

THE P-15 "LOW BANDER" RIG

THE LAFAYETTE PA-405 FOR P-15 LOW BAND USE

by ROBERT McAIRES, KIC7608



The Lafayette PA-405 (Catalogue No. 99-G-4544) is a "Deluxe Wireless Intercom," but in the eyes of any good dyed in the wool P-15'er it is a P-15 "low band" (185 kc/s) transceiver which can be had for \$16.75, or two for \$32.50.

Conversion of the unit from wireless intercom to transceiver isn't really a conversion at all, it still gives you the use of the unit for its original purpose and you don't have to do any digging, chopping, or otherwise mutilating of the unit.

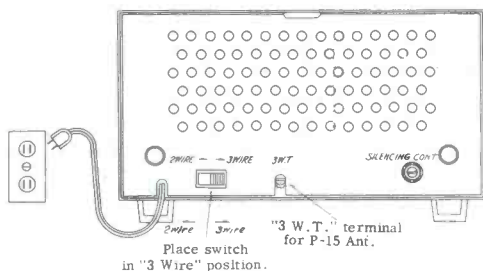
First let us see how the intercom is able to perform through the powerlines in your home. The RF is taken from the set's 50C5 tube, run through a transformer and then to a .05 capacitor which couples the RF into the PA-405's power cable. The manufacturer realized that "wireless" transmission through the electrical systems of two different buildings is sometimes not possible (the sets won't work between houses which take their power via different power company transformers) and has provided you with the alternative of being able to switch the RF from the power cable and run it via a wire to the metal screw which holds the face plate onto your 115 volt AC wall receptacle. This then permits you to feed the RF into the grounded electrical framework of your house with the hope that the other unit in your system will be close enough to receive the signal or will possibly have a common ground connection (via water pipe, etc.)

somewhere along the line. The wire to the wall receptacle screw from the PA-405 is taken from a screw terminal on the rear of the unit. The screw terminal is marked "3 W.T." All that is necessary to get the PA-405 operating as a 185 kc/s radio transceiver for P-15 is to connect a suitable *legal* antenna. By *legal* antenna, we mean one that is not longer than 50 feet, because this is the maximum limit permitted by the FCC. A method had to be devised to get the best performance from this rather stiff regulation. The slide switch on the rear deck of the PA-405 should be in the "3 wire" position.

It was decided to use a loading coil in parallel with a capacitor to get the antenna to resonate on 185 kc/s, since trying to feed a 185 kc/s signal directly into a 50-foot hunk of wire would be a rather miserable effort.

We decided that the best bet for a loading coil would be a commercially made unit (although one could be easily "scramble wound" on a cardboard oatmeal container with several hundred feet of wire). The unit selected was the Miller type X-5495A long wave antenna coil, a "hi-Q" unshielded permeability tuned job with an adjustable core. The coil is Lafayette stock number 34-G-8706 and sells for \$1.62. Across this

Rear of Cabinet



S9 Magazine certifies that this low power transmitting device can be expected to comply with the requirements of Paragraph 15.205 of the FCC regulations under the following conditions: (A) When this device is assembled and/or adjusted in accordance with the diagrams and instructions published by this magazine, using components of the exact specifications described. (B) When in use for the purpose and in the manner indicated in the instructions. (C) When operated on a frequency between 160 kc/s and 190 kc/s and using an antenna limited to a length of not more than 50 feet. (D) When using not more than 1 watt input to the final radio stage. S9 Magazine, Port Washington, N. Y. Dated October 15, 1964

I hereby certify that I have assembled and adjusted this device in strict accordance with the above.

Owner's signature.

Date:

In order to operate legally on low band P-15 with the Lafayette PA-405 wireless intercom, it will be necessary for you to sign this certification and affix it to the set.

CB'ers & HAMS

Now You Can Buy Direct



.5—40 Amp.
coax
feedthru
condenser

list \$3.95 and
.1—20 Amp.

feedthru
condensed
list \$2.95

.5—40 Amp. \$1.95 ea.

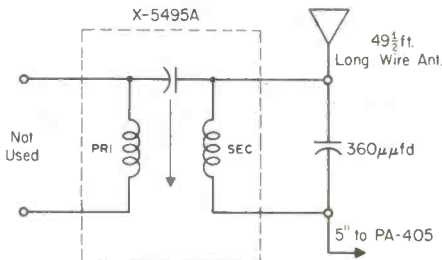
.1—20 Amp. \$.90 ea.

Send Check Or Money Order To

C. Z. LABS

P.O. Box 142, Centuck Sta.

Yonkers, N. Y. 10710



coil in parallel hookup we used a 360 uufd mica capacitor (Lafayette 30-G-3541, 53¢). The wire for the rest of the antenna: anything you have kicking around the shack which is of sufficient length.

The antenna tuning device was connected about 5 inches from the back of the PA-405, and added about an inch to the overall antenna length—this leaves 49 feet 6 inches left for you to string out of the window, 50 feet physically but considerably longer (and in resonance) *electrically!* The antenna may be peaked up by means of the tuning slug in the coil, which can be adjusted with a screwdriver. Any receiver which covers 185 kc/s (such as another PA-405) may be used to determine when you have the slug tuned for maximum signal output).

Speaking of the coil, you are interested only in the secondary windings of the coil, the primary windings are not used. A substitute coil for the Miller X-5495A is the Meissner 14-1407. Any 360 (or 390) uufd mica capacitor may be substituted for the one we used at our installation.

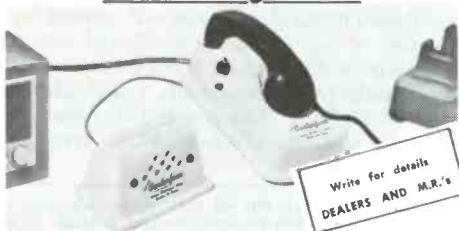
Don't expect to work stations in Timbuktoo with this rig, it will give you some interesting local contacts however (if you get together with other local P-15'ers and establish a net, that is). If there are persons in your area who are using the PA-405's as wireless intercoms and complain that you P-15 operations are causing interference, you can move off frequency (but still stay within the band) by slightly adjusting the oscillator coil at the bottom of the unit. Naturally, since all PA-405's are factory set at the same frequency, all of the stations in your net will have to similarly change their frequencies.

Editor's note: Check the frequency of your wireless intercom, some units operate as high as 200 kc/s, which is out of the P-15 band. In such instances, the oscillator coil will have to be adjusted to bring the unit to below 190 kc/s—we would suggest to at least 185 kc/s to keep modulation sidebands within the band edge. This 15 kc/s (or less) shift in operating frequency should be easily accomplished. In addition, some wireless intercoms may run more than the legal 1 watt input. Check this as it may be necessary to put a resistor in the B+ supply to bring the power within the proper limit.

DIRECT LINE

to profits . . . by selling, installing, using

Carterfone



Direct telephone contact . . . instantly. CARTERFONE provides direct conversation between Two-Way equipped mobile units and any public telephone service . . . anywhere. Hundreds of profitable daily applications for this new Electronic proven instrument. AUTOMATIC . . . TRAN-SISTORIZED . . . PATENTED . . . FCC APPROVED . . . THOUSANDS IN USE BY BUSINESS AND GOVERNMENT.

Order your CARTERFONES today
Prompt Shipment

12 Months Warranty



Carter

ELECTRONICS CORPORATION

P.O. Box 8308 PH: 368-1471
6762 Greenville Ave., Dallas 31, Texas

