

★ Assembling Your Designer Approved

Kraft Audio Transmitter

EXCLUSIVE Kit By Ace R C

Quan. Description

CAPACITORS

- 1 Arco 423 trimmer capacitor (3-13 mmf) - C2
- 1 Arco 423 trimmer capacitor - C1
- 2 .01 disc ceramic capacitor
- 1 100 mmf disc ceramic capacitor (47 mmf)
- 1 .001 mf disc ceramic capacitor (470 mmf)
- 1 10 mmf disc ceramic capacitor (47 mmf)
- 1 .01 capacitor $\pm 10\%$ tubular
- 2 .1 capacitors $\pm 10\%$ tubular

RESISTORS

- 3 100K resistors $\frac{1}{2}$ watt 10% brown, black, yellow
- 2 470K resistors $\frac{1}{2}$ watt 10% yellow, purple, yellow
- 1 330K resistor $\frac{1}{2}$ watt 10% orange, orange, yellow
- 2 10K resistors $\frac{1}{2}$ watt 10% brown, black, orange
- 1 1K resistor $\frac{1}{2}$ watt 10% brown, black, red

TUBES

- 1 3A5

CHOKES

- 1 36 uh RFC - Black (20 uh)
- 1 20 uh RFC (10 uh double pi)

COILS

- 2 L1, L2 - tank coils 13T #16 enameled close wound 3/4" (L1 - 8T #16 5/8" I.D.; L2 - 7T #16 5/8" I.D.)

CRYSTAL

- 1 13.4975mc to 13.6275mc (25.5mc to 27mc)

TRANSISTOR

- 2 2N224 Philco

SWITCHES

- 1 Push button switch
- 1 DPDT toggle switch
- 1 DPST toggle switch
- 1 Crystal socket
- 1 Tube socket - PC type

WIRE

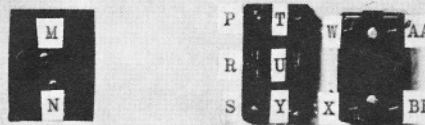
- 9" #24 stranded black, red, brown, blue, grey

MISCELLANEOUS

- 1 42" antenna telescoping with mount and brace
- 1 Aluminum box 3" x 5 9/16" x 8"
- 1 Printed circuit board - 1/16" linen
- 4 Battery connectors snap type (for Eveready #467 or equivalent 67 1/2 volt B battery)
- 1 Battery plug for Eveready #742
- 6 1/4 x 4 sheet metal screws
- 4 2/56 x 3/4 bolts and nuts
- 2 4/40 x 1/4 bolts and nuts
- 4 1/2" x 3/32" I.D. brass tubing

Items shown in () parentheses are for 50-54 mc version.

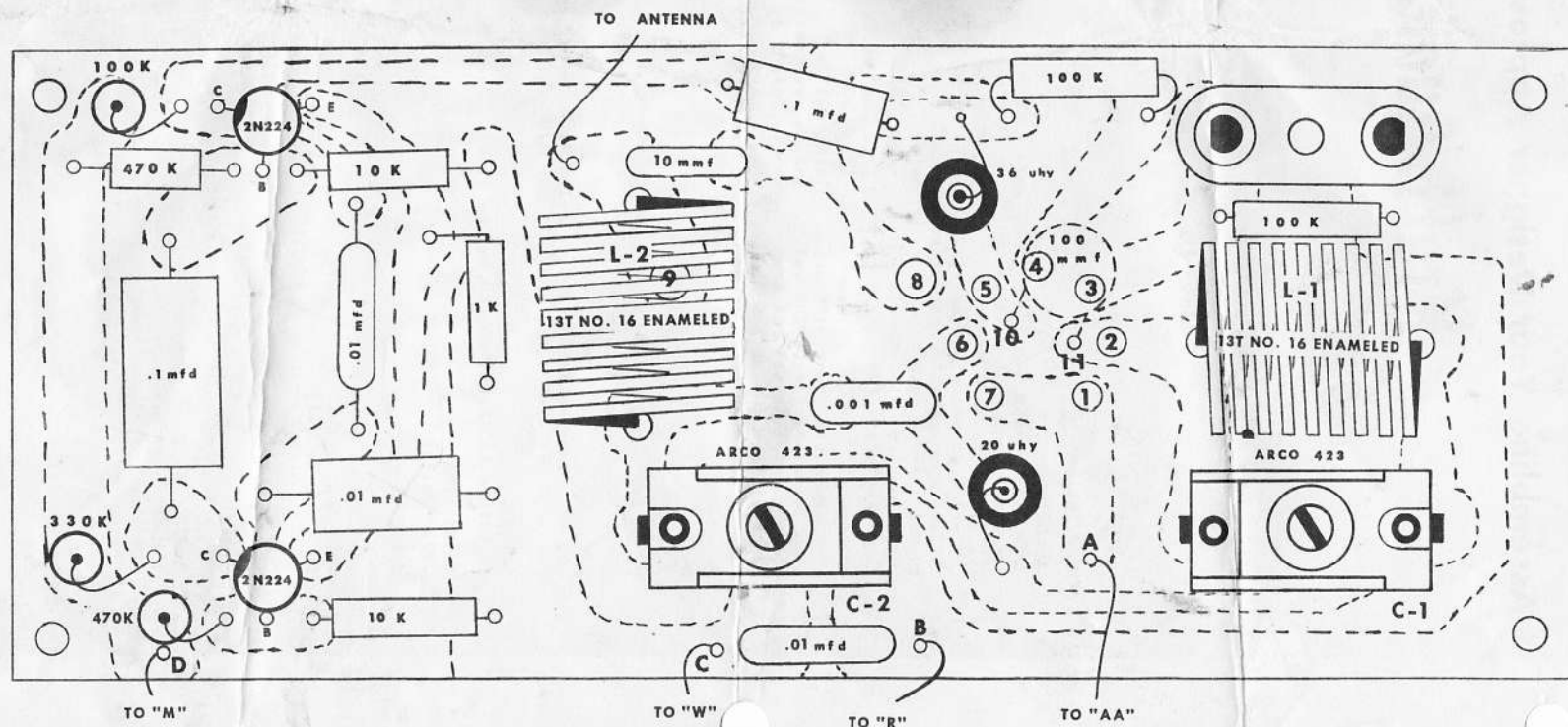
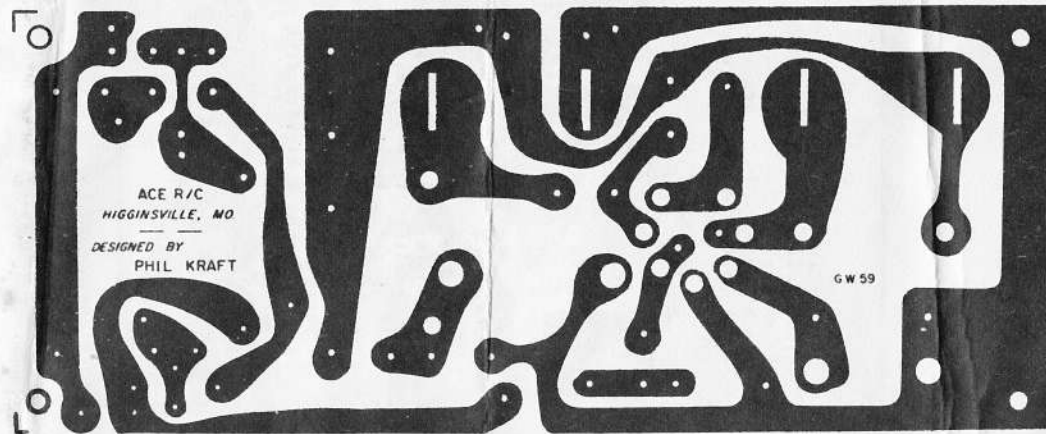
The printed circuit board will mount in these four holes using the four 2/56 x 3/4 bolts and 1/2" spacers. Mount with printed circuit side next to the lid.



Mount the battery support bracket in these two holes with mounting lip down, using two 4/40 x 1/4 bolts and nuts. After batteries are installed, wedge cardboard between battery bracket and the batteries to prevent batteries from shifting.

SPECIFICATIONS

	67.5V.	135 V.
Carrier	5.6 ma	14.5 ma
Modulator	.5 ma	1.4 ma
Total	6.1 ma	15.9 ma
Modulation %	100%	96%
Tone Frequency	400 cps + 60 - 90 cps at 140° F.	400 cps \pm 3 cps at 70° F.
RF Frequency	Within crystal tolerance	Within crystal tolerance



(50-54 mc kits are provided with special components as required and mentioned in the parts list in () parentheses. Familiarize yourself with these changes if you are building the 50-54 mc version and make the necessary mental substitutions in the text that follows.)

By following the pictorial diagrams and the schematic, wiring of the transmitter will be very simple. Component placement is shown in the drawing and should provide no particular difficulty. May also be traced out on the schematic which is provided. In soldering on the PC base, use a light weight iron and a good grade of solder such as Ersin multicore.

The tube socket is not shown on the parts layout but it goes in holes 1 through 7. The 100 mmf capacitor between tube pins 2 and 5 will be soldered in holes 10 and 11 with the capacitor on the same side of the base as the copper. All other parts are mounted on the opposite side of the copper.

When you receive your coils, they have been wound to 14 turns. Unwind 1/2 turn from each end and bend to right angle to the coil. Clip leads to 1/4" and scrape the insulation from the end 1/8".

When soldering transistors into the circuit, use some type of heat sink such as long nose pliers or alligator clips. This is to prevent heat damage to the transistors. It is also recommended to solder transistors in last.

Holes 8 and 9 are provided for a ceramic trimmer to be used in place of the 10 mmf capacitor if another length of antenna is used other than what is provided with the kit.

WIRING INSTRUCTIONS

The following instructions are for wiring the base, switches, and battery leads together.

- (1) From the blue hook up wire, cut a 1 1/2" length and strip 1/8" insulation from one end and solder in hole "A" on the printed circuit board.
- (2) Cut a 2 1/4" length of blue hook up wire and strip 1/8" insulation from one end and solder to point "C" on the printed circuit board.
- (3) Cut a 1 1/2" length of blue hook up wire. Strip 1/8" insulation from one end and solder to point "B" on the printed circuit board.
- (4) Cut a 2" length of blue hook up wire and strip 1/8" insulation from one end and solder to point "D" on the printed circuit board.
- (5) Cut a 2" length of blue hook up wire and strip 1/8" insulation from one end and solder to point "E" on the printed circuit board. This wire will connect to the antenna when the front cover is placed on the box. The other 4 wires will be used to connect the board to the switches.
- (6) Mount the DPDT toggle switch in the HI-LO hole in the front cover. Mount the DPST switch in the "ON-OFF" hole in the front cover with the "OFF" position down.
- (7) Mount the push switch in the hole in the front cover for the key.
- (8) Mount the printed circuit board above the three switches using the four 4/40 x 1/2" bolts and the 3/8" metal spacers. Mount the board so that the printed circuit side will be next to the lid and, with the crystal socket in the upper right corner. The two holes below the switches will be used to mount the battery support bracket.
- (9) Cut a 6 inch length of brown hook up wire and strip 1/4" insulation from one end and solder in positive (large) hole of the "A" battery plug. Strip 1/8" insulation from other end and solder to point "BB" on the switch.
- (10) Cut a 9" length of grey hook up wire. Strip 1/4" insulation from one end and solder in negative (small) hole of the "A" battery plug. Strip 1/8" insulation from other end and solder to point "N" on the switch.
- (11) Cut a 1" length of blue wire and strip 1/8" insulation from each end. Solder between points "Y" and "X".
- (12) Strip 1/8" insulation from the four wires coming off the printed circuit board. Solder the 1 1/2" blue wire from point "A" on the board to point "AA" on the switch.
- (13) Solder the end of the 2 1/4" blue wire from point "C" on the board to point "W" on the switch.
- (14) Solder the end of the 1 1/2" blue wire from point "B" on the board to point "R" on the switch.
- (15) Cut a 1 1/4" length of blue hook up wire and strip 1/8" insulation from each end. Solder one end to point "T" and the other end to point "S".
- (16) Solder the end of the 2" blue wire from point "D" on the board to point "M" on the switch.
- (17) Cut a 2 1/4" length of blue hook up wire and strip 1/8" insulation from each end. Solder one end to point "R" and the other end to point "N".

- () Cut two 5" lengths of red hook up wire. Strip 1/4" insulation from one end of each and solder a positive "B" battery snap to each.
- () Strip 1/8" insulation from other end of each lead. Solder one of the leads to point "U". Solder the other red lead to point "Y".
- () Cut two 5" lengths of black hook up wire. Strip 1/4" insulation from one end of each and solder a negative "B" battery snap to each.
- () Strip 1/8" insulation from the other end of each black lead. Solder one of the leads to point "T" and the other one to point "R".
- () Tape the red lead from point "Y" and the black lead from point "T" together to make it convenient to show that they connect to the same "B" battery.
- () Tape the red lead from point "U" and the black lead from point "R" together. This set will connect to the other "B" battery.
- () Mount battery bracket in the holes on the front panel using the two 4/40 x 1/4 bolts and nuts provided.

ANTENNA INSTALLATION

- () Your antenna has been provided with an Amphenol type mount--male and female connection. Take the male connection, along with the two extruded 3/8" washers and the solder lug for connection, and lay aside. Take the antenna bracket reinforcement plate which is a sheet of aluminum which will fit on the inside of the top of the transmitter case and fasten with two #4 x 1/4 self tap screws--screwing from the top of the case. Now mount the male connection using one 3/8" extruded washer at the top and one 3/8" extruded washer at the bottom to prevent grounding of the antenna to the cabinet. From the printed circuit chassis, bring the lead of the wire marked "to antenna" and solder both on the printed circuit board and on the antenna lugs. This completes the antenna installation. Antenna may now be mounted by screwing the female portion into the male portion at the top of the cabinet and extending antenna to full length.

The antenna now being furnished with your Kraft transmitter is one being made by Antenna Specialists of Cininnata, Ohio. It is a domestic type antenna which collapses to 9 1/2" and extends out to 42". This does not affect the radiated output. It is a sturdily - constructed unit although, by comparison with the old 54" unit, is much lighter and makes your transmitter a much more convenient and less bulky unit to hold. The substitution is being made in view of the fact that we consider this to be a considerable improvement over the antenna formerly furnished.

This completes the wiring of your transmitter. It is now ready to be tuned. It must, however, be tuned by a commercial class operator or under his supervision according to new docket #12902 of the Federal Communications Commission. Since this is a straightforward MOPA type circuit, no particular tuning instructions will be given since the person holding a commercial operator's License will have the "know-how" to tune it properly.

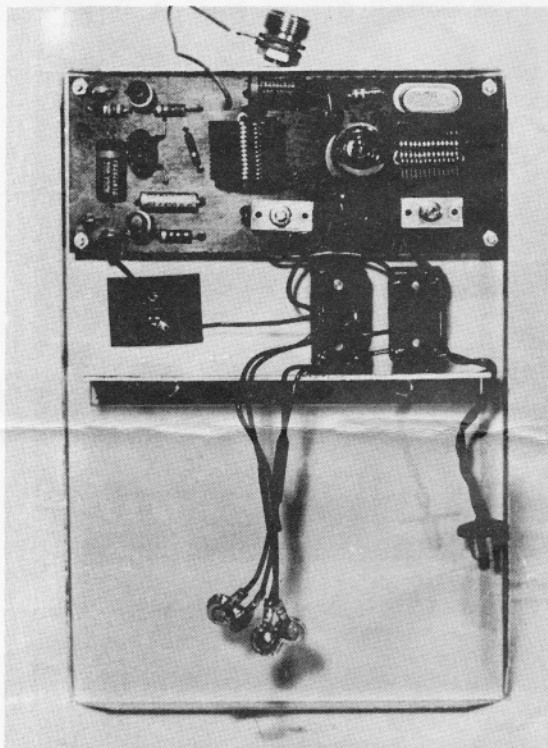
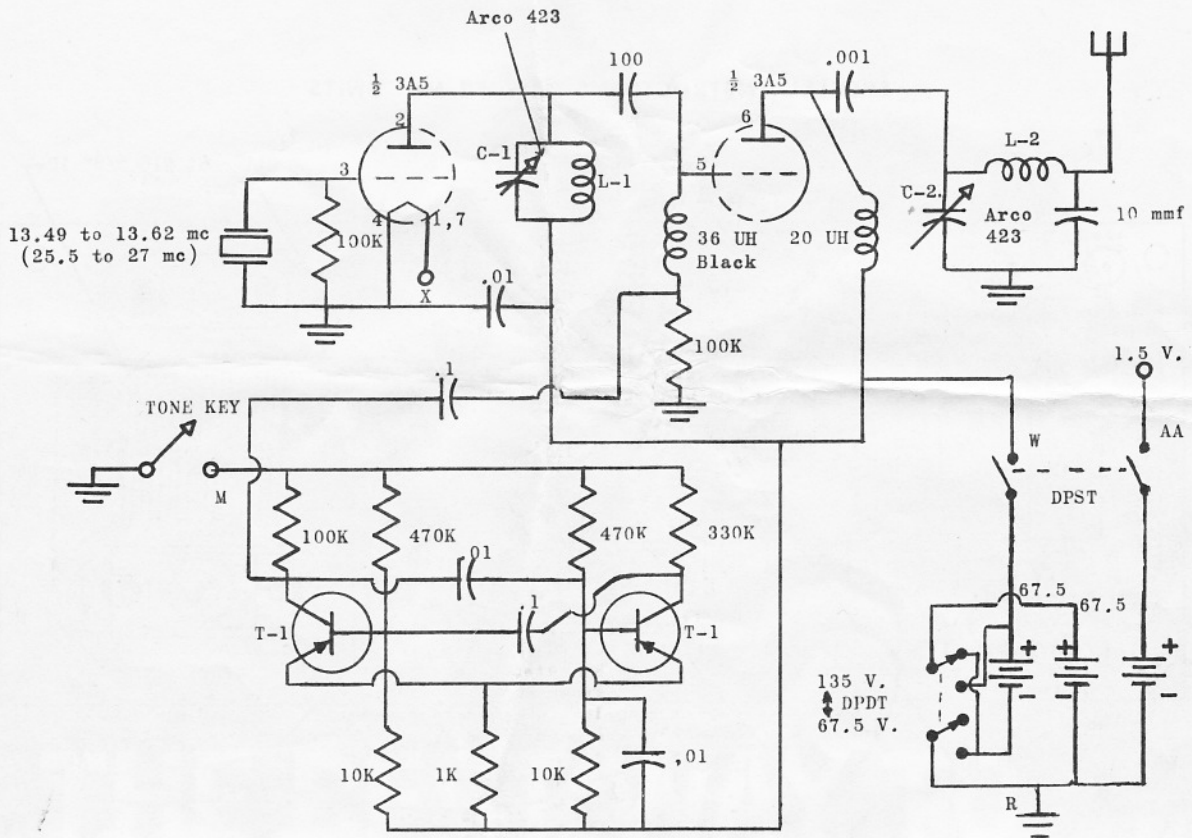
Double check against the wiring diagram as well as the schematic to make sure that you have wired your transmitter correctly. This is very important inasmuch as the 3A5 tube and the crystal have been tested before you received the kit. Faulty wiring connections could result in blowing out both tube and crystal. No replacements can be made on these since you received perfect units.

The use of two Burgess XX45 67 1/2 volt batteries is recommended for the B voltage and the use of a Burgess F4 1 1/2 volt or equivalent is recommended for A voltage. These will insert into the bottom of the case with just a little room to spare. Corrugated cardboard may be wedged in between the battery bracket and the batteries to prevent shifting also to prevent shorting. Plug in your A battery. You will note that one side of the plug is larger than the other. This is the keying arrangement to eliminate the possibility of hooking it up incorrectly. Snap on the B battery snap connectors to the two XX45 cells.

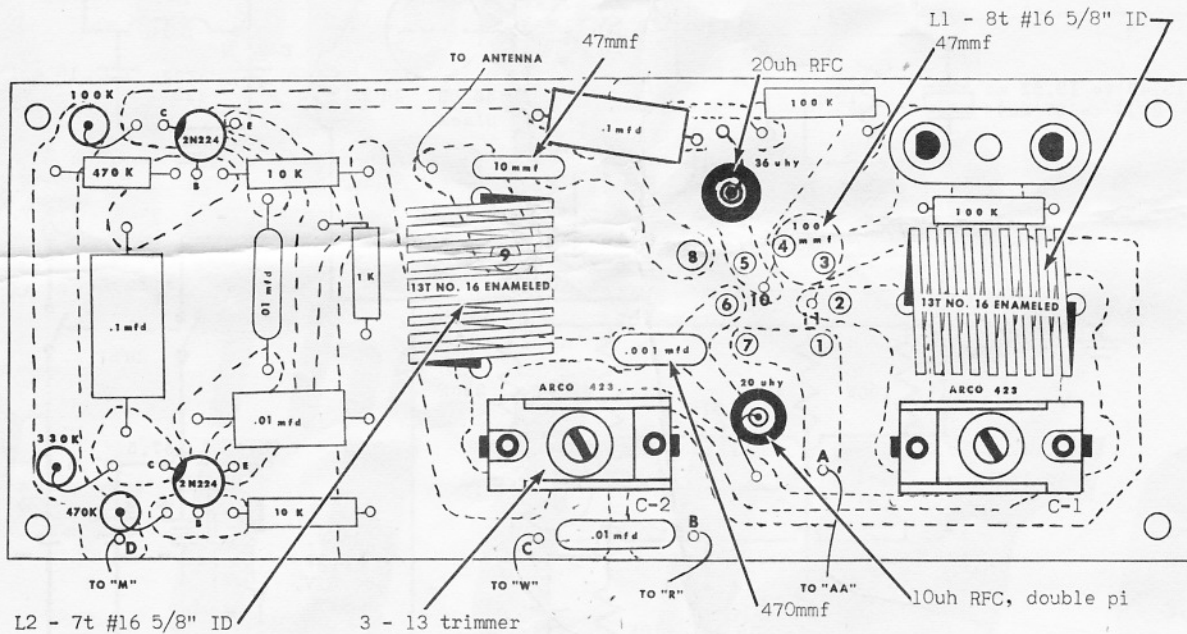
This is your certification that, when properly wired and tuned, this conforms to both docket #11994 and docket #12902 of the Federal Communications Commission. In the event that you are unable to locate a person holding a commercial class operator's license to tune your transmitter, our Service Center, 837 Eastern Avenue, Schenectady, New York, will be glad to do so for a \$2.00 fee plus return postage. The unit will then be sealed and meet all the FCC specifications.

In the event that you are unable to trouble-shoot and repair your kraft transmitter, all Ace R/C kits should be returned to Servicer, 837 Eastern Avenue, Schenectady, New York, where they will be serviced for a minimum fee of \$2.00 plus any components which require replacing and return postage. DO NOT return the units to the factory.

Glendale



SPECIAL INSTRUCTIONS FOR 52 MC UNITS



TUNING THE RF PORTION OF THE TRANSMITTER

USING A MILLIAMETER

Disconnect one of the 67½ volt battery leads and insert a 0-25 milliammeter with the plus lead going to the plus terminal of the battery, and the minus lead to the snap in connector. Switch the high-low Switch to the HIGH position. Screw the trimmers down to maximum capacitance, use an insulated screwdriver. Turn on the transmitter filament switch. Current will be about 24 ma. Rotate the Arco 423 until current dips, and then turn just a slight bit further. Current reading will be about 14 ma. Rotate the 3-13 for another dip. This one will be very slight, only about 1/4 ma. This final dip indicates the last stage is tuned to resonance. These readings are subject to variation, depending not only on the condition of the batteries, but also the type and make of meter used to obtain the readings. The readings are given as an indication only, and if there is a variation in either direction of a milliamperere or more, it does not necessarily mean your transmitter is not performing correctly. With transmitter switch in the LOW position the milliammeter will read about 6 ma. (All of the foregoing readings are without a tone on)

With care, the foregoing tuning method for the 3-13 trimmer (final) is entirely adequate. Greater accuracy of peaking can be obtained by using a field strength meter. With this the final is tuned to provide the greatest output reading.

USING A VTVM

Another method, which is borrowed from the ham or amateur fraternity, may also be used if a VTVM (Vacum Tube Volt Meter) is available. Make sure both padders are closed, but not tight. Set VTVM on a 5 volt DC scale and connect the positive lead to any convenient ground connection. Place the negative lead on pin 3--one convenient place to fasten lead is the 100K resistor that is between the crystal socket and the coil.

High-Low switch should be in High position. Turn on transmitter filament. VTVM will read about .8 volts. With insulated screwdriver unscrew Arco 423, trying to achieve a maximum reading--this will be about 1.2 volts. Now unscrew the 3-13 for a peak reading, this will be about 2.2 volts. (These readings were obtained with a Heath VTVM Model V-7A.)

The use of a Field Strength Meter will also be helpful in determining the radiated output of the final stage, as in the instructions above for MA tuning procedure.

HELPFUL KIT BUILDING INFORMATION

Before you attempt to build your Ace R/C kit it would be most helpful to have you read the entire instruction sheet through to thoroughly familiarize yourself with the general procedure. You will note the use of many photographs and line drawings throughout the instructions.

This is offered primarily for the novice and will be of definite assistance to those who lack a thorough knowledge of approved construction techniques. Even the advanced R/C enthusiast may benefit by a brief review of this material before proceeding with the construction. In the actual mechanical assembly of components for the chassis and related equipment it is important that the procedure as developed in the instructions be followed. Make sure that tube sockets are properly mounted in respect to the pin numbering location. The construction of Ace R/C kits does not necessarily require the use of a lot of specialized equipment and only basic tools in almost every R/C fan's home workshop are required. A good quality electric soldering iron is essential. A type that can be highly recommended is the Ungar with the 37½ watt chisel point. This will be found to be quite adequate for most transmitter and measuring devices as well as the tiniest of receivers. A good supply of rosin core type solder of the Ersin Multi Core or similar type is recommended. Never use separate fluxes, paste or acid solder in any electronic work. The use of a long nose pliers and a diagonal or side cutters is recommended. A small screwdriver will prove adequate although several additional assorted screwdrivers will be helpful.

When following wiring procedure make your leads as short and direct as possible. When removing insulation from the end of a length of hook up wire it is not necessary to expose more than 1/4 inch of wire. Excessive insulation removal may cause a short circuit condition in respect to nearby components.

In mounting parts, such as resistors or condensers, trim off all excess lead lengths so that the component may be installed in a direct point to point manner. If necessary, use spaghetti over the exposed wires that might short to nearby wiring.

It is highly recommended that the parts layout as shown in the construction manual be followed exactly. The desirability of this arrangement was carefully determined through the construction of a series of pilot models.

Much of the performance of an R/C kit depends upon the degree of workmanship used in making soldered connections. Proper soldered connections are not difficult to make but it is advisable to observe some simple precautions. Before a connection is to be soldered the connection itself should be clean and mechanically strong. You can not depend on solder alone to hold a connection together. The tip of your soldering iron should be bright, clean and free of excess solder. Use enough heat to thoroughly flow the solder smoothly into the joints. An excessive use of solder is to be avoided. Also avoid a flux flooding condition which could conceivably cause a leak between adjacent terminals on tube sockets and so forth.

A check list of parts has been prepared for you and will be found in your kit. This contains a list of the hardware, grommets, resistors, capacitors, sockets, switches, tubes, crystal, coils, wire and miscellaneous components found in your kit. It is advisable for you after you have thoroughly studied the drawings, instructions, and pictures, to check this list of components to make sure that all parts are in the kit and that you familiarize yourself with each part.

While every effort is made to pack your kit with 100% complete parts, with human fallibility being what it is, errors can occur. In the event of a shortage please return the parts list to Ace Radio Control, Box 301, Higginsville, Missouri detailing which parts you were short. We must have your parts list in order to make a replacement. This will also identify for us in what department the error occurred.

Best of luck on your R/C adventures.

Ace Radio Control

Box 301
Higginsville, Mo.

SERVICE INFORMATION

If, after applying the information contained in this manual and your best efforts, your Ace R/C kit does not give you the proper performance, we suggest you take advantage of the facilities of our Servicenter, at 837 Eastern Avenue, Schenectady, N. Y. Do NOT return the unit to Box 301, Higginsville, Missouri.

The Ace Servicenter is manned by personnel that has been trained in the art of servicing R/C equipment. There are problems encountered in R/C equipment that are not encountered in ordinary Radio and Television, and these problems may be difficult for the ordinary Radio and TV Serviceman to spot, unless he has personal knowledge acquired from personal use of R/C equipment.

The service charge will be a reasonable fee plus the replacement of defective components, if in the judgment of the Ace Technician, they were good to begin with. If, in his judgment, they were faulty as you received the kit, they will be replaced without any additional charge.

Service applies only to completed equipment which has been constructed in accordance with the instructions as contained in this manual. Equipment which has been modified, may sometimes not be accepted for service. IF THERE IS EVIDENCE OF ACID CORE SOLDER OR PASTE FLUXES, THE EQUIPMENT WILL BE RETURNED WITHOUT ANY ATTEMPT TO REPAIR--since such an attempt would be a waste of time.

Attach a tag with your name and address to the equipment when it is returned for service. Pack carefully in a carton large enough to contain enough packing so that no damage from handling in the mails will result. Include with the transmitter a letter stating briefly what in your opinion is wrong with the equipment.

On the outside of the parcel be sure to include your name and address. Use a mailing tag, and plainly write in the following address:

Ace Servicenter
837 Eastern Avenue
Schenectady, New York

On the package itself, because of your letter, write "Letter enclosed" and add a stamp to cover the postage for this, in addition to the postage the package requires under regular parcel post rates. If available, add stickers such as "Fragile" or "Handle With Care". Your unit will be given prompt attention. If repairs required appear to be extensive, you will be contacted by the Servicenter before further work is done to obtain your authorization.

If there is no licensed commercial operator near you, the Ace Servicenter will tune the RF of your transmitter, seal and certify it, for a fee of \$2.00 and return postage.

Dear R/C Fan:

You have purchased an R/C kit which, as you may have read, is now required to be tuned by or under the supervision of someone holding a commercial class radio operator's license. This came about as a result of the new FCC regulations which went into effect November 15, 1959. No tuning may be done by you. It must be tuned by someone holding a license and when this is done, no component changing, no crystal changing, and no further tuning may be done by you as specified under amendment part 19.71 of the Citizen's Radio Service as issued by the Federal Communications Commission.

This shouldn't affect the fun that you will have from R/C operation. It is a safeguard by the FCC to make sure that all who are in radio control can have assurance of operation which is legal.

This is your certification that the transmitting equipment from the kit that you have received has been carefully designed, manufactured and furnished in accordance with the specifications which are contained in part 19.71.

If there is no commercial operator licensee available, you may send the unit to Dale Springsted, 837 Eastern Avenue, Schenectady, New York who holds such license. Fee for tuning transmitter is \$2.00 plus return postage. This does not include service if it is required.

ACE RADIO CONTROL
BOX 301
HIGGINSVILLE, MISSOURI

FCC AMENDS CITIZENS BAND RULES

Amendment of § 19.71 of Part 19, Citizens Radio Service, to specify certain exceptions to the requirements regarding licensed radio operators in connection with Class C and Class D stations in that service, upon certification of the equipment by the manufacturer.

DOCKET NO. 12902

REPORT AND ORDER

1. On June 10, 1959, the Commission adopted a Notice of Proposed Rule Making in the above entitled matter which was published in the Federal Register of June 18, 1959 (24FR4969). The time allowed for filing both original and reply comments has now expired.
2. Comments were received from the Citizenship Radio Corporation and the Kaar Engineering Corporation. No reply comments were received. The statement of Citizenship was simply that it had no objections to the proposal. Kaar supports the proposal insofar as it relates to factory-assembled equipment but opposes the exception to the requirement for a licensed operator as it relates to home-assembled kits.
3. The opposition of Kaar appears to be based on a misconception of the requirements for home-assembled kits as stated in the proposed rule and a mistaken idea that the licensee who home-assembles a factory kit is relieved of any responsibility for the proper performance of the equipment. In order to come within the proposed exception, a kit which is to be further home-assembled must comply with all the conditions listed in paragraph (d) of the amended Section 19.71, one of which is that the frequency determining elements of the transmitter, including the crystal and all components of the crystal oscillator circuit, shall have been pre-assembled by the manufacturer, pre-tuned to a specific available frequency, and sealed. Thus the proposed rule would not include the complete unsupervised home-construction and activation of a transmitter but only the addition to this sealed unit of certain components, pre-selected by the manufacturer of the kit, that may reasonably be expected not to result in off-frequency operation, excessive plate input power, over-modulation, excessive harmonics or other spurious emissions. Compliance with Section 19.71(d) does not relieve the licensee of responsibility for the proper performance of the equipment since he may still be cited for violation of the appropriate section of Subpart C of Part 19 if this equipment fails to

comply with any of the technical standards contained therein. Compliance with Section 19.71(d) simply relieves the licensee of the necessity of determining in advance whether or not certain adjustments of the transmitting equipment may reasonably be expected to result in violation of those technical standards.

4. The Commission is of the opinion that the limited exception to the licensed operator requirements contained in the proposal is in the public interest in that it would facilitate the fullest development and use of Class C and D stations and at the same time contains adequate safeguards to prevent a degradation of the service, particularly with respect to those persons who, for economic or other reasons, wish to use equipment involving some degree of home construction.

5. In view of the foregoing, and pursuant to authority contained in Sections 4(c) and 303 of the Communications Act of 1934, as amended, IT IS ORDERED, That effective November 15, 1959, Section 19.71 of Part 19, Citizens Radio Service, BE AMENDED as set forth in the attached Appendix.

FEDERAL COMMUNICATIONS COMMISSION

APPENDIX

AMENDMENT TO PART 19: CITIZENS RADIO SERVICE

In § 19.71, paragraph (c) is amended and new paragraphs (d) and (e) are added, as follows:

§ 19.71 Operator requirements.

* * * * *

(c) Except as provided in paragraph (d) of this section, all transmitter adjustments or tests while radiating energy during or coincident with the construction, installation, servicing, or maintenance of a radio station in this service, which may affect the proper operation of such station, shall be made by or under the immediate supervision and responsibility of a person holding a first or second-class commercial radio operator license, either radiotelephone or radiotelegraph, as may be appropriate for the type of emission employed, and such person shall be responsible for the proper functioning of the station equipment at the conclusion of such adjustments or tests.

(d) In the case of Class C or Class D stations in this service, no commercial radio operator license is required to be held by the person performing transmitter adjustments or tests during or coincident with the construction, installation, servicing, or maintenance of such stations: Provided, That there is compliance with all of the following conditions:

- (1) The transmitting equipment shall be crystal-controlled with a crystal capable of maintaining the station frequency within the prescribed tolerance;
- (2) The transmitting equipment either shall have been factory-assembled or shall have been provided in kit form by a manufacturer who provided all components together with full and detailed instructions for their assembly by non-factory personnel;
- (3) The frequency determining elements of the transmitter, including the crystal(s) and all other components of the crystal oscillator circuit, shall have been pre-assembled by the manufacturer, pre-tuned to a specific available frequency, and sealed by the manufacturer so that replacement of any component or any adjustment which might cause off-frequency operation cannot be made without breaking such seal and thereby avoiding the certification of the manufacturer required by this paragraph;

(4) The transmitting equipment shall have been so designed that none of the transmitter adjustments or tests normally performed during or coincident with the installation, servicing, or maintenance of the station, or during the normal rendition of the service of the station, or during the final assembly of kits or partially pre-assembled units, may reasonably be expected to result in off-frequency operation, excessive plate input power, over-modulation, or excessive harmonics or other spurious emissions; and

(5) The manufacturer of the transmitting equipment or of the kit from which the transmitting equipment is assembled shall have certified in writing to the purchaser of the equipment (and to the Commission upon request) that the equipment has been designed, manufactured and furnished in accordance with the specifications contained in the foregoing subparagraphs of this paragraph:

And Provided Further, That, notwithstanding the foregoing provisions of this paragraph, whenever the transmitting equipment of a station is found operating contrary to any of the technical regulations contained in Subpart C of this part, all transmitter adjustments or tests while radiating energy during or coincident with the servicing of that equipment for the purpose of restoring compliance with those regulations shall be made by or under the immediate supervision and responsibility of a person holding a first or second-class commercial radio operator license, either radiotelephone or radiotelegraph, as may be appropriate for the type of emission employed, and such person shall be responsible for the proper functioning of the station equipment at the conclusion of such adjustments or tests.

(e) The manufacturer's certification concerning design and construction features of Class C or Class D station transmitting equipment, as required if the provisions of paragraph (d) of this section are invoked, may be specific as to a particular unit of transmitting equipment or general as to a group or model of such equipment, and may be in any form adequate to assure the purchaser of the equipment or the Commission that the conditions described in that paragraph have been fulfilled.

MODEL AVIATION

It is illegal to operate this transmitter without a Citizen's Band license. Form 505 for securing this license is available from your dealer or the nearest Federal Communications Commission office.