

## *What Transmitter and Receiver Shall I Build?*

That is the question most frequently asked by beginners in R/C. And with a wide selection of kits for both transmitters and receivers available, it is understandable. Each receiver offers something just a bit different from the others, and we therefore offer a wide line for the beginner as well as the advanced R/C fan.

If you are a rank beginner and have had absolutely no or very little radio experience, and you don't know a resistor from a capacitor, we strongly recommend you NOT to get a kit. Instead get a receiver and transmitter already built, tested and guaranteed. The MC100 and 250 or the Badaco 180T and 180R are highly recommended.

If, however, you have some radio knowledge and read schematics, it is no great mystery to get an Ace kit into operation for a reliable, dependable performer.

Among gas tube receivers, the Lorenz two tuber has been and is the most popular we offer. With diodes, it is a bit more complex, but this is offset by the increased tube and battery life.

In the hard tube line, the McEntee Simple Single is the easiest to get into operation. The Commander ranks next and has the advantage of being smaller and lighter.

In transmitters, it is pretty largely a matter of pocketbook and personal preference. Some builders like hand held units, while others use larger ground based units to which they add vibrator power supplies. We can recommend all transmitters we kit as being able to do a nice job and relatively simple to build. We urge you to read the descriptions of each carefully and then make your choice based on your preference and pocketbook.

The receivers listed above are known as CW receivers, and any CW transmitters such as the Commander, Lorenz 3A4, Mac II and Lorenz MOFA may be used with any of the receivers mentioned.

For audio receivers and transmitters we kit, we earnestly urge you to gain some CW R/C experience first. They are not difficult for the experience builder, but can be frustrating to rank beginners.. The TR and WAG Dual Proportional receivers and transmitters are only for the most experienced R/Cer.

If we sound cautious, just remember we want your R/C experience to be a happy one. We are just as interested in your repeat business, as we are your initial order.

## **Quality - Service - Satisfaction Guaranteed**

ORDER FROM SHIPPING POINT NEAREST YOU

**Ace R/C East**

Box 1661  
BURLINGTON, N. C.

**Ace Radio Control**

Box 301  
HIGGINSVILLE, MO.

**Ace R/C West**

Box 18  
CARMICHAEL, CALIF.

## COMMERCIALLY BUILT

27.255 MC.

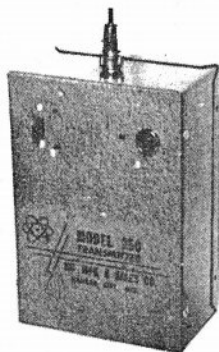
## RECEIVERS AND TRANSMITTERS

For the R/C fan who is a bit reluctant about building his own equipment just yet, or for the fan who wants some "extra" gear, Ace offers three of the best lines of commercially built and guaranteed units available today.

On the next pages you will find equipment from MC Manufacturing & Sales, and Badaco Manufacturing. We have tested all of the products shown, and are convinced that dollar for dollar they offer "BEST BUYS" for the purchaser.

We can also secure other commercial equipment for you from the respective manufacturers. Write us your needs on anything not listed.

### MC MANUFACTURING & SALES CO.



#### ★ MC 250 TRANSMITTER

3A4 tube in a simple, yet very stable and rugged circuit. 2.5 watt input.

Crystal controlled 27½ megacycles.

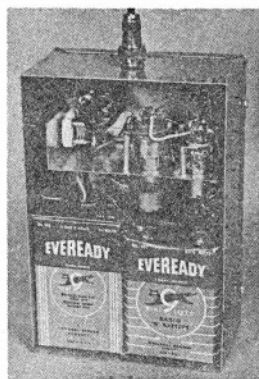
Green hammertone cabinet, 3x5½x8".

54" antenna, collapses to 28". Detachable.

Uses two Burgess XX45 and one X4F or their equivalents.

Completely built up, tested and guaranteed

Only	\$19.95
With assembled 20-250 Power Pack	\$30.95



#### ★ MC 350 TRANSMITTER

MOPA using 3A4 oscillator and 3D6 amplifier.

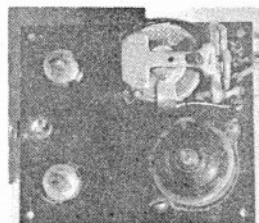
3.6 watts input when using 20-250 power pack.

May be operated with batteries. Uses same battery complement as 250 above.

Cabinet and antenna same as for 250.

Completely built up, tested and guaranteed.

Only	\$24.95
With assembled 20-250 Power Pack	\$35.95



#### ★ MC 100 RECEIVER

3S4 for long life, economical replacement

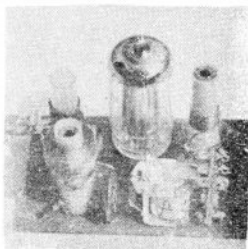
Current change from 2.4 ma to .6 ma with 45v.

Sensitivity set to any installation with slug coil. Long range, not critical.

Furnished with Gem submini relay.

Completely built up, tested and guaranteed only	\$14.95
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## ★ MC100B RECEIVER



Here is really sensational news. The popular MC100 Receiver has been re-designed so that it uses printed circuitry. This makes mass production possible and reduces cost. These savings are passed on to you. Complete with tube and relay, this wired and tested receiver sells for only \$11.95. Ideal for the beginner or the extra receiver for the expert. Stable long range circuit. Easy to tune and will be in tune over long periods. Long tube life. It must be seen to be appreciated. Lowest priced American made unit on market. **\$11.95**

## ★ MC POWER SUPPLIES

Here is the finest 2 volt power supply on the market. Its versatility will mean that it will not be outmoded for any of your MC needs in the future. Output is 180 or 150 volts at 40 mls. Either voltage may be selected by a switch. A voltage is also variable and will supply  $1\frac{1}{2}$  v for from 1 to 5 tubes. Completely filtered. Is available in two sizes. Model 20 is for large ground based cabinets. Model 20-250 is for the MC250 or MC350 transmitter cabinet. Price does not include wet cell.

COMBO KIT, prefabbed chassis, all parts, either model 20 or 20-250 **\$10.95**

CUSTOM BUILT, tested, guaranteed, either model— **\$12.95**

### SPECIAL OFFER

Deduct \$2.00 from above prices if purchased with any Ace Transmitter Combo.

NEW—Model 20-BC power supply has just been developed. Chassis will fit into a Berkely or 27 $\frac{1}{2}$  mc. Citizenship transmitter. Puts out 150 volts at 30 ma. Price is the same as for model 20 for either combo kit or custom built.

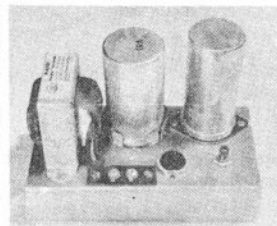
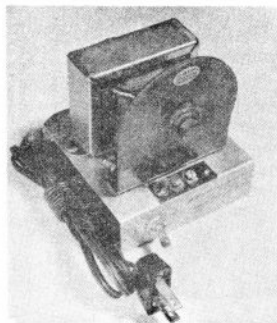
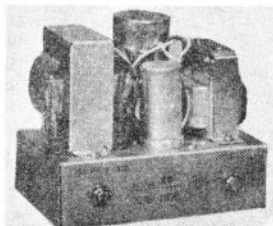
## ★ MC BATTERY CHARGER

Keep your 2 or 6 volt battery in the best shape. The MC charger will charge either 2 or 6 volts at 2 amperes. Will also charge NT6 batteries at .5 amp which is important to their long life. Simply plug MC charger into 110 volt AC socket. Completely built, tested and guaranteed **\$9.95**

## ★ 6 VOLT POWER SUPPLY

In response to many requests we kit a 6 volt power supply for use with your 6 volt car battery. Simply plug into cigarette lighter of your car and you are in business. Chassis measures 3x5 and is 4 $\frac{1}{2}$  inches tall with vibrator and electrolytic. Filament is fully adjustable for  $1\frac{1}{2}$  v for 1 to 5 tubes. Can be fitted into Lorenz 3A4 cabinet. Features high grade transformer and 1st grade components. Output 160 volts 35 ma.

COMBO KIT contains prefabbed chassis, transformer, vibrator, rectifier, rheostat, electro and all necessary parts **\$8.25**



# BADACO



## 180 T TRANSMITTER

Three-In-One Transmitter. 27½ megacycles.

1. With Scotchman plug in, it transmits a 95% modulated tone of 200 cps. It is capable of operating most commercial and home made receivers.
2. With Scotchman plug out, it transmits a straight carrier signal and can be used with any commercial or home made carrier receiver
3. For multi-channel operation, you simply plug in the Badaco model 180 MC control box only 10 seconds to switch from carrier to tone to multi-channel operation.

Operates without continuous carrier for maximum savings on expensive B batteries. Almost triples their life. Also minimizes modulator drift when used for multichannel operation.

Grey hammertone case, 3½x4½x7". 2.4 watts input on CW, 2 watts on audio. 52" telescoping antenna. Uses standard batteries.

\$34.95



## 180 MC CONTROL BOX

The Badaco Model 180MC control box simply plugs into the Model 180T transmitter and immediately converts to multi-channel operation. It is small and hand held. Comes in two models. The 180MC3 three channel and the 180MC5 five channel. Two, four and six channel boxes available on special order.

180MC3

\$18.95

180MC5

\$21.95



## 180 R RECEIVER

The Badaco 180R operates on 27½ mc. Audiotone operated, 100 to 600 cps. at 90 to 100% modulation. Will operate on lower percentage of modulation when the "blue" condenser is removed as described in instructions. Weight is 3.3 oz. Measures 3½x1½x1 3/8". Tubes protrude 1 3/4" above case. Completely enclosed in spot welded aluminum case to keep dust out of relay and protect parts. Practically crash proof. Only one simple tuning adjustment--as easy as your portable radio. Not sensitive to body capacity. Uses 3A5 and 1U5. Requires 67½ volts of b and 1½ volts of a. Idles at 2.9 ma. On tone signal relay current drops to 0. Completely wired and ready for any type of R/C application.

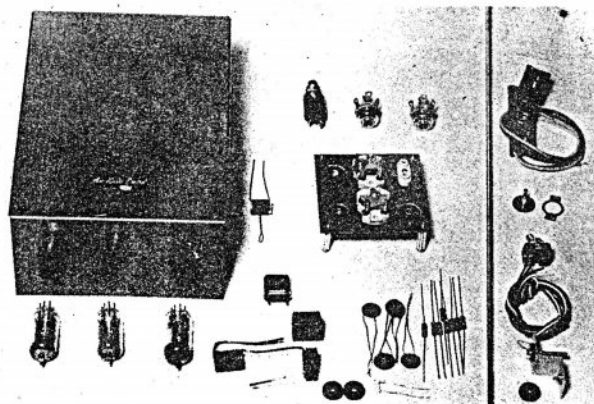
\$24.95



Badaco will have available for delivery soon, their 3 and 5 channel reed receivers. These will be completely housed in a protective aluminum case, and will offer the finest reed units at a very reasonable price. They will be available from us on special order. If interested write for additional information. Prices on both the 3 and 5 channel units make them the most economical yet dependable multichannel equipment available today.

3 channel \$64.95

5 channel \$79.95

**"YM" BLUE RIBBON RADIO CONTROL EQUIPMENT AWARD**

## Ace Non-Selective A. F. Transmitter

■ This transmitter available in kit form only comes complete with all tubes, Petersen Z9A 27.255 mc. crystal, antenna, metal case—everything you will need except the batteries. Case is finished in blue hammertone paint, no holes drilled except those to hold on the two covers; maker feels builders will want to mount components according to individual taste. Instruction sheets include a suggested layout.

A dividend: The complete RF chassis is all assembled, and needs only to be wired up. This unit consists of a bakelite plate about 3" square and 1/16" thick, upon which are mounted three 7-pin tube sockets, two variable condensers and a crystal socket. All of the small parts of the assembly are on the underside—that is, they are next to the front cover of the box when the chassis is installed in the case. Three tubes and the crystal project toward the rear of the case and may be removed with ease.

Three batteries placed in a row along bottom of case are prevented from moving upward by the chassis itself. They may be wedged in even more tightly with scraps of corrugated cardboard.

To build the set, the purchaser will require a drill of about 1/8" dia., plus a larger drill, round file or tapered reamer to make large holes for jacks and switches. No tapping is required.

You get a Z-shaped bracket which fastens to the case top; antenna then slips through a grommet and down onto a long screw on the bracket. This screw carries a lug for attachment to output coupling circuit of amplifier.

Circuit is MOPA type, there being a crystal oscillator tube, followed by a power amplifier, all tuned circuits being on 27 1/4 mc. Oscillator is a triode-connected pentode tube, while the amplifier is used as a pentode. Modulation comes from another tube connected as a multi-vibrator, which grid modulates the final amplifier. It has been found in some cases that this sort of circuit may not operate a sensitive receiver at very close

range, even though the key is depressed. Ace's data sheet suggests a simple modification which applies modulation to the oscillator tube; we feel it is wise to apply this modification; with the oscillator modulated, a test receiver operated properly right next to the transmitter.

Unit sends out a continuous signal, even with the key up; an audio tone is applied to this signal when key is depressed. It will be noted from the plate current figures that amplifier tube current is lower with key down; this is quite normal, as less actual R.F. power goes out during key-down condition. If the final amplifier plate current is kept within stated limits, modulation will be 100% as required by most non-selective A.F. tone receivers.

A portable test meter with a range of at least 0-20 ma. is needed to tune up the transmitter and a Field Strength Meter is helpful (but not essential) to make checks of output. As with most A.F. transmitters, actual RF power output is low and FSM readings should not be compared with transmitters intended solely for CW use.

**Specifications:** Ace 27 1/4 mc. Tone Transmitter. Case measures 3 x 5 1/2 x 8". On front case are On-Off toggle switch for filaments, button-type "key" for controlling model, two closed-circuit phone jacks for measuring plate currents of oscillator and amplifier, and two grommeted holes through which two tuning condensers may be reached with a small screwdriver (Note: condenser shafts are grounded, but two jack nuts are "hot"). Antenna is two-section collapsible style, measures 28 1/2" folded, 53" extended. Weight of finished transmitter with all batteries and antenna is 5 lb. 5 oz. 100% mod., at 400-500 cycles.

**Battery requirements:** A battery, 1 1/2 V. at 400 ma. (Eveready #742 or equiv.). B battery, 135 V. (two Eveready #467 or equiv.). Key-up currents at jacks: osc. 4 ma., amp. 10 ma. Key-down currents: osc. 3 ma., amp. 7 1/2 ma. Total B drain with key up, 2 1/2 ma.; key down, 22 1/2 ma. Osc. power input, about 1 W., key down.

### Audio Transmitter

This transmitter, which won Young Men's Blue Ribbon award, was designed to fill the need for a hand held audio transmitter to operate the many tone receivers available today. It will operate the CG, Badaco, Babcock and WAG non selective receivers. Basic kit of prefabricated RF unit, all necessary components less tubes, xtal and antenna and case

\$6.50

COMBO—Basic kit, blue hammertone case, antenna, tubes and crystal

\$16.95

### 3 Channel Control Box

Convert above transmitter to three channel operation by simply pluggin in a 3 channel control box. Complete kit housed in 3x4x5 blue hammertone case

\$4.50

## AN R/C FIRST!

### ★ Announcing the NEW ACE COMMANDER ★

27.255 MC. RECEIVER AND TRANSMITTER KITS

Ace does it again! For the first time on the American market, NEW AMERICAN merchandise is offered at an unbelievable price for the quality used. Quantity buying helps make such a fabulous offer possible. And to top it all, instructions are PRINTED and ILLUSTRATED and written with step by step details so that wiring is no problem. You have to see these kits to appreciate the offer.

These kits are no "come on" with a lot of hidden extras to buy. We offer them as the most complete deluxe items available from any R/C manufacturer.

COMMANDER TRANSMITTER--Uses 3A4 in a full 2.5 Watt circuit. Powerful enough for any R/C use. Works with any CW receiver available. No meter required to tune. Magic Eye indicates when most power is being put out. Large hand held case for big batteries. Uses 1 4F and 2 XX45 or equivalents for long and economical life. Blue hammertone case measures 3 x 5½ x 8. COMPLETE kit--only extras to buy are batteries and a 3 foot section of music wire for antenna. Here is what you get: Prefabbed RF unit, blue hammertone case, CRYSTAL, 3A4 TUBE, all condensers, coils, resistor, hardware, for the low price of ONLY \$7.95

COMMANDER RECEIVER--uses famous Howard McEntee Simple Single circuit with MINIATURE components for lighter weight, but with same reliability featured in original. 3S4 hard tube with only 50 ma. filament drain for battery economy. Uses 1½ volts of A, 45 volt B. Housed in plastic case for crash and dust resistance. Weight is only 3 ounces complete with relay. This super kit contains every item needed except batteries. Drilled base, wound coils including Quench coil, socket, switch, padder, hardware, meter jack and plugs plastic case, 3S4 TUBE, GEM RELAY. ONLY \$7.95

## Ace Dolphin Radio Controlled Boat



**Assembled - Tested**

**Ready to sail**

**MC Receiver**

**2PIN Servo**

**16" Outboard**

**Only \$32.95**

**With MC Xmtr  
\$49.95**

Here is a ready to sail 16" outboard motor boat with the R/C gear completely installed, at a price you'd expect to pay for the components alone! Devote your full time to R/C fun. No installation required. The NEW MC100 receiver is used in the boat for trouble free long range operation. Battery boxes, switch and meter jack have been installed. The new MC servo, which provides for either left or right on command is self neutralizing. One punch always gives left, two punches always give right. When button is released servo returns to neutral.

All you need to get the Dolphin going, is to install 2 pen cells, 2 hearing aid B's, and 4 D cells.

The boat is unsinkable and made of plastic, attractively finished. Powerful electric outboard allows operation by a flick of the switch. May be used with any CW transmitter or with the MC250, as listed below.

Ace R/C Dolphin, ready to sail, less batteries	\$32.95
COMBO, Dolphin with MC250 transmitter	\$49.95
Dolphin boat with motor, but less radio equipment	\$10.95



# FUN WITH **ELECTRONICS!**

## the NEW easy-to-use **EREK-TRONIC KITS**



**Model T200**

The newest development in Electronic kits for the radio experimenter. Each circuit has its own easy to follow punched circuit template, with outlines of all parts and wires shown. Easy to follow instructions. All parts are mounted on plastic bases for easy inserting into pegboard. Easy to lift out, parts can be used again and again. No tools or soldering needed. The Jiffy connectors slip easily over the posts of each part. Easy to disconnect. The build and rebuild feature makes this system, the most flexible, positive and versatile in use today. Used in over 400 schools. Even the rankst beginners can build a working radio in less than 10 minutes!

Available in two models. Sold less batteries.

### **T150--ERELECTRONIC TRANSISTOR SET**

Builds 9 different radio sets. Voice transmitter, code transmitter, six radio receivers and a code blinker practice set.

Only \$14.95

### **T200--ERELECTRONIC TUBE SET**

Builds 14 different radio sets. Voice transmitter, code practice set and twelve progressive radio receivers.

Only \$19.95





## R. C. BIBLIOGRAPHY

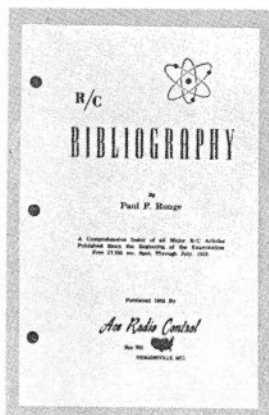
Here is an index to every worthwhile R/C article which has appeared in Air Trails, Flying Models, Flypaper, Model Airplane News, Popular Electronics, Radio & TV News, and Radio-Electronics.

Makes your back issues doubly valuable. Allows you to locate that elusive article quickly. With index tabs, you can turn to any section in the Biblio instantly and find the magazine, date and page number of the article you want. May be kept up to date easily.

Printed on heavy stock, it is punched for your 5½ x 8½" three ring binder.

Due to demand, it has gone into second printing, which allows a price reduction.

NOW only \$1.00



## R. C. HANDBOOK

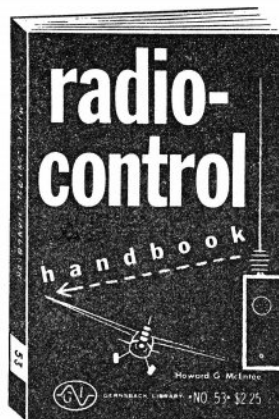
Here's a book that skips theory and gets right down to the business of putting radio control systems together so they will operate your model planes, boats, trucks, etc.

By Howard McEntee, Young Men's R/C editor, it's in his down to earth style and enjoyable reading

Concentrates on construction details of a number of R/C units. It also covers the hitherto neglected field of trouble shooting radio control systems. Whether or not you know radio, this is a book for everyone interested in R/C.

For the first time, it combines the necessary practical information on radio with detail instructions on mechanical construction.

\$2.25



### TRANSISTOR APPLICATIONS

Published by Raytheon, this book gives more than 50 transistor circuits. Not an R/C book, but it will give you background on transistor use. Transistors are finding broader R/C applications every day.

50¢

### SCHEMATIC COLLECTION

NEW and improved. Last year's version was a best seller, but this one outdoes it. Contains schematics of most popular receivers and transmitters we kit. All schematics have been revised and redrawn. Artwork is clear and legible. This is must for the serious R/C fan, and at this price is a Best Buy. 5½x8½ and punched for looseleaf.

\$1.25

### DATA SERVICE SHEETS

A new customer service, the data service sheets will offer new circuits, or improvements of old circuits, and a variety of other unpublished information available. Watch for new ones and build a valuable collection.

10¢ each.

- #1--Improved Two Tube Receiver  
Convert your Lorenz two tube to an improved design.
- #2--Audio Conversion  
How to convert CG4A receiver to two channel.
- #3--Cathode Relaxation Modulator  
Simple modulator to be added to your present xmitter.
- #4--Transistorized Mini Mac  
Transistor amplifier for Mini or other hard tubers.

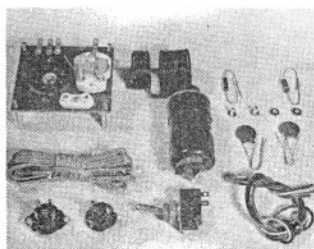


**TRANSMITTER KITS**

**27.255 MC.**



## 4 WATT



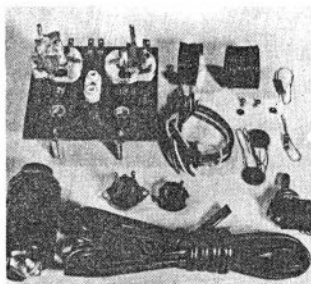
Essentially this is a 1 tube version of the Mac II transmitter with fixed antenna coupling RF unit is completely drilled and preassembled making wiring an easy matter. May be housed in a variety of cabinets. May also be used with a power pack for maximum output.

**BASIC KIT** (illustrated)--RF unit, coils, condensers, resistors, socket, switch key, cable, etc. **\$3.95**

**COMBO**--Basic, 5x6x9 crackle case, 3 section, antenna, tube, xtal, less batteries **\$13.95**



## MAC II



This is undoubtedly the most popular transmitter ever offered the R/C fraternity. Simple to build, easy to maintain. Thousands are in use every day. While original featured 6EL57 power supply, these are no longer available. May be built for battery operation, but most builders prefer power pack since this enables full five watts input with ease. The RF unit is completely prefabricated and preassembled for easy wiring.

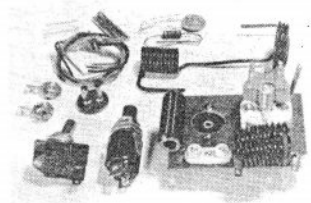
**BASIC KIT** (illustrated) RF unit, coils, condensers, resistors, sockets, switch key, cable, etc. **\$5.75**

**COMBO #1**--Basic, 5x6x9 crackle, xtal tubes, 3 section antenna, less batteries **\$16.50**

**COMBO #2**--Basic, 7x8x10 crackle, xtal, tubes 3 section antenna, vibrator, 2 volt transformer, power supply chassis, choke, electrolytics, resistors, everything except 2 volt cell **\$25.95**



## LORENZ 3A4



An especially popular hand held transmitter. Low cost, sure fire, and output compares favorably with any of the commercial hand held units. RF unit is drilled and pre-assembled for easy wiring.

**BASIC KIT** (illustrated)--RF unit, all condensers, resistor, socket, switch, key **\$3.25**

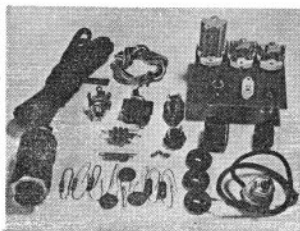
**COMBO** includes basic, hammetone 3½x6x8" cabinet, xtal, tube, one section antenna, but less batteries **\$11.95**

## ★ LORENZ MOPA

This is another extremely popular transmitter. While not as powerful as the Mac II, it is of the MOPA type. With 3A4 oscillator and 3D6 amplifier it will stay in tune when once tuned, and even touching the antenna will not knock it out of oscillation. It is also easy to modulate for audio, using the Ace Modulator Kit. This will enable it to operate most audio receivers today since modulation may be had up to 100%. Modulation may be decreased if desired.

BASIC KIT, RF unit preassembled, all coils, condensers, resistors, sockets, switches, key, cord, etc. \$6.95

COMBO--Basic, 7x8x10 crackle cabinet, tubes xtal, 3 section antenna \$17.95

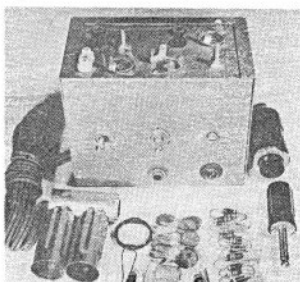


## ★ WAG AUDIO

The famous audiotone system, featuring a 400 cps. 100% modulation. Audio operation has some advantages over CW. Not nearly the amount of power is required to secure adequate range. Stray carrier signals will not accidentally work the receiver. Basic kit is offered in 3x4x5 cabinet for inclusion in the larger cabinet. RF unit is preassembled, making wiring easier.

BASIC KIT (illustrated) RF unit preassembled, all coils wound, condensers, resistors, sockets, switches, key, cord, hardware, etc. \$10.95

COMBO -- Basic, 8x10x10 crackle cabinet, 2 3V4 and 1 3A5 tubes, xtal, 3 section antenna, less batteries \$23.95

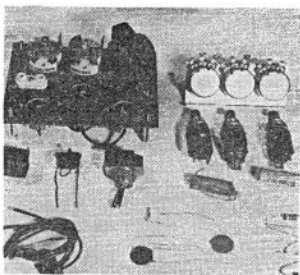


## ★ THREE CHANNEL

Improved design using a simple MOPA type transmitter. Old version was a little tricky to tune but that has been cured in improved version. Uses two 3Q4 and 1 3S4 tubes. Audio frequency ranges from 200 to 3500 cps. Makes it adjustable for almost any audio receiver. Stable, with minimum drift. RF unit is preassembled and easy to wire. Designed for hand held case, although it can be put into larger cabinet if desired.

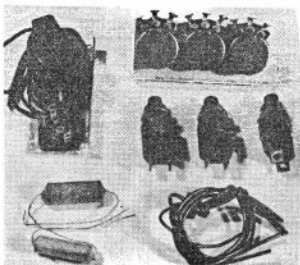
BASIC KIT, (Illustrated) RF unit preassembled, wound coils, condensers, resistors, switches, keys, hardware, etc. \$10.95

COMBO -- Basic, 3½x6x8 hammertone case, 3 tubes, xtal, 1 section antenna \$20.95



## ★ THREE CHANNEL MODULATOR

Modulator portion of the transmitter above is available separately. Uses high grade modulation transformer. Has an excellent waveform. Use it to modulate your WAG transmitter or the Lorenz MOPA. Not recommended for 4 Watt or Mac II. Preassembled units may be housed in small case away from grounded transmitter case. With tube less case. \$7.95



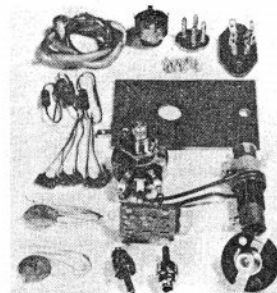
★ **LORENZ "61"**



A new receiver, designed by Ed Lorenz around the Sigma 26F relay requires much less idling current than conventional single gas tube receivers. This one can be recommended to the beginner who knows very little about radio, since it is one of the easiest of receivers to get going. Complete kit contains wound coils, all capacitors, resistors, submini pot, drilled base, hardware, less tubes and relay \$3.75

COMBO--kit above, with RK61 and 26F relay \$14.95

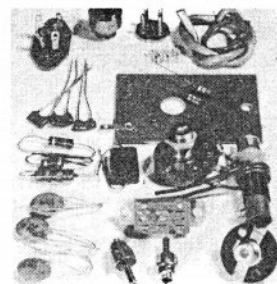
★ **LORENZ TWO TUBE**



This has been the most popular kit in R/C history since more Lorenz two tubers have been sold than all other receivers combined. Offers the ease of assembly of single gas tube, but allows first stage (RK61) to idle at .5 ma, which keeps second stage cut off or almost so. When signal is sent, first stage drops to .1 or less, and triggers the second stage to 3 or 4 ma depending on tube and relay used. RK61, XFG1 or IAG4 may be used in second stage. Complete kit of all required parts less tubes and relay \$3.25

COMBO--kit above with RK61, IAG4, Gem rly \$13.50

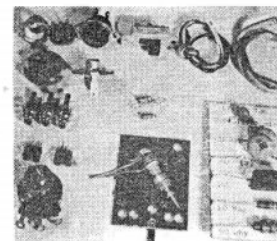
★ **LORENZ TWO TUBE DIODE**



This is a great R/C improvement. By using diodes between first and second stage of a receiver such as the Lorenz two tuber, it is possible to run first stage at .1 and still keep the second stage tube cut off to 0. Diodes smooth out and amplify the voltage produced by the hiss so that much less hiss is required. Means much longer tube and battery life. Greater sensitivity and range. Complete kit to build the Lorenz two tube above, along with diodes, capacitors, special pot. \$4.95

COMBO--Kit, RK61, IAG4, Gem relay \$14.95

★ **LITTLE GEM DIODE**



With RK61's in short supply during 1955, many requests were received for a receiver which could use an XFG1. This receiver is the result. Can use EITHER XFG1 or RK61 in first stage. Diode coupled to second for the ultimate performance. First stage idles at .1 ma, which keeps second at 0. Signal drops first and triggers second. IAG4 or CK526 recommended for second stage. extremely small base measures 1 1/2 x 2 1/8" and receiver with Gem relay weighs less than 2 ounces. \$4.95

COMBO--kit above with tubes, Gem relay \$14.95

★ **LORENZ TWO TUBE DIODE CONVERSION**

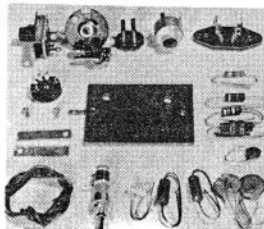
Convert your present Lorenz two tube receiver, or North American twin tuber to the diode coupling. Very simply and quickly done with either conventional or printed base receivers. Have all the advantages diode coupling offers. Tests indicate that our diode receivers follow pulse just as quickly and cleanly as two tubers without diode coupling. Complete kit of diodes, capacitors, special pot, instructions. \$2.25



## GAZISTOR

Uses XFG1 or RK61 first stage, with CK722 transistor in second. First idles at about .5 ma with transistor drawing slight but of current. With signal, first stage drops and transistor triggers relay. Only 50 ma filament drain. Very compact in design. Kit is complete with everything needed, except tube, transistor and relay.

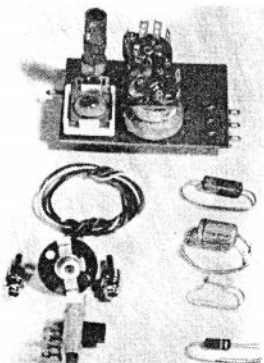
COMBO--kit, tube, transistor, Gem rly \$3.95  
\$13.50



## MAC'S SINGLE

Hundreds of receivers of this type in use. One of the most dependable and unfussy of the hard tube receiver kits ever offered. Uses 3S4 hard tube for long life. Is rugged in every respect and is a receiver which anyone with only a bit of R/C experience can build. Hard tubers are a bit more tricky than gas tubers, but once mastered are generally preferred in pulse applications. Completely prefabricated kit, less tube and relay

COMBO--kit, 3S4 and Gem relay \$4.50  
\$9.95



## MINI MAC

Another one of Howard McEntee's designs, this one uses the same circuit as the Mac's Simple Single but with subminiature components. The quench coil and padder are much smaller than ones used above and the CK526AX used in the original draws only 20 ma filament, and yet provides a current change of from 1.8 ma to .4 on signal. With IAG4 this range is improved slightly, while increasing filament to only 40 ma. Complete kit of every necessary item, less tube and relay

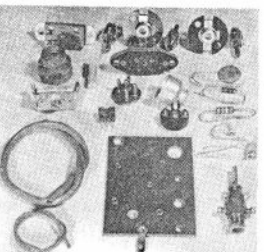
COMBO--Kit, CK526AX, Gem relay \$4.25  
\$10.95  
COMBO--Kit, IAG4, Gem relay \$10.65



## MINI II

Uses Mini Mac in first stage, which is coupled to a DC amplifier second stage. First stage idles at .8 ma which drops to .3 on signal. This triggers second stage from 0 to 3 ma through 5K relay. With hard tubes in both stages, tube life is considerably more than in gas tubers. Uses 2 22½ volt or 2 30 volt B. Batteries. CK526AX or IAG4 in first stage. IAG4 second stage. This is not recommended unless you are experienced with hard tubers. Complete kit of all components.

COMBO--Kit, two tubes, Gem relay \$5.50  
\$14.50



## TRANSISTORIZED MINI

Mini Mac coupled to transistor current amplifier for out of this world results. Use only one 22½ volt B and yet, get full 2.5 ma current change through the relay. Circuit developed by Vern Kroamer and published in Flypaper, it has been thoroughly flight tested. Complete kit but less tube, transistor and relay

COMBO--Kit, CK526AX, CK722 transistor, 5K gem relay \$5.50  
\$14.25

CONVERSION KIT, for your present Mini Mac, includes CK722 \$2.85



## AUDIO RECEIVER KITS

# EXCLUSIVE! Only ACE Will Have Dr. Walter A. Good's

## NEW DUAL PROPORTIONAL TRANSMITTER & RECEIVER IN KIT FORM

This revolutionary new system, developed by Dr. Good, will be published in Young Men either late in 1956 or early 1957. When it appears ONLY Ace will be able to offer kits on it by special arrangement with Dr. Good. Watch for it in Young Men.



### WAG AUDIO

Complete kit or parts to build the WAG audiotone receiver designed for heavily modulated audio signal. Will not be affected by interference from hams, or stray signals from CW transmitters in the area. Slightly more complex than the average CW receiver, but pays off in trouble free operation. No complicated sensitivity adjustment, is as easy to tune as your portable radio. Complete kit of parts as detailed by designer, with chassis of plain aluminum \$4.95

With drilled, punched chassis \$5.95

COMBO--kit, drilled chassis, set of tubes Gem \$14.50



### "T R" AUDIO

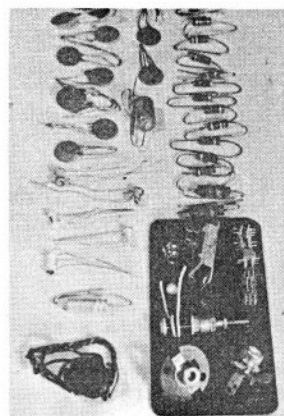
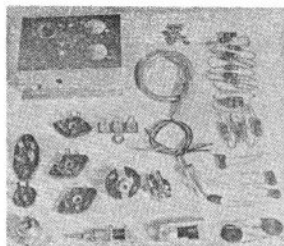
The hottest audio receiver to ever be offered in kit form. Howard Bonner captured 2nd at the 1954 Nationals with one, while a 50 mc version copped 4th for Colby Evett. Recommended only for the experienced R/C builder. Offers many advantages--

only 180 ma. filament drain, which is very low for multi-channel receivers. Relay action is positive since current increases with signal. This amounts to savings for B batteries since idle is low without signal. For two channel operation the Babcock BCT4 transmitter may be used without alteration. Minor alterations permit simultaneous or three channel operation.

Kit contains all resistors, special RFCs, condensers, would coil, submini electro, SS03 and all other required components except tubes, diodes relays \$12.95

TUBE and DIODE kit--2 CK536, 3 CK5672 and 6 CK705 \$13.95

COMBO--Kit, Tube & Diode Kit, 2 Gem rlys \$35.95





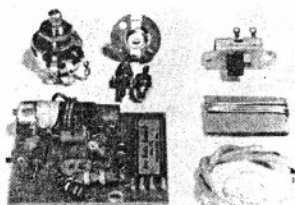
# ACE PC 27.255 MC. RECEIVER KITS

The acceptance and approval of PC receivers since their introduction last year has been little short of phenomenal. Over 2,000 PC receiver kits have been sold. Troubles which did show were minor and easy to repair. Many letters on file from satisfied users. Shown to be very crash resistant if mounted as suggested. For 1956, 3 new PC kits are offered, with multi-tube receivers in the audio field to come by Spring of 1956. Printed Circuitry is here to stay in R/C. The trend is indicated by the number of manufacturers who are going to printed circuitry. The best proof of their acceptance is the repeat business brought about by satisfied users.

## ★ LORENZ "61"

The best single gas tube circuit available today. See conventional receiver section for full description. Even the rankest beginner will experience little difficulty in getting this circuit in operation. Complete kit as shown. \$3.95

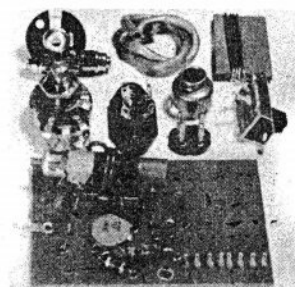
COMBO -- Kit, RK61, Sigma 26F relay \$14.25



## ★ LORENZ TWO TUBE

This one in PC has outsold all others. Take an excellent circuit such as this, and put it on PC and you've got something. This great acceptance has made a lower price possible. This one has been completely wired in 15 minutes by beginners. Complete kit as shown \$4.50

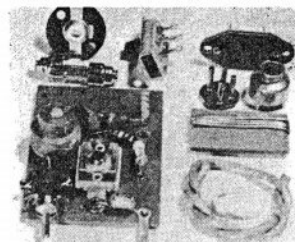
COMBO--Kit with RK61, 1AG4, Gem relay \$14.50



## ★ MINI MAC

The popular Mini Mac also proved a best seller. While hard tubers require a bit more knowledge, especially when it comes to tuning and installation, they can be mastered easily by those with only a slight bit of R/C experience. Complete as shown \$5.50

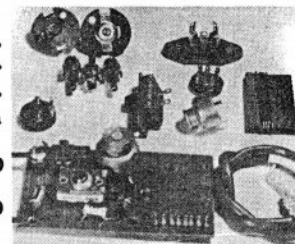
COMBO -- Kit, 1AG4, Gem relay \$11.95



## ★ MINI II

This receiver features a current rise. It is unconventional in hookup, and difficulties experienced with it, were due to lack of R/C experience. With the advanced builder this circuit in PC has been a great favorite. Complete as shown \$6.50

COMBO -- Kit, 2 1AG4 tubes, Gem relay \$15.50



## ★ P C BASES

In response to many demands, we make available all seven of the PC bases for the receivers we kit. Drilled and eyeletted, they come with a specially numbered schematic so you can place your parts in a short time. Order by number, PC1 through PC7. Any PC base \$1.00



## ★ LORENZ TWO TUBE DIODE

We predict this will be one of the best PC sellers in 1956. The basic Lorenz circuit, improved by adding diodes, so that first stage may be idled at approximately .1 ma, instead of .5 and still keep second stage cut off to 0. This allows exceptional tube life as well as greater battery economy. Thoroughly flight tested and performance proved by RC fans over the country. Complete kit, PC base, but less tubes and relay

\$6.25

COMBO -- PC5 Kit, with RK61 and IAG4, and Gem 7.5K relay

\$16.25

## ★ LITTLE GEM DIODE

Much smaller than the Lorenz, using Cambridge Thermionics printed circuit coil form, this receiver may use either RK61 or XFGL in the first stage, so that tube shortages, won't keep you out of the air. Circuit has been thoroughly flight tested and proven superior. Uses CK526AX or IAG4 in second stage. Complete kit, PC, but less tubes and relay

\$6.25

COMBO -- PC6 kit, with XFGL and IAG4, and Gem 7.5K relay

\$16.25

## ★ GAZISTOR

Low filament drain with Pete Bliss' development. Uses XFGL or RK61 first stage, coupled to CK722 which rises on current. Idle of first stage is about .5 with transistor drawing about .3 ma. With signal first stage drops, triggering transistor through 5K relay with a 3 ma current rise. Very dependable, and with latest price reduction on the CK722, cheaper than 2 tube receivers. Complete kit, less tube, transistor and relay

\$4.95

COMBO -- Kit PC6, with XFGL, CK722, and Gem 5K relay

\$14.50

## ★ COPPER LAMINATED BAKELITE

Making your own PC bases is quite simple with copper laminate using either the chemical method or the stripping technique. The first involves layout of the pattern with a resist solution, and then etching the base in Ferric Chloride. The stripping technique is simpler, but takes practice. The pattern is drawn on copper and is scored into the base using a sharp model knife. Excess copper is simply stripped off. Reprint of articles covering both techniques will be included with your order

Available in sheets up to 18x18". Cut to your specifications 2¢ sq in.

Also available in 4½ x 6" sheets. While they last --- 2 for \$1.00

### RELAY INFORMATION ON COMBO OFFERS

As you've read through the preceding pages, you may have wondered about the inclusion of the Gem relay in our combos. The Gem is finding increasing use, since MC, CG, Rockwood, Bramco and many other manufacturers are using them in their commercial receivers. Tests indicate the Gem is an excellent low cost light weight unit, operating in the combos where offered with excellent results. What is more, the Gem has--up to now--been more consistently available than other types. Should you desire a different relay, figure the cost difference. Gem lists at \$4.95; if Sigma 26F is desired--it lists at \$8.50--difference is \$3.55. Just add that amount to combo cost and specify relay desired.



# 50-54 mc.

## RECEIVER AND TRANSMITTER KITS

The 27 $\frac{1}{2}$  mc. spot frequency is getting increasingly crowded and more and more R/C ers are turning to the 50-54 mc. band, which has recently been opened up for Technician class license holders. Equipment here is still not much more complex than 27 $\frac{1}{2}$  mc. gear, and no special material is used as it would be on higher frequencies. A license is required to use the band, but this is relatively simple to get. A code speed of five words per minute is required, and any one who has been in R/C for any length of time, should not experience any difficulty in passing the theory part. The code part of the test is taken under the supervision of a local general or advanced class amateur; the theory test is by mail, so no trips are required. Simply write the FCC for form 610 and the Technician's class examination.

New transmitter designs and receiver construction articles are expected in the model magazines. We will kit them as announced, but in the meantime we make available the following extremely popular designs, all of which have been thoroughly flight tested and proven.



### MAC'S "PUSH PULL" XMTR.

This 50-54 mc. transmitter, designed by Howard McEntee and described in his Radio Control Handbook, is easily and quickly built. It is offered only in basic form, since most hams will have cabinets and other equipment. It may be housed in a large variety of cabinets, depending on power to be applied. Circuit may be used with 3A5 for battery operation, with 3B7 or 6J6 for increased voltage and power. May be used with 56" whip for quarter wave antenna or with 300 ohm twin lead 8 3/4 feet long for half wave with maximum radiation.

Complete basic kit, wound coils, all resistors and capacitors, air type trimmer, both miniature and octal type tube sockets, push button for cable or cabinet use, toggle switch, hookup wire. Less tube. **\$2.25**

3A5, 3B7, or 6J6 tubes, each \$1.00. 300 ohm twin lead, per foot 2¢  
56" whip antenna, collapsing type, with connector for hand held cabinet **\$2.25**



### LORENZ TWO TUBE

This popular receiver with design changes by Ed Lorenz for 50-54 mc. use. The base layout is exactly the same as for the 27 $\frac{1}{2}$  receiver, but coil has been wound for 50-54 mc., with component value changes as required. Utilizes same tube line up as 27 $\frac{1}{2}$  version. Complete basic kit of all required parts, less tubes and relay **\$3.25**

COMBO -- Basic, RK61, 1AG4, Gem relay

**\$13.50**



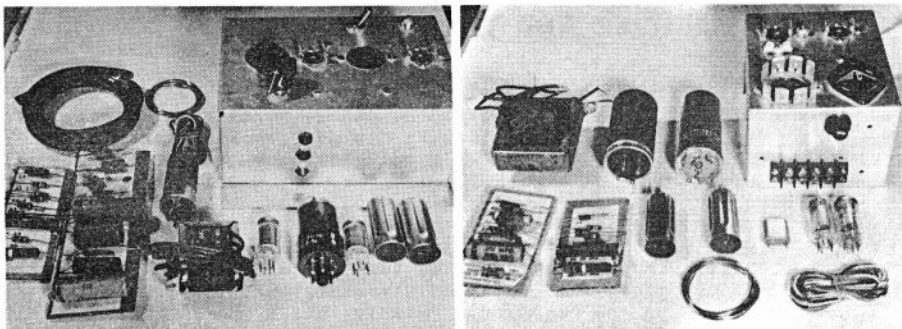
### MINI 50

The popular hard tube receiver by Howard McEntee with a few changes, not only in circuit, but layout, as well, for 50 - 54 mc. Housed in a plastic case, makes it almost indestructible. Uses 1AG4 tube for best operation. Complete basic kit of all wound coils, drilled base, plastic case, all capacitors, resistors, hardware, quench coil, padder -- everything you need, except tube and relay **\$4.50**

COMBO -- Basic, 1AG4, Gem relay

**\$10.65**

## GARAGE DOOR OPENER



## RECEIVER AND TRANSMITTER

Featured in the April and June 1955 issues of Science and Mechanics. Designed by N. Raskhodoff, and by special arrangement available in kit form exclusively from Ace.

A deluxe receiver and transmitter for  $27\frac{1}{4}$  mc., using an audio signal to operate the receiver, instead of the simple carrier used in lower price units. This eliminates accidental operation of your door by amateurs or other R/C enthusiasts using carrier. Receiver may only be operated by an audio tone from transmitter at distances up to 300 feet.

The units are highly prefabbed with major parts completely mounted so that construction is considerably simplified. While not a beginner's project, they can be built by anyone with a little radio background.

For your convenience, the units are offered in three versions -- Basic, Deluxe and Custom Built.

**BASIC Audio Receiver Kit**--contains all resistors, condensers, choke, coils, transformer, hardware, plain chassis, less tubes, relay  
\$16.95

**DELUXE Audio Receiver Kit**--everything needed to duplicate the unit. Chassis is completely punched and drilled, and major parts are completely mounted, as illustrated. With tubes and relay  
\$24.95

**BASIC Audio Transmitter Kit**--all condensers, resistors, choke, plain chassis, vibrator, transformer, hardware, less tubes and crystal  
\$18.95

**DELUXE Audio Transmitter Kit**--everything needed to make the unit. Highly prefabbed chassis, with major parts mounted as illustrated, with tubes and crystal  
\$26.95

**COMBO**--Both Deluxe Receiver and Transmitter Kits \$49.95

**CUSTOM BUILT** on order. Both units completely built, tested, and ready to install  
\$74.95

## ★ BATTERIES—P/S COMPONENTS

BB54, 2 volt 20 ampere hour storage battery. Dry Charged. Fill with 1.275 electrolyte.	\$3.45	2 volt transformer, 150 or 180 volt secondary	\$3.95
NT6, 6 volt storage battery	\$2.45	2 volt transformer, 150 volt secondary	\$3.50
ER-4-6 Heavy duty battery. Same as NT6 in size, but 4 ampere hour. Is much easier to charge and keep fit.		6 volt transformer, 180 volt secondary	\$3.95
2 volt synchronous vibrator	\$4.95 \$1.00	30-30 mf-450 volt electrolytic condenser. Metal can houses both	\$1.00
6 volt synchronous vibrator	\$1.00	.008 2000 volt buffer condenser	.40
6 volt non sync vibrator	\$2.00		

## ★ RANGE CHECKER

Tired of walking when range checking your receiver? Join the growing number who use a range checker. This low power transmitter gives you a straight 27.255 mc signal at flea power. If your receiver tuned to it at 50 feet, you're assured that your Mac II will operate it as far as you can see it. Uses one D flash light cell and one Burgess XX45 or equivalent.

BASIC kit, includes resistors, capacitors, prefabbed chassis and antenna mount. Blue hammertone 3x4x5 case is drilled and punched. Less tube and crystal

COMBO, Basic with tube and crystal

\$2.75

\$6.25

## ★ FIELD STRENGTH METER

A bulb indicator is just fine to tune up your transmitter, but it does not tell how much RF is being radiated by your antenna. Use of a FSM when tuning up will cure that and help prevent a flyaway. Basic kit consists of air trimmer, wound coil, capacitor, diode and plastic box which may be used to house FSM for a plug in unit on regular meter. It may also be built into the case of your regular VOM

\$1.50

## ★ TRANSISTORIZED FSM

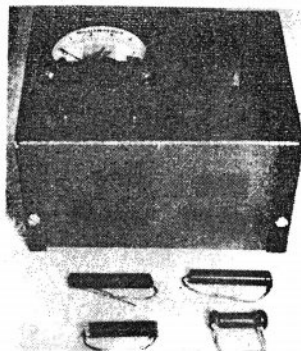
Use one of the low priced higher range milliammeters for your FSM with this transistorized job which has an amplification factor of 10 and can make an 0-5 ma as sensitive as a 0-500 ua. When used with multi meter kit below will give perfect satisfaction. Because of low drain, batteries will last a whole season of flying. Easy and simple to wire. Kit is just as above, but transistor and switch have been added. Comes in plastic box which may be used to house unit, or may be housed in meter case of regular test meter.

\$2.85

## ★ MULTIMETER KIT

Using a moving coil precision 0-5 MA meter, Ace kits a multimeter, you can wire easily. Has 0-5, 0-50 ma, 0-5, 0-50, 0-500 volt range. Case is 3x4x5 metal box, hammertone finish. Parts are mounted as you receive the kit. It is large enough so that transistorized FSM may be included without crowding. Kit consists of meter, 6 position switch, pointer knob, 50 ma. shunt, precision resistors, prefabbed cabinet and complete instructions.

\$8.25





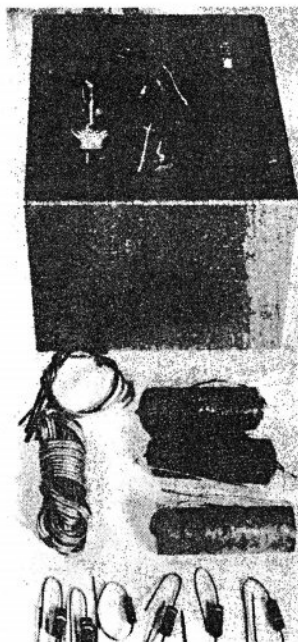
## DRY BATTERY REJUVENATOR

Rejuvenate your R/C batteries and get 2 to 4 times the life you have been getting. Sears has just marketed a hearing aid rejuvenator which sells for several times this price. The same principle is used here, although it is not as versatile as the Sears unit. It will, however, take care of R/C needs, since it will charge hearing aid A and B batteries and also batteries up to 67½ volt transmitter size. Highly prefabricated construction, makes wiring a cinch.

\$3.25

Wired, tested, ready to go

\$4.75



## WAG PULSER

The best pulser of any kind available to date. If you've steered clear of electronic pulsers because you've heard tales about instability, your troubles are over. This WAG job by Walt Good, cures these faults, and makes a perfect unit for the dual proportional jobs. Pulse rate and width perfectly adjustable. We recommend the use of a 3x4x5" cabinet to house pulser and its own batteries, which simply plugs into present key jack of transmitter. The Sigma 41F relay has been tested and found to work excellently in the circuit. Use of 67½ volts of B is adequate, and an old transmitter battery may be used.

Basic kit, sockets, capacitors, resistors, hardware, less tubes, relay and cabinet

\$2.75

COMBO -- basic kit, tubes, Sigma 41F, 3x4x5" cabinet

\$8.95

(NOTE: 1AG4 tubes may be used instead of 3V4s, for less A drain and 45 volts of B. Please specify 1AG4 model if desired when ordering kits. COMBO with 1AG4 tubes and submini sockets

\$10.95

## RELAYS



Gem, 5K . . . . .	4.95
Gem, 7.5K . . . . .	5.45
Sigma 4F, 8K . . . . .	7.00
Sigma 4F, 10K . . . . .	4.95
Sigma 26F, 8K . . . . .	8.50
Sigma 41F . . . . .	1.95
Kurman BK7, 4K (6 oz.) . . . . .	3.50

Gem, SPDT, 100 ohm, 1/2 oz. . . . .	4.95
Kurman, SPDT, 200 ohm, 1 1/4 oz. . . . .	1.95

## SERVOS & ESCAPEMENTS



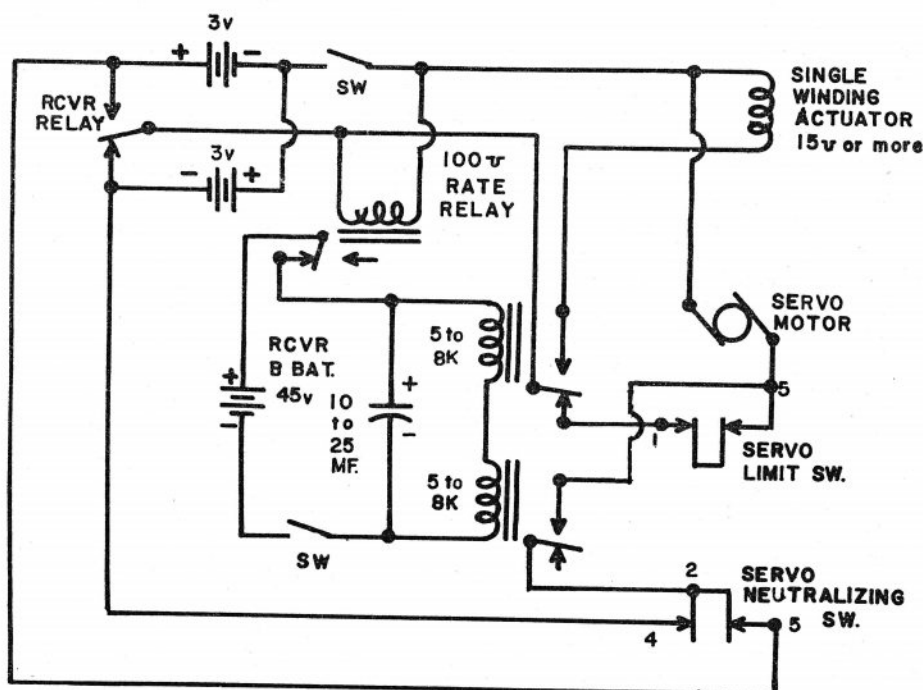
NewX 506--1.5v . . . . .	7.95
NewX 512--3v . . . . .	7.95
NewX T700--For Transistor . . . . .	8.95
Bonner Compound . . . . .	14.95
Babcock Compound . . . . .	7.95
Babcock Motor Control . . . . .	12.95
Citizenship PSN . . . . .	5.95
Citizenship SE . . . . .	7.95
DMECO 2PN . . . . .	11.95
DMECO 3PN . . . . .	14.95
DMECO 2P2N . . . . .	11.95
DMECO 3P . . . . .	10.95
Southwestern Actuator . . . . .	5.95

# NOW! Multi Operation With Single Channel Equipment!

Equal to FOUR Channels!

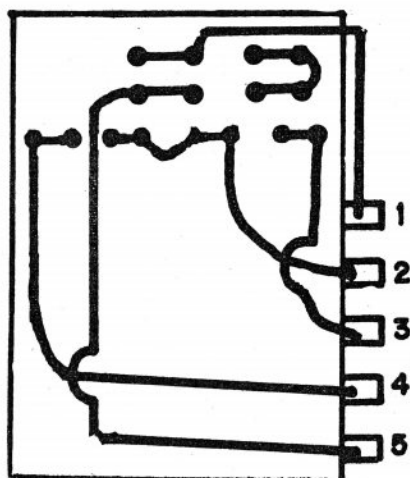
NO 1-2-3 Sequence!

Developed by E. Paul Johnson



RELAYS SHOWN IN  
UNOPERATED POSITION

NUMBERS ARE CONNECTIONS ON DMECO MCR  
OR MCE AFTER CHANGES SHOWN NEXT PAGE



Bottom view of DMECO MCR or MCE servo showing the changes in wiring.

If servo turns the wrong way, reverse both sets of actuator batteries.

If servo neutralizes in wrong direction, change connections to terminals 3 and 4 on servo.

Numbers refer to schematic on other side of the sheet for correct hook up

NOW--convert your single channel equipment to finest multichannel operation. Your present pulse proportional system is easy to convert. All you need to do is add a lever switch, which will give you full on on one side and full off on the other. You will need to spring load rudder, so it will neutralize when you send signal for rudder.

Most of your flying will be with rudder, but with a steady on signal elevator will go down. Steady signal off and elevator goes up. When pulsing is resumed at any time, elevator neutralizes. While a DPDT relay could be used in place of the two SPDT, this is NOT recommended by Mr. Johnson, since the two SPDT are easier to adjust.

Paul Johnson says of this system. "It's what I've looked for, for 12 years of R/C flying."

For your convenience, we offer several kit combinations.

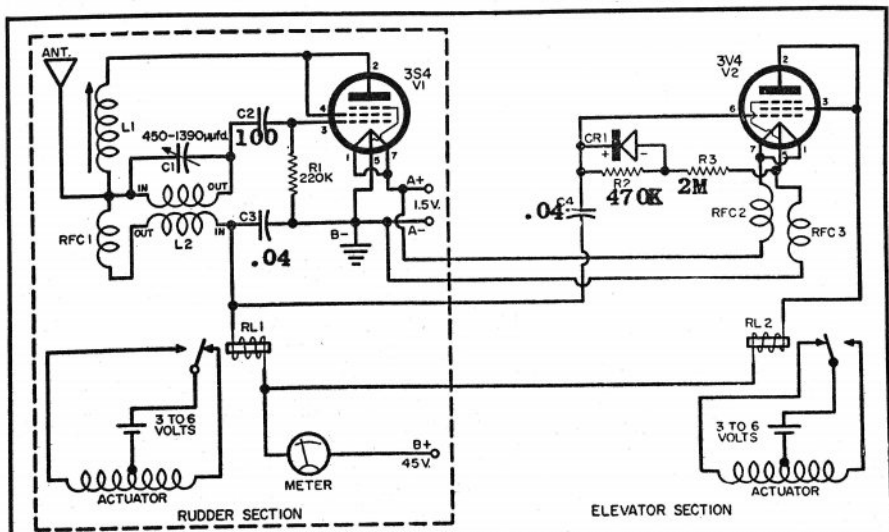
Johnson Dual System #1--three Gem relays, 10 mf electrolytic JFI, and lever action switch for pulser, with drilled punched bakelite relay chassis \$14.95

Johnson Dual System #2--as above, but with DMECO MCR servo \$32.95

Johnson Dual System #3--same as #2, but with special WAG pulser and Southwestern Actuator \$46.95



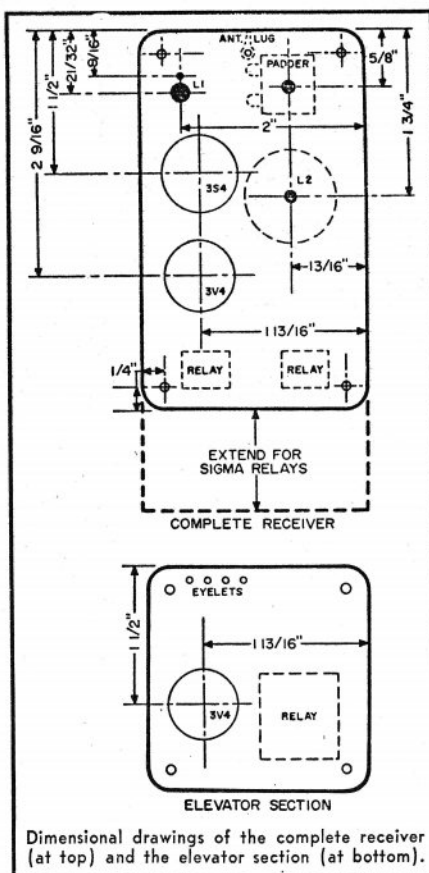
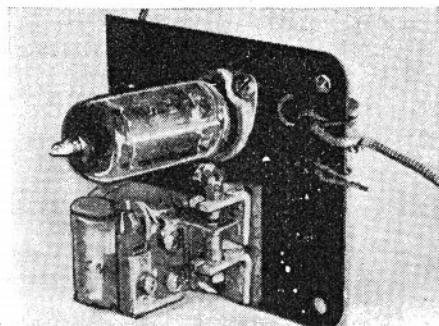
# McIntyre Dual Proportional Receiver



Schematic diagram and parts list for receiver.

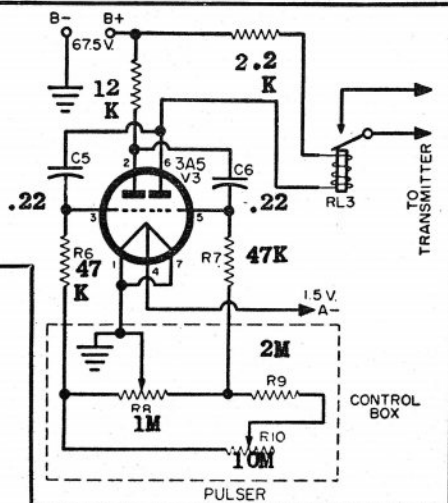
- C1--Arco 308
- C2--100 uufd ceramic
- C3--.04 ceramic
- C4--.02 to .04 ceramic
- CR1--1N66
- L1--19 turns #34 on 1/4" form
- L2--National OSR
- R1--220,000 ohm
- R2--470,000 ohm
- R3--2 megohm
- RFC1, RFC2, RFC3--10 uhy
- RL1--5000 ohm Little Gem
- RL2--7500 ohm Little Gem
- V1--3S4
- V2--3V4

Top view of the elevator unit showing the relay and tube.



Dimensional drawings of the complete receiver (at top) and the elevator section (at bottom).

C5--.22 ufd paper  
 C6--.22 ufd paper  
 R4--2.2K  
 R5--12K  
 R6, R7--47K  
 R8--1 meg linear taper pot  
 R9--2 meg resistor  
 R10--10 meg linear taper pot  
 RL3--10K Sigma 41F relay  
 V3--3A5 tube



Have you been wanting to go multi, but the high price and complex equipment have stalled you? Here is the answer to your situation.

The McIntyre Dual Proportional Receivers provides proportional control on BOTH rudder and elevator. It is simple and easy to wire and may be used with any good CW transmitter to which the WAG or McIntyre Pulser may be added.

One tube (3S4) follows the pulse width control of the pulser and works the relay for the rudder actuator. The other tube (3V4) follows the pulse rate control and works the relay for the elevator actuator. Each is independent of the other and there is little interaction.

This provides for one of the most inexpensive ways to get multi with sure fire equipment.

McIntyre Dual Receiver BASIC KIT--includes wound coils, 3 RFC's, diode, capacitors, resistors, OSR, trimmer tube sockets, drilled chassis and hardware. Less tubes and relays \$6.95

COMBO, with 3S4, 3V4 and two Gem relays \$18.95

WAG Pulser--Combo, with tubes, relay and drilled cabinet--fully described elsewhere in this catalog \$8.95

McIntyre Pulser--Combo, with tube, relay and drilled cabinet (circuit above) \$8.95

## ★ & CAPACITORS

Shown at the right are the actual sizes of these newly manufactured capacitors. They are 10% tolerance, highly stable and will fit in submini applications. At Ace's low price, you can't afford to use anything else.

1, 6.8, 10, 15, 33, 47, 51, 100, 150, 220, 330  
and 470 mmf. each 15¢

.001, .0022, .005, .01, .02, .04 mf. each 20¢

.1 mf. 50¢



## ★ IEI ELECTROS



Submin electrolytics for use in audio jobs and other applications where small size is a must. 5 mf. measures 1/4 x 3/4, while smaller values are even smaller. In following sizes: 1, 3, 5, 10, 25 mf. 50 working volts. each 75¢

## ★ ALNICO DISCS

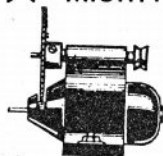
Again available--newly manufactured Alnico V discs. Much improved power, they enable you to make your own actuators or improve your reed units. Manufactured especially for us.

AL1 1/8 x 3/4 inches 40¢ AL2 1/4 x 3/4 inches 1.20

## ★ ACTUATOR COILS

14 ohm actuator coil wound, perfect for making Mactuators or similar actuator. With the purchase of 2 coils and either of the discs above, we offer a free actuator diagram. Please ask for Data Service sheet #6. Actuator coil, each 35¢

## ★ MIGHTY MIDGET



A favorite motor used in many home built control systems. Has built in 6 to 1 gear reduction. Ideal for elevator servo as used in proportional rudder and trimmable elevator control developed by Don Hewes. Also excellent for boat servo. Sturdy black plastic case. 2.95

## ★ DISTLER

Here is the amazing little German motor, which operates at unbelievably low current drains. Ideal for use in small boats, as well as control systems \$2.95



## ★ 50-54 mc CRYSTALS



Two crystals made for us by Petersen for the licensed amateur operator for use on the 50-54 megacycle band. Fundamental 8,500 KC crystal triples to 25.5 which is doubled to 51 mc, while the other fundamental, 8750 KC triples to 26.25 which is doubled to 52.5 mc. These are Z2 crystals and require an FT243 type of holder.

Petersen Z2 51 mc crystal \$3.95  
Petersen Z2 52.5 mc crystal \$3.95

Holder for Z2 crystals .25

## ★ DATA SERVICE SHEETS

In addition to the four data service sheets offered earlier in the catalog, here are four more. More are in preparation and will be announced later.

- SS#5 Multichannel Reed Receiver.** For use with any 2, 3, 5 or 6 channel reed unit. Uses 1S4, 1S5 and 3S4 for only 150 ma filament drain. 10¢
- SS#6 Simple Actuator.** Uses two actuator coils and either 1/8" alnico disc for 1/2A ships, or 1/4" alnico for larger jobs. 10¢
- SS#7 Hewes' Proportional Rudder, Trimmable Elevator.** An extremely simple and fool proof multicontrol system using any pulse box with a few simple additions. Uses regular actuator and either commercial or home built elevator servo. 10¢
- SS#8 Elevator Servo.** Uses Mighty midget motor to make an extremely simple but ultra reliable elevator control. May be used with Hewes' system or with minor changes may be used with multichannel audio receivers 10¢

## ★ CRYSTALS

At last! A reliable crystal for 27 $\frac{1}{2}$  mc., at lower cost. Will operate in Mac II, 4 Watter, Lorenz 3A4, MOPA, and many other circuits. Tested and guaranteed.

ACE X1 \$2.95

Petersen Z9A, 27.255 mc. \$3.95

Petersen Z9A, 27.120 mc., for continental use \$3.95

For 50-54 mc. crystals see next page.

## ★ REED UNITS



For the advanced R/C fan, here is a complete selection of reed units for multi-channel operation. The CG units are small and compact, weighing less than 1/2 oz. The ED unit weighs 1 $\frac{1}{2}$  oz. Circuits are furnished with the units.

CG AR2--2 reed \$11.95

CG AR3--3 reed \$12.95

CG AR5--5 reed, manufactured by Dean \$19.95

ED 6 reeds \$19.95

### NOTICE

Prices contained in this catalog are subject to change without notice, due to changes from the manufacturers.

While servicing of receivers and transmitters is done occasionally by Ace Radio, no regular service department is maintained. When servicing is done, it is done as a direct service to the customer and strictly as a "spare" time project. DO NOT send in your receiver or transmitter without inquiring first. No guarantee can be given as to when a unit can be returned.

## ANTENNAS

1 section, 4 foot aluminum, with 2 stand off mounts, for use with a hand held type transmitter \$1.00

56" telescoping antenna, with top of cabinet mount. For hand held cabinets and 50-54 mc. \$2.25

3 section, 9 $\frac{1}{2}$  foot, take apart type for ground based cabinets with top of cabinet mount, or two stand off insulators for side mount. Specify \$2.95

112" telescoping antenna. A really deluxe quality antenna. With stand offs for side mount ground based cabinets \$4.95

## CABINETS

#1 1 5/8 x 2 1/8 x 3 $\frac{1}{2}$ , grey \$1.00  
#2 3x4x5, blue hammertone 1.75  
#3 3x5x8, blue hammertone 2.25  
#4 5x6x9, blue hammertone 2.75  
#5 7x8x10, blue hammertone 3.50  
#6 8x10x10, blue hammertone 3.95

## COILS and FORMS

1/4" or 3/8", with vibration proof mounting, either .50  
CTC, ISM 1/4" red dot core .60  
CTC, IS6 1/4" ceramic, red dot .70  
CTC, IS3 3/8" red dot core .60  
CTC, SPC1 3/16" .35  
CTC, SPC2 1/4" .35

SPC forms are designed for printed circuits, but may easily be used in the regular receivers.

Wound coils for Lorenz 61, Lorenz 2 tuber, Mini, Mac Single .85

Wound coils for WAG, Gazistor, TR Little Gem 1.00

## CONDENSERS

Ceramic disc, and tubular, in most standard values to .01 .10  
Paper .01 and .001 .10  
Paper .05 .20  
Paper .1, .22, .25 .45

Air Type Trimmers  
15, 25, 35 and 50 mmf .50  
125 and 140 mmf 1.10

Ceramic Trimmers, 3-25 mmf .45

Compression Trimmers  
Arco 469, 780 mmf .75  
Arco 308, 1380 mmf .90  
Arco 310, 1900 mmf 1.00

Tubular, Erie 1-8 mmf .35

## RESISTORS

1/2 watt, most standard values. .10

## CHOKES

### RFC

10 uhy, RCA type, for Mini, Lorenz and others .25

R-33 type, double pi wound 10, 50, 100 uhy, 1 mhy .45

Miller #6152 20 uhy RFC .45

### AUDIO

4 $\frac{1}{2}$  Henry for power supplies 1.00

## BASE MATERIAL

1/16" linen base cut to your specifications, per sq. inch .02

1/16" Epoxi Resin Fibre Glass. Cut to you specs. Per sq. inch .05

Blank linen bases for most popular receivers .10

## POTENTIOMETERS

Miniature size, 7/8" diameter 25K, 100K, 1 Meg .50

Submini - dime size 25K, 100K, 3 Meg 1.25

AB type, 1 Meg 1.60

## PLUGS and JACKS

Jack, RCA type, with two plugs .15

Jack, open circuit, standard .25

Jack, closed circuit, standard .35

Phone plugs, standard .50

Tini Jax, CC, 1/3 size of std. .35

Tini Plug, 1/3 size of std. .50

2 or 5 prong plug and socket per pair .25

7 prong miniature plug and socket per pair .45

Snap on connectors for 67 $\frac{1}{2}$  volt batteries, per pair .15

Plug for 1 $\frac{1}{2}$  volt A battery .15

## QUENCH COILS

OSR, for Miller, Simple Single 1.85

Mini, for Mini Mac, Commander 1.10

Sub Mini, for Mini, etc. about 2/3 size of Mini 1.75

## PLASTIC CASES

PB#1--1 5/8 x 2 1/8 x 1 .10

PB#2--2 x 2 7/8 x 1 .15

## METERS

Precision, moving coil, 0-5 ma with 50 ma shunt \$4.95

0-50 ma iron vane \$2.95

## SWITCHES

Slide type, knife contact, SPST .20

Slide type, knife contact, DPST .25

Toggle, SPST .45

Toggle, DPST .55

Toggle, DPST Heavy Duty type .65

Push button, click type for use on cable or cabinet .60

Push button, cabinet use .30

## HARDWARE and MISCELLANEOUS

Machine Screws		
2/56 x 3/16	pkg of 10	.10
2/56 x 1/4	pkg of 10	.10
2/56 x 3/8	pkg of 10	.10
3/48 x 1/4	pkg of 10	.10
3/48 x 1	pkg of 8	.10
4/40 x 1/4	pkg of 10	.10
4/40 x 1/2	pkg of 10	.10
4/40 x 1	pkg of 8	.10
6/32 x 1/2	pkg of 8	.10
6/32 x 2	pkg of 4	.10
2/56 nuts,	pkg of 10	.10
3/48 nuts,	pkg of 10	.10
4/40 nuts,	pkg of 10	.10
6/32 nuts,	pkg of 8	.10
Wing Nuts, 6/32,	pkg of 2	.15
Eyelets 3/32" OD.	30	.10
Eyelets 1/8" OD.	20	.10
Eyelet lugs	10	.10
Solder lugs	10	.10
Fahnestock clips, small 3	for	.10
Fahnestock clips, large 3	for	.10
Polystyrene tube 1/4 x 4		.10
Polystyrene tube 3/8 x 4		.15
Lord Shock Mount		.20
Mini-gator clips		.10
Mini-gator insulators		.12
Alligator clips, standard size		.15
Pin jacks, red or black		.10
Solder, Ersin multicore, 1 oz.		.25
Stand off insulators, pair		.40
Tuning screwdriver, 6 inch		.25

## WIRE

Magnet-enamel insulation. All even sizes From #14 through #40

#14 through #20 per foot	.01
#22 through #40 two feet	.01
#18 solid, plastic ins. foot	.03
#20 solid, plastic ins. foot	.02
#26 solid, plastic ins. foot	.01

Flexible hookup type offered hanks of total of 20 feet of 5 different colors. Now available in 3 sizes ultra light and flexible.

#22, #24, #26 each 25¢

Cable--plastic jacket covering 3,4		
5 and 8 wire #22 stranded wires		
3 wire cable	foot	.05
4 wire cable	foot	.06
5 wire cable	foot	.07
8 wire cable	foot	.10

Spaghetti, fabric impregnated type  
3 feet for 10¢

## TUBES, TRANSISTORS, DIODES

RK61	3.50	3B4	3.50
XFG1	3.50	3B7	1.00
CK526AX	2.25	3Q4	1.00
CK536AX	1.95	3S4	1.00
CK5672	1.95	3V4	1.30
CK722	.99	6AK5	.95
CK705 (1N66)	.85	6AK6	1.50
1S4	1.10	6AQ5	.95
1S5	.95	6C4	.95
1U4	1.30	6SL7	.95
1U5	1.30	1N64	.30
1V6	2.50	1N66	.85
1AG4	1.95	#1215 Fed.	.45
1AG5	2.50	NE2	.15
1AH4	1.95	NE51	.20
3A4	1.00	#47 pilot	.15
3A5	1.00	#48 pilot	.15

## SOCKETS

7 pin miniature, wafer	.10
7 pin miniature, moulded	.15
7 pin miniature with shield	.25
Loctal, 8 pin for 3D6 or 3B7	.05
Submini, hearing aid type	.20
Submini, Cinch 13124 superseded	
old 5Wc	.30
Flea clips 4/10¢	12/.25
Crystal sockets Z9A, SC6	.20
Crystal sockets Z2, FT243	.25

## ACME BATTERY HOLDERS

No. 5--1 regular penceil	30¢
No. 6A--2 regular penceils	40¢
No. 7--3 regular penceils	65¢
No. 10A--2 medium cells	40¢
No. 14--2 22½ volt hearing aid	50¢

TERMS--We will pay postage on all orders over \$3.00, if you remit with your order. For orders under \$3.00 please add 50¢ handling charge. COD orders are sent postage collect.

Prices contained in this catalog are subject to change without notice.

Catalog 57-1 replaces all previous issues.

*Ace Radio Control*

In the Heart of America



To Serve the Hobbyists of America

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Higginsville, Mo.