's better to get the metal box.

Next, mount the glass or plastic sheet behind the hole. In ours, we inset window glass in a rabbet. With the metal box, it's easier to use clear plastic and drill six holes through both metal and plastic for mounting bolts.

Now cut out the reversed on-the-air plaque presented here and tape it to the glass on the inside, so that only white paper is seen through the glass and the printing is to the inside.

Mount the two lampholders (which must be of the kind in which both terminals are insulated from the mounting frame) on the back of the box, so that one is behind the word "on" and the other is behind "air" when the box is assembled. Mount the flip-flop module by sticking its leads through the foam card on which it is packed, or with epoxy glue. Mount the binding posts or barrier strip on the back of the box.

Connect the center wire of the module to one binding post and label it +. Connect





each outside wire of the module to one terminal of each bulb, and connect the other terminal of each bulb together. Bring a wire from this common bulb connection to the other binding post and label it —.

Tape a sheet of red cellophane over the wording on the on-the-air plaque, and assemble the box.

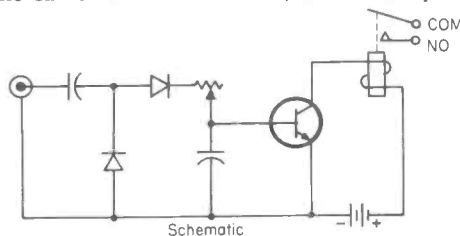
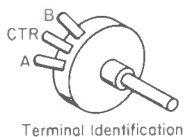
To test the light, connect the battery to the binding posts, plus to plus and minus to minus. The light should flash about 100 times a minute, with the words "on" and "air" lighting alternately. The effect is that of a moving neon sign.

To connect it into the transceiver, either the Accessoswitch (Project No. 2) or the RF Relay (Project No. 6) can be used. Connect a wire from the minus terminal of the light to the minus terminal of the battery or Powrmate, and another from the plus terminal of the light to the NO terminal of the Accessoswitch or RF Relay. Run a third wire from the COM terminal of the switch or relay to the plus terminal of the battery or Powrmate, and finally put the light in a convenient position near your operating table. That's it!

PROJECT NO. 6—THE RF RELAY

Transistors are the coming thing (coming indeed! they're already here!) in electronics, and any set of projects worthy of the name must have at least a few transistor efforts.

One of the easiest, and at the same time most useful, is an RF-operated relay. It



does exactly the same thing as does Project No. 2, the Accessoswitch, but does not require connection to the mike cable. Instead, it taps onto the antenna feedline. You may not find any physical connection to the feedline necessary if your rig is efficient; try using a 10-foot length of hookup wire as an antenna for the RF relay. With most rigs and locations, enough RF will be picked up from the antenna to operate the relay.

PARTS LIST—PROJECT NO. 6

- 1 Meter relay, Lafayette 99G6099.**
 - 1 Transistor, 2N169A or 2N35.**
 - 2 Diodes, 1N34A or similar.**
 - 2 .001-mfd disc ceramic capacitors.**
 - 1 100K volume control.**
 - 1 9-volt battery.**
 - 1 9-volt battery holder.**
 - 1 2-terminal barrier strip.**
 - 1 coaxial connector.**
- performed board chassis, solder, wire.**

Attach the meter relay and the barrier strip to the performed-board chassis and connect the relay contacts to the barrier strip. Mark one COM and the other NO.

Next, mount the battery holder and the volume control. Wire the + terminal of the battery holder to one relay coil terminal, and connect the collector lead of the transistor to the other relay coil terminal. Connect the transistor emitter lead to the battery — terminal. The transistor is supported by its leads.

Connect the base lead of the transistor to the center terminal of the volume control. Connect one of the capacitors from this terminal to the negative side of the battery.

Thread the diode leads through the perforated board to hold the diodes in position. Connect the lead from the banded end of one diode to the unbanded-end lead of the other, and connect the remaining capacitor to this junction also. Connect the still-unconnected banded-end diode lead to terminal B of the volume control (the terminal having the most resistance to center when the control is in its "off" position) and the remaining unconnected diode lead to the negative terminal of the battery holder.

Now mount the coax connector on the board. Connect the free capacitor lead to its center conductor, and the negative battery terminal to its shell.

Connect the battery. Nothing should happen. If the relay operates, check for miswiring. If the relay operates yet wiring is correct, get another transistor and try it (some transistors have enough leakage to operate the relay without any RF present; these are perfectly usable in some other circuits but not here).

Connect the 10-foot hookup-wire antenna to the coax connector and turn on the rig. Key the transmitter with the mike button and see if the relay operates.

The volume control sets sensitivity. With it turned all the way up, relay operation should be positive. However, this tends to run the battery down. The proper setting is just high enough that the relay operates every time, but no higher. It should be possible to set it so that the relay doesn't operate from the antenna, or so that the antenna is barely necessary.

The contacts of the meter relay are delicate, and are rated for only $\frac{1}{4}$ amp contact current at 6 volts. If anything drawing more current than the on-the-air light or a single 6-volt DC relay is to be switched, use the meter relay contacts to operate an intermediate 6-volt relay, which in turn controls the heavier load.

PROJECT NO. 7—A "REMOTE" HEAD FOR THE MOBILE

All too many of today's vehicles have been engineered to the point that there's no room for a mobile rig under the dash. While some new rigs offer remote-control heads allowing the bulkier parts to be in the trunk, a lot of us already have rigs we like.

This project offers a way to use the existing rig when there's not enough room for it under the dash of the car. It has a disadvantage; you can't tune while in motion. For single-channel operation, however, this is no handicap. And the alternative is no operation at all!

PARTS LIST—PROJECT NO. 7

- 1 Minibox, $4\frac{1}{4} \times 2\frac{1}{4} \times 1\frac{1}{2}$ inches, Bud CU-2116A or equivalent.
- 1 $2\frac{1}{2}$ -inch 3-4-ohm speaker, Lafayette 99G6039.
- 1 set mike connectors to fit your rig.
- 1 SPST lock switch, Lafayette 33G6401.
- 1 50-ohm potentiometer, Mallory VW-50.
- 1 8-contact plug, Cinch-Jones type P-308-AB.
- 1 8-contact cable socket, C-J type 5-308-CCT.
- 15 feet Cable, 3-conductor separately shielded, Belden type 8733 or eq.
- 20 feet No. 14 insulated stranded wire, auto primary ignition wire or eq.

Begin by drilling a $\frac{3}{8}$ -inch hole for the pot and a $\frac{3}{4}$ -inch hole for the lock switch on one of the narrow ends of the box, and cutting a cutout for the chassis-mounting plug on the other end using either a hand nibbler or a cold-chisel.

Then transfer the hole pattern shown in the sketch to the bottom of the box and drill, using a $\frac{5}{32}$ -inch bit. Deburr all holes. Mount all components.

Clip a short piece off the No. 14 wire and use it to connect pin 1 of the plug to one terminal of the key switch. Similarly, connect pin 8 of the plug to the other terminal of the switch.

Mount the mike socket on the rear of the box near the plug, and connect its terminals to terminals 4 through 7 of the plug in any order. Make note of which mike terminal goes to which number on the plug.

Connect terminals 2 and 3 of the plug to the outside terminals of the pot, and connect the speaker terminals to the lefthand (viewed from the front with terminals at bottom) terminal of the pot, and to the center terminal.

Prepare the extension cable by cutting the No. 14 wire to 15 feet. Connect the short piece of it to terminal 1 of the cable-mounting socket, and the long piece to terminal 8. Connect one of the shielded leads of the 8733 cable to terminal 2 and its shield to terminal 3. Check the schematic of your transceiver, then connect the other two shielded leads of the cable to the socket terminals which correspond to the hot audio mike lead and the switching lead (when the mike is plugged into the control box). Connect their shields to the remaining socket terminals.

Thread the cable through the vehicle from the transceiver mounting position to the control-box location, keeping it as out-of-the-way as possible. Mount the minibox

in its chosen position using sheet-metal screws through the unused half, then assemble it in place.

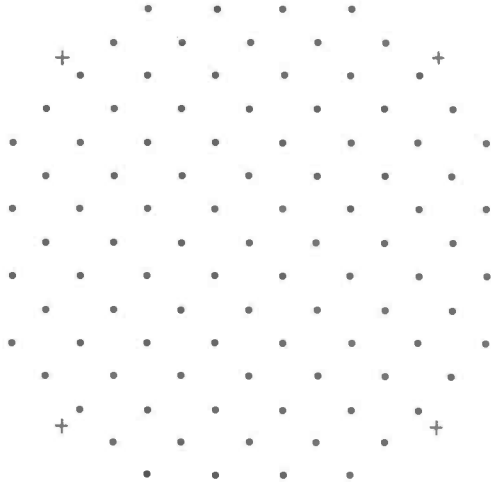
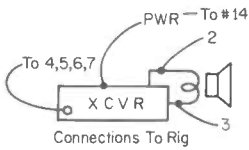
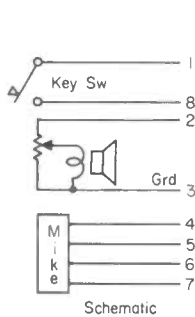
Attach the mike plug you have on hand to the transceiver end of the extension cable, so that each connection runs through to the corresponding terminal on the mike socket on the control box. Then open the transceiver case and connect the shielded leads from socket terminal 2 and 3 to the speaker, with the shield connecting to the grounded side of the speaker voice coil.

Connect the No. 14 wire to the transceiver power cord hot wire. At the control-box end of the cable, attach the short No. 14 wire to the battery post of the car with a direct connection. This will avoid much noise pickup from the ignition system.

Plug the cable mike plug into the transceiver's mike jack and make all other normal transceiver connections. Plug the 8-terminal socket onto the control-box plug and turn the key switch on. Set the potentiometer to maximum. Back at the trunk, turn on the transceiver and tune in a transmitting station with an extremely strong signal. Set the volume control for the loudest speaker volume you can get short of distortion. Tape the volume control in place at this setting. Adjust the squelch control for normal operation and tape it also. Tune to the desired channel and fix the tuning knob in position; use crystal receiving if your rig has it.

Now check to see that the pot on the control box adjusts the volume on the control-box speaker, and that the mike operates normally. The key switch turns everything on and off by breaking primary power. If it all checks out, close the trunk and enjoy remote-head operation!

Which brings us to the end of our week's worth of projects. If you like them, let us know—we may work up some more for next winter.



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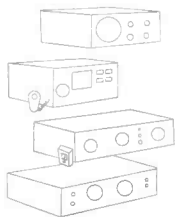
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Apollo Type Co., 10 Avenue O, Brooklyn, N. Y. offers a nifty desk type personalized pen holder which comes complete with a miniature replica of a desk microphone. Apollo made these originally for use in the S9 offices and they went over very well here. The mike is in attractive silver colored metal, the base is in smart looking finished walnut. Of course, your call sign is engraved on the set. Price is \$4.95 each, postpaid.

Another new item from Apollo Type is a personalized tie clip with a tiny silver microphone. Your call sign is engraved in sharp looking white letters on a black background. Sells for \$1.50.



Allen Electronics, 41-42 Main St., Flushing 55, N. Y. (national distributors of the CB lapel pin featured on our August, 1964, cover) has brought out snazzy decal versions of this beautiful design. The decal is styled in five colors (metallic silver and gold, red, blue, and black), and comes in two sizes, super-giant 5 inches and also 2 inches. They are available by mail at \$1 and 30¢ each, respectively. Dealers are wanted. And if you haven't yet received your copy of the excellent Allen CB catalogue, be sure to drop Bob Fisher, KBC4196, a letter or QSL card at the store. The catalogue is a fat 100 pages and your card will be hung on the wall for all to see.



Metrotek Electronics, Raleigh, N. C. (a subsidiary of Regency Electronics) has come up with a new low-cost CB rig called the Pacer.

The rig has seven transmit channels (plus an external socket), and eight crystal controlled receive channels (plus tunable). The receiver is a superhet job with 0.3 uv usable sensitivity. The transmitter puts out a minimum of 3.4 watts and a built-in speech clipper offers 100% modulation with wide ranges of voice levels. A dual power supply operates on 110 VAC and 12 VDC. Other features include: ANL, variable squelch, illuminated "S" meter, spotting switch, mobile mounting bracket. It's hard to believe, but all these goodies come for \$99.95. For more information contact Tom Berry, Gen'l Sales Manager, Regency Electronics, Inc., 7900 Pendleton Pike, Indianapolis, Ind.

Authorized distributors of G-E electronic components are giving away free receiving tube interchangeability charts covering 369 popular American and foreign types. The shirt-pocket sized chart will be worthwhile for any CB'er. If your local G-E distributor has run out of these, ask him to order ETR-1749B.

Robert King, 735 East 239th St., New York, N. Y. 10466, was inspired by our article "Beware of CB Bandits" and now offers for all CB'ers, self-adhesive warning labels which won't wash off or wear off your mobile unit's windshield. The label is bright red on white and is 3½ inches high by 3½ inches wide—easily seen by any would-be tamperers. Price is 3 labels for \$1, postpaid.

Francis Industries, 25 East Depot St., Pata-skala, Ohio, offers "the biggest little CB an-



tenna on the market." Known as the ESS-NINE, this fiberglass reinforced mobile whip is 4 feet high with the inductance near the base. It terminates in a chrome plated brass ferrule with standard whip antenna threads and may be mounted on trunk lids, roof tops, etc. Price is \$8.95.

A complete line of low-cost high-quality connectors, sub-miniature microphones and telephone pickup devices is announced by Dictation Products, Sunrise Highway, Baldwin, L. I., N. Y. One very interesting item is a really inexpensive device which permits two

Continued on page 38



SONAR FM-40 BUSINESS RADIO
Power-Packed!
Engineered for Rugged Business Use!

Excellent performance, dependability and operational convenience provided by FM-40 reflect the experience and design ability that has made Sonar the undisputed leader in this demanding form of business radio art. Greater

range because of Voice-Power designed circuitry • Compact and lightweight • Easily installed in smallest vehicles • Smartly styled for office use • Noise free squelch for crisp clear communication • Accessory plug for Sonar Call, selective Calling System • Accessory plug for High Power Linear Amplifier • 12 VDC • 117 VAC • Size: 4¾"H x 9½" x 11¼"L. Wt: 10 lbs.



FM-40 Business Radio complete 1 pair of Crystals, Power Mike, Brackets, and 2 power cables **\$289⁵⁰**



FOR ADDITIONAL POWER LINEAR RF AMPLIFIER is a matching companion to cover greater distances with increased transmit power. Available for either base or mobile.

SONAR RADIO CORPORATION

73 Wortman Ave., Brooklyn 7, N. Y. Dept. 372

Please send me information on Business Radio FM-40 and BR-21 matching Amplifier.

Name.....

Address.....

City..... Zone..... State.....

NEW! LAFAYETTE DUAL-CONVERSION DELUXE 9-TUBE C. B. TRANSCEIVER Model HB-200

Successor to the Famous Lafayette HE-20C



Made in U. S. A.

109⁵⁰

42-0118WX

Imitated but never duplicated . . . Lafayette scoops the industry again with the finest in Citizens Band Communications at a price you can afford.

- 9 Tubes plus 3 Silicon Diodes plus 2 Crystal Diodes for 17-Tube Performance
- Super Sensitivity—1 Microvolt or Less • 8 Crystal Receive Positions plus 8 Crystal Transmit Positions plus 23-Channel Tunable Receive • Push-to-Talk Microphone • Dependable Relay Switching • Illuminated Meter with 3-Position Switch • Adjustable Squelch • Spotting Switch • Built-in 117 Volt AC Power Supply with 12 Volt DC Mobile Transistorized Power Supply • With Bracket Handle, Push-to-Talk Ceramic Mike, Pair of Transmit and Receive Crystals for Channel 15 plus Crystal for Dual Conversion

NEW! LAFAYETTE MODEL HA-115 AUDIO COMPRESSOR AMPLIFIER FOR CITIZENS BAND-TRANSCEIVERS

3 ACCESSORIES IN ONE COMPACT UNIT

- 6, 12 or 117 Volt For Mobile or Base Transceivers • Illuminated Meter Directly Reads Modulation Percentage
- Completely Pre-Set and Pre-Tested
- Printed Circuitry — Advanced Design
- Works With All Popular CB Units
- Simple Installation • Increased Intelligibility Over Static, Noise, Adjacent Stations • Better Modulation for Older Units • Increased Talk Power For CB Operation

25⁹⁵

42-0117 WX



Made In U.S.A.

NEW! LAFAYETTE 2-WATT 2-CHANNEL C. B. "WALKIE-TALKIE" Model HA-300 WITH VARIABLE SQUELCH



99⁹⁵
2-for-194.95

- Range up to 10 Miles
- Plug-in Battery Changer with Self-Contained Rechargeable Batteries
- 13 Transistors, 2 Diodes
- Fully Crystal Controlled
- Full-Time Automatic Noise Limiting Circuit
- 10-Section Telescopic Antenna
- Complete with Nickel Cadmium Batteries, Battery Charger, Earphone, Crystals for Channels 10 and 15, Leather Carrying Case • Imported



EARPHONE

CARRYING CASE



BATTERY CHARGER

NICKEL CADMIUM BATTERIES

LAFAYETTE HB-115A PUSH-TO-TALK CITIZENS BAND TRANSCEIVER

**FULL 5-WATT INPUT!
FULL VALUE**

Made In U.S.A.



42-0101WX

- 12 Tube Functions, Plus 1-Diode, Plus 2 Silicon Rectifiers
- 8 Crystal-Controlled Transmitting Positions
- Tunable Superheterodyne Receiver Over All 23 Channels
- Electronic Push-to-Talk Switching
- Push to Talk Ceramic Microphone
- Pi-Network for Maximum Power Output
- External Speaker Earphone Jack on Front Panel
- Full-Wave Variable Noise Limiter
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- Supplied with Channel 14 Transmitting Crystal
- Attractively Styled, Ruggedly Built

59⁹⁵

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Brooklyn, N. Y.
2265 Bedford Ave.

Plainfield, N. J.
139 W. 2 St.

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LAFAYETTE

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

WITH ADVANCED "RANGE-BOOST" CIRCUIT



Double Side Band Full Carrier

**Model
HB-400**
99-3001WX

169⁵⁰

- ✓ 17-Tube Performance with 13 Tubes
- ✓ Low Noise Nuvistor "Front End"
- ✓ 5 Double-Tuned If Transformers
- ✓ Meets All FCC Requirements

- 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 μ v Sensitivity
- Delta Tuning Offers "Fine Tuning" of ± 2.5 Kc on Receive
- Illuminated "S" and RF Output Meter
- 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

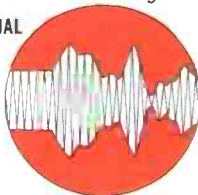
Efficient, dependable 2-way communications in any fixed or mobile application is assured with this rugged, new 5-watt CB transceiver. A military-type frequency synthesizing circuit makes it possible to transmit and receive over the full range of 23 channels with crystal-controlled accuracy—no extra crystals to buy and install! Efficient circuit with 13 tubes and 8 diodes offers maximum transmitter power output . . . high receiver sensitivity—plus every feature CB users want! 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, push-to-talk ceramic mike, and a built-in vibrator for 12V DC, plus 2 power cables. Measures a compact 12Wx5Hx10"D.

ADVANCED "RANGE-BOOST" CIRCUIT

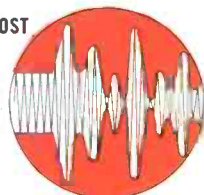
Increases Your Effective Range—Lets You Get Through When Others Fail!

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 Percent-
age of Modulation
Is Lower



WITH RANGE-BOOST
Average Percent-
age of Modulation
is Higher—Side-
band Power is In-
creased



Headquarters For Citizens Band Equipment

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

FEATURING AUTHENTIC MECHANICAL FILTER

Model HB-500



99-3027WX

139⁵⁰

RUGGED. HEAT RESISTANT TRANSISTORS USED IN ALL CRITICAL AREAS

EPITAXIAL SILICON, MESA TRANSISTORS used in Transmitter Oscillator, Driver and Final Stages.

SILICON MESA TRANSISTORS used in Receiver Oscillator, RF and IF Stages.

- ✓ 100% Solid-State . . . Full 5-Watt Performance!
- ✓ Small, Compact—Only 11-7/16x6-11/16x3-3/8"
- ✓ Low Battery Drain—Less Than 350 ma on Receive, 850 ma on Transmit!

- 12 Crystal Transmit plus 12 Crystal Receive Positions
- 23 Channel Tunable Receiver with Vernier Tuning
- Dual Conversion Receiver with 5/10 μ V Sensitivity
- 15 Transistors, 3 Diodes, 2 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

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 is small enough to fit conveniently into the most compact car. And, battery drain is really low! The transceiver draws no more than .35 amps on receive, .85 amps on transmit—an important advantage in mobile applications! 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.

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 $\frac{1}{4}$ "x3 $\frac{1}{2}$ ".
99-3028 Net 16.95



Some Sound Advice About the Economics of Sound

Quality CB transceivers are a vital communications link for many businesses and professions, and a great source of convenience for many individuals. BUT, you don't have to throw money away to obtain quality.

Metrotek now offers two top quality transceivers; both realistically priced.



THE MUSTANG \$74⁹⁵

Six crystal-controlled transmit channels and tunable to receive all 23 channels. Operates on any six of the 23 available CB channels in the transmit mode. Plug-in crystals, mounted on chassis can be changed to give any desired frequency. High impedance ceramic microphone, in high impact strength case is standard equipment. Push-to-talk electronic switching on mike eliminates noisy clicking relays.



THE PACER \$99⁹⁵

Seven built-in crystal-controlled channels for transmit, plus a quick-change external socket for plugging in an additional crystal of any desired frequency. This permits user to transmit on all 23 CB channels. Dual power supply for base station or mobile operation. Receiver has 8 crystal-controlled channels, plus tunable to all 23 channels. Other features include automatic noise limiter, positive squelch control, illuminated "S" meter, spotting switch for locating on channel and mobile mounting bracket.



For more information write:

METROTEK ELECTRONICS, INC.

a subsidiary of Regency Electronics, Inc.

7940 PENDLETON PIKE • INDIANAPOLIS, IND.

Continued from page 33

people to listen on one telephone (no electrical connections necessary).

CB crystals with high stability and reliability were introduced by Guardian Crystals, P.O. Box 625, Maitland, Florida. Available in all 23 CB channels and for most CB units, they offer a nominal frequency tolerance of $\pm .002\%$ at room temperature with $\pm .005\%$ over the temperature range of -40°C. to $+80^{\circ}\text{C.}$, and are available in standard HC-6/U and subminiature HC-18/U holders with pin or wire leads. Made in U.S.A., the crystals are priced from \$1.89 each, or \$1.79 each in boxes of 10 or more.

The availability of a new transistorized vibrator eliminator for mobile CB rigs was announced by IEH Manufacturing Co., 102 Prince St., New York, N. Y. 10012. The "Vi-Tran" comes in two versions, the VE-194P (pin #1 positive), and VE-194N (pin #1 negative). The units offer reduced noise since vibrator hash is eliminated, less power drain on battery and cooler operation. User price is below \$5.95.

SWL's and CB'ers will be interested in the New Hammarlund HQ-145AX receiver, which covers 540 kc/s to 30 mc/s with continuous coverage, plus allowing 11 crystal control channels within this range. The set offers dual conversion above 10 mc/s, a six position crystal filter plus adjustable slot filter with up to 60 DB attenuation, and a BFO for SSB and CW reception. Price is \$349. Details and the name of your nearest Hammarlund distributor can be obtained from Hammarlund Manufacturing Co., 73-88 Hammarlund Drive, Mars Hill, N. C.



Hallicrafters (5th and Kostner Aves., Chicago, Ill. 60624) has plenty of reason to be proud. Their new CB-11 hand held 100 transceiver offers CB'ers a lot of rig in a small package. It's in a rugged metal case that can take a beating, the crystals are plug-in (rather than soldered), and it has an automatic battery-replace indicator. The CB-11 uses 9 transistors plus diode and Thermistor. Receiver sensitivity

is 1 uv, the set weights in at 2 lbs., and the whole thing operates from a single 9 volt battery. Sold in pairs at \$79.95 for two.

And don't blame Antenna Specialists, 12435 Euclid Ave., Cleveland, Ohio 44106, if they pop a few buttons bragging about a rather novel CB beam antenna which can throw signals in any desired direction without being rotated. What??? Yes, that's just what the "Scanner" beam does, and it accomplishes this feat by means of a switching circuit. The beam covers a full-circle scan with a directional gain of 7.75 DB (equivalent to 30 watts from a 5 watt source), according to manufacturer's specs. It will withstand 100 mph gales. Already in distribution, you can get further information on this unique antenna from your old friend and S9 booster Bob Beebe, Sales Manager at Antenna Specialists.

"Big Al" Draus, well known CB'er from the midwest, welcomes all CB'ers to stop in and say "howdy" at Howard Electronics Sales Co., 4573 S. Archer Ave., Chicago, Ill. 60632. Al has some real fine buys on all leading CB products (including test gear). What do you need? Write or call "Big Al" at Howard (landline 312-CL-4-1777), or dig him up on the air (KHC1398). He promises that you'll be satisfied whether it's a straight purchase or a trade.

A new CB speech compressor from Galaxy Electronics (10 South 34th St., Council Bluffs, Iowa) is guaranteed to boost your "talk power" for greater range, actually about 3 to 4 times. It is completely transistorized, and it lets you get the most from your gear, while still staying within FCC limitations. Simple to install and wired for P-T-T, it requires a 9 volt battery for all power. Sells for \$24.95.

A big hit from the west coast is the BIG FAT CB log book being offered by R. C. Enterprises, 806 W. Carson St., Torrance, Calif. This beautiful and colorful book has spaces for 1350 entries, a 1965 call area map, and a 10 code. Comes with a sturdy cover and a spiral binding which will keep the pages from falling out when the book is given heavy use. Very nice, and it's only a buck (plus 20¢ postage). Dealers are wanted for this item. When ordering the book you'll get a healthy supply of their QSL samples—they're wild! Our cover this month is from one of their cards and is reproduced with their permission.

The "Mighty Mo" is a new concept in CB antennas. For \$14.95 this thing comes to you and you can become a true CB'er of the world because it's small enough to be packed away in a small valise. You can use it almost anywhere—hotel rooms, cars, hospital rooms, etc. No mounting holes are needed. It has been thoroughly tested and the manufacturer states that it compares favorably with most "standard" types of CB antennas, even though it is less than a foot high and requires no grounding. Dealers and distributors are being sought. Order your "Mighty Mo" directly from Menmo Electronics, Inc., Dept. S, Monroe, Wis., 53566.



For those of you who dig government surplus electronic gear, we have a real treat for you. The excitement is all about a new book called "Surplus Conversion Handbook (Including Command Sets)", by none other than S9's own Tom Kneitel. This time T.K. wades through complete step-by-step conversions of dozens of popular military transmitters, receivers, transceivers—shows you how to turn this low priced gear into a bonanza, and have fun while doing it. Ready for immediate shipment, this new 192 page 3 dollar volume will be sent to you pronto if you send your order to: Book Division, Cowan Publishing Corp., 14 Vanderverter Ave., Port Washington, N. Y. 11050. Tom says he'll personally autograph a copy to any S9 reader who requests one when the book is ordered.

For dressing up that bare looking rear window, H & S Products, Box 825, Lima Ohio, is producing illuminated *I-Dent-o* signs. These signs are 3¼ inches high and a full foot long, attaching to the car window by means of suction cups. They are illuminated by the 12 VDC from your car battery. Bulb and 4 feet of wire included, the sign sells for \$4.95. For home use, the *I-Dent-o* sign is available for 115 VAC operation at \$5.95. Both car and mobile units are available at the combination rate of \$10.00.

S9 Lab Reports

USL CONTACT! 23

The USL Contact! 23 has been engineered with a number of design features new in CB transceivers. These include the use of a mechanical filter in the receiver for optimum selectivity to reduce adjacent-channel interference, a new type of speech compressor in the transmitter for maintaining a high average modulation level without overmodulation and a different method of crystal frequency synthesis for transmission and reception on all 23 channels using only 11

Continued on page 42

From The Worlds Leading Manufacturer of Quality CB Communication . .

. . Antennas

**Especially Designed
With The CB'er
In Mind!**

By Mosley Electronics.

The all New DEVANT-1 is the result of continuous research and development to bring you Superior quality at a New Low-Low Price, \$22.76. This field tested base station antenna is the newest advance in CB communications, performance guaranteed.

Many of the features of the DEVANT-1 are built into the base section. The vertical element terminates in a phenolic sleeve which has greater strength than the aluminum element. Radials terminate into a high strength "Cyclac" base, which again, has more strength than the aluminum element. The Coax female connector is part of the (weather-proof) radial support assembly. Antenna mounting is simplified, just mount the antenna on your mast, tighten two screws and lock nuts. Tapering the ends of the aluminum tubing (called swaging) is designed to reduce wind load, and any possibility of vibrations which would cause metal fatigue. Loading and impedance matching of the DEVANT-1 is accomplished with loops of one eighth inch aluminum rods.

The Mosley DEVANT-1 antenna is an omnidirectional antenna with a gain of approximately

3.4 db.

■ Mounting: Antenna may be mounted on a mast having a maximum diameter of 1 1/2 inch (nominal). Antenna should be mounted clear of all surrounding objects such as power lines, trees, and metal objects.

■ Height: In general, antenna should be mounted as high as possible. Check your local band rules.

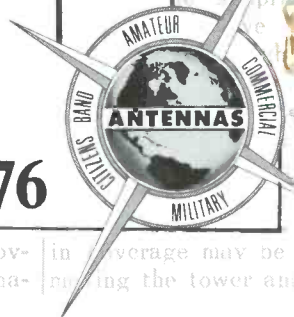
■ Lighting And Stationing: Lightning protection and static drain is automatically provided by the match.

■ Transmission Line: The DEVANT-1 antenna is designed for 52 ohm coaxial cable. Cable length should be as short as possible.

■ Antenna Site And Location Distance: In order to obtain optimum performance from any antenna, the antenna should be placed high above surrounding objects as possible. In fact, nearly every radio station has transmission limitations. Frequency limitations are placed on transmitters' power, power radiated, etc. In the case of CB, there are no limitations on power and frequency. From this, it can be seen that there are many alternatives when an increase in coverage is desired. These alternatives

\$22.76

Devant



D

evant "2"

A
HIGH
TEMPER

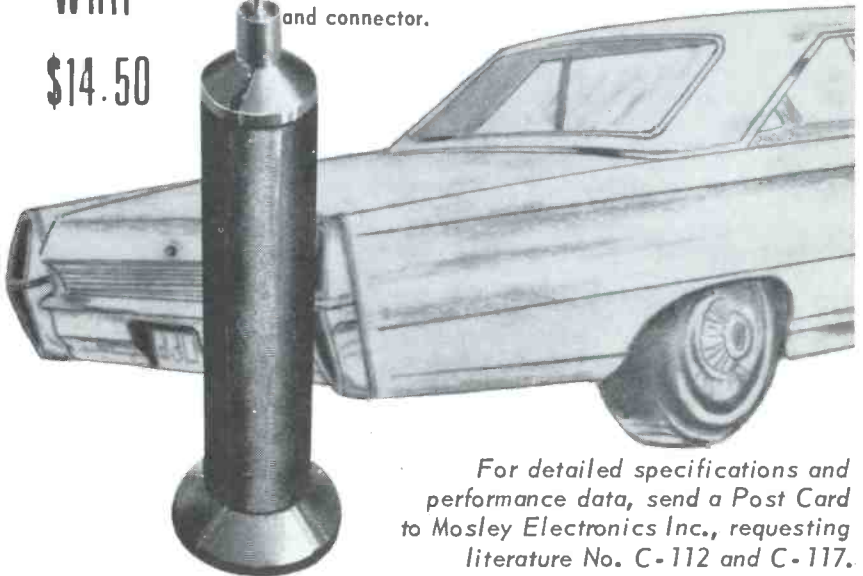
TAPERED
STAINLESS
STEEL

CB

WHIP

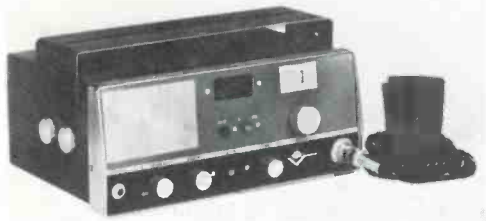
\$14.50

As the name "DEVANT (2)" suggests, the quality and performance of this live antenna is "Out-In-Front", "Ahead" of anything comparable on the CB market today. The success of this mobile wonder is no secret. The world famous Mosley quality in communication antennas, is a highly regarded and well known fact. Features include: Simplicity of installation, Adjustable resonance and length of coax cable used is unrestricted. DEVANT (2) is a transformer matched antenna for use on channels 1 through 23. Antenna is mounted and secured directly to outer surface of mobile unit. Interior fabrics or hard to reach areas under rooftop, trunk and hood is absolutely no obstacle. Typical VSWR is 1.3 to 1 at resonant frequency. Resonant frequency may be changed by slightly adjusting the length of the whip section. All materials used on this antenna are corrosion resistant to insure maximum trouble-free performance. This antenna comes complete with High "Q" Transformer, incased in a nonconductive, weatherproof housing with 24 feet of 52 ohm cable (RG-58/U), coax adapter and connector.



For detailed specifications and performance data, send a Post Card to Mosley Electronics Inc., requesting literature No. C-112 and C-117.

Continued from page 39



crystals in the entire unit. "Delta" tuning for on-the-nose reception also is provided.

Other features, like many of those found in the Contact! 8 described last month, are: illuminated meter to indicate signal strength or transmitter relative-output power, illuminated channel-selector dial, sloping panel with illuminated control designations, electronic switching, squelch, automatic noise limiter, headphone jack, external-speaker jack with panel switch for PA system use, self-contained transistorized power supply for operation with 115 VAC or 12 VDC (negative or positive ground) using separate AC and DC cables, the latter equipped with a cigar-lighter type plug for quick mobile installation.

RECEIVER SECTION

The receiver section employs dual conversion, with the first conversion made to 1650, 1750 or 1850 kc/s and the second conversion made to 262 kc/s. The pentode section of a dual purpose tube is used for an r.f. input stage which is followed by the first mixer which is the pentode part of another dual purpose tube. The triode section of the mixer is a crystal-controlled oscillator utilizing eight crystals spaced 10 kc/s apart from 25315 to 25405 kc/s. Mixing CB signals on channels 1 through 8 (26.965 to 27.055 mc/s) with the crystal frequencies will then produce an IF of 1650 kc/s, those on channels 9 through 16 (27.065 to 27.155 mc/s) will produce a 1750 kc IF and those on channels 17 through 23 (27.165 to 27.255 mc/s) make an 1850 kc/s IF. These IF signals then pass on to the second mixer where the local oscillator operates on 1912, 2012 or 2112 kc/s (tunable plus or minus 3 kc/s). When the 1912 kc/s frequency is used with the 1650 kc i.f. signals, the mixer output will be 262 kc/s. Likewise, local-oscillator frequencies of 2012 and 2112 mixed with the IF signals of 1750 and 1850 kc/s, respectively, will produce an IF of 262 kc/s. The proper local-oscillator frequency is chosen with the crystal-selector switch at the same time the crystals are selected according to the channel in use, and since the local oscillator is variable over a small range, fine tuning (Delta) may be obtained for receiving signals on the nose.

MECHANICAL FILTER

Because of their excellent "skirt" character-

istics, mechanical filters for some time have been used in single-sideband equipment where the skirt selectivity requirements are more stringent than needed for AM work; however, since the best selectivity is not readily obtained with ordinary tuned circuits, the ideal characteristics of the mechanical filter make it a desirable device for optimum rejection of adjacent-channel interference when AM channels are closely spaced such as on the Citizens Band. The Contact! 23 therefore employs a mechanical filter after the second mixer. Since the filter controls the overall selectivity and because a 262 kc/s IF provides more gain than does a lower-frequency IF, only one IF stage is required.

Another advantage of the mechanical filter is that it has a flat bandpass which results in better fidelity than can be had with a sharply-peaked IF system which usually results when tuned circuits are adjusted for best selectivity.

A triple diode serves as detector, AVC and noise limiter, while a duo-diode triode acts as squelch and AF amplifier. The output tube is a 6BQ5 which delivers 3 watts of audio power.

TRANSMITTER

The transmitter section uses the same 25315 to 25405 mc/s crystals as does the receiver. Their frequencies are combined in a mixer with frequencies of 1650, 1750 and 1850 kc/s obtained from another crystal oscillator. The output frequency of the mixer is that of any one of the high-frequency crystals plus that of one of the CB-channel frequencies. The frequency tolerance of the crystals is .002% for an overall accuracy of .004%. Incidentally, this mixer is the same one that is used for the first conversion in the receiver, thereby eliminating the need for an extra tube. The mixer output is then fed to a 12BA6 buffer amplifier which drives a 6BQ5 power amplifier to 5 watts input. The receiver AF amplifier is used as the driver for the 6BQ5 AF output tube which doubles as a modulator for the transmitter. A separate triode is used for a speech amplifier.

COMPRESSOR

A high average modulation percentage is obtained by using compression to automatically limit the output of the speech amplifier and avoid overmodulation with loud voice frequencies while at the same time allowing weaker voice sounds to reach a high modulation level. The system used in the Contact! 23 utilizes a "Rayistor" which consists of a small light bulb the beam of which is focused upon a light-sensitive resistor. The lamp is connected across the output of the modulator and the resistor is hooked across the plate-load resistor of the speech amplifier. When the audio output from the modulator reaches a preset value, determined by the adjustment of the compression control, the lamp glows with its brilliance increasing as the audio level rises. This causes the value of the resistance to drop accordingly and thus reduce the gain

of the amplifier with subsequent limiting of the modulating level as desired. High "talk-power" with lower distortion and better overall quality can be obtained than with the use of a conventional clipper.

PERFORMANCE

S9 Lab measurements on the performance of the Contact! 23 produced the following results: Receiver sensitivity—.5 uv for 11 DB signal-to-noise ratio; adjacent-channel rejection—40 DB; image rejection—56 DB; squelch sensitivity—.5 uv; AVC characteristics—7 DB change in audio output with 80 DB change in RF input signal; transmitter RF output—3 watts; all of which just about hits the manufacturer's specifications on the nose. Maximum modulation peaks were a little over 80%.

The Contact! 23 is a "sophisticated" unit which will provide effective service anywhere in the 27 mc/s class D Citizens Band, as well as in limited low-power PA operation. It is priced at \$199.50 complete with all crystals, 115 VAC and 12 VDC cables, microphone and mobile-mounting bracket which also may be used for tilt-up table-top mounting. The manufacturer is United Scientific Laboratories, 35-15 37th Ave., Long Island City 1, N. Y.

LAFAYETTE RADIO'S

HB-500 TRANSCEIVER

For years CB'ers have known what transceivers would eventually be—very small, all transistor, extremely selective and sensitive, and so efficient it could be powered off a set of batteries carried in the pocket. Sound like a dream? You're wrong. The Lafayette Radio HB-500 is *all* these things *and more*—the *more* being a 1961 price tag of \$139.50.

The first thing that struck us was the size. Though rated a "full five" the 500 is about the size of a 1 watt walkie-talkie; maybe a little thicker. It is also very light; just slightly heavier than a large walkie-talkie. But though miniature in size and weight the performance is really BIG—right up there with the best of the "gold plated specials."

The 500's top feature is the receiver section—you'd be hard pressed to find one much better. Sensitivity for a 10 db signal to noise ratio at 2.7 (audio) watts output is less than .8 microvolts. Even with this high sensitivity the apparent noise level is exceptionally low. Until the antenna is connected there is virtually no noise from the speaker—the receiver is so quiet it appears to be inoperative.

The receiver's selectivity sets a new high for adjacent channel rejection—there just isn't any adjacent interference under any conditions. Even with a mobile station parked outside the door and using channel 10 we experienced only slight interference on channel 9. When the mobile drove down the block there was no trace of his signal on channel 9.

The receiver's phenomenal selectivity is due



entirely to the use of a *mechanical filter*. As you know, the best amateur receivers—costing many hundreds of dollars—use mechanical filters to obtain razor sharp selectivity.

If you've done any work with transistor transceivers you know that noise limiting leaves a lot to be desired. But like the mechanical filter, Lafayette achieved a breakthrough (we hate that word) and the 500's noise limiting is on a par with the best of the tube transceivers. Similarly the adjustable squelch—it's on a par with tube squelches.

The receiver is either 12 channels crystal controlled or variable tuned. Though Zener diodes are used to insure a stable voltage supply to the receive VFO, component aging can shift the calibration. To avoid a factory repair, provision is made for *user* frequency correction of the VFO through an access hole in the transceiver's cabinet.

The only fault we can find with the receiver is the S-meter. It's one of those itchy-bitsy models that requires a long look to make out the numbers.

The transmitter's quality compliments the receiver. It is factory tuned for a 50 ohm load (though the tuning can be adjusted by the user.), and delivered 2.8 watts to both a dummy load and an antenna. It requires no adjustment if the antenna installation is reasonably good. Without retuning the transmitter delivered the same power output to full-length, center, and base loaded whips.

The modulation quality is straight from "the book." All the modulation power is in the intelligence carrying mid-range frequencies—the signal is "all audio." There's plenty of mike gain; so much so that you can drop your voice to a whisper and still hit 100%. No one's going to need a pre-amp with this rig.

Standard features include a spotting switch and an earphone (headset) jack.

As supplied, the 500 works strictly off 12 VDC with either positive or negative ground—switching is done automatically by the power plug; the user does not have to rewire the power supply or power plug for positive ground. Under the severest current drain conditions—100% modulation at 5 watts input—the battery delivers only 850 milliamperes. This is like nothing. A pocket size NICAD battery could power the 500 for two or three hours continuous operation. As far

Continued on page 75

CB CHIT-CHAT

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

Address correspondence to:

**JOHN KREJC, KB8077
60 DIVISION AVENUE
GARFIELD, N. J.**

APRE DEPARTMENT

New appointments to the A.P.R.E. (Area Public Relations Editor) program this month include: C. E. Gibson, KHJ2103, 40 E. Cross Street, Ypsilanti, Michigan; George Hoover, KDD0550, P.O. Box 86, Polkville, N. C.; Robert E. Christensen, KKA9530, 8 Eighth Street, Newington, Conn.; Tracy Corris, Box 192 N. Mansfield Center, Conn.; Wes Swelgart, 44 W. Donegal Street, Mount Joy, Penna.; Hazel Masters, KLA-2599, 2088 McKinleyville Ave., McKinleyville, California; Frank J. Harris, KED1920, 7110 Westbrier Drive, San Antonio, Texas; John W. Younger, KDI-4217, P.O. Box 863, Sarasota, Florida; Robert Wilkey, KDB9450, 9029 4th Ave. S., Birmingham 6, Alabama.

COMING EVENTS COMING EVENTS

Lancaster County CB Radio Club will hold their annual Jamboree, July 5th. More info forthcoming.

State of Vermont Jamboree. The Otter Valley CB Radio Club will sponsor the event June 27th, State Fairgrounds, Rutland, Vermont. Contact: Box 669, Rutland, Vermont.

The Lake City CB Club and the McDowell County Rescue Squad will sponsor jointly the 2nd Annual National Grandfather Mountain CB Jamboree, June 11th, 12th and 13th. Place: MacRae Meadows on the slopes of Grandfather Mountain. Contact: Blanche Wilkerson, 308 Vale Street, Marion, N. C.

The Delray Beach Radio Club Inc. of Delray Beach, Florida will hold the 1st Annual National Sunshine CB Jamboree and Equipment Show, February 21st. There will be continuous entertainment and door prizes, trophies for distance and club attendance, card swapping and manufacturers displays. Jamboree will be held in Delrays new beautiful, spacious Civic Center Auditorium in Delray Beach, Florida. Jamboree control will monitor channels 6, 9 and 11. Contact: Clair Santoro, P.O. Box 873, Delray Beach, Florida.

June 26th and 27th the Illinois Valley CB Club will be celebrating their 5th Annual Get-To-Gether. More info will be forthcoming. No site has been sent to this writer.

The Heart of Dixie CB Club of Pell City, Alabama is planning to hold its first annual jamboree the Weekend of May 29th and 30th. Contact: Louie Tovel, Route 1, Box 237-A, Pell City, Alabama. Monitoring channel is 9. More info regarding site will be forthcoming.

Central Illiana CB Club will hold their Jamboree, Sunday, June 27th, Newton County Fairgrounds, Kentland, Indiana. Monitoring channel 9. Plenty of displays, camping facilities and food.

RUMOR—RUMOR—Richard W. Long, KCF0986, was

overheard speaking about plans for a real National CB Jamboree. Plans would include CB'ers from U.S. and Canada. All interested parties contact: Richard W. Long, 711 N. Mechanic Street, Cumberland, Maryland 21502. (Ed. note) This could develop into the largest yet, so why not contact Dick.

The Southeastern Michigan Jamboree will be held at Swiss Valley Park, Utica, Michigan, June 5th and 6th. Chairman: Stanley Skoczen, 17542 Nine Mile Rd., East Detroit, Mich.

The Oakland Social C-Bees, Inc., 2280 Maple Crest, Pontiac, Michigan will hold their jamboree August 14th and 15th. More info forthcoming.

CENTRAL

Michigan Citizen Band Council—The council consists of affiliated CB Clubs and organizations of the State of Michigan for the purpose of establishing unified policies of air conduct, interchange ideas to improve the facility of the band, coordinate with each other in matters that have mutual interest and to cooperate with affiliated organizations events and programs, and as a unified group maintain a set of standards of air conduct. In all, approximately 50% of the clubs of Michigan are affiliated and it is their hope that they will have all eligible organizations affiliated by early this year. President is Donald C. Ludwig, 19Q2436; Vice President, James LaRose, KHI7657; Secretary-Treasurer, John E. Bowen, KHG2101; Directors, Donald Seese, KHG5355, Edward Sayer, KHI5692, Donald Waite, 19Q8659; Sgt. at Arms, Carl L. Robison, KHH-1356.

Recently, the Y City Radio Ass'n held their wiener roast and hay wagon ride to aid a local CB family. Meetings of the club are held the second Sunday of every month at Texaco Town Hall, with all CB'ers welcome. The Club will hold their Jamboree, June 20, 1965 in Zanesville, Ohio. More info will be forthcoming. Write Y City CB Radio Ass'n, P.O. Box 1345, Zanesville, Ohio.

Recently organized is the United Citizens Band Organization with the following officers: President, Glenn Miller, KHA8582; Vice President, Dale Riggs, KLK3511; Secretary, Florence Yeadon, KHB0659; Treasurer, Tom Wheller, KHD5754. The organization has a membership of 16, which includes husband and wife. The object of the group shall be to promote interest and value of citizens band radio, also to assist in any emergency, where 2-way communications are needed. Meetings will be held the second Sunday of each month.

The Richland County CB Radio Club held their "Fall Swiss Steak Dinner" on November 14th, 1964, at 6:30 p.m. at the Richland Rural Life Center. The grand prize for the evening was a Sonar Model "G" and at this writing, your APRE does not know the



This is the award winning float constructed by the Queen City 5 Watters CB Club of Cumberland, Maryland for the 1964 Halloween parade held on October 31.

The basic colors were red, white and blue, the same as our club decal. The round disc is an exact reproduction of our club decal. The antenna tower had a "eye-catching" flashing red light on top of it. Blue lights on each corner of the float provided the lighting effect. A 1250 watt generator was mounted on the underside of the trailer for the electric power. 4 CB transceivers were placed on the float. Red, white and blue "hand-made" flowers surrounded the entire float and around the two-way radio communication signs located on each side of the float and were also used to spell out "5 WATTERS" on the rear of the float.

winner because the news has not been dispatched yet. More will follow. News of the group comes from: Jon G. Batley, KH11466, APRE.

ATTENTION ALL CLUBS IN THE OHIO AREA! Would you like to read about your club functions in S9 Magazine? Then send all news items, jamboree notices, photographs, and club decals to the following address: Mr. Jon G. Batley, KH11466, S9 Representative, 29803 Lake Road, Bay Village, Ohio 44140.

APRE Jon G. Batley was trying to make a local call on Ch. 16 at approximately midnight (daylight time) and all of a sudden, "This is LONDON, ENGLAND calling; Do you copy me Ohio?" The caller repeated three times and other stations reported hearing the same station from London.

Jon reports that his "S" meter moved three units when London, England came in. He has a Regency Range Gain and an M-81 WITHOUT any beams or auxiliary equipment. It was a very clear night without the conditions of skip on the airways too! Can anyone top this for distance?

The 11 OM CB Radio Club of Toledo, Ohio, reports that on August 31st, 1964, two storage buildings on the New York Central System property on the 1200 block of Campbell Street were destroyed and two other buildings were damaged in a three-alarm fire that was visible for miles.

Nineteen pieces of equipment were called out to battle the blaze.

Eight foot patrolmen and four "scout car crews" directed traffic and kept the spectators out of the firemen's way. In an addition to the patrolmen at the scene, members of the 11 OM CB Radio Club of Toledo's Civil Defense Unit were called to help control the crowd and to direct traffic. Twenty-eight Civil De-

fense and Communications men were at the fire. The 11 OM CB Radio Club of Toledo, Ohio is to be congratulated for their fine service in the community. This was the second time this group was called upon to help the police and fire departments.

Officers of the CB Rangers Radio Club for 1964 are: President, Lowell Falknor, KLH2506; Vice President, Tom Fernside, KGI7781; Secretary, Mae Brandt, KLH-8301; Treasurer, Lola Falknor, KLH2506.

Meetings are held the first and third Fridays of each month.

The Club's monitoring channel is 11, signs have been

REACT NATIONAL EMERGENCY CHANNEL 9

All REACT Teams appointed after this date will be required to monitor REACT NATIONAL EMERGENCY CHANNEL 9 as their primary emergency channel.

All existing REACT teams will be expected to establish primary monitor facilities on REACT NATIONAL EMERGENCY CHANNEL 9 by January 1, 1965.

Local REACT teams may, at their discretion, also utilize a secondary emergency channel of their choice to suit local conditions; however, the REACT NATIONAL EMERGENCY CHANNEL 9 must be maintained as primary contact 24 hours per day, seven days per week.

The decision of your board on the above was based on long and careful study after consultation with many responsible official and other interested groups. Channel 9 is among those channels where inter-license communication is allowable, and has been in the past by far the most popular REACT emergency channel.

The principal purpose of the "secondary channel" ruling is to accommodate those REACT teams that have, or have applied for, a single team license. The new FCC part 95 regulations specifically suggest that groups engaged in official communication activities such as Civil Defense may be granted a team license, thus permitting operation as a group on one of the 16 channels restricted to single-license communication.

We regret the inconvenience to those not now utilizing channel 9, but the Board's decision must be considered final.

**HENRY B. KREER, 18Q5495
National Director, REACT**

posted on every major highway leading into Council Bluffs, Iowa and installation is now in progress in the Omaha, Nebraska area. Wonder why they don't join the many clubs now listening on 7, the National CB Calling Channel.

Cleveland's versatile Q-5 Radio Club is one year old with over sixty members, and, we are now an "incorporated" club as of November, 1964.

During the latter part of October the Q-5 Radio Club assisted the Fairview Park Police Department in the city of Fairview Park, Ohio, on the nights of October 27th through the 31st for operation Halloween Stake Out Exercise which lasted from 7:30 p.m. until 11:30 p.m. The club used Channel 14 which is the Q-5 Radio Club's emergency channel in the Cleveland area. There was a "main base" set up in the police station, and, there would be ten mobile units out on the road covering the streets of Fairview Park. Each mobile unit had two men in the car, ready for action. During the

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Section 95.85(1) of the CB rules states that if you use your CB gear for any emergency, even for calling for help for a stranded motorist, you must notify (in writing) both the FCC in Washington and your local FCC office. You must do this for each time you use your CB rig for emergencies. These FCC Notification cards were specifically designed to cut to a minimum the paperwork necessary for well meaning clubs and individuals—they contain all of the necessary wording (and are even addressed)—all you do is fill in a few blanks, stamp, and drop into the nearest mailbox. They come with a list of addresses of local FCC offices. Available postpaid in packages of 50 for only \$1. Thousands of these cards are already in circulation. Order now from:

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**Channel 9
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Port Washington, N. Y. 11050**

four nights of the mobile run, between fifteen and twenty men would report to the police station for instructions before going into their assigned areas for the evening.

After each exercise was completed, the men would refresh for the evening at a local drive-in and talk about their experiences while on duty in the assigned area.

Bob Sharkey, Net Communication's Chief for the Club, KHJ2859, and President, Sig Hufenbach, KHI-3300, would like to thank EVERYONE who participated in the "mobile run" during Halloween.

News of the group comes from: Jon G. Batley, KHI-1466, S9 APRE for Cleveland and vicinity.

Newly elected officers of the Maumee Valley Radio Club are: President, Jack Dold, KHA9478; Vice President, Mort Knott, KHA4735; Treasurer, Robert McKinley, KHD2682; Secretary, Dorothy Stephens, KHD-4333. The new meeting place is the St. Charles School, corner Reed and Trier Rd. Meetings are the 3rd Thursday of each month at 8:00 p.m. APRE is a honorary member of the club. A special thanks to Jack Dold for his untiring efforts to further the citizens band journal, S9.

The Flintstone CB'ers Club of Flint, Michigan is a new Club just organized this year. It was formed in August, 1964, with 24 members.

The meetings are held the last Sunday of each month at 3 p.m.

The Officers are as follows: President, Al Gooch, KLN4015; Vice President, Mike Slezsak, KLN3168; Secretary, Carol Kirby, KLN4585; Treasurer, Marilyn Slezsak, KLN3168.

The Flintstones won a trophy at their first Jamboree which was held at Washington, D.C. in August. The trophy was for having the most CB'ers from one town present.

The club has doubled its size in the three meetings it has had. The present membership stands at 48 with several applications pending.

After each meeting a coffee break is enjoyed by all. Newly elected officers of the Macomb CB'ers are: President, Carroll Howell, KHG5465; Vice President, Al Dehen, KHI7562; Secretary, Dot McKernan, KHH-4423; Treasurer, Terry McKernan, KHH4423. Past president of the group is Vincent Cuker, 19W9224.

NORTHERN

An open letter from Dan Pettigrew . . .
'73's to S9.

"I would like to introduce our Club to you, we are rather new as far as a club is concerned, but we plan to be a very active club. At present our membership stands at 25 members, and growing right along. At our recent elections Dave Stoudt, KKG1144, was elected President, Dan Pettigrew, KKG3335, Vice President, and Michael Dougan, KKG3660, Secretary-Treasurer. Our first big project was called "Vandal Patrol." We assisted the Local Police Department in the protection of property during the Halloween season. Our members kept the Police informed of activity in their given area and the police made all arrests and investigations, thereby keeping our units unknown to the vandals. A rig was set up in the Police Dept. and communication with all units was constant from the hours of 7 to 11 p.m. The FCC was notified of our activity in advance and we used a channel rarely used in this area.

"So much for my rambling on, just thought you would like to know what is going on here in the Delaware Valley. I enjoy S9 . . . Keep up the good work."

The Cee Bee 10-4 Club, Inc., recently held elections with the following officers installed: President, Ted W. Martin, 1Q4183; 1st Vice President, John Gaganaro, KBC3723; 2nd Vice President, Harry Gaetano, KBA4915; 3rd Vice President, George Holland, KBA-0939; Treasurer, John Candellora, 1Q6975; Recording



The use of citizen's band transceivers in business and for emergencies has long been established, and now the installation of the handy gadgets is spreading to the food industry.

Industrial Catering Company, Farmingdale, L. I., operates five trucks in the heavy industrial center in Suffolk County, N. Y., and each vehicle is equipped with CB equipment. In photo above, driver Joey Stoddard demonstrates how he used the equipment to two interested customers, executive officers of Vernitron Corporation, whose division, United Scientific Laboratories, Long Island City, manufactures citizen's band transceivers. Harold Winton, left, vice president, and Bernard Levine, center, president, listen to Stoddard explain how he keeps in touch with his central office with equipment made by USL.

According to Stoddard, the CB equipment provides excellent communication, allowing company to speed food to plants having unexpected visitors. In addition, Stoddard can report to central office that he is running out of certain food and a new supply can be sent to him.

Secretary, Velma Luppino, KBA7094; Corresponding Secretary, Patty Degannaro, KBC7060; Executive Vice President, Phil Nardi, KBC0312. Members are equipped with emergency light duty training, first aid training, and are trained as air raid sheltered managers and instructors and radiological monitors and instructors.

Here is a true yarn about a CB'er that does have a little comedy as well as a public interest story and does show the value of CB.

On Oct. 11, 1964, CB'er Harold Webster, 20Q4608, of Rochester, N. Y. took off on an excursion trip on the New York Central railroad, which was sponsored by the National Railway Society. This trip was started at Buffalo, N. Y. and eventually wound up in Corning, N. Y.

Harold being a good CB'er, took along a 1 watt walkie-talkie he and the rest of the passengers enjoyed the W.T. along the way, the only trouble was that to get the best results the W.T. had to be used on the platform between the cars.

20Q4608 reports that he did make several good contacts along the route, but I guess the platforms must have been rather packed at times with would-be CB operators.

The excursion train finally arrived in Corning, N. Y. where it was shunted off on a spur line and was due back at 4:45 p.m. to pick up the sight-seeing passengers. The hour to leave arrived but NO train. As time passed and nerves began to get on edge, our travelers found that there was no way to reach the dispatcher to see WHAT HAD happened to the train. That is where 20Q4608 came to the rescue. He put out a landline call to the railroad dispatcher informed them the train had broken down and would be about

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1½ hours late. Thanks to Harold and his 1 watter all calmed down for a restless wait. If it had not been for CB what would have happened to our travelers?

Address change: Connie Druiett, KBG1830; Exec. Secretary, C.B.R.R.L., Inc., 36-20 170th Street, Flushing, New York.

The Moby Dick Chapter of REACT was formed a few years ago and consist of 60 members. The coordinator of the chapter is Rocky Pimental and sub-coordinator is Joe Daley, Secretary, Irene Belanger, KBD0699; Radio Officer, James Souze, KKA6232. Meetings are held every other Monday at 7:30 p.m., at the American Legion Hall, Fairhaven, Mass. Recently, the chapter was presented and awarded with the Distinguished Service Award from REACT National Headquarters for outstanding service in the community. Monitoring channel 11. (Why not 9?)

The month of October was a busy one for the Twin State Five-Watters. They did their bit to help the Claremont, New Hampshire Bicentennial be a success by furnishing communications for the Bicentennial Foot Race and the Bicentennial Parade. The trophies for the race were donated by the club and presented to the winners by the club President, Warren Wright, KBA5468. Following the huge parade in which the club had entered a float, nineteen members and their families met at the Goodwin Community Center for a pot luck supper put on by the ladies of the club. Entertainment was provided for both old and young.

The Allegany County Radio Emergency Service was requested by the County Civil Defense unit here to participate in the nationwide alert on Friday, October 30, 1964. This club handled emergency communications during the entire test and provided radio cars at set up locations. Rescue Chief Lewis Cicirello, 20W-4845-U2 headed up the operation, with assistant chiefs James Cicirello, 20W4845-U3, and Robert Bush, 20Q-5593. Many of the members provided their cars and time, including Robert Boyd, KIC6708, who handled the base station at CD headquarters, and units in the field, including Howard Bergerson, KLP2252, Fran Hann, KID8401, Karl Lane, KIC1715, Walter Liesengang, KID8722, Paul Weisheit, KIC3768, William Rapan, KJ10818, Ed Lathrop, KLQ1123, and others. The Director of the County CD is Robert Coulter, KLP6155, and the Wellsville supervisor is Richard Embser, 20Q-4501. All are members of ACRES, Inc.

Meetings of ACRES, Inc., are held third Monday at 8:00 Community Building, in Wellsville, N. Y. Club boasts over 43 active members.

The club operates a rescue truck and a half track known as a "weasel," which has been used in fighting forest fires, and also has been the center of attraction in three parades this year.

The newest CB radio club to be organized in the greater Providence, R. I. area is TAC which stands for **Technical Audio Communications**.

This club which held its first official meeting on September 2nd of this year, was formed to provide a social club for male and female CB'ers not interested in a strictly emergency type of club and also a club in which the younger CB'ers are as welcome as the older CB'ers.

This club will however provide organized base and mobile communications during emergencies when requested to do so.

The present Officers of TAC which now has 35 members on its rolls are: President, Joseph Testa, KKA-3583; Vice President, John La Garde, KBC0853 Unit 1; Secretary, Don Ouellette, KBC0853 Control; Treasurer, Tom Leahy, KBB0127; Trustees, Dick Gilbert, KBC-3085 Unit 2, Irving La Prade, KBC8145 Unit 2, Roger Baffoni, KBC7847 Unit 4.

Meetings are called to order at 7:30 p.m. the first and third Wednesdays of each month at the Smithfield Town Hall Auditorium. Visitors are always welcome.

Newly elected officers of the Somerset County CB'ers are President, William LeBlanc, KBC4988; Vice President, Norman Hume, KBC9340; Treasurer, Sally

Lander, KBD0248; Secretary, Mac Bennett, KBC8997. The club meets the second Sunday of the month at the I.O.O.F. Hall in Skowhegan, Maine. The newly reporting club is planning to erect road signs entering their city this coming spring.

Glens Falls Area Citizens Band Radio Club Inc. (Glens Falls, N. Y.) Organized a patrol to keep an eye on "fun-seeking" children, on both Cabbage Night and Halloween. The Area's City's was termed quiet by the City Police they made no arrests.

President, Herb Colvin, KIC2999; Vice President, Albert Martin, KIC6657; Treasurer, Larry Wells, KIC-4107; Secretary, Ruth Colvin, KIC2999. The Paper, *The Breaker*, published monthly. Editor "Rocky" Club meetings second Sunday of the month. For time Club meeting's second Sunday of the month. For time and place the above call numbers or William Davidson, KLP8083.

SOUTHERN

Newly elected officers of the Gainesville, Florida are: President, Ramond Newman, KKP0942; Vice President, Thomas E. Davis, KDI1206; Secretary-Treasurer, James A. Peters, KDI5159. The club is planning a CB Jamboree for the south, but more details will be coming shortly. Present membership is 57. Club paper is the *CB Broadcaster*.

PACIFIC

On Wednesday, October 7th at 7:30 p.m. the Tracy C Beams monthly meeting was held at the Tracy Fire Dept. During the first hour a fire extinguisher demonstration was conducted by Bill Steinkamp local fireman and fire extinguisher salesman. Several different types of small fires were extinguished by Mr. Steinkamp.

The remainder of the meeting was devoted to the nomination of new officers for the coming year.

The Tracy C Beams hold their monthly meetings on the first Wednesday of every month at senior elementary school at 7:30 p.m. Any one in the area is more than welcome to attend. The calling channel in Tracy is 11.

The McKenzie Citizens Band Radio Assoc. held its annual picnic Sept. 13, 1964 at the home of Dan Tracer, KFG0505 located about five miles north of Junction City, Oregon. The day was perfect and the turnout terrific. Approximately 150 CB'ers from Portland to the southern tip of the state and from the coast to the Cascades Mts. spent the day with us. Most every city in between was represented. Several Californians passing through the area also stopped and took potluck with our group. Everyone had a very pleasant day getting acquainted, talking shop and chit chat eyeball style. There were several dealer displays on hand with all the latest equipment available to the CB public and it was thoroughly looked over by all present. The dealers were most courteous and answered the many questions asked of them. They gave away some very valuable prizes and gifts too. Many local merchants contributed gifts that were presented to those attending that were lucky enough to have the right number on their ticket.

WESTERN

The N.A.A.C.B. held their very first social event last Sunday, October 26, 1964. It was a potluck spaghetti feed and it was a big success. A total of 60 persons turned out to meet and greet CB'ers they had oft talked to, but never met. It was held at the home (CB Heaven would be more like it), of the club's Vice President, Roy Barrett, KLA5593 and XYL Dorothy. The Barrett's QTH, incidentally, is 1500 feet above Eureka, California. Everyone had a wonderful time and are very grateful for Roy and Dot's well-known hospitality. They would also like to acknowledge the assistance of

Donna Haney, Refreshment Chairman, Don Pape, who made the spaghetti sauce, and President, Tom Stretch for the beverage. This social event took place after a mere 6 days of planning!

ATLANTIC

New clubs are popping up in this area just about every week. In Arlington, Virginia, a new club is being formed. Temporary officers have been elected and a name will soon be coming. In Manassas Park, Virginia, a new club consisting of only residents of the Park have organized. They call the club, *Radio Aid of Manassas*. In Winchester, Virginia, the *Shawnee CB Club* was recently formed. The officers are Mel Richards, KCG4001, President; Fred Kern, KCG0795, Vice President; Gary Lofton, KKI2586, Secretary; and Elwood Wolfe, KCG4021, Treasurer. In Washington, D.C., the recently formed *Southeast REACT Club* has grown from the original five members to nearly 100. West Virginia sees the formation of the *Morgan County Emergency Radio Association* in Berkeley Springs and the *Berkeley County CB Radio Club* in Martinsburg. We will keep S9 readers informed of these new clubs through *APRE John March*.

We are deeply sorry to report that Alexandria, Virginia Policeman Eugene Yoakum, KCF1208 met his untimely death in the line of duty. Mr. Yoakum became known to many CB'ers through his use of a walkie-talkie with his police dog. Many clubs and CB'ers in the area are collecting money to help his widow through these sad months. Any CB'er wishing to contribute, please mail to: *Fairfax-Prince William CB Radio Club*, P.O. Box 445, Centreville, Virginia.

The *Winchester-Frederick County CB Radio Club* and the *Shawnee CB Club* have been working hand in hand with the local polio drive.

The *Fairfax-Prince William CB Radio Club* recently adopted the S9 10 code as the official club code. Also during the month of December, the club collected food, clothing, and toys for two families in the area. Another annual event of the club was the erection of the *Community Christmas Tree* in Centreville. In the planning stages are the second annual dinner-dance set for February.

The *Southeast REACT Club* held a very successful jamboree on October 25. An estimated 500 CB'ers were on hand to see the many displays, equipment, auctions, bingo, music, to exchange QSL cards and to win the many prizes given during the afternoon.

The *Arfax CB Club* has been busy during the past few months. In September the club held a *Shrimp Fiesta* which saw nearly 50 pounds of delicious shrimp being consumed. October saw the club hold a covered dish dinner, while November saw the planning of the annual *Operation CB* and also the election of new officers.

Mike Pitts, KCG1166, Editor of *Channel 15*, the club paper of the *Fairfax-Prince William CB Radio Club*, has requested any club wishing to exchange club papers, please mail their paper to P.O. Box 445, Centreville, Virginia.

The *Queen City 5 Watters of Cumberland, Md.* and the *Mountaineer CB Radio Club of Frostburg, Md.* conducted the communications for the annual *Halloween parade* held in Cumberland, Maryland on October 31, 1964. There were 20 mobile units involved in this parade event. Each mobile unit had a specific job to do and did it well. *Channel 11* was used for the parade. Prior notification had been sent to the *Federal Communications Commission* informing them of this event in which the clubs were going to use *Citizen Band radio*.

Approximately 35,000 people watched the parade consisting of 10 different divisions. It is the biggest parade held in this area. Dick Long, KCF0986, Jim Folsom, KKI1550, Joe Snyder, 4Q1278 and Mike Grable, KCF-1134 handled all the details in setting up the communications for the parade. A "fun night" was had by all including the "trick-or-treaters."



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OPERATION HURRICANE

The time was 5 p.m., October 14th, and the central east coast of Florida was girding itself for the expected onslaught of Hurricane Isbell. The area has just received word that the storm, spawned in the dying days of the Hurricane Season, had crashed into the west coast of the State with 125 m.p.h. winds!

Although the hurricane season was almost at an end, Isbell was just starting on her trip across Florida, destined to wreck havoc as only hurricanes can do.

Two small towns, Delray Beach and Boynton Beach, located about 50 miles north of Miami, were as ready as they ever would be for the storm. Shutters were closed, stores were boarded up and an unfortunate few were fighting driving rains and 40 m.p.h. winds to get their last minute shopping done before Isbell set in in earnest. Although Delray Beach and Boynton had been warned well in advance, that the storm was going to hit, little did they know of the true fury that Isbell would unleash within the next six hours. All government and emergency units were activated. The police, fire departments, Civil Defense, Hospitals, Depts. of Public Works, power company crews, phone crews and Red Cross were all standing by, ready to minimize the effect of Isbell.

There was another group of men preparing for Isbell on this stormy night—the members of the Delray Beach Radio Club Inc.—an amateur and CB radio club composed mainly of residents of the two towns. In case of hurricane and other disaster, the club is split into two well organized groups, each responsible for supplying emergency stand-by communications for the towns in which they live. Each group was busily installing CB equipment at strategic points to serve as a last ditch stand-by communications link to be used only in case of a breakdown of normal channels of communication—a not uncommon problem during hurricanes.

You might wonder what a volunteer club, with no funds other than their own contributions, could do to maintain communications, if huge corporations and vastly better equipped organizations, for some reason or other, would temporarily be put out of order. The answer is simple. The best phone company in the world can't get an emergency call for help to a public shelter if a falling tree has brought down a phone line! A police car can't supply emergency communications to the water dept. if the officer has more than he can do protecting lives and property of victims in a smashed home. Fire Dept. radios can't help persons in a recreation center shelter who need to get to the hospital if the phones in the shelter are out and the firemen are working to clear rubble in another part of the town!

Suddenly, and without warning, about 5:30 p.m. Isbell pulled the first surprise out of her bag of tricks, and as so often happens, the best made plans of man literally went out the window—or in this case—out through where the roof used to be! The first act of the evening's entertainment came about 5:30 p.m. when a tornado (the offspring of the winds preceding hurricane Isbell) moved in off the angry Atlantic, striking the coast between Boynton Beach and Delray Beach in a trailer resort area called Briny Breezes. Huge trailers were smashed to pieces, and one 40' house trailer disappeared from the face of the earth—remaining un-fund to this day.

After leaving the trailer park the tornado traveled northwest across Boynton Beach, leaving a trail of debris wherever it touched down. The home of the Ex-Mayor of Boynton, L. S. Chadwell, suddenly exploded into a mass of flying timbers as the tornado struck, leaving palm trees lying where the ceiling had been a moment before!

The force of the tornado knocked out electric power and phone communications in its path, leaving the Boynton Beach Fire Dept., Police Dept., City Hall and Recreation Center without lights and communications. Electricians frantically worked to start emergency power systems, while the Police and Fire Departments had their hands full trying to avert panic and preserve

what little order remained after the tornado crashed through.

Following the tornado the winds slowly and relentlessly gathered force and speed as Isbell came closer and prepared to finish off what the tornado left undone. By about 8 p.m. the winds had exceeded 100 m.p.h. Shortly thereafter all electric power in the area went out as a high line gave under the force of the storm.

Dozens of CB club members were on duty manning radios they had installed only hours before. As luck would have it, the phones that were most needed were the first to fail! By this time the CB sets were operating on battery power unless the building they were located in had stand-by generators.

Over the CB reports came into the Boynton Beach Fire Dept., that the City Hall, the Civic Center, the Water Dept., and Bethesda Hospital were without phones. Suddenly a call came from the hospital to Tom Kain, the City Manager of Boynton Beach, that the emergency power at the hospital had failed and the building was plunged into darkness with scores of sick and frightened patients. It was a call for help—help in a hurry! Mr. Kain was standing by the radio when the call came in and his reply was instantaneous "Tell them we'll get an emergency power plant down there as soon as we can." Within minutes one unit after another called in instructions and information. Thanks to many men from both towns and the hospital, emergency power was installed in jig time with winds blowing better than 110 m.p.h.

There isn't time here to tell of the many incidents of that hectic night. There were hundreds of small emergencies that stayed small because the lines of communications stayed open. Unbelievably not one person in Boynton Beach or Delray Beach was killed, although a few were injured. Thanks to our Police, Fire and other Depts. of public service, both local and county, a storm that started out to be a killer ended up as just one more "big wind."

Today, Floridians and tourists swim in the beautiful Atlantic, relax on silvery beaches, or go about their everyday jobs with Isbell only a fast fading memory. Boynton Beach and Delray Beach were ready. We of the Delray Beach Radio Club tried to do our part. Is your Club ready to help your local authorities if the need should arise? We receive no payment for our services. We are merely public spirited citizens who believe it is every citizen's responsibility to make their community a better place in which to live. We are richly rewarded, however, by letters from public officials who recognize our efforts and are aware of what we are trying to do.

To continue our present coverage, and to fulfill our hopes and plans for extended coverage, we feel the need to expand. To help cover the cost of this expansion for supplies, equipment, books, etc., we are planning a gala "SUNSHINE JAMBOREE." This will be held Feb. 21, 1965 in Delray Beach's new beautiful, spacious, civic center auditorium.

This is Florida's first annual jamboree and equipment show. There will be continuous entertainment, door prizes, trophies, for distance, club attendance, card swapping, and manufacturers displays.

We are 18 miles south of famous Palm Beach, 25 miles north of Ft. Lauderdale, and 48 miles north of Miami Beach. Five miles south of us is Boca Raton and the new Florida Atlantic University which President Johnson dedicated Oct. 24. We also have many golf courses, movies, Polo games, Jai Lai, night spots and shopping centers in our area. What an ideal time to plan your vacation in Florida, and there is no finer place to spend it than in Delray Beach with its mile long beach, truly the finest in South Florida. We also have many of the nicest motels, hotels, and restaurants to be found anywhere.

Come as a family, by yourself, or in a club group—motorcade, and have FUN IN THE SUN with us. Contact: Delray Beach Radio Club, P.O. Box 873, Delray Beach, Florida.

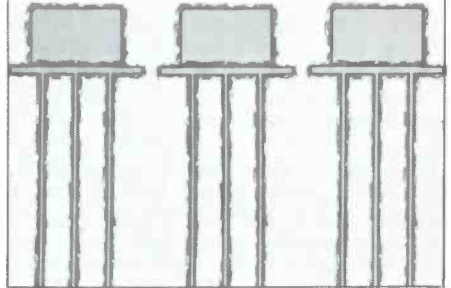


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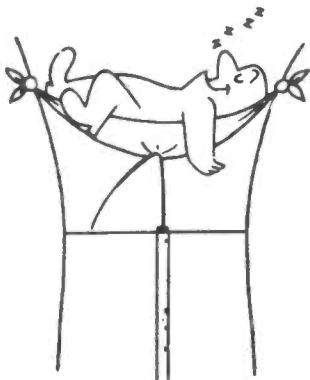
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GRANDMA'S LEAKY SOCKETS

After a little lubrication at the local pub, my old army buddy lets loose. His favorite story, which he swears is true, happened some years ago to his Grandma. Seems that Granny was bothered by the AC outlets in the wall. Her logic was convincing: if electricity comes out of those outlets, they must be plugged up at all times. Otherwise, they'd leak all over the floor. So Granny hobbled around the house each day, inserting plugs into each vacant socket. Satisfied that she wouldn't be charged by the power company for leaking electricity, Granny went back to knitting her shawl.

Now what's this got to do with antennas? Plenty, if you're the kind who likes to bend elbows at the neighborhood mill and want to win a couple of free ones.

Just challenge your cronies with this: Is the same antenna as efficient on receive as on transmit? The usual answer is yes, but a closer look reveals a nasty complication. Antennas on transmit, if well-designed and properly matched, are marvelous radiators. They convert nearly all transmitter power into useful signal. Now reverse the process for receive. Passing radio waves cut across the antenna and turn into electrical currents which drive the receiver. These currents, however, are moving along the antenna elements. Isn't this the same thing that happened during transmit? Though receive currents are much weaker than on transmit, they also radiate a signal. So there's a double action on receive: part of the energy goes down the line to the receiver as useful current flow; part of it evaporates back into the air as reradiation. It's about a 50-50 split, so half the received signal is lost.

But before you rush to your antenna dealer and demand your money back, consider this. The power loss sounds large, yet in practical operation isn't too serious in terms of what the ear hears from the loudspeaker. The action also explains why multi-element antennas (like beams) have extra iron. The added elements pick up that reradiated energy and send it back into the line. So the loss in a conventional antenna is good for winning bets, but just about as alarming as Granny's leaky sockets.

ANTENNAS

by LEN BUCKWALTER, KBA4480

HEIGHT

Judging antenna range can be like buying shares in a wildcat oil company. Looks good on paper, but try to spend the profits. Trouble is that unknown factors weigh heavily. A respectable antenna pattern should resemble a dough-nut, expanding outward in smooth fashion. But in actual practice, the pattern is more like puffed-out pretzel. Objects near the antenna, overhanging wires, even the underlying earth, tend to warp and distort the pattern. So judging range on pure theory—distance versus signal strength—rarely produces an on-the-nose answer.

Antenna Height	Approx. Range (miles)
10'	4
15'	4¾
20'	5½
25'	6¼
30'	6¾
40'	7¾
50'	8½
60'	9½
70'	10
90'	11½
100'	12
150'	14½
200'	16

Range Chart: Subject to much variation due to differences in terrain, noise, height of receiving antenna, etc.

But a chart like the one shown here is interesting in another respect. It won't read out operating range with pinpoint accuracy, but it indicates something about differences in antenna height. Most significant: you really have to raise the antenna by more than a foot or two to get noticeable range differences.

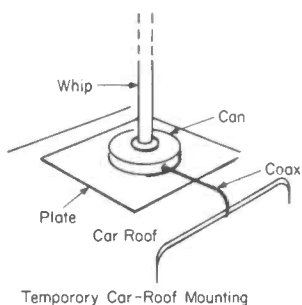
The chart is based on a typical transmitter and antenna working at reasonable efficiency. It does not take into account, say, a big nearby obstacle which could block radio waves. In this instance, even a few extra feet, enough to clear that obstacle, can greatly increase range in the blocked direction.

ROOF-TOP TEMPORARY

An antenna planted in the center of a car

Tell your friends about 59

roof is generally accepted as the best choice for good mobile operation. Yet, many CB'ers hesitate to drill a hole there, or go to the trouble of cable snaking that such an installation requires. There is, however, one trick for gaining the roof-top's superior performance, at least for good temporary operation. It isn't for drive-along use, but could prove helpful for special occasions where the vehicle remains at one position; controlling a parade, for example, or relaying information at a sports event. The system illustrated here lends itself to quick mount and dismount. Electrically, it should perform just about as well as a permanently installed unit.



As shown in the illustration, there is a flat mounting plate which lies at the center of the car roof. The plate serves two functions: it forms a base for the antenna and is one plate of a capacitor which establishes the required ground to the car roof.

The actual dimensions of the various parts will vary, but construction can follow these general outlines. The antenna itself should be one of the commercially available shortened whips, containing a loading coil. This is fastened to a section of tin can, as shown. The fastener depends on the antenna-mounting style; usually a coax fitting or the nut-and-bolt cowl mount. A hole drilled into the side of the can permits the coax line to enter.

Next, the flat metal plate is soldered to the bottom of the can. Be sure the plate is a metal that will take solder (copper, for example). The plate size depends on the height and weight of the antenna. It should be at least 6 inches square, more if the whip is a relatively tall one. The completed assembly is now ready for placing atop the roof. Since no metal-to-metal contact is required between plate and car roof, this can be used to good advantage for protecting the car finish. Insert a sheet of some plastic like polyethylene between plate and roof.

Finally, to keep the assembly from toppling over, add some strips of Scotch No. 33 black electrical tape at the four corners of the metal plate, and along the edges if necessary. **\$9**

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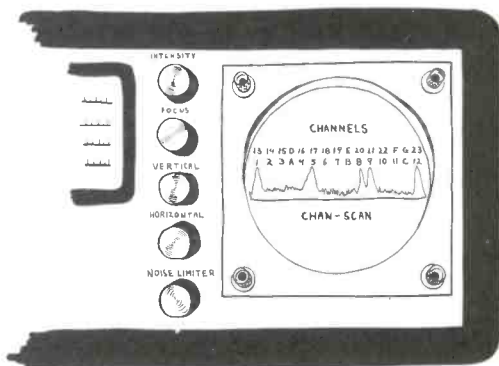
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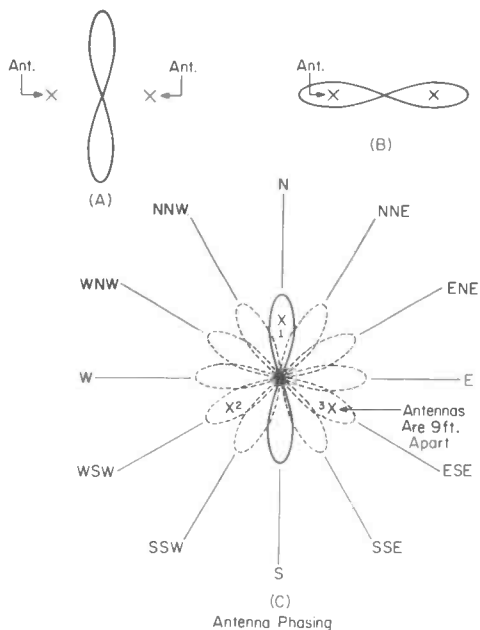


KYLE'S KORNER

WRITE TO:

JIM KYLE, KEG3382
 % **S9 MAGAZINE**
14 VANDERVENTER AVE.
PT. WASHINGTON, N. Y. 11050

There's a good stack of questions this month, so let's get right into them without additional chatter:



PHASED ANTENNAS

More than a year ago I read somewhere about an antenna system for CB which would give the same effect as a beam but wouldn't have to have a rotator. Can you tell me more about it?

—E. W., Tampa, Florida

You must be referring to the "phased antenna" system which has been used for many years by broadcast stations and which has been recommended from time to time for CB users. This system uses several identical antennas, and gets gain from the way in which the antennas are fed. If you place two identical antennas one-half wavelength apart (9 feet for CB use) and feed them with RF energy of the same amplitude and phase, the radiation pattern

won't be the same as that of either antenna alone. If the two antennas are omnidirectional, like ground planes or for that matter most CB antennas, the pattern for the pair will be a fairly sharp beam in two directions. The direction of this energy beam will be at right angles to the line between the two antennas, as shown at A in the sketch. This comes about because along this line, the energy from both antennas reinforces. Along the line through the antennas, the radiation from one cancels out that from the other. In between, you get varying amounts of cancellation, producing the sharpness of the beam. If the energy fed to one antenna is the same amplitude but of opposite phase (there's that word again!) as that fed to the other, the same sharp beam will result but now it will be along the line through the antennas, with the nulls at right angles to this line (B in the sketch). If you use three antennas, at the points of a 60-degree triangle so that each is 9 feet from each of the other two (C), and hook up only two of them at a time, you can get the beam pointed in any one of six directions. If you set them up so that the line through antennas 2 and 3 is straight east and west, then you can get a north and south beam by feeding 1 and 3 in phase, an ENE-WSW beam by feeding 2 and 3 in phase, and an ESE-WNW beam by feeding 1 and 2 in phase. The other three directions are obtained by feeding out of phase. NNE-SSW results from 1 and 2, eastwest from 1 and 3, and SSE-NNW from 2 and 3. To feed the antennas in phase make sure both feedlines are exactly the same length. To feed them out of phase make sure one feedline is exactly six feet longer than the other. To switch from in-phase to out-of-phase feed you can use coaxial transfer switches to cut in an extra six feet of line in one feedline.

MICROPHONE PROBLEM

My transceiver came equipped with a dynamic mike but it wasn't loud enough for me so I bought a crystal mike and put it on. It worked real fine for several months, but this fall it just stopped one rainy day. I'm using the dynamic again but I don't like it. Tell me what went wrong with the crystal so I can keep the next one working.

—P. F., Gary, Ind.

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You were hit by the one major disadvantage of the crystal mike—the fact that it is a crystal. To be specific, it's a crystal of Rochelle Salt, which tends to drink up moisture as badly as sugar in an open bowl on rainy days! They're fine mikes for base-station use where the temperature and the humidity are both under pretty close control, but in a mobile it's a wonder it lasted through the summer. I lost five crystal mikes stored in my garage last winter by forgetting this basic fact and leaving them out there when the rains began. Try a ceramic instead of a crystal the next time; if it's made by the same firm under approximately the same model number, it will sound just about the same as the crystal—but the ceramic will withstand the heat and the moisture.

SQUAWKY SOUND

My --- transceiver has been driving the service technicians crazy around here. Everybody sounds squawky on it. We've replaced every audio tube and gone over the rest of the receiver three times now, but still no improvement. The funny thing is that when I plug in earphones the sound is clear, and it's clear when I talk. The rest of the time, squawk! Can you offer any help?

—L. E., Baton Rouge, La.

Sounds as if you've eliminated almost every possible cause of the problem, but not the right one yet. Since it sounds clear when modulating your transmitter, or when you have earphones plugged in, but not when the speaker is working, I would suspect the speaker. Most technicians check the speaker by using a flashlight cell and seeing if it makes a "pop" sound, but such a check isn't good enough for this problem. Try disconnecting the present speaker entirely and hooking up a substitute. Your rig uses a 4-ohm universal-replacement speaker in the 4-inch size; any similar unit will work as a substitute. If the sound clears up, replace the speaker. Tear out the cone of the old one and give the frame to the kids to play with; it has a rather potent permanent magnet in it.

DOWNWARD MODULATION

Occasionally I hear fellows talking about what they call "downward modulation." What is this? I thought all modulation was the same.
—J. R. D., Muskogee, Okla.

The kind of modulation we use varies the strength of the transmitted signal; if we happen to be testing with a sine-wave tone and modulate 100 percent, the transmitter output will be varying from zero up to four times its unmodulated power level as the modulating signal passes through its cycle. This is the normal situation. If something is wrong, however, the output won't swing above the unmodulated level at all. It still swings down all right, but won't swing up. A number of things can cause this symptom, including a poor oscillator crystal, a weak tube anywhere in the transmitter's RF chain, or misadjustment of the transmitter

tuned circuits. Regardless of the cause, the symptom itself is known as "downward modulation." If you're checking output with a field-strength meter, it shows up as a drop of meter reading when you talk—normally, the reading should flicker upward when speech is applied. When you find "downward modulation" present in your rig, run (don't walk) to the technician. Audio troubles can cause all types of illegal operation, because of splatter spilling into other channels. Also, your oscillator may have gotten off channel in the first place to cause it.

GREATER RANGE NEEDED

I'm using CB for my auto-salvage yard, with a rig at the yard and another in the wrecker. I get good results whenever the range is less than 8 or 9 miles, but almost every day I have to take the wrecker out 15 or 20 miles away from the yard and then I lose contact. How can I get more range?

—S. W., Tucumcari, N. Mex.

Since I haven't done much operation around Tucumcari, I don't know if the 8-to-9-mile range you normally get is good or bad for the area. I do know that effective range for a 5-watt rig will vary all over the place depending on local ground conditions. In California I could get 20 miles mobile-to-mobile with ease, while in Oklahoma City (my present 10-20) I'm stretching it a bit to reach 10 miles base-to-base with the same equipment. I assume that you're using the legal limit on everything; 5 watts in, good rig giving at least 3½ watts out, antenna 20 feet above the highest available man-made structure on which it can legally be mounted, as much gain in the antenna as you can handle. If not, do all these and see if you can't stretch a few more miles out. Don't overlook the possibilities of audio clipping for "range-boost" action. My newest rig has this built in, and on the first test from this poor location it was heard more than 35 miles away. If all these fail you, though, then your only hope would be to move over to the Business Radio Service channels in the 27-Mc region (where your antenna and, in some cases, parts of the rest of your present equipment, could still be used). In this service, unlike CB, you can go up to 170 feet with the antenna and this factor alone will get you much better range with the same power. In addition, the BRS can use power levels up to as much as 300 watts on some frequencies, and up to 30 watts on virtually all its authorized channels. Much recent CB equipment has been type-approved to allow its use in BRS systems; check with the manufacturer of your gear to find out where you stand on this.

PUZZLED BY TECHNICAL TALK

I've got a problem I think you can help me with. I just got into this radio game and I don't know from anything about it. I buy all the magazines to try to find out what I can, but half of them are so far over my head that I'm

beginning to think I must be stupid or something. Is there some way to get a basic briefing on this technical talk you guys all use, so I can find out what's going on?

—T. B. L., Memphis, Tenn.

As a matter of fact, yes! You did the right thing by asking the question. This department is aimed at fellows like you, and I'm trying to keep it as clear of technical talk as I can just for you. To be able to read the rest of the literature, though, you will find a little briefing necessary (as you've already discovered). Reading all the magazines (not just the CB publications, even though they are the most useful to you as a CB'er) helps more than you think, because it all adds up and one of these days soon you'll find it suddenly beginning to make sense. You can speed this day with some basic-approach books. John F. Rider (at 116 West 14th, New York, N. Y. 10011) and Howard W. Sams & Co. Inc. (4300 West 62nd Street, Indianapolis, Ind.) are the two leading publishers of hard-back books on electronics, and they both have basic volumes in their lines. They also have free catalogs for the asking. Just tell them we sent you to ask about basic electronics books, and they will tell you all about what they have.

ELECTRONIC SWITCHING

How does "this electronic switching" everybody is talking about work? Is it as good as a relay?

—A. L. S., Brownsville, Tex.

That's a whopper of a question. The technique is simple enough, but explaining it isn't. Rather than be too simplified about it here, I've put it together as a separate article and T.K. will probably be using it one of these days soon.

IGNITION NOISE ON CORVETTE

I drive a '63 Corvette (fiberglass body) and I can't get the ignition noise out of the mobile rig. Can you give any help?

—M. V., Bangor, Me.

I knew it would happen but I didn't know it would be this soon. This one is outside my range of experience; the problem is, as you know, the insulating qualities of the fiberglass body. Unlike metal, it doesn't do anything to confine the noise to the engine compartment. You might try putting copper screen wire shielding around the sides of the engine compartment and on the inside of the hood to provide the shielding, but this is just a guess. Maybe some of the readers are Corvette drivers and can offer some tried-and-true tips!

That about fills it up for this month, gang. Remember, this is your department, for your questions. If you have a question on anything in CB, send it to me % S9, 14 Vanderventer Avenue, Port Washington, L. I., N. Y., and I'll give you the best answer I can in this space. Until next month, I'm 10-10.

S9



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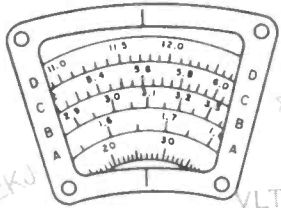
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THE SWL SHACK

BEST BETS FOR LISTENERS ON THE DX BANDS by RICK SLATTERY

Rambling with the S9 DX listeners, we received word from Neil Sweetland, KFD4230, Fresno, Calif., that he heard signals from two Venezuelan CB'ers. One station gave no call when heard at 1300 EST on Channel 12, but gave his location as "Box 413," Maraciabo. The other station gave his call as "YPX28" and location "Box 452," Valencia—this was on Channel 8 at 1430 EST.

Ken Weaver, KCD3346, Allentown, Pa., reports *Radio Japan* at 1910-1930 EST on 15100 kc/s, *Vatican Radio* at 2045-2100 EST on 7250 and 9645 kc/s, and says that he has reports out to both stations with big hopes of receiving QSL's.

Encouraging word for S9's "SWL Shack" comes from reader William Wallis of Edmonds, Wash. Bill, like some other readers, isn't a CB'er but just enjoys reading S9 each month for its "high literary interest." Bill listens for DX on a Hallicrafters SX-62A kilocycle inhaler and sends along this interesting *Radio Australia* QSL card for our readers to ogle.

kc/s; also YVMF in Maracaibo, Venezuela, on 1120 kc/s. He reminds us that many Mexican stations run as much as half-a-million watts and smash through with fabulous signals. Look for these Mexican stations (call/freq.): XETRA/690, XEW/900, XEX/730, XERF/1570, XEG/1050, XELO/800, XEJ/970, and XEWA/540 kc/s.



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<p>The laugh of the Kookaburra is heard at the start of Radio Australia Programmes</p>	

Hal Redfield, KGI2607, St. Louis, Mo., scans the bands with a Hammarlund HQ-145X receiver. He's been an avid DX listener since he heard a station in Bound Brook, N. J., which was broadcasting the Tunny-Heeny heavyweight fight—he was living in England at the time. His most recent DX was the station in Perth, Australia, at 0800 EST on 9610 kc/s, and Montevideo, Uruguay, 0700 EST, 11900 kc/s. Hal is interested in corresponding via tape recordings with other S9 readers, and suggests that those of you with tape machines might be interested in joining a non-profit tape correspondence club known as CANTRA (18 Elm Grove, Toronto 3, Ontario, Canada). Members are welcome and all it takes is for you to send in 3 foot tape giving your name, address, age, occupation and information about your hobbies. Hal's address is 4406 W. Florissant, St. Louis, Mo. 63115.

Reader Steve Kaplan, KKA9788, New Bedford, Mass. is not only a CB'er, but attacks the radio spectrum with all manner of receiving equipment. He has logged 324 stations in 31 states, 4 provinces, plus other overseas. A member of the Newark News Radio Club, Steve passes along news that the following foreign stations are easy marks for north American DX hounds: CMBC on 690 kc/s and CMQ on 630 kc/s, both in Havana. From South America, best bets are HJED in Cali, Colombia, on 820

Old time S9 reader Don Huntley, KDD1522, Asheville, N. C., suggests that readers try for HCJB in Quito, Ecuador. They are best at 9700 kc/s between 2200-2400 EST, but are also heard on 17890, 15110, 11910, and 6050 kc/s. Don says to be sure to send for their nice QSL card if you hear them. Other winning stations to try for, says Don, include: *Radio Budapest*, Hun-

gary, 5900, 6230, and 7210 kc/s at 1700 EST; *Free China Radio*, Taipei, Formosa, 17800 kc/s at 1700 EST; DZ19, Manila, Philippines (*Far East Broadcasting Co.*) 7200 kc/s at 1830 EST; *Radio Pakistan*, 15300 and 11800 kc/s at 1830 EST; *Burma Broadcasting Co.*, Station XZK4, Rangoon, Burma, 7100 kc/s at 0200 EST; and *Radio Nacional de Espana*, Madrid, Spain, on 6100 and 9300 kc/s at 0015 EST.

And "all-around" good job was done by Gary Payne, Fresno, Calif., who managed to snag DX S-40B receiver. Among his DX-ploits are: a U.S. Army station of unknown location using the call-sign AEE29 on about 4985 kc/s at 1900 EST; "Coast Guard Radio, Long Beach" (Calif.) on 2678 kc/s heard working various ships around 2300 EST; *Radio Santa Fe*, Bogota, Colombia, swinging with hot Latin music on 4965 kc/s at 2230 EST (we wonder if Colombia's contribution to S9, Lilia, ever heard of that station); *Radio Nigeria*, Lagos, Nigeria, heard weakly in English on 4990 kc/s at 2300 EST, *RAI*, Rome, Italy, with news in English on 9575 kc/s at 2215 EST; and *BBC*, London, England, with news at 1405 EST on 15180 kc/s. On the broadcast band, Gary dug the following out of the static: TGJ, *Radio Nuevo Mundo*, 880 kc/s, Guatemala, with LA music at 2400 to 0100 EST; *Radio Belize*, Belize, British Honduras, 830 kc/s, with "Music in the Night" program at 2200 EST (he suggests that you listen for *Belize* about sunset, local time); CMCA, "Friendly Voice of Cuba," Havana, 830 kc/s, holding down the channel with Communist tripe at 2300 EST; PJB, *Trans-World Radio*, Bonaire, Netherlands Antilles, a new station which must buck heavy interference on 800 kc/s. Look for it around 2240 EST. Nice going, Gary, hope you'll be a regular contributor to our column.

From the S9 listening post we learn that the new schedule for Russia's *Radio Kiev* broadcasts to north America is at 1940-2000 EST on 7120, 7180, 7310, 7330, and 9660 kc/s, and 0040-0100 EST on the same frequencies (but 7120 changes to 7170 kc/s). These broadcasts are Monday, Thursday, Saturday.

Listen for the DX'ers broadcast from *Radio New York Worldwide* each Saturday at 1400 EST on 9640, 11840, 15440, and 17760 kc/s.

We received a *gigantic* DX report this month from Ira Stoler, Brooklyn, N. Y. Ira's another one of those valiant non-CB'ing souls who doesn't hold a CB license but has been an S9 fan for about a year—just quietly watching the passing CB scene and noting all with approval. Well, we can't have that—we're going to insist that Ira become an *active* reader of S9 by furnishing us with a steady supply of his DX reports. What say, Ira? Here are some of Ira's pickings: *R.T.F.*, Paris, France, 15160 kc/s at 1230 EST; *Radio Canada*, Montreal, Canada, 11720 kc/s at 1335 EST; *Radio Nederland*, Hilversum, Netherlands, 9590 kc/s, Sundays at 1500 EST; *Radio Australia*, Melbourne, Australia, 9570 kc/s, 0200 EST; *Radio Japan*, Tokyo, Japan, 15135 kc/s, 1930 EST; *Radio Norway*, Oslo, Norway, 15175 kc/s, 1020 EST; *Radio Sweden*, 15240 kc/s, 0915 EST. On the ham bands he grabbed off such choice tidbits as: 5A1TT/Libya, 9Q5PA/Rep. Congo, 9U51B/Bruandi, 5R8BX/Malagasay Rep., 5N2CK/Nigeria, HK5OW/Colombia (hey, Lilia!), CR7CD/Mozambique, and 9K2AX/Kuwait.

We thought for a while that S9's Editor, Tom, was going to sit around with that fantastic receiver and not even bother to send in a report to this column. You will notice that the "bearded one" has become pretty aloof now that he's getting articles published regularly in magazines like *Science and Mechanics*, *Electronics Illustrated*, and *Radio-TV Experimenter*. When we accused him of faking out our column he finally came through with a feeble smattering of DX reports, but he promises to be a useful member of the community in the future. Among his attempts are: TJK63, Douala, Cameroons, a SSB station on 11690 kc/s at 1822 EST; CPP14M, La Paz, Bolivia, a commercial CW station on 14455 kc/s at 2052 EST, and JJM5, a CW station of the Japanese Navy in Tokyo, working CTV8 on 8730 kc/s at 0254. Eh!

Hope that you are doing a bit of listening to what's been going on over the airwaves—it doesn't take much more than a small table radio to get started. How about sending us a card or letter telling us what you've heard—we'll be glad to pass along the news to other S9'ers.

S9

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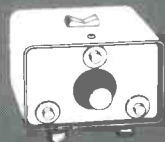
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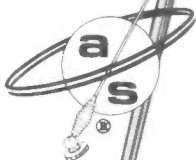
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SACA	191 Ralph Bryant. KBC6510. Fairfield, Conn.				242 Joe Cambo. KKA8456. Norwalk, Conn.
	192 Bob Fancher. KEB1661. Darling, Miss.				243 Marilyn Wise. KKK4804. Anaheim, Calif.
	193 Richard Cady. KHJ6874. Winchester, Ky.				244 Bob Fancher. KEB1661. Darling, Miss.
PX-25	351 James Cross. KID5389. Tyrone, Pa.				245 Ben Michel. KLD0488. Seattle, Wash.
	352 Pete Gabrielle. KID4563. Rochester, N. Y.				246 Richard Cady. KHJ6874. Winchester, Ky.
	353 Robert Shultz. KLJ1143. Shipman, Ill.				247 Henry Suess. KCD2123. York, Penna.
	354 Bob Drapeau. KKA0086. Hopkinton, Mass.				248 Art Scheid. KB16480. Hartsdale, N. Y.
	355 Ralph Westerberg. KKA7401. Hartford, Conn.	PX-100		216 George Hunt. KBJ1722. Middletown, N. Y.	
	356 Larry Martin. Jacksonville, Ill.			217 Robert Shultz. KLJ1143. Shipman, Ill.	
	357 Blake Peoples. Johnson City, New York			218 Bob Denholtz. KB18237. Short Hills, N. J.	
	358 Thomas Lamontagne. KBC7802. Holyoke, Mass.			219 Dick Dill. KHC0280. McLeansboro, Ill.	
	359 David Hatfield. KLJ9167. French-Lick, Ind.			220 David Hatfield. KLJ9167. French-Lick, Ind.	
	360 Anthony Kogut. Frankfort, N. Y.			221 Don Brandt. KKD1311. Short Hills, N. J.	
	361 Jean DuBois. KKD6389. Middletown, N. Y.			222 Big Bill Britton. KLN7118. Dayton, Ohio	
	362 Jack Mory. KK12063. Baltimore, Md.			223 George Miller. KBG6190. No. Plainfield, N. J.	
	363 George Miller. KBG6190. No. Plainfield, N. J.			224 Marilyn Wise. KKK4804. Anaheim, Calif.	
	364 Joe Cambo. KKA8456. Norwalk, Conn.			225 Ronald Walters. KKK6913. Freeport, Ill.	
	365 Marilyn Wise. KKK4804. Anaheim, Calif.			226 Arthur Cates. KED0572. Baytown, Texas	
	366 Richard Cady. KHJ6874. Winchester, Ky.			227 Bob Fancher. KEB1661. Darling, Miss.	
	367 Robert Vance. KLN4913. Cleveland, Ohio	PX-125		228 Richard Cady. KHJ6874. Winchester, Ky.	
	368 James Taylor. KHC8347. Rosine, Ky.			229 Art Scheid. KB16480. Hartsdale, N. Y.	
	369 Bob Fancher. KEB1661. Darling, Miss.				
	370 Martha Suess. KKG1958. York, Pa.				
PX-50	302 Ronald Walters. KKK6913. Freeport, Ill.			156 Herb Girard. KBD0747. Woonsocket, R. I.	
	303 James Cross. KID5389. Tyrone, Pa.			157 George Hunt. KBJ1722. Middletown, N. Y.	
	304 Robert Shultz. KLJ1143. Shipman, Ill.			158 Burrell Buffington. KID8628. Craryville, N. Y.	
	305 Bob Drapeau. KKA0086. Hopkinton, Mass.			159 Art Machado. KLA0346. Sonoma, Calif.	
	306 Ralph Westerberg. KKA7401. Hartford, Conn.			160 D. G. Massam. XM411700. Toronto, Ont., Canada	
	307 Blake Peoples. Johnson City, N. Y.			161 Arno Feltner. KED0775. New Braunfels, Texas	
	308 Thomas Lamontagne. KBC7802. Holyoke, Mass.			162 Bob Fancher. KEB1661. Darling, Miss.	
	309 David Hatfield. KLJ9167. French-Lick, Ind.			163 Richard Cady. KHJ6874. Winchester, Ky.	
	310 Big Bill Britton. KLN7118. Dayton, Ohio	PX-150			
	311 Jean DuBois. KKD6389. Middletown, N. Y.			127 Herb Girard. KBD0747. Woonsocket, R. I.	
	312 George Miller. KBG6190. No. Plainfield, N. J.			128 Ted Templeton. KJ11094. Erie, Pa.	
	313 Joe Cambo. KKA8456. Norwalk, Conn.			129 D. G. Massam. XM411700. Toronto, Ont., Canada	
	314 Marilyn Wise. KKK4804. Anaheim, Calif.			130 Lee Willick. KCJ3880. Raleigh, N. C.	
	315 Ben Michel. KLD0488. Seattle, Wash.	PX-175			
	316 James Taylor. KHC8347. Rosine, Ky.			118 Walt Wise. KFA4659. Anaheim, Calif.	
	317 Edward Bassett. KLJ6061. Toledo, Ill.			119 D. G. Massam. XM411700. Toronto, Ont., Canada	
	318 Bob Fancher. KEB1661. Darling, Miss.			120 Bud Fowkes. KLP5005. Duncansville, Pa.	
	319 Richard Cady. KHJ6874. Winchester, Ky.				
	320 Henry Suess. KCD2123. York, Penna.				
PX-75	232 Dale Fletcher. KKK5201. Yucca Valley, Calif.			107 D. G. Massam. XM411700. Toronto, Ont., Canada	
	233 Robert Shultz. KLJ1143. Shipman, Ill.			108 R. N. Abercrombie. KDD6155. Birmingham, Ala.	
	234 Ronald Walters. KKK6913. Freeport, Ill.	PX-200			
	235 Gene Cagle. KKP3468. Coral Gables, Fla.			106 D. G. Massam. XM411700. Toronto, Ont., Canada	
	236 Albert Gourley. KLJ7870. Jacksonville, Ill.			107 R. N. Abercrombie. KDD6155. Birmingham, Ala.	
	237 David Hatfield. KLJ9167. French-Lick, Ind.	PX-225			
	238 Big Bill Britton. KLN7118. Dayton, Ohio			105 D. G. Massam. XM411700. Toronto, Ont., Canada	
	239 Jean DuBois. KKD6389. Middletown, N. Y.				
	240 Harry Nechetsky. KKP2504. Niceville, Fla.			158 Geo. Radenheimer. KHH1363. Middletown, Ohio	
	241 George Miller. KBG6190. North Plainfield, N. J.			159 D. G. Massam. XM411700. Toronto, Ont., Canada	
				160 Bob Fancher. KEB1661. Darling, Miss.	
				131 D. G. Massam. XM411700. Toronto, Ont., Canada	
				112 Eddie Becker. KCG0706. Alexandria, Va.	
				113 D. G. Massam. XM411700. Toronto, Ont., Canada	
				114 George Solomon. KKG3692. Heliertown, Pa.	
				108 Walt Wise. KFA4659. Anaheim, Calif.	
				109 D. G. Massam. XM411700. Toronto, Ont., Canada	
				106 D. G. Massam. XM411700. Toronto, Ont., Canada	
				104 D. G. Massam. XM411700. Toronto, Ont., Canada	
				105 Bud Fowkes. KLP5005. Duncansville, Pa.	
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SSC-11 102 George Thayer, KID2617, Salamanca, N. Y.
 SSC-12 102 George Thayer, KID2617, Salamanca, N. Y.
 SSC-13 102 George Thayer, KID2617, Salamanca, N. Y.
 SSC-14 102 George Thayer, KID2617, Salamanca, N. Y.

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 and don't Scotch Tape your dime to the card. Address the material to: Card Swappers Unlimited, 14 Vanderverter Avenue, Port Washington, N. Y. 11050. Deadline for listing in the March issue is January 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:

1Q4115 Jim Heyne, P.O. Box 282, Foxboro, Mass.
 1W3143 Rich Abrams, Bayne St., Norwalk, Conn.
 1W6216 Errol Engraving, 36 Hampden St., Westfield, Mass.
 1W9262 Marguerite Houghton, 67 Valdaia Ave., Fitchburg, Mass.
 2Q1147 George Delaney, 308 - 47th St., Union City, N.J.
 2Q1911 William Plog, 11 Gould Rd., Centereach, L.I., N.Y.
 2Q6776 Bernie Pinkard, 61 Norwood Ave., Terrville, N.Y.
 2Q6980 Jon Morgan, 144 Wilson Ave., Kearny, N.J.
 3Q1618 Everett Lindsey, R.D. 1, Mount Holly, N.J.
 5Q0577 Fred Harris, Route 3, Gate City, Va.
 5Q2178 Elwyn Beam, Route 2, Vale, N.C.
 6Q4378 Ernest Watson, P.O. Box 104, Alpharetta, Ga.
 6W4390 Claude Witt, 206 Dunbar Lane, Crossville, Tenn.
 6W7263 Bill Orrton, 905 Altamaha St., Chattanooga, Tenn.
 8Q1009 Sid Coryell, 4502 W. 29th St., Little Rock, Ark.
 12Q0018 Luke Gerbich, 782 - 39th Ave., San Francisco, Calif.
 12W1521 John Coad, 19050 Meiggs, Cupertino, Calif.
 17W3325 Pete Nosler, 1144 Pineridge, Wichita, Kansas
 17W5449 Henry Hawkins, R.R. 1, Box 86, Fairgrove, Mo.
 18B2648 Glenn Davis, 6143 N. Rockwell St., Chicago, Ill.
 18B2698 Maxine Dick, P.O. Box 167, Kokomo, Ind.
 18Q4913 Tom Leadbetter, R.R. 4, Box 40, Muncie, Ind.
 18Q8866 Richard Cary, Rt. 4, Box 176, Russell Springs, Ky.
 18QA1528 Fred Schuemelfeder, 316 West Park Rd., Round Lake, Ill.
 19A5551 Steve Yankee, 357 1st St., Manistee, Mich.
 19A5964 Stan SICKLER, 2310 Commor. Hamtramck, Mich.
 19A6598 Charles Ash, Box 66, Tippecanoe, Ohio
 19Q0707 Jim White, Box 108, Syracuse, Ohio
 19Q4842 James Humburg, 460 Pipestone St., Benton Harbor, Mich.
 19Q8152 John Kasten, 5916 Westbrook Dr., Brookpark, Ohio
 19Q9941 Martin Ripper, 7617 Cavell, Garden City, Mich.
 19W8131 Robert Tatum, 23748 Haig Rd., Taylor, Mich.
 20Q0255 Philip Lundy, 48 Sodus St., Clyde, N. Y.
 20Q1360 Ivan Smith, 419 Water St., Danville, Pa.
 20Q4816 J. F. Simpson, Box 56, R.D. 3, Everett, Pa.
 KAG2486 Dave Buda, 717 Centre St., Nutley, N.J.
 KBA5557 Ted Cummings, Bellflower Rd., Billerica, Mass.
 KBA8730 Howard Wolf, 4903 216 Place S.W., Mountlake Terr., Wash.
 KBC0209 Vince Melendy, Spring St., Bedford, Mass.
 KBC0533 Ruth Charon, 109 Bowers St., Holyoke, Mass.
 KBC5455 Sandy Fitzgerald, 30 Stevens St., Chicopee, Mass.
 KBC6510 Ralph Bryant, 716 Riverside Dr., Fairfield, Conn.
 KBC6692 Mert Sweet, RFD 1 Raymond Hill Rd., Uncasville, Conn.
 KBC6819 Robert Giustina, 68 Dunmoreland St., Springfield, Mass.
 KBC8093 Dennis Cidale, 17 Water St., Stonington, Conn.
 KBD0454 Ed Harhausen, 20 School St., No. Woburn, Mass.
 KBD0747 Herb Girard, 348 Carrington Ave., Woonsocket, R.I.
 KBD0846 Tad Bartles, 69 Rustic Terr., Bristol, Conn.
 KBD1222 Judy Bloxson, 1647 Park Ave., Bridgeport, Conn.

KBD1474 Dorothy Sullivan, Port Clyde, Maine
 KBD4096 Buck Lambert, RFD 1, Lebanon, N.H.
 KBD4622 Wayne McGrath, Prospect St., Cheshire, Mass.
 KBD1300 Ray Grele, 9 Argyle Circle, Scymour, Conn.
 KBG0381 Frank Ellis, Germantown, N.Y.
 KBG2292 Hiermann Schulz, 471 Hilltop Rd., Yorktown Heights, N.Y.
 KBG2879 Earl Urbells, 60 Blvd., Greenlawn, L.I., N.Y.
 KBG5169 Ivan Enslor, 203 Canterbury Gate, Lynbrook, L.I., N.Y.
 KBG6576 Charles Arnwine, 725 South Broad St., Trenton, N.J.
 KBG7180 Pat Purcell, 99 Harvard Dr., Hartsdale, N.Y.
 KBG7387 Gerry Schechter, 3535 Kings College Pl., New York, N.Y.
 KBG7687 Robert Thatcher, R.R. 1, Box 59-82, Hudson, N.Y.
 KBG8153 Betty Krueger, 23 Standpipe Rd., Freehold, N.J.
 KBG8102 Clarence Gouger, 32 Clinton St., Newton, N.J.
 KBI0301 Jack Whittier, 2400 Johnson St., Janesville, Wis.
 KBI0797 Stan Shafer, 2205 North E St., Richmond, Ind.
 KBI1426 Fred Stearman, R.R. 1 - Box 16, Erie, Ill.
 KBJ0275 Hank Mancura, 64 Meadow Lane, Levittown, L.I., N.Y.
 KBJ2123 Richard Rios, 2897 Ardsley Rd., Wantagh, L.I., N.Y.
 KBJ2517 Dan Michaels, 12059, East Berne, N.Y.
 KBJ3455 John James, 299 1/2 Lark St., Albany, N.Y.
 KBJ3661 Bob Buchanan, 79 Bayard Lane, Princeton, N.J.
 KBJ3792 Alan Geidosch, 1314 Bright St., Hillside, N.J.
 KBI6480 Art Scheid, 2 Essex Place, Hartsdale, N.Y.
 KBI6983 George Brandt, 1297 Myrtle St., Hillside, N.J.
 KBI7938 Joe Di Giarmo, 287 E. 29 St., Paterson, N.J.
 KBI7974 Mark Levy, 8640 Bay Parkway, Brooklyn, N.Y.
 KBI8077 John Krejc, 60 Division Ave., Garfield, N.J.
 KB18237 Bobby Denholtz, P.O. Box 35, Short Hills, N.J.
 KB18825 Charles Tamboer, 265 E. 28th St., Paterson, N.J.
 KBJ9330 Al Harris, Box 252 Overlook Dr., Shark River Hills, Neptune, N.J.
 KBJ1722 George Hunt, 353 Highland Ave., Middletown, N.Y.
 KBJ1921 Paul Price, 117 No. Montgomery St., Valley Stream, N.Y.
 KCC1860 Hank Thompson, 915 High St., Bethlehem, Penna.
 KCC2443 Bill Keefe, 31 N. Queen St., Littlestown, Pa.
 KCC2976 Alta Dicks, 320 N. High St., Millville, N.J.
 KCC4133 Frank Castaldi, 5317 Grays Ave., Phila., Pa.
 KCD2123 Henry Suess, 1812 Ebertslane, York, Penna.
 KCD3398 Roger Miller, R.D. 2, Kempton, Pa.
 KCD5154 Earl Rogers, 224 Tuscany Rd., Maple Gardens, Chester, Pa.
 KCD5410 Bill Rogers, 224 Tuscany Rd., Maple Gardens, Chester, Pa.
 KCD5491 Bernie & Phyllis, 1509 Bondridge Rd., Wilm, Del.
 KCD6109 Lois Lowell, R.D. 2, Sellersville, Pa.
 KCF0823 Jim Cross, 755 S. Potomac St., Hagerstown, Md.
 KCF1224 Harold Channell, Box 126, Alexandria, Va.
 KCG0008 Joseph Blanton, 112 Prince St., Alexandria, Va.
 KCG0706 Eddie Becker, 4305 Franconia Rd., Alexandria, Va.
 KCG1087 Barney Ross, 425 Garden St., Washington, D.C.
 KCG1835 Edsel Peacemaker, Route 2, Winchester, Va.
 KCG3068 Ricky Lowman, 1001 W. Addition St., Martinsburg, W. Va.
 KCG3569 Charles Berry, Nomreh Rd., Rt. 3 Crestwood, Salisburg, Md.
 KCG3689 Ed Ross, Box 188, Eastville, Va.
 KC11656 Allen Clair, 2847 Canamy Rd., Roanoke, Va.
 KC12842 Clarence Moore, Route 4, Box 34, Thomasville, N.C.
 KC12904 Jim Rawles, 7008 Belvedere Dr., Newport News, Va.
 KC16935 Joe Temple, P.O. Box 312, Kingston, N.C.
 KCJ0690 James Deavers, Box 214, Bladenboro, N.C.
 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.
 KCJ4109 Chuck Cunningham, Lot 69, Davidson's Trailer, Hinesville, Ga.
 KCJ4314 Denis Jackson, 1316 Grove St., Greensboro, N.C.
 KCJ4512 Dwight Love, Box 365, Gettys, Va.
 KCJ4911 Jearl Bishop, 1801 Chatham Ave., Charlotte, N.C.
 KCJ5002 J. L. Kirkland, Rt. 5, Raleigh, N.C.
 KCJ5840 Roy Reynolds, 822 Greenbird Ave., Covington, Va.
 KCJ6180 Buddy Williamson, 604 Gillespie St., Greensboro, N.C.
 KCJ6413 Wendell Proco, Rt. 1, Cambria, Va.
 KCJ7698 Joel Dawson, 1125 Taber St., High Point, N.C.
 KCJ7737 A. B. Clarke, 1009 Hamilton Ave., Clifton Forge, Va.
 KCJ8028 Buck Buchanan, 2923 West Marshall St., Richmond, Va.
 KCJ8516 The Morrison's, 826 Longview Dr., Woodbridge, Va.
 KCJ8765 T. L. Matlock, RFD5, Box 558, Greensboro, N.C.
 KCJ9372 Gene Andrews, Rt. 5, Box 204, Glen Allen, Va.
 KDB0371 Bill Howell, 545 Palmetto Lane, SW., Aiken, S.C.
 KDB3389 Wesley Liles, Jackson Blvd., Birmingham, Ala.
 KDB4928 Paul Sheriff, 312 Piedmont St., Westminster, S.C.
 KDC0390 Jerry Pater, 1195 Dale Rd., Hamilton, Ohio
 KDC0750 Lyle Nielsen, 3256 Farley St., Flint, Mich.
 KDD1522 Darlene Hill, P.O. Box 2642, Asheville, N.C.
 KDD6368 Dennis Laxton, Rt. 3, Box 387, Lenoir, N.C.

KDD6991 Louise Sheriff, 312 Piedmont St., Westminster, S.C.
KDD7539 L.E. Cody, Box 412, Jamestown, Tenn.
KDD8403 Lloyd Coop, 506 E. General St., Tullahoma, Tenn.
KDD9162 Irene Beem, P.O. Box 52, Russellville, Ala.
KDE0198 Alayne Watson, P.O. Box 104, Alaphretta, Ga.
KDE0565 Rodney Wise, P.O. Box 2953, Asheville, N.C.
KDE1330 Moses Day, 2695 - 24th St., Tuscaloosa, Ala.
KDE1377 George Geriner, 4087 Leweir St., Memphis, Tenn.
KDE2266 Richard Bolding, 805 W. Crawford St., Dalton, Ga.
KDE2420 Berry McDaniel, 703 Ponce de Leon, Montgomery, Ala.
KDE2451 Paul Skidmore, Box 243, Rockwood R., 1, Tenn.
KDH1318 Robert Dwyer, 105 McKinley Ave., Cocoa Beach, Fla.
KDI1754 Steve Yacynych, 1205 Dove Dr., Orlando, Fla.
KDI2207 Gene Portwood, 1020 Sunshine Dr., Lakeland, Fla.
KDI3064 Ernie Gurganous, Box 44, Lake Harbor, Fla.
KDI3211 Donna Wiley, 1601 Cimarron Trail, Wichita Falls, Texas
KDI3558 Tom Smith, 1626 N. Bumby Ave., Orlando, Fla.
KDJ0332 Nick Miller, Box 3006, St. Petersburg, Fla.
KEB1601 Bob Fancher, Darling, Miss.
KEB4601 Al Mayer, 306 West 8th, North Little Rock, Ark.
KEB4662 Erman Hunt, 3055 Comway Dr., Baton Rouge, La.
KED0572 Arthur Cates, 2708 Virginia, Baytown, Texas
KEE1986 Jim Hawkins, 2502 Spokane Rd., San Antonio, Tex.
KEE2031 John Wasson, 334 Cypress, Lake Jackson, Texas
KEE2099 Bill Hills, 181 Linda Circle, Ocean Springs, Miss.
KEH0445 Wally Williams, 1428 Purdue, Oklahoma City, Okla.
KEH0947 Edna Williams, 1428 Purdue, Oklahoma City, Okla.
KEH1105 Fred Kimbro, 213 N. Edmond, Muskogee, Okla.
KEH2115 Ray Harper, Box 1083, Lubbock, Texas
KEH4157 Bill Shoemaker, Rt. 1, Box 144, Skiatook, Okla.
KEH5846 Kenneth Bales, Box 295, Guymon, Okla.
KEH7235 John Glover, 2428 Hugo St., Dallas, Texas
KEJ0071 Melvina Nutting, 932 Western Ave., Colton, Calif.
KEJ7312 Wanda Hosey, 1316 Adena St., Bakersfield, Calif.
KFA4737 Eddie Davis, 1609 W. 10th St., Santa Ana, Calif.
KFA1709 Smitty Smith, 11142 Penn St., Lynwood, Calif.
KFA4167 Mike Daugherty, 2736 E. Fairmount, Phoenix, Ariz.
KFA4659 Walt Wise, 613 No. Glenwood Place, Anaheim, Calif.
KFA6460 Jim Bowcutt, 1521 So. Larchwood, Hacienda Hgts, Calif.
KFC3866 Rex Mathews, 407 Potomac Ave., Sacramento, Calif.
KFD1525 Chuck Watrous, 421 W. 12th St., Tracy, Calif.
KFD4230 Neil Sweetland, 2505 Arthur Ave., Fresno, Calif.
KFD4362 Ron Leshner, 2585 Painted Rock Dr., Santa Clara, Calif.
KFD4870 Bud Fischer, 1525 Blackstone, Fresno, Calif.
KFD5811 Larry Klueder, P.O. Box 183, Oroville, Calif.
KFD6256 Sparky Pinola, 3335 Mabel St., Sacramento, Calif.
KFD6381 Steve Erickson, 1206 Post St., Alameda, Calif.
KFI1219 Jack Sudduth, 8103 16th S.W., Seattle, Wash.
KFI0479 Agnes Sudduth, 8103 16th S.W., Seattle, Wash.
KGC1311 Bruce Holt, 2639 Summit Dr., Colorado Springs, Colo.
KGC2289 Rosalie Danielson, 3188 9th St., Boulder, Colo.
KGF0592 Rod Basham, 810 E. 36th St., Minneapolis, Minn.
KGF1070 Lloyd Stark, 1209 Sugar Leaf Rt. 3, Winona, Minn.
KGF1236 Don Nelson, 5912 West 46 St., Sioux Falls, S. Dak.
KGF1755 Mal Pickens, 4032 12th Ave. So., Minneapolis, Minn.
KGF1773 Dave Kryzer, 553 East 7th St., Winona, Minn.
KGF2118 John Nethart, 1590 So. Mississippi Blvd., St. Paul, Minn.
KGG0167 Frank Verbanac, 505 E. Houghton Ave., Houghton, Mich.
KGH2584 Joseph Rose, 1009 Figg, Wichita, Kansas
KGI2591 Homer Jenkins, P.O. Box 8, Cross Timbers, Mo.
KGI4148 Bernie Bottenberg, 511 Wyoming, Holton, Kans.
KGI6082 Bill Wilson, 900 South Madison, Plainville, Kans.
KGI6100 Robert Schmink, 357 No. Waco, Wichita, Kans.
KGI7662 Ralph Sheets, 1628 Cherry St., Dallas Center, Iowa
KGI8017 Mel Hammer, Box 326, Valley Center, Kans.
KGI9136 Don Sorrels, 8317 Horst Dr., St. Louis, Mo.
KGI9206 Bud Ward, 968 Lindeman, Des Peres, Mo.
KHA2670 Heinie Altes, 903 West Washington St., Bloomington, Ill.
KHA7523 Kay Kagel, P.O. Box 3504, South Bend, Ind.
KHA8032 William Davis, R.R. 7, Huntington, Ind.
KHA8376 Gordon Velpel, 801 S. Franklin St., Garrett, Ind.
KHB1535 Bob Kagel, P.O. Box 3504, South Bend, Ind.
KHB2112 Milton Seibert, 218 East 6th St., Mt. Carmel, Ill.
KHB2113 Riskey Farms, RFD 4, Highway 15 West, Mt. Carmel, Ill.
KHB2216 Ed Myers, 509 S. Fellows St., South Bend, Ind.
KHB2233 Harold Conley, 1516 Hedge Rd., Champaign, Ill.
KHC0280 Dick Dills, 5 West Cherry, McLeansboro, Ill.
KHC3163 Jerry Hannum, 2107 Marshfield Rd., Lake Villa, Ill.
KHC4075 Ron Gaulke, 3851 N. 3rd St., Milwaukee, Wisc.
KHC5525 Carl Connolly, 924 Haverford Dr., Lafayette, Ind.
KHC8347 Jim Taylor, Rosine, Kentucky
KHC8813 Dick Burdge, Box 197, Liberty Center, Ind.
KHD1784 Jim Cornescu, 1440 W. Fullerton Ave., Chicago, Ill.
KHD1891 Howard Lustru, 1440 W. Fullerton Ave., Chicago, Ill.
KHD4705 George Newberry, 1027 W. Douglas St., Freeport, Ill.
KHD5225 John Ulman, 403 Dearborn Ave., Hammond, Ind.
KHD6704 Geo. Carter, 1512 W. School St., Chicago, Ill.
KHD7375 Joe Winfield, 1671 S. Boeke Rd., Evansville, Ind.
KHD8505 Lucile Webber, Box 421 - A-1, Spring Grove, Ill.
KHD8768 Geo. Jones, 929 Hardin Ave., Jacksonville, Ill.
KHE0751 John Costa, 6316 W. Euclid Ave., Milwaukee, Wisc.
KHG1923 Bob Gillespie, 31805 Densmore Rd., Willowick, Ohio
KHG4106 Len Labos, Box 11, Lambertville, Mich.
KHG4493 Chuck Cooley, 2243 Ham Cleves Rd., Hamilton, Ohio
KHG4945 C.M. Cooley, 1006 Hooven Ave., Hamilton, Ohio
KHG5522 Vi Holt, Clare, Mich.
KHG9069 Herb Riggle, Route 5, Zaniesville, Ohio
KHG9554 Kenny Roberts, 1584 Stewart Rd., Lima, Ohio
KHH1363 Geo. Radenheister, 3121 Andrew St., Middletown, Ohio
KHH2768 Lloyd Westner, Carr St., Jackson, Ohio
KHH3134 Bill McCullough, 800 - 12th St. S.W., Massillon, Ohio
KHIO402 Bill Palmer, 120 Ohio Ave., Wadsworth, Ohio
KHJ1036 John Lathrop, Rt. 2 - Box 101, Richland, Mich.
KHJ2703 Jim McClure, Rt. 1, Box 217, Yawkey, W. Va.
KHJ2786 Don Stelmnetz, 125 N. William St., Marine City, Mich.
KHJ2916 Larry Bauder, 120 Bradley Rd., Midland, Mich.
KHJ2952 Bill Culver, 119 East Brooks, Howell, Mich.
KHJ5457 George Barker, 343 N. 27th St., Battle Creek, Mich.
KHJ5814 Glenn Barth, 11918 Brighton Ave., Cleveland, Ohio
KHJ7117 Melvin Anderson, Rt. 1, Box 155-A, Hinton, W. Va.
KHJ9979 Gene Taylor, 121 N. Adolph Ave., Akron, Ohio
KHJ0074 Jerry Faddis, 1611 Field Maint. Sq. McGuire AFB, N.J.
KHJ1206 Herb & Marty Snyder, 1516 Lockwood Rd., Barberton, Ohio
KHJ1478 Bill Brandells, 309 Denver Ave., Lansing, Mich.
KHJ1858 Norm Owings, 505 N. Clairmont, Springfield, Ohio
KHJ2246 Gus Cotts, Rd. 2, Bantam Ridge, Wintersville, Ohio
KHJ2653 Jeff Cunningham, 3317 Orchard Dr., Portsmouth, Ohio
KHJ3180 Chuck Nestor, 24 Townsend Ave., Norwalk, Ohio
KHJ3477 Donald Belitz, 13474 Enid Blvd., Lake Fenton, Mich.
KHJ4747 Don Penger, 2650 Mandale, Orchard Lake, Mich.
KHJ6091 Sally Sattica, Gruntt & Straym Sts., Scio, Ohio
KHJ6874 Richard Cady, P.O. Box 193, Winchester, Ky.
KHJ7131 Ken Massie, 115 Woodlawn Dr., Ironton, Ohio
KHJ7217 Ray Smejkal, 2652-A Hickory, Glasgow AFB, Montana
KHJ7270 Bob Wilkinson, 500 Magnolia Ave., Cuyahoga Falls, Ohio
KHJ7892 Boots Beaudry, Box 252, Trenton, Mich.
KHJ8472 Doug Thrasher, 1164 Lindsay Ave., Akron, Ohio
KHJ8843 Bob McCarty, Route 4, Mt. Sterling, Ky.
KHJ9317 James Denman, 809 E. Bellefontaine St., Wapakoneta, Ohio
KHJ9508 Jim Fosnough, P.O. Box 674, Killeen, Texas
KHJ9698 Charles Spears, Box 304, Caledonia, Ohio
KHJ9961 Tim Hamilton, P.O. Box 572, Wooster, Ohio
KHN1358 Sonny Terrapin, Peach Tree Gardens, Barwell, S.C.
KIA0174 Tom Rogowski, 2915 Noddin Way, Portsmouth, Ohio
KIA1234 Don Leco, 5221 Revere Ave. N.W., Massillon, Ohio
KIA1323 Nancy Harris, P.O. Box 263, Steubenville, Ohio
KIA1514 Bv. Bashore, 916 N. Miami, Sidney, Ohio
KIC1207 Arlene Warner, 2273 Mosser Ave., Williamsport, Pa.
KIC2881 Mike Ripski, 173 Mooney Rd., Plymouth, Pa.
KIC3500 Ruthie Bopp, 350 W. 5th St., Lewistown, Pa.
KIC6037 Barney Beer, 238 1/2 Farnum St., Wellsville, N.Y.
KIC7028 Elwin Bishop, Box 117, Portville, N.Y.
KID0007 Fred Martz, Davis-Lane Speedway, Hustontown, Penna.
KID0186 Kathy Reshetar, 402 1/2 Walnut St., Binghamton, N.Y.
KID2541 Bill Shagi, 6950 Shannon Rd., Verona, Penna.
KID3456 Bud Bixby, 56 Dodge Ave., Corning, N.Y.
KID5473 Pete Gabrielli, 151 Parsells Ave., Rochester, N.Y.
KID5144 John Fudge, 54 Dexter St., Wilkes-Barre, Pa.
KID5293 George Gould, Box 42, Hudson Falls, N.Y.
KID5968 John Norman, Box 249, Watkins Glen, N.Y.
KID6302 Ted Bluey, 422 S. Fifth, Jeannette, Pa.
KID6356 Roscoe Harrington, 5 Schuyler, Hudson Falls, N.Y.
KID6623 George Kline, 508 Monroe St., Jamestown, N.Y.
KID7164 Lyle Powell, Welch Road, Geneva, N.Y.
KID7260 Stan Breitkopf, 217 Stanton Lane, Rochester, N.Y.
KID8232 Roy McGregor, R. D. 2, Central Square, N.Y.
KID8628 Dean Buffington, P.O. Box 213, Gabriels, N.Y.
KIE0816 Brownie Brown, 99 Dundee State Rd. R. D. 5, Penn Yan, N.Y.
KJ10777 John White, 311 Owen Ave., Elmira Heights, N.Y.
KJ11072 Len Siedinski, 18 Ames Ave., Tonawanda, N.Y.
KJ11164 Lew Bixby, R. D. 1, Corning, N.Y.
KJ1893 Andy Denko, 66 Monroe St., Saratoga Springs, N.Y.

KJ12293 Frank Dykeman, 339 Harter St., Herkimer, N. Y.
 KJ12543 Jerry Shawvers, 103 Lauch St., Beaver Falls, Pa.
 KJ12623 Dave Jensen, 440 Walker Rd., Walker, N. Y.
 KJ13118 Evelyn Bishop, Box 117, Portville, N. Y.
 KJ13462 Maurice Wykle, P. O. Box 191, Bradford, Pa.
 KKA0095 Dick Trapp, Box 259, Stafford Springs, Conn.
 KKA0367 Bob McGinn, 8 Forestdale Rd., Worcester, Mass.
 KKA0658 Jerry Cote, 105 Old Walpole Rd., Keene, N. H.
 KKA1485 Wendell Dashno, 14 S. Elm St., Albans, Vt.
 KKA2019 Ed Karvosky, 45 Lincoln Ave., Stratford, Conn.
 KKA2191 Alvin Arthur, P. O. Box 27, South Weymouth, Mass.
 KKA2639 Hank Lane, 93 Paul Revere Rd., Needham Hgts., Mass.
 KKA3124 Sidney Cheney, 37 School St., South Portland, Maine
 KKA3415 The Andersons, 20 Spring St., Reading, Mass.
 KKA4210 Dick Clogston, Starks, Maine
 KKA5021 Wendell Palmers, West Peru, Maine
 KKA5072 Bob Knowlton, Pleasant St., Otter River, Mass.
 KKA5305 George Chase, Black's Trailer Park, RFD4, Uncasville, Conn.
 KKA5683 Bod Holmes, King Road, Monson, Mass.
 KKA6783 Frank Gumbus, 725 Stratford Rd., Stratford, Conn.
 KKA6885 William Lafond, Eagle Peak Road, Pascoag, R. I.
 KKA7401 Ralph Westerberg, 103 Dauntless Lane, Hartford, Conn.
 KKA7816 Anthony Silva, 9 Holway Ave., Provincetown, Mass.
 KKA8243 Merle Milligan, West Peru, Maine
 KKA8456 Joe Cambo, 31 Woodbury Ave., Norwalk, Conn.
 KKA8782 Don Russell, RFD 1-River Rd., Bucksport, Maine
 KKA9530 Bob Christensen, 8 Eight St., Newington, Conn.
 KKA9690 Peter Flynn, 212 Allen St., Springfield, Mass.
 KKA9874 Pete Lamontagne, 125 Brook St., Sanford, Maine
 KB0085 Richard Reynal, 82 Pendleton Rd., New Britain, Conn.
 KB0210 Gimny Weigel, 119 Shaw St., New London, Conn.
 KB0712 Steve Chmura, 268 Parker St., Indian Orchard, Mass.
 KKB1195 Ken Gevry, 183 East Main St., Chocomaque Falls, Mass.
 KKD0117 Dan Weggeland, 173 Madison Ave., Morristown, N. J.
 KKD0349 Jack Golden, 5025 Broadway, N. Y. C., N. Y.
 KKD0491 Mike Kaplan, 37 Fairview Terr., Maplewood, N. J.
 KKD1177 Christopher Ordal, 5 Shelley Rd., Short Hills, N. J.
 KKD1311 Don Brandt, 1 Farmstead Rd., Short Hills, N. J.
 KKD1428 Warren Krug, 181 No. Wyoming Ave., So. Orange, N. J.
 KKD1946 Allen Neely, 90-26 215 Place, Queens Village, N. Y.
 KKD2429 Dave Ellis, Germantown, N. Y.
 KKD2992 E. Litke, 18 E. Main St., Beacon, N. Y.
 KKD3296 George Masny, 299 E. 8th St., New York, N. Y.
 KKD3429 Cliff Share, 132 Greenway, Albertson, L. I., N. Y.
 KKD3784 Leonard Waller, 330 West 28th St., N. Y., N. Y.
 KKD4640 Dennis Berman, 1332 Anchor Dr., Wantagh, N. Y.
 KKD5880 Howard Lipson, 9 Westwood Ave., Ellenville, N. Y.
 KKD6253 Ronnie Bloom, 1212 North Pierce Ave., No. Bellmore, N. Y.
 KKD6389 Jean DuBois, RFD 4-Chestnut Hills, Middletown, N. Y.
 KKD6762 Howie, 2810 Frankel Blvd., Merrick, N. Y.
 KKD6776 Edward Nowak, 162 Shaker Rd., Albany, N. Y.
 KKD6989 Steve Corvaia, 308 Horton Highway, Mineola, L. I., N. Y.
 KKD7398 Vera Leitans, 246 Second St., Alb., N. Y.
 KKD7623 Vinny Cavicchi, Lake Valley Rd. RFD 1, Morristown, N. J.
 KKD7642 Frisbee, 233 Jay Ave., Lyndhurst, N. J.
 KKD8046 Ellen Sonkin, 246-15 57 Dr., Douglaston, N. Y.
 KKG0046 Ira Pitel, 17 North State St., Vineland, N. J.
 KKG0667 Ed Haupt, 18 South Penn St., Shippensburg, Pa.
 KKG0930 Lew Keen, South Chestnut St., Elverson, Pa.
 KKG1063 Edw. Stone, R. D. 3, East Stroudsburg, Pa.
 KKG1268 Ralph Hunsinger, 891 N. Adams St., Pottstown, Penna.
 KKG1280 Mary Diehl, 800 Mohican St., Bethlehem, Pa.
 KKG1761 George Axe, 218 S. Hawthorne St., York, Pa.
 KKG1958 Martha Sues, 1812 Eberts Lane, York, Pa.
 KKG2291 George Mummart, 1006 Briansdale Rd., Harrisburg, Pa.
 KKG2712 Claude Dye, R. D. 3, Pottstown, Pa.
 KKG3061 Ralph Stark, 146 Grape St., Reading, Pa.
 KKG3229 Don Schmitt, Box 14, Gettysburg, Penna.
 KKG3924 C. F. Koehler, 1015 Pennsylvania Ave., Prospect Park, Pa.
 KKG3987 John LeMay, 28 E. Water St., Gettysburg, Pa.
 KKG4329 Donald Shue, 355 S. George St., York, Pa.
 KK10233 Houston Mullins, 321 Yorkshire Lane, Manassas, Va.
 KK10503 Tim Aaron, 116 Wilmont Ave., Cumberland, Md.
 KK11251 Stella Mullins, 321 Yorkshire Lane, Manassas, Va.
 KK12000 Thomas Termini, 4611 Langdrum Lane, Chevy Chase, Md.
 KK12063 Joe Mory, 2501 Washington Blvd., Balto., Md.
 KK12379 Marlin Barnhart, 1133 Beechwood Dr., Hagerstown, Md.
 KK13172 Duane Guy, Westernport, Maryland
 KK13416 Eugene Frye, Box 47, Augusta, W. Va.
 KKK0471 J. L. Kirkland, Route 5, Raleigh, N. C.
 KKK0830 Earnest Ayers, Cana, Virginia
 KKK2541 Dale Shaffer, 906 Bridges St., Morehead City, N. C.
 KKK4396 Lynn Bailes, 3033 Maywood Rd. S. W., Roanoke, Va.
 KKK4410 Slynell Grantham, P. O. Box 364, Raeford, N. C.
 KKK4966 Jeff Hardee, 2530 Sunset Ave., Greenville, N. C.
 KKK5114 Joe Hughes, 205 S. 10th St., Mebane, N. C.
 KKK6266 Reginald Durham, Box 83, Wytheville, Va.
 KKK6606 Rob Dalton, Bland, Va.
 KKM0562 Bill Gibson, P. O. Box 2004, Macon, Ga.
 KKM0735 Ebbie Odum, 140 Dupree St., Chester, S. C.
 KKM0911 Grady Hill, 205 Walnut St., Union, S. C.
 KKM4156 Fred Monday, 77 Brownwood Ave., Asheville, N. C.
 KKM4178 Bernie Broster, 150 Thornton Ave., Cedartown, Ga.
 KKM7033 Buddy Brownlee, 531 E. Cambridge Ave., Greenwood, S. C.
 KKM7129 Carl Stapleton, Rt. 1, Box 179-N, Helena, Ala.
 KKM7376 Donald Wilson, 1529 Bush Blvd., Birmingham, Ala.
 KKM7447 Bob Carlton, 506 E. General St., Tullahoma, Tenn.
 KKM9656 Carroll Rogers, 315 Rogers St., Spruce Pine, N. C.
 KKN1274 Bob Still, Box 543, Barnwell, S. C.
 KKN1526 Johnny Holder, Route 3, Church Hill, Tenn.
 KKP1393 Jeff Rhoads, Rt. 6-Box 203, Lakeland, Fla.
 KKP2504 Harry Nechetsky, 133 N. Partin Dr., Niceville, Fla.
 KKP3015 Patrick Flynn, Cherry Plaza Hotel, Orange County, Fla.
 KKR0741 Clifford Pittman, P. O. Box 105, Tomnolen, Miss.
 KKR2067 J. E. Merryman, Atkins, Arkansas
 KKR3607 Pam Prines, 3402 1/2 Jackson St., Shreveport, La.
 KKR4361 John Cole, 102 Alabama St., Columbus, Miss.
 KKR4805 W. Curtis, Rt. 2-Box 280, Denham Springs, La.
 KKV3836 Clarence Norton, 512 W. Broadway, Longview, Texas
 KKV5444 Dick Jackson, 119 East 11th, Mt. Pleasant, Texas
 KX4867 Wade Blythe, 14639 Lakeside St., Sylmar, Calif.
 KX4958 Phil Hirt, 3608 E. Sylvane, Tucson, Ariz.
 KX5057 John Mercado, P. O. Box 5063, Santa Ana, Calif.
 KX5201 Dale Fletcher, 54728 El Prado Trail, Yucca Valley, Calif.
 KX7083 James Fuller, 405 Fillmore St., Taft, Calif.
 KLA0472 Charley Lively, 1708 Midfield Ave., San Jose, Calif.
 KLA1014 Bob Balanco, 2183 Altamont Rd., San Leandro, Calif.
 KLA1875 Ruth Hanes, 2585 Painted Rock Dr., Santa Clara, Calif.
 KLA3491 Russ Gevertz, 1982-44th Ave., San Francisco, Calif.
 KLA3648 Jim Cox, 1865 Michigan, Stockton, Calif.
 KLA5065 Dennis Simonson, 127 Lee Ave., San Francisco, Calif.
 KLA5173 Chuck Hopper, 834 Florida St., Vallejo, Calif.
 KLA5629 Carroll Hatchell, 2222 Sacramento St., Vallejo, Calif.
 KLC1458 Ben Kuehn, 19337 N. E. E. Glisan, Portland, Ore.
 KLD0462 Hubert Ingersoll, 548 Edith, Walla Walla, Wash.
 KLD0488 Ben Michel, 4616 So. Lucile, Seattle, Wash.
 KLD0953 Keith Howe, 9001 - 16th Ave. S. W., Seattle, Wash.
 KLF2385 Bob Albrecht, 401 Liberty, Winona, Minn.
 KLH2654 Chas Irwins, 1530 East 19th St., Des Moines, Iowa
 KLH2924 Roger Fetters, R. R. 1, Elwood, Nebraska
 KLH3140 Joe McMahon, 131 Pierre St., Salina, Kansas
 KLH4368 Hank Michler, 1913 Euclid Ave., Lincoln, Nebr.
 KLH4558 Jim Nelson, Box 253, Jefferson, Iowa
 KLH6583 William Royal, Syracuse, Nebr.
 KLH7398 Bob Carr, 1507 Jefferson, Great Bend, Kansas
 KLH7458 Chuck Stagner, 3833 East 68th St., Kansas City, Kans.
 KLH7545 Walt Johnson, 3235 So. 39th St., Lincoln, Nebr.
 KLH7747 Jesse Estes, 2117 Sloan, Manhattan, Kansas
 KLJ0440 Don Thielsen, 2803 Iroquois Trail, McHenry, Ill.
 KLJ3382 Earl Gordon, 419 W. Grand Ave., Decatur, Ill.
 KLJ3893 Eva Luro, 1440 W. Fullerton Ave., Chicago, Ill.
 KLJ3918 Clyde Cooper, 10 Schultz St., Danville, Ill.
 KLJ4006 Al Waldsmith, 2710 W. State St., Rockford, Ill.
 KLJ4024 Loren Snyder, 542 9th Ave., South Clinton, Iowa
 KLJ6167 Ron Kmans, 7848 So. Austin, Okla., Okla., Ill.
 KLJ6355 Ernie McMichael, 2310 W. 28th, Muncie, Ind.
 KLJ6791 Lou Rubenstein, 9901 Calhoun Ave., Chicago, Ill.
 KLJ6815 Liz McMichael, 2310 W. 28th, Muncie, Ind.
 KLJ9167 David Hatfield, Box 27, French Lick, Ind.
 KLJ9747 Leonard Fairley, R. R. 2, Chatsworth, Ill.
 KLK1313 Joe Zarnke, 6th & Wearon, Box T3108, Tinker, AFB, Okla.
 KLK1581 Frank Hawley, 2313 Johnson St., Keokuk, Iowa
 KLK1623 Ada Gordon, 419 W. Grand Ave., Decatur, Ill.
 KLK2079 Russell Smith, 107 So. State St., Louisville, Ky.
 KLK2149 Rexford Niccum, RFD 1, North Manchester, Ind.
 KLK2326 Roy Clark, P. O. Box 553, Louisville, Ky.
 KLK3619 Matt Loeffler, 2169 South 64th St., West Allis, Wisc.
 KLK4588 Ruth Copples, 1749 W. Ravina Park Rd., Decatur, Ill.
 KLK5585 Lloyd Amuck, 840 1/2 E. Pleasant St., Freeport, Ill.
 KLK6001 Frank Norris, 1000 Seventeenth St., Logansport, Ind.
 KLK6316 Paul Vargyas, 119 South McKinley, Warsaw, Ind.
 KLM2786 Bob Starkey, 2834 Berrell Ave., Columbus, Ohio

CB IN ACTION

By Len Haas,



"Dear Len:

Being one of the old CB'ers on the air, I am very much used to all the chit chat that goes on all the time, and my boss just could not stand all the talking 'til one night it happened. First of all, I am an all night cook at a truck stop that stays open 24 hours a day. When I went to work for them it was with the understanding I could hook up my CB rig in the kitchen, which the boss okayed. The more he heard all the 10-4, 10-8, 10-20, he said, 'Turn that thing off. It's driving me nuts.'

Well, one night about two weeks ago, we had a gang of roughnecks (15) come in and the first thing they did was to pull the phone off the wall so we could not call for help. And then all hell broke loose. They started to throw chairs, salt and pepper shakers, pop bottles—anything they could get their hands on and, believe me, if they would have had 15 minutes more, they would have torn the place apart. But by my having my CB rig hooked up in the kitchen, I headed for the kitchen and gave one call. In less than five minutes we had the police out here and we are six miles from the nearest town.

We also had at least a dozen mobile units here in a matter of a few minutes and with the help of everybody, we saved the Truck Stop from being torn apart. My boss was so happy he now takes everybody out in the kitchen to show them how CB works. He also says it stays on 24 hours a day and we are now making contact with all the truck drivers that have rigs in their trucks and they order their food while they are still about 10 miles away and by the time they get here, it's ready—which saves them time on the road.

Very truly yours,
Richard Gresso
18W7230
3812 Elkhart Road Lot 72
Goshen, Indiana"

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You can also win a COMPANION II CB transceiver for your "CB in Action" story. Simply tell us about any situation in which CB played a part in helping you, a group of people, or a community. Write to Len Haas, National Sales Manager, Pearce-Simpson, Inc., 2295 N.W. 14th Street, Miami, Florida 33125.

See you next month. 73's!

- KLM3240 Mary Ann Salzwimmer, 1211 California Ave., Akron, Ohio
- KLM3953 Buck Rucker, Fultonham, Ohio
- KLM4446 Lynn Wittenburg, 3037 North Hill Rd., Portsmouth, Ohio
- KLM4842 Bessie Hazen, 231 North Mead St., Zanesville, Ohio
- KLM5051 Jim Swartz, 62 Stadium Dr., Tallmadge, Ohio
- KLM5233 Cecil Campbell, 5687 Eldridge, Pontiac, Mich.
- KLM6123 Till Leonhardt, 3518 Smithfield Lane, Cincinnati, Ohio
- KLM6883 Ernest Roberts, Box 275, East Fultonham, Ohio
- KLM7311 Richard Heysek, 2430 West Sprague Rd., Parma, Ohio
- KLM7499 Wilbur Caseman, 113 Clark St., Marietta, Ohio
- KLM8313 Bob Sizemore, 7807 Hope Ave., Cleveland, Ohio
- KLM9178 Tom Snedeker, 999 Michigan Ave., Adrian, Mich.
- KLM9197 Bob Fritz, 801 Chestnut St., Coshocton, Ohio
- KLN1831 Roy Bullock, 5th St., Road Corbin, Ky.
- KLN3897 Jerry Harris, 651 Cove Road, Weirton, W. Va.
- KLN4587 Bud Felix, 2825 Corinthia St., Rochester, Mich.
- KLN4913 Bob Vance, 220 Fulton Rd., Cleveland, Ohio
- KLN4977 John Barta, 3975 Crum Rd., Austintown, Ohio
- KLN5237 Ken Hess, 2005 Beal Ave., Lansing, Mich.
- KLN5768 Jim Nooney, Falling Rock, W. Va.
- KLN6401 Don Goretzki, 605 McEwen St., Sandusky, Ohio
- KLP0290 Norm Dill, 1025 Powell Ave., Erie, Pa.
- KLP0319 Pete Hons, 614 Main St., Portage, Pa.
- KLP0871 Ruth Dykeman, 339 Harter St., Herkimer, N. Y.
- KLP2358 Donald Miles, 1015 Dryden Rd., Ithaca, N. Y.
- KLP2468 Bill Hall, Little Meadows, Penna.
- KLP2673 Joseph Strauss, 1211 Swissvale Ave., Pittsburgh, Penna.
- KLP2846 Harold Greba, 610 Henry Lane, Irwin, Penna.
- KLP3083 Rich Hatalski, 145 Sambourne, Wilkes-Barre, Pa.
- KLP3111 Paul Miller, 8 Clark St., Canton, N. Y.
- KLP3496 Jerry Babcock, Abbotts Corners, RFD 1, Cuba, N. Y.
- KLP4360 Earl Bonenblust, 515 Whiting Rd., Webster, N. Y.
- KLP4665 Ray Limperts, 27 Briarhill Dr., West Seneca, N. Y.
- KLP4695 Dan Cunningham, 185 Ogden Ctr. Road, Spencerport, N. Y.
- KLP4910 Chuck McKee, Box 9, Fenelon, Pa.
- KLP5005 Bud Fowkes, 1031 5th Ave., Box 261, Duncansville, Pa.
- KLP5525 Bonnie Beeke, 11 Maple Dr., Bath, N. Y.
- KLP6039 William McKenna, 1354 Davis St., Elmira, N. Y.
- KLP6232 Jim Pachter, 75 Ludlow St., Saratoga Springs, N. Y.
- KLP6626 Wallace Nolen, 12 Chase St., White Plains, N. Y.
- KLP7447 Ruth Peoples, 217 Trailer Village, Johnson City, N. Y.
- KLP7909 Alan Gutfrucht, 248 Spencer Rd., Rochester, N. Y.
- KLP8083 William Davidson, 26 Knight St., Glens Falls, N. Y.
- KLP8114 Don Pugh, 93 Palmer Rd., Churchville, N. Y.
- KLP8509 Leonard Dotys, Monessen, Pa.
- KLP9113 Joe Jones, 21 West Elm St., Wilkes-Barre, Pa.
- KLP9151 Robert Lance, 10 Fredella St., Glens Falls, N. Y.
- KLP9557 George Booth, 971 Sweeney St., No. Tonawanda, N. Y.
- KLP9618 Bill Lohnes, Box 176, Round Lake, N. Y.
- KLP9656 Irvin Kimmel, P.O. Box 14, Tire Hill, Pa.
- KLP9751 Vince D'Emilio, 99 Warren St., Glens Falls, N. Y.
- KLP9773 Ron Crown, 764 Mechants Rd., Rochester, N. Y.
- KLP9838 Phil Tannenbaum, 35 Sharpe St., Kingston, Pa.
- KL50054 Tom Grimke, Box 485, Wahiawa, Hawaii
- XM112045 Lloyd Tarr, 2088 E. 26th Ave., Vancouver, B.C.
- XM22444 Paul Cross, 9758-145 St., Edmonton, Alberta, Canada
- XM412800 Skippy Massam, 66 Guthrie Ave., Toronto, Ont., Canada
- XM431311 Peter Walton, 421 Lodor St., Ancaster, Ont.
- XM441426 Doug Wilkie, 58 Danforth Ave., Leamington, Ont., Canada
- XM441692 Rudy Krauses, R. R. 1, Leamington, Ont., Canada
- XM49405 John Burnup, 926B Cummings Ave., Ottawa, Ont., Canada
- XM52477 David Pinsky, 4895 Bourrot Ave., Montreal, Que., Canada
- XM53463 Francois Goyer, 259 Rue Moisan, Drummondville, P.Q.
- XM5666 Gilles Petit, 409 St-Joseph, La Tuque, P.Q., Canada
- XM65140 Vaughan DeMerchant, P.O. Box 13, Perth, N.B., Canada
- RA1061 Les Cufflin, c/o B. Morehead, Rt. 2, Box 412, Shelby, N.C.
- Cent. 2340 Dave Coyle, 602 Elm, Coffeyville, Kansas
- Cent. 2860 Angelo Bione, P.O. Box 8, Christopher, Ill.
- Cent. 3154 Donald Rhodes, 63 Sheridan, Chicago, Ill.
- North3020 Robert Ream, 608 High St., Lancaster, Pa.
- North3206 Korky, Box 241, Frankfort, N. Y.
- North3300 Tom Bolling, 233 Temple St., Fredonia, N. Y.
- North3760 Dave Jensen, 440 Walker Rd., Hilton, N. Y.
- WPE2AN Errol Urbelis, 60 Boulevard, Greenlawn, L.I., N. Y.
- WPE2JPN George Masny, 299 E. 8th St., New York, N. Y.
- WPE3FSC Robert Ream, 608 High St., Lancaster, Pa.
- WPE6ETT Henry Okey, P.O. Box 1526, La Jolla, Calif.
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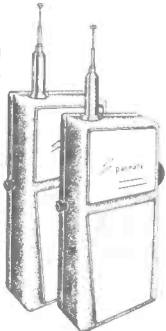
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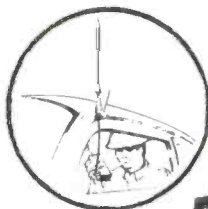
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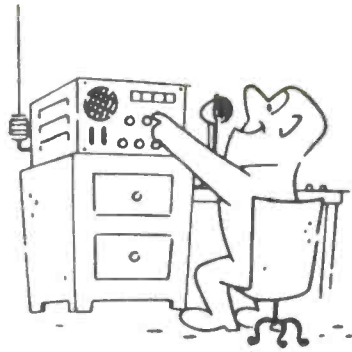
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CB CASEBOOK

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.



This month we are going for a ride with the hard-working and hard-driving members of HART (Highway Aid by Radio Truck).

Your reporter is indebted to Richard W. Montgomery, 2058 Windy Hill, Pontiac, Michigan for calling to our attention the unusual idea behind this "go-go" organization. It should be obvious to anyone too that Dick is the founder, President, and "whip" of this group as well as Editor of their HART *Newsletter*. Dick is apparently a very able spokesman for the group he has so capably put together, so let's have him tell it in his own words.

"HART is a non-profit, self-supported organization composed of the employees of the trucking industry, who are also CB operators. The purpose of HART is free service to the motoring public, and for that matter, to anyone in distress. All HART members are dedicated to the maintenance of excellent relations between the trucking industry and the motoring public, and to the promotion of highway safety."

"Trucks travel many millions of miles each year on our highways and by adding the advantages of CB radio we can make them a very effective emergency unit in time of distress or accident. This is especially true on our existing turnpikes and rapidly growing network of expressways. Telephone service is frequently very limited or non-existent."

"HART members are instructed in first-aid (first-aid equipment is standard equipment on most trucks," and in the correct procedure when most emergencies arise. Most truck drivers have a working knowledge of auto mechanics and can usually be helpful in determining the type of service required in the event of breakdown. This assistance not only saves time, but it eliminates the undesirable possibility that the motorist will leave the auto unattended.

"HART members work in close cooperation with all law enforcement agencies, and are now working toward direct contact by radio between HART members and several levels of law enforcement departments throughout the state of Michigan. In some areas, direct CB radio com-

munication is already available. This service permits a truck driver to notify a police dispatcher of an emergency, and to advise him of the type of equipment that will be required. Police dispatchers are then able to call the proper emergency equipment, and place them in direct contact with the emergency scene.

"By assisting motorists with minor difficulties, HART members relieve police officers to attend to the more serious matters for which they have been trained. The close cooperation which already exists between all citizen banders, makes it possible for a HART unit to contact, by telephone, virtually anyone who will accept a collect call. A motorist's distress signal to a HART unit is the now universal one of a white cloth tied to a door handle or radio antenna.

"Our HART units, both truck and passenger car, can be identified by the seal of the HART Patrol displayed on the front windshield of each vehicle. It is no longer necessary for motorists on Michigan highways to sit for long periods of time when a breakdown occurs. A HART member is not far behind, and he will stop and summon the required aid.

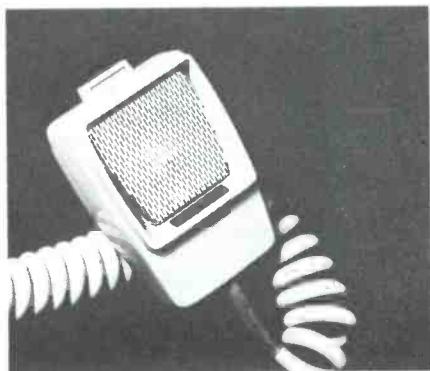
"As soon as we were organized we felt the need to adopt a set of rules and regulations. Not that we wanted any more restrictions on our membership than we had to have, but we felt it was necessary to spell out for all who come in contact with us the specific aims and purposes of HART. The rules and by-laws are common sense statements of our goals and have helped us to be recognized by all the State and Municipal officials with whom we have come in contact.

"We have had tremendous success in interesting the State Police in our group. Not too long ago I was privileged to have as a passenger Sgt. John Amthor, Commander of the Pontiac Post of the Michigan State Police. The Sgt. accompanied me on my run from Pontiac to Toledo, to Lima, and return. This trip was a huge success. The Sgt. was very pleased and told me that his respect for the truck driver was now even greater than before this experience. (His first truck ride.) We had an opportunity to

what qualities to look for in a CB microphone

If you're an active CB'er, there are three qualities you should expect in a good CB microphone — convenience, durability, intelligibility. Sonotone Ceramikes[®] combine all three at a surprisingly low cost. **CONVENIENCE**—Center positioned, push-to-talk switch can be used for left or right hand operation. The Magnet Mount permits you to place the microphone anywhere on your dashboard without groping. **DURABILITY**—Light, short-travel switch tested to last over 100,000 contacts. A rugged ceramic transducer with a sturdy ceramic bimorph element held in a floating or living suspension—shock-mounted in neoprene rubber. **INTELLIGIBILITY** — Specifications point up the sharp and clear transmission you achieve. Finally, a most pleasant surprise, the low cost. The new low impedance 'CM-3050' designed to bring out the best in transistorized CB radios, **\$15.00**; with Magnet Mount, **\$17.50**. The high impedance 'CM-30' only **\$14.00**; with Magnet Mount, **\$16.50**.

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assist a young lady who had run out of gas on Interstate 75, just south of Monroe. She told us that she had been hoping that a State Trooper would stop, but that she never expected to see one in a truck. How about that? Also on this trip, one of our own company trucks, going in the opposite direction, had a breakdown just north of Findly. In five minutes I had contacted our dispatcher. What a demonstration of CB that was for the Sgt.

"We are now in our second year and I believe that we have just started. Our newsletters are a very effective way for us to keep in touch; for, as you can imagine, each of us is always going in a different direction. We try to include little personal items, examples of a particular service to serve as a guide for our members, and safety hints to keep us all conscious of the great responsibility we all share when we take to the highways. Recently, I was able to publish a commendation of one of our HART members received from a man in Pennsylvania thanking HART for a fine service rendered near Flint, Michigan.

"We have established Channel 17 as our emergency calling channel here in Michigan, and even now it's pretty hard to go any distance in this state without being able to contact a HART member.

"To help interest the Pontiac Post of the Michigan State Police in our cause, we presented them with a CB unit donated by local CBers. HART started the drive for funds and received splendid cooperation from two area clubs. While we were at it, we purchased a unit for the Oakland County Sheriff's Department. This action has now placed both departments at the fingertips of all CBers in this area should the need arise. Both organizations are now monitoring Channel 17 twenty-four hours a day.

"One of the reasons underlying the formation of HART was to promote highway safety. I have discussed this matter with many professional drivers, and we all came to the conclusion that there are three main reasons for the deplorable number of accidents each of us observes on the nation's highways. I'd like to spell them out for your readers as they may be interested in the views of men who earn their living by rolling trucks daily along these roads. (1) Too many drivers are *overdriving*. In other words, they are driving at speeds beyond their capability as a driver, or beyond the speeds advisable for existing traffic or weather conditions. (2) Lack of attention. Driving today, either commercial or pleasure, is a full time job. (3) Lack of attention to vehicle condition. We see vehicles on the road every day which should not be licensed. When you have an opportunity, let the people in your state government know that you are concerned about State Inspection procedures."



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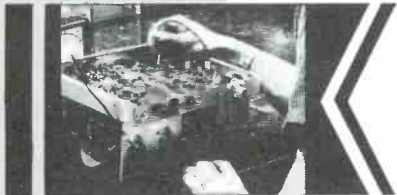
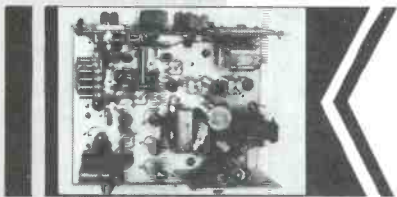
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WASHINGTON OUTLOOK

Our January FCC record book shows the following entries:

6Q2215, Howard Goff Co., Chattanooga, Tenn., imposed with a forfeiture of \$200 for repeated violations of the rules.

7Q0315, Gerald F. Ficca, Tampa, Fla., proceedings against this station were dismissed.

11Q3297, Denny C. Leipter, Torrance, Calif., license revoked for repeated failure to respond to official notices concerning alleged violation of the CB rules.

20Q1947, Darrel W. Patton, Rochester, N. Y., hearings terminated on his show cause notice.

KCD2508, Thomas W. Eble, Northfield, N. J., directed to show cause why his license should not be revoked for repeated failure to respond to official notices concerning alleged violation of the CB rules.

KDB5351, Samuel T. Penny, Marietta, Ga., directed to show cause why his license should not be revoked for repeated failure to respond to official notices concerning alleged violations of the CB rules.

KDB7250, Thomas W. Clements, East Point, Ga., proceedings against this station were dismissed.

KDB9102, Thomas Roland Reed, Atlanta, Ga., his request for cancellation of a \$100 forfeiture was denied.

KDD2726, Thomas L. Wright, Charleston Heights, S. C., directed to show cause why his license should not be revoked for repeated failure to respond to official notices concerning alleged violations of the CB rules.

KDD5037, Martha H. Reid, Atlanta, Ga., her request for cancellation of a \$100 forfeiture was denied.

KDD7813, Wililam F. Algood, Decatur, Ga., hearings on his show cause notice were terminated.

KEJ7522, R. N. Blaiza III, Palos Verdes Estates, Calif., directed to show cause why his license should not be revoked for repeated violations of the rules.

KFA0767, Alice E. Mitchell, Ontario,

Calif., directed to show cause why the license for her station should not be revoked for repeated failure to respond to official notices concerning alleged violation of the CB rules.

KFA3258, William H. Stamas, Norwalk, Calif., his request for cancellation of a \$100 forfeiture was denied, but the amount was reduced to \$25.

KFA3897, Jerry W. Smith, Pacoima, Calif., denied his request for cancellation of a \$100 forfeiture, but reduced it to \$25.

KFA5830, Robert V. Gendle, Bellflower, Calif., directed to show cause why his license should not be revoked for repeated violations of CB rules.

KFC0646, Florence H. Nichols, Redwood City, Calif., license revoked for repeated failure to respond to official notices concerning alleged violations of the rules.

KHD5217, Linda Carol Thomas, Farmington, N. M., hearings terminated on her show cause notice.

KHJ9144, James E. Litteral, Dayton, Ohio, hearings terminated on his show cause notice.

KIC3299, James Hayes, Hudson Falls, N. Y., proceedings against this station were dismissed.

KKM2540, Bobby Patterson, Lithia Springs, Ga., reduced his monetary forfeiture from \$100 to \$25 upon request of the licensee.

KKM6336, L. C. Brook, d/b Brooks Automotive Shop, Atlanta, Ga., license revoked for repeated failure to respond to official notices concerning alleged violation of the CB rules.

KKM7285, Joe H. Wilson, Atlanta, Ga., license revoked for repeated failure to respond to official notices concerning alleged violations of the CB rules.

KKM7406, Arthur Petty, College Park, Ga., imposed with a forfeiture of \$200 for repeated violations of the CB rules.

KKP1379, Elizabeth T. Scholander, Boynton Beach, Fla., license revoked for repeated failure to respond to official no-

tices concerning alleged violations of the CB rules.

KKX2509, Robert M. Hogan, Anaheim, Calif., hearings on his show cause notice terminated.

KKX3435, James Bruce, Santa Ana, Calif., directed to show cause why his license should not be revoked for failure to respond to official notices concerning alleged rule violations.

KLP1052, Emmett M. Chapman, Rochester, N. Y., license revoked for failure to respond to official notices concerning alleged violations of the rules.

KLS0073, Harold P. Luke, Waimanalo, Hawaii, hearings terminated on his show cause notice.

Last month we commented on the poorly conceived ACBA proposal to turn the 10 meter ham band into additional CB channels ("The Enemy Within," page 7). As expected, the American Radio Relay League (ARRL), a ham organization, came out against the idea, reminding the FCC that the agency had no authority to grant such a request; something which the ACBA had forgotten to think about before making fools of themselves in the eyes of FCC personnel. This ACBA petition created a number of chuckles in the FCC offices and generated an "are they kidding?" type of atmosphere.



KBG4303 RIDES AGAIN

Continued from page 7

only with Congressional action. In addition, it is not generally known, but U.S. CB'ers who operate in Canada under a license granted by the Canadian Government, are (at least temporarily) *not* radio stations in the United States' Citizens Radio Service. As foreign licensed stations, they are *not* permitted to communicate with United States CB'ers (who, according to the rules, can't work foreign stations). So, if you're riding along the Canadian side of the border—even though you're an American citizen, your countryman in the States must ignore you while you're operating under the Canadian license.

CHANNEL 9

Our proposal for a concerted effort to get Channel 9 accepted and used as the *National CB Calling and Emergency Channel* has met with surprisingly good results—in fact, we didn't receive even one single note of complaint about the idea. A number of clubs have even taken the trouble to write and tell us that Channel 9 has now been adopted as their official monitoring channel, and, of course you know by now that the entire *REACT* program has adopted 9.

This is the kind of national cooperation
Special club subscription rates for S9

which we have now come to expect from CB'ers—you came through with the same flying colors when we asked for your help in standardizing the 10-code. We have mailed out more than 40,000 of our free 10-code cards, and they are still going out at a clip of several hundred a week.

When you see the "Monitor 9" decal in the window of a mobile unit, you know that the operator is pledged to better CB communications. Are *you* part of the national "Monitor 9" program?

REACTION

The best way to see how something works is to try it first hand. The best way to see how an emergency aid organization works is to rack up your car—and that's exactly how S9 came by some first hand information on *REACT*.

Three of us from the office staff were out in the wilds of Long Island putting a new rig through its paces in the S9 mobile unit when there was a strange crunching sound, which turned out to be the noise given off by our radiator, hood, bumper, fenders, grille, etc. as they were in the process of crumpling up.

Miles from any land communications, and with the band dead, we promptly fired up the rig on the *REACT* monitoring channel and crossed our fingers that the rig would still manage to produce some sort of carrier. It did, and we were promptly answered by KBI3712, Marion Healy, and KBI3712, Michael Sakellarides, of Nassau County's Regional *REACT* Rescue Team. Within five minutes we had the police and a tow truck.

Regional *REACT* in Nassau County has had its detractors from a few local CB clubs and newsletters. We at S9 have only praise for this group (piloted by Frank Truglio, KKD9185) which offers aid with quick efficiency and courtesy—a credit to the CB service and the national organization with which they are associated.

Surprisingly enough, the worst part of the whole unfortunate situation was getting slow-moving Aetna Insurance to get on the ball and take care of the claim. Took almost a month. Good thing we didn't have to wait for them to come and rescue us or there wouldn't be a January issue of S9!

REACT, by the way, is presently doing some interesting work with the Nassau County Civil Defense unit. Of all the CD people throughout the country who aren't interested in CB'ers, the Nassau County CD people are most anxious to interest CB'ers in joining their interesting communications program.

Nassau County CD is holding a big CB drill on Channel 18 on January 30th from about 8:45 to 10:00 A.M. It's their RACOM II drill and will use the CD call KKD5036. Only *members* may participate, but non-members who are

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interested in seeing how an efficient CB/CD drill works are invited to read the mail.

CB'ers (OM's and YL's) in Nassau County (especially ones with mobile units) are urged to contact Mr. Arthur Falk, Deputy Director, Office of Civil Defense, Town Hall, Manhasset, N. Y. Mr. Falk has a most interesting program for Nassau CB'ers and *needs your membership.*

IN AND OUT FOR 65

As current-events minded CB'ers, you'll be interested in knowing that recent S9 reader mail has indicated that the following things seem to be "in" for 1965: local clubs, Channel 9, 10-Codes, Trini Lopez, PA systems in CB rigs, S9, Theodore Bikel, REACT, movies at CB club meetings, Part 95, Wilkinson Blades, Part 15, audio boosters, experimental homebrew antennas, ACDA, Ratfinks, CB log books, Bullwinkle Moose, FCC warning stickers, Ira Ironstrings, shortwave listening, Project Aid, and FACT Magazine.

Here are the things which are "out": CB Channel 11, overmodulation, CB equipment directories, ACBA, dead carriers, CB callbooks, hams who hate CB, undermodulation, recipes and off-color jokes in club papers, CB magazines which are a month late in the mail, the Twist, the Hully Gully, the Watusi, efforts to silence walkie talkies, fly-by-night CB "national" clubs and publications, CB'ers who say they'll swap cards and then don't, the Beatles, naming boats after YL's, Channel 22A, and KBG4528 (*very far out*).

Things still in transition: SSB, DSB, selective calling.



READER MAIL

Continued from page 4

the ACDA. It could grow to be a *real* National Organization.

Bud Grandchamp, Asst. Editor
Call One CB Monthly
Cranston, R. I.

Bud, this crazy organization (which was started as a lark) is getting so much fan mail and so many requests for membership that we're all shocked. If anybody has ideas for something for the ACDA to do (besides jump in the lake), we are open to suggestions.

SWL COLUMN

Tom,

I sincerely hope that you will make "The SWL Shack" a regular part of S9.

Wilbur Nitsch,
Rochester, N. Y.

Dear Sir:

I hope that your SWL section will grow. I will be sending in regular reports for a long time to come.

Don Erickson, Membership Chairman,
Int'l. Radio Club of America,
Sunnymead, Calif.

Dear Tom,

"The SWL Shack" is a great addition to S9.
Bernie Graham,
Minneapolis, Minn.

Dear Tommy,

I must say that your SWL column is something which I wholeheartedly support.

Dave Lund, KG16296
Radio Station KSCJ
Sioux City, Iowa

Tom,

Your "SWL Shack:" great work! The column has placed S9 on top of the heap of all radio and electronics publications.

R. L. Cloutier, KKA9853,
Worcester, Mass.

Dear Sirs,

It is my hope that your SWL column will become a monthly feature of S9.

Robert L. Minker,
Reading, Pa.

Guess you talked us into it.

FCC CARDS

Sirs:

We are a small CB club of older men who are formed to operate in cases of emergencies. Please send up a packet of FCC "emergency CB use" notification cards.

William F. Mitchell, Sec.
Stonington Emerg. Communic. Unit
Mystic, Conn.

Gentlemen:

Enclosed is our order for a packet of FCC notification cards. If we had to sit down and write out a whole report for the FCC each time we participated in an emergency it would place an extra burden on us.

Richard Benedict,
Beacon CB Radio Club
Grand Haven, Mich.

Dear Sirs:

We wish to order 200 of your FCC cards. In the past our club has had a need for this type of thing but didn't use any set forms. We are looking forward to using them.

Bill Horton, Sec.
Tri-County Communic. Club
Athens, Ga.

Tom:

I travel a good deal and have run across numerous "emergency conditions." Here is my order for some FCC notification cards.

Richard I. Jordan,
Westminster, Md.

COMMENT: PUBLISHING

Dear Tom,

Your journal is very good, often excellent, at times controversial, but always in good taste. Thanks for keeping it interesting.

Ken Crouch, KHC4560
Hoopston, Ill.

And thank you, Ken, for the flattering words. We try very hard to keep S9 worthwhile and interesting—thankfully, we seem to be able to justify

our efforts in this direction.

Dear S9:

I would like to find out what 10-4 Magazine did with my 5 dollars. Over a year ago I sent it in for a subscription and never received one copy.

B. L. Redding,
Valdosta, Ga.

Mr. Redding, while we cannot presume to answer for other publications, possibly we can give you a little background which will be of use to you. For one thing, 10-4 Magazine is not in publication any longer, and we doubt if you can even hope for a refund. Secondly, we understand that their mailing list was assumed by a recently organized venture into CB publishing. To date, the publication which is reported to have taken over the 10-4 responsibilities seems to be having problems of their own. Our guess is that you had better chalk the 5 bills up to experience—from the few sporadically received copies of the “replacement publication” we have seen, it isn’t half as good as 10-4 was, and 10-4 couldn’t make the grade. Gives you something to think about.

S9

CUSTOM RIG

Continued from page 17

On the rear apron from left to right, are the antenna jack, the S-meter set control, and accessory jack (with B-plus, filament, and AVC voltages).

Congrats Lew, you’ve won a year’s extension to your S9 subscription with this piece of CB handiwork. Any more of you homebrew designers out there care to send in photos and descriptions?

S9

ON THE COUNTERS

Continued from page 43

as the car battery is concerned, an 850 ma. load is “no sweat.”

For those who need a 115 VAC power supply for a base station an optional AC supply which mounts under the transceiver is available for \$16.95 (If you don’t need it don’t buy it.)

The 500 comes with channel 12 crystals. Optional crystals are available for the 23 frequencies.

The mobile bracket deserves a word of praise. The bracket is the “quick release” type. It mounts to the under-dash with two screws (a firewall brace is not needed or used), and a quick turn of the thumbscrews and the transceiver is locked-in or released. If you’re the type who likes to take his gear in at night you can remove or replace the 500 in about 5 seconds.

Finally, the instruction manual. Like all of Lafayette’s new manuals this one is a short CB handbook. It explains the different antenna types, installation procedures, 10 codes, etc. It also contains a service and alignment section.

It’s difficult to sum up the HB-500. Unquestionably, in terms of all-round performance it sets its own standards of excellence.

S9

FREE CHANNEL 9 MONITORING DECAL!

BIG!!!
3 inches



Yes, you can boost Channel 9 as the National CB Calling & Monitoring Channel with a large red, white, and black decal on your windshield! Can be seen by all mobile units to let them know where you are listening. These large decals sell for 50¢ each but are FREE with all new S9 subscriptions and renewals received — mark your subscription order “Decal” to get these while they last!

Besides the decal, you will be signing up for 12 months of the “Official Publication” of all CB’ers throughout the U.S. and Canada, the largest circulating CB magazine—the one with twice as many pages for the same price! So double your pleasure, double your fun, get twice as much magazine, for the price of just one! And don’t forget to take advantage of the Channel 9 Monitoring Decal—tell the gang where you got it too!

A postpaid subscription form is located in the rear of this issue. By the way, an S9 subscription makes a swell holiday gift for someone (XYL’s please note!). S9 gift subscriptions are furnished with a distinctive gift card to tell the CB’er who has been kind enough to send him the best in CB reading.

SMASH MOBILE NOISES!



Replace that irritating mobile noise with the Electra Transistorized Vibrator, and increase your output in the process. No tools, just plugs into vibrator socket in seconds. Specify pos. or neg. ground.

ONLY \$5.95

Send check or money order for the surprise of your life!

Attention CB'ers and Clubs

You never saw PL-259 coax connectors for less! You can get them from us for only \$34.95 for 100 top grade connectors. Compare this price with any other source, then order fast before our supply is gone!



ELECTRA, Inc.
Box 464, Somerville, N. J.

GANGWAAAAAY!!!

NUSSBAUM'S FOLLY! The printer goofed on our last order and ran off 3 times the amount of our famous wild CB QSL cards than we wanted. We refused to pay for the extras and can now pass these savings on to you. You never saw cards of this quality 175 for only \$1. All you do is add your name and call signs and they look better than cards costing many times this price. Order; enjoy, enjoy.

S.NUSSBAUM 1440-54St. Bklyn, N. Y.



CB NORTH AMERICA an unusual 6 color map showing CB in a new perspective, like no other CB map, it shows American and Canadian call areas in one glance. The radio districts are indicated with call prefixes (incl. 1965), 59 "10-code", new FCC rules resume, time zones, space for call sign are some of many features. Map is on heavy paper 22" w. x 28" h. rolled, \$1.00 ppd. Send your order to: CB CALLS, BOX 582, RUTLAND, VT. 05702

WE NEED CB DEALERS!!

AS distributors handling all Major brands of CB equipment, antennas, and accessories we can offer local dealerships to aggressive CB dealers and installers. Write at once for information and your costs on the brands you prefer to handle. Dept. 624

KNOX ELECTRONIC SUPPLY, INC.

67 N. Cherry St., Galesburg, Illinois.

NEW CALL PATCHES

ONLY 50¢ each - postpaid

ANY FIRST NAME OR CALL

No matter what it is! Popular 4" Shield. Bright Red on White Felt. Fast color. Sticks to Garments - Leather - Glass - Plastic. **ORDER TODAY!** Send Check or M.O. - We Pay Postage. Satisfaction Guaranteed! WRITE FOR CLUB PRICES - T'S • SWEAT SHIRTS • JACKETS • EMBLEMS **NATIONAL SPORTSWEAR & CREST CO.** Westville 9, N.H. 03892



CB SHOP

Rates for CB SHOP are 10¢ per word for advertising which, in our opinion, is obviously of a non-commercial nature. A charge of 25¢ per word is made to all commercial advertisers or business organizations. A 5% discount is in effect for an advance insertion order for six consecutive months.

We do not bill for advertising in CB SHOP. Full remittance must accompany all orders and orders sent in otherwise will not be run or acknowledged.

Closing date is the 15th of the 2nd month preceding date of publication.

We reserve the right to reject advertising which we feel is not suitable.

Because the advertisers and equipment contained in the CB SHOP have not been investigated, the publishers of S9 cannot vouch for the merchandise or services listed therein.

Picture of yourself, home, equipment etc. on QSL cards made from your photograph. 250-\$7.50 or 1000-\$14.00 postpaid. Samples free. Write picture cards, 129 Copeland, La Crosse, Wis.

"Audio-Aid-All" Clipper-Filter kit, \$10.99; \$14.99 wired. Boosts modulation, aids reception. Postpaid. Holstrom, Box 8640-S, Sacramento, California 95822.

CB QSLs 3 & 4 colors, 100 \$2.00, samples dime. W3UQL, Lehighton, Penna.

Heathkit owners, double reception! SK-3 Preselector fits GW-10, GW-11; SK-4 fits GW-12. \$8.99 kit, \$11.99 wired. Postpaid. Holstrom, Box 8640-S, Sacramento, California 95822.

QSL's, CB, WPE, Samples 10¢. Nicholas & Son Printery, P.O. Box 11184, Phoenix, Arizona 85017.

Rig-Lock mobile mounting racks locks transceivers in auto, original cost \$14.95. Mfg. rights sold to amateur Mfg. close out remaining stock for \$5.95 each plus shipping mounts any size rig send stamped envelope for brochure, M.O. or C.O.D. C. R. Grigg, 13671 Muscatine St., Arleta, Calif. 91332.

Attention CB Dealers, Installers before you buy citizen band radio equipment, check with us for the lowest wholesale prices and demonstrator plan, Twin-Tronics CB Center U.S.A. 1301 E. Indianola Ave., Youngstown, Ohio.

"QSL's. Top quality, reasonable price. Samples 20¢. CB Press, Box 281, Oak Park, Illinois 60303."

QSL CARDS—\$2.95 per 100, samples—10¢. Bill Orton, 905 Altamaha, Chattanooga, Tenn.

Two regency range gain 23 channel CB Radios. 1 month old. \$218.00 each. Will send C.O.D. with \$20.00 deposit. Lee Carns, Box 137, Mansfield, Ohio.

Reduce Mobile Static—Ten braided straps with connectors, instructions. \$2.50. Engineered Products Company, Springboro, Ohio.

Most efficient CB/BC mobile antenna coupler, DP-2 Kit, \$5.49. Free kit, antenna list. Holstrom Associates, Box 8640-S, Sacramento, California 95822.

Have your magazines beautifully bound in yearly volumes S9, CQ, Motor Trend, etc. Your choice color, black, green, red. Your call letters and name imprinted in 24 kt. Gold, price \$4.50, send payment to Tom Masteller, KGF3036, American Bindery, 310 Plymouth Ave. No., Minneapolis 11, Minn.

Colored Eyeball Stickers—Lick and stick . . . 99 for 50¢. Eyeball, Post Office Box 10125. Louisville 10, Kentucky.

"Audio-Aid-All" Clipper kit, \$10.99; \$14.99 wired. Boosts modulation, aids reception. Postpaid. Holstrom, Box 8640-S, Sacramento, California 95822.

Hundred QSL's: \$1.00. Samples, dime. Meininger, Jesup, Iowa.

CB'ers—Get all new CB Log Book! Your own call letters in gold on luxurious vinyl cover. 1000 entries. (Ten code in plastic window for easy reference) "A must" for all S9 CB'ers. \$2. Ronco, Dept. A5, Box 8701, Kansas City, Missouri.

HEY PUSSY CATS! Want a sneaky way to build up your card swappers collection? We will ship you 25 different cards for only \$1. No printers samples or junk, but REAL CB QSL's from all over, some actually signed by the ops. S. Nussbaum, 1440 54th St., Brooklyn, N. Y. 11219.

Capacitors Clerinal 40 NFD 330 AC \$5.95. Filament transformers Stancer 117/107 volts, 60 cycles. Secondary 6.3 volts CT @ 6.0 amps. \$3.95 all new postpaid Goodman, 5826 South Western, Chicago, Illinois 60636.

CB-QSL's, 200 designs, state maps, humorous, regular. Catalog-samples 25¢ (refunded). KCJ1955, Lile Guill, Rustburg, Va.

Pep up your CITIFONE CD5A or SS with our special power transformer. 80% more reserve power. \$13.50 postpaid with instructions. Warning—Use resistor to keep output legal, Russ Helen's CB Center, P.O. Box 9134, Memphis 9, Tenn.

CB QSL Cards. New Kute, Klever, Komical designs. Reasonable prices. Brilliant colors, including beautiful silver and gold. Samples Free. M. Hellwig, Box 425, Lake Wales, Fla. 33583.

QSL's—Quality—Immediate Service—Reasonable CB QSL Cards. Samples 10¢. Malgo Press—Box 375—Toledo, Ohio 43601.

QSL's 100 \$1.75. New! Different! Eye-catching! Samples 5¢. Nu-print, 322 Page Boulevard, Springfield, Massachusetts.

Quality QSL Cards Stock Line 500 for \$6.00—Deluxe Line 500 for \$9.50. Various Colors in ink or paper. Samples: 10¢. QSL Printing, Box 29022, Cincinnati, Ohio.

1,000 CB or Ham QSL's—\$10.00, over 100 types—25¢ for 20 page catalog, samples (refunded). QSL's, 755 S. Potomac, Hagerstown, Md. 21740.

Special club subscription rates for S9

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Outdistance Competition

The team that received 2 U. S. Naval Ordnance Development Awards for fiberglass research now offer these new and novel fiberglass CB antennas
CB 50 AMAZER, a halfwave folded centered 8' fiberglass whip \$10.95
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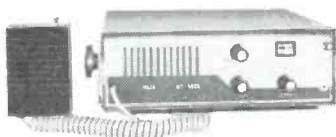
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Rugged colorful "license-size" CB plates for your car! Choice of Red, Blue or Black on white background. (Ask about special plates for your CB Club, too.) Embossed steel, baked enamel finish. Quality guaranteed! \$3.00 ea. or 2 for \$5.00. Order Today. (And ask about special club plates.)

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- All Transistor, Dependable Performance
- 5 Watt Powerful Transmit. in the World Smallest, Compact Size — Only 9-3/8" x 8-1/8" x 3-1/8"
- Weight — Main Body 1.5kg. (3.3 Lbs.)
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 with Batteries
- Low Battery Consumption—approx. 50 ma on Receiv., 400 ma on Transmit.
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- Automatic Noise Limiter & Squelch Control
- OTL Audio Output
- Built-in Power Cartridge that holds UM-1 x 16 Batteries—Replaceable Cartridge with AC-DC, DC-DC, Rechargeable Battery Cartridges by Simple Plug-in Operation
- Standard Accessories — Dry Battery Cartridge including Batteries, Antenna, Microphone & Leather Shoulder Strap
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 Rechargeable Battery Cartridge (Rechargeable Batteries with Charger)
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Contains spaces for 1350 call entries, plus map of U.S.A. with call letters for each state and a 10 code. Multi-colored cover, very attractively bound. No more scratch pads or loose paper to get lost. Keep these important calls in a permanent file. \$1.00 plus 20¢ postage shipped anywhere in U.S.A. Dealers wanted!
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NOW... any radio can be a *Sensitive* Shortwave Receiver



Powerful crystal controlled MINIVERTER units convert any home or auto radio for shortwave reception between 2 and 60 MC. All units transistorized with tuned RF stage and tuned mixer, and are available with either a high impedance input (BC whip) or low impedance input (tuned whip).

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- CVA2(160M); CVA4(80M); CVA7(40M-CHU); CVA5(WWV) each **\$18.95**
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When ordering, specify desired frequency and input.

*Brochure available upon request.

*Order direct from Dept. S-1

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BOX 1027, MANCHESTER, CONNECTICUT

NUSSBAUM'S FOLLY! The printer goofed on our last order and ran off 3 times the amount of our famous wild CB QSL cards than we wanted. We refused to pay for the extras and can now pass these savings on to you. You never saw cards of this quality at 175¢ for only \$1. All you do is add your name and call signs and they look better than cards costing many times this price. Order; enjoy, enjoy. S. Nussbaum, 1440 54th St., Brooklyn, N. Y. 11219.

"Alternator Filters" The original designers and manufacturers. Non-Tunable type \$2.50. Tunable type \$3.95. Highest quality. Engineered Products Company, Springboro, Ohio.

Quality QSL's—Get the best. Samples 10¢, 25¢, 50¢. Savory, 172 Roosevelt, Weymouth, Mass.

CB QSL SWL Cards that are different. Quality stock. Samples 10¢, Home Print, 2416 Elmo, Hamilton, Ohio.

Protect your mobile rig with FCC warning stickers for your windshield. Large size. Special 3 for \$1.00, Bob King, 735 E. 239 St., Bx., N. Y. 10466.

Reduce Mobile Static—Ten braided straps with connectors, instructions. \$2.50. Engineered Products Co., Springboro, Ohio.

Reduce Mobile Static with Skyway Static Straps. These are the bonding straps that the books on mobile units advise using to minimize road noise. Ten braided straps with heavy duty connectors. Install in minutes. Complete directions. \$2.50 postpaid or at your dealer. The Skyway Company, Box 51A, Hillsboro, Tenn. 37342.

CB transmitters \$6.00. Other bargains, catalog 10¢. Vanguard, 190-48—99th Ave., Hollis, N. Y. 11423.

Connect Your Mobile Rig To Your Battery using the most efficient connector available—a permanent professional connection to the center of your battery terminal without interfering with battery cables. Immediate disconnect and reconnect for battery servicing. Two Skyway Battery Connectors (one for your present battery and one for your next battery), Only \$1.00 postpaid or at your dealer. As with all Skyway products, money back if not satisfied. The Skyway Company, Box 51A, Hillsboro, Tenn. 37342.

FREE SAMPLES—CB QSL CARDS—\$2.50 per 100 in 3 colors. Garth Printing Company, Box 51S, Jutland, New Jersey.

FREE CB QSL SAMPLES. From \$2.50 per 100. Radio Press, Box 24S, Pittstown, New Jersey.

LOG BOOK for CB'ers, 1965 S9 Area Call Map printed on inside cover in red and black ink. CB 10-code and other information included. Over 1200 lines 17 inches long to log calls. Plastic ring bound. At your dealer or direct by mail from publisher, \$1.00 postpaid. Also elaborate ring bound QSL portfolio of actual CB samples. 50¢, refundable with first order. CAROLINA CAMERA PUBLISHERS, P.O. Box 1728-CS, Wilmington, N. C. 28402.

Now a 23 channel switch to fit model 50 or 100 International Executive (and many other brands). Get complete enjoyment with this new 23 channel switch. Can be installed in 5 minutes in all model Executives. \$17.50 postage paid from the factory. See your dealer or order direct. LOGAN RADIO SUPPLY, 2110 Ave. "J", Lubbock, Texas, Phone SH 4-1433. Dealer inquiries invited. Money back if not satisfied.

ABSOLUTELY BEST PROTECTION YET! Large federal warning decals displayed on your windshield warn against the serious crime of tampering with or stealing your CB equipment. A necessity in alerting the public and preventing your losses. Rush \$1.00 for each pair of three color decals to: ARTCO, Box 8202, Atlanta 6, Georgia 30306. Return mail delivery!

Dealers Attention Please! \$74.95 List—Base set—6 channels, xtal controlled—push to talk—tunable receive all channels—Pi net—3 watt minimum output—95% modulation also \$99.95—AC x VDC—8 channels—xtal controlled tunable—spotter—3.4 minimum output—100% modulation—noise limiter—meter—American made—guaranteed—good discount 1 or 1000. G.M.P. Box 55, Millersville, Md.

CB QSLs "The Best of Letterpress" Samples 10¢. Hutchins Brothers, Thorndike, Maine.

CB QSL cards, personalized art work—minimum charge \$1.50 extra on your first order. Catalog and samples 10 cents. Sacandaga Press, Broadalbin, New York 12025.

CB Call Map—18" x 24" United States and Canadian Districts, \$1.00 Postpaid. Bulldog Supply, P.O. Box 404A, Dunbar, W. Va. 25064.

QSL's 100 only \$3.00, samples 25¢ refundable. Redbird Hill, Freedom, Indiana 47431.

CB RUBBER STAMP—Calls, name and address on a full size—4 line stamp, only \$2.00 postpaid. Sent to: S & H Rubber Stamp Service, 54 Cathedral Avenue, Florham Park, New Jersey.

LOG BOOK for CB'ers. 1965 S9 call map printed on inside cover in red and black. Plastic ring binder opens flat with 1200 lines 17 inches long for calls. \$1.00 postpaid. CAROLINA CAMERA PUBLISHERS, Post Office Box 1728-S, Wilmington, N. C. 28402.

QSL's. Top quality, reasonable price. Samples 20¢. CB Press, Box 281, Oak Park, Illinois 60303.

CB QSL's \$2.00 per 100 postpaid. Glossy 2-colors. Free sample. Hobby Print Shop, Umatilla, Fla.

QSL Cards. Classy originals at lowest price: 1,000 \$7.25 pp. Happy customers everywhere. 50 beautiful CB Christmas cards, your imprint \$2 pp. Eyeball cards, 2 color, 1,000 \$3.25 pp. Send 10¢ stamps (refundable) for samples packet. Bob Clearly, Box 468, Binghamton, N. Y.

1965 Desk Calendars, your name, call, address. 3-\$1.00, Henry Morgan Printery, 443 Euclid, Akron, Ohio.



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23 channel transmit dial and crystal holder for any international executive. \$14.95 prepaid—cash or money order. Write for other CB specials. Frank Zugner, P.O. Box 422, Rome, N. Y.

"Alternator Filters" The original designers and manufacturers. Non-Tunable type \$2.50. Tunable type \$3.95. Highest quality. Engineered Products Company, Springboro, Ohio.

CB'ers, alert your base or mobile with "Redilert." Completely wired, easily installed. Send \$2.98, transceiver model. Ram Research Associates, Box 322, Hartford, Conn.

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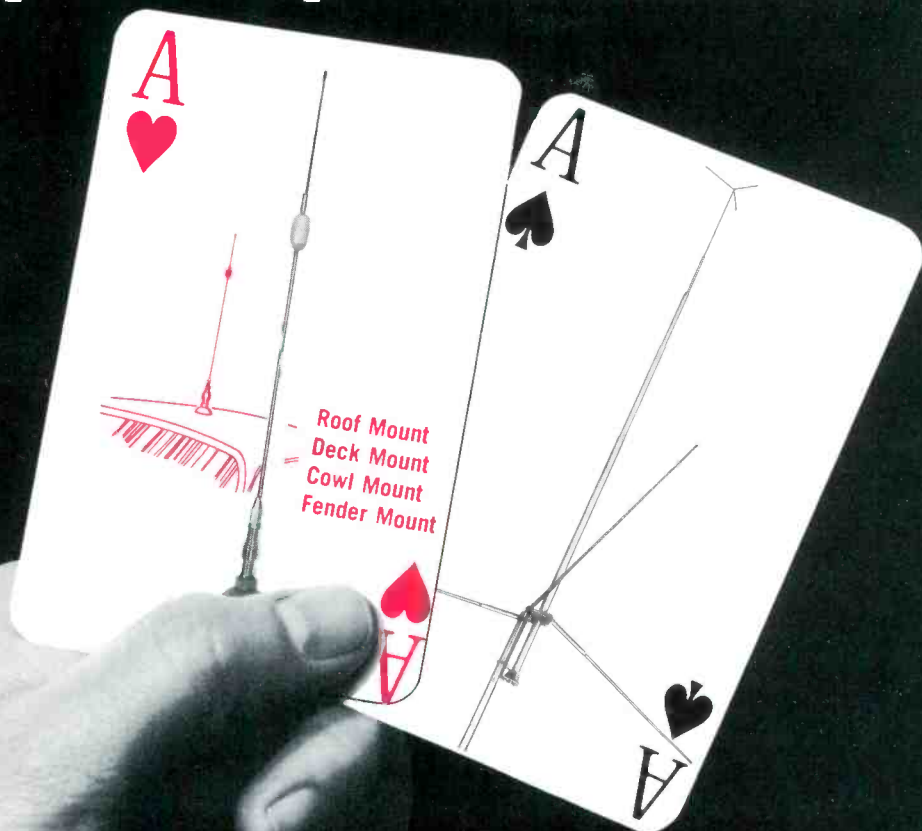
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