

Here Is Your 1961
Ace R/C Catalog



See Your Hobby Dealer
Or Order From Point Nearest You.

Ace Radio Control

BOX 301
HIGGINSVILLE, MISSOURI

Ace R/C East

3029 WEST CARY
RICHMOND, VIRGINIA

Ace R/C



BOX 301 - 1107 MAIN
HIGGINSVILLE, MISSOURI

It is with genuine pleasure that we bring you the biggest catalog that Ace R/C has had in its 8-year history of serving the needs of R/Cers throughout the world.

1960 saw many fast-breaking developments in the R/C picture. They are still breaking fast but, rather than delay the catalog, we are stopping in mid-stride, so to speak and trying to put between two covers the great variety of items that are carried in stock at Ace Radio Control and constantly being added to.

As the year progresses, there will be available periodic newsletters with a new procedure that we are establishing at Ace Radio Control. These will come to you automatically when they are available.

We invite you to try to secure Ace Radio Control products through your local hobby dealer, many of whom you will find listed in our co-operative advertising which is carried both in Model Airplane News and American Modeler.

Should you wish to buy direct, write to the location nearest you either in Richmond, Virginia, or Higginsville, Missouri, for shipment within six hours of receipt.

We stand ready, willing, and able to try to help you with any R/C questions that you may have and we're as near to you as your telephone or your typewriter.

Ace Radio Control is THE prime manufacturer of kits for the do-it-yourself builder. We do not have, across the board, a completed line of our Ace Radio Control products. We do, however, carry the completed products of some of the best manufacturers of such gear throughout the country. Among those names, you will find Bonner, Babcock, Ecktronics, MC Manufacturing & Sales, Alpha-Tech, Min-X and, now, for the first time, Bramco single and multi-channel equipment.

Our advertising in this catalog and national model magazines is based on honesty. You will not find any false claims for the ability of items to perform their required function. Rather, you will find an under-playing of the products' merits. Ace's reputation has been built with the modelling public because of its fast, friendly, dependable, reliable service.

All of the kits that we offer have been thoroughly flight-proven and may be built by people who have some slight electronics knowledge. Schematics and building instructions are available separately, should you desire to look these over before you buy. See elsewhere in this catalog.

Never, in our history of eight years of service, has there been a series of receivers and transmitters which has met with such fantastic success as the Kraft. This applies both to the single channel and multi channel equipment. There are literally hundreds of letters on file from satisfied customers from which we shall merely pull one typical comment:

"I've been fooling with radio control for almost six years. I've assembled radio kits and ready-to-go equipment and built stuff from magazine articles. Starting this spring when I bought my first Kraft single receiver, I've had more time in the air than all the rest of my R/C career put together."

The words "Kraft" and "reliability" have become synonymous in the R/C modeller's lexicon.

All of the kits offered herein are superregenerative kits. Ace is engineering and working with several top designers on superhet kits but, for the time being, we feel that the construction of the superhet, because it does require special equipment and special know-how is beyond the present-day builder. There will be some developments along a line of hybrid kits quite likely early in 1961. These units will have the RF sections completely wired and tested and ready-to-go with no further adjustments required. The home-builder can then build a hind-end for these for operation of reed banks, relays, or actuators.

Ace Radio is also the publisher of a bi-monthly publication known as Grid Leaks--R/C Data Service which, for \$2.00 per 10 issue volume, brings an interchange of radio control news from fans from all over the world. Its subscription list is steadily climbing. If you are not now a member of this growing family of satisfied readers, we invite you to check elsewhere in this catalog as to how you can become one.

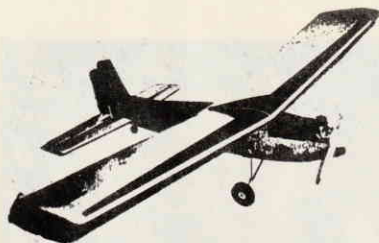
If you are a rank beginner in radio control, we urge you to find out if there is an R/C club in your area. If so, join and ask questions and observe the old pros flying. Find out how they make their gear, how they install their gear, and what equipment they use. If you are in an area in which there is no R/C club, we urge you to read as much about it in the many fine publications available such as American Modeler, Flying Models, and Model Airplane News and also the many books which have already been written about the subject and other books which will be released during 1961.

We invite your questions and your orders!

Yours in service,

Paul F. Runge
ACE RADIO CONTROL

BLACKWELL S-10-W



Now, a NEW airplane kit from Blackwell, manufacturer of the T100--The S-10-W. A shoulder wing job for .15 to .19 engines. Features same high degree of prefabrication as the T100 uses the same high quality wood. In general, is a beefed up ship, designed for more violent maneuvering. May be used with 8 channel equipment. Has routed finished ribs, formed fuselage quarter round stiffeners. New High Strength Main Spar. Rapid assembly, clean lines with a reduced frontal area. 63" span, 600 square inches of area. Ideal for the Kraft single, 4, 6 or 8 channel multi jobs. Extra large full size plans, includes installation hints for cascaded escapements for single channel gear, and servos for multi gear. No liquids or covering. ONLY \$12.95

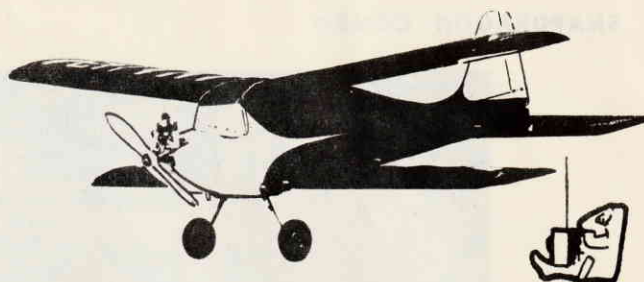
HURRICANE 600



For the R/C boys who do know their radio control and airplanes, this kit should be a winner in any category for everything from rudder only through multi-channel. This will definitely fall into the expert category since it can only be classed as a hot ship. Rob Blackwell of Blackwell Models Manufacturing Co., the designer, states that, if the Hurricane is attempted by a beginner, trouble may be expected although pre-assembly and settings will help eliminate quite a few of the trim difficulties which are encounterable in low wing jobs. Physical specifications are as follows: Span is 62" with a chord of 10"; area is 600 sq. in.; air foil is semi-symmetrical; wing area is 4.2 sq. ft.; average weight is $3\frac{1}{2}$ to $3\frac{3}{4}$ pounds single channel with intermediate control systems-- $4\frac{1}{2}$ to 5 pounds with 8 channel radio; .19 for single channel; .29 - .35 for multi. The fuselage is pre-assembled. Landing gear wing mounted of knock-off type held down with rubber bands.

Price to be announced on delivery

WILDFIRE BIPE

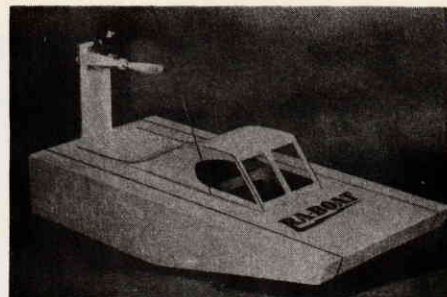


Wildfire by Technical Model Products. The Compact Biplane. Just right to throw in your trunk assembled for a Sunday's flying, yet with plenty of area to handle regular engines with standard R/C gear. For rudder only, or Simpl-Simul or other intermediate gear. Safe and sane with an .09 for relaxed fliers - Red Hot with a .15 for Razzle-dazzle!

Area--445 square inches; upper span 36"; lower span--30"; length--29"; power---.09 mild and .15 hot; empty weight--21 ounces; radio-single or intermediate; radio capacity--up to 20 ounces.

Features Ultra-Struct simplified construction flat lower wing for ease in building; Micro-Cision die cut select balsa; Super-Flex landing gear--absorbs the jolt better; Quick-Change Knock out engine mount plate; Radio room for even multi gear; Compact Stressed--modest dimensions for area, means crackup resistance; Fiber-Glass reinforcing supplied. No liquids or covering. ONLY \$6.95

STANTON RA-BOAT



Radio Control, Free-run, Tether. The 12" x 4" x 3" compartment is large enough for the bulkiest radio equipment. ALL PARTS REDI-CUT All parts are saw cut to exact size and exact shape from top grade balsa and plywood. SUPER-SPEED CONSTRUCTION. The pre-cut parts, full size plans, step by step instructions and self-aligning construction make it possible to assemble the entire boat in only one evening. VIRTUALLY UNSINKABLE. Construction provides eleven, separate, watertight compartments. Easily powered by inexpensive airplane type engines of .02 to .074. Instructions also include helpful hints on installing radio equipment and operating the boat. Length 18 inches. Manufactured by The Stanton Specialty Company. No liquids. \$4.95

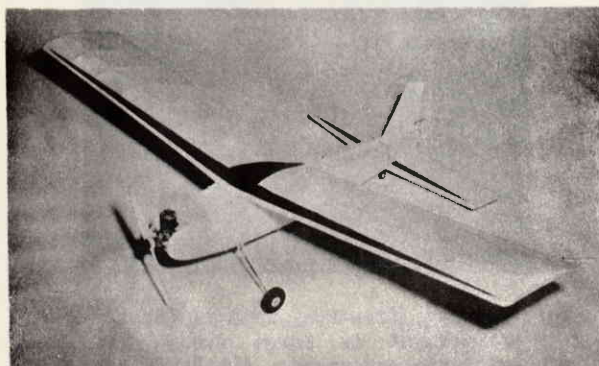
RC MODEL KITS

SNAPDRAGON COMBO



If you're new to radio control and have been scratching your head and wondering where to start, here is an answer for you. With the introduction of the Snapdragon kit and arrangements with Ektronics, Duke Fox, Howard Bonner, now Ace Radio Control is taking a step in this direction and offering--The Snapdragon Combo Package. This will be available in two combinations. #1 is with the completed Ektronics Kraft transmitter and receiver and lists at \$92.95. #2 is as the foregoing but with Kraft single channel KITS. It lists at \$72.95. A complete inventory shows even small hardware is included. Three notable items are left out: cement and

SNAPDRAGON



Designed with the beginner in mind, this high-quality, low-priced kit is a steal. It is for .09 aircraft engines either of the Fox or K & B type. We recommend use of a VariComp escapement for even a beginner because the price differential between a VariComp and an escapement of the SN type is insignificant when you consider the hours of fun that can be had with much more reliability and a knowledge of what you're doing when using a VariComp type. The Snapdragon has a 44" span and is just the answer for the beginner. \$7.95

dopes, fuel, all batteries. Included are the Snapdragon, 6 x 12 foam rubber, one pair wheels, 3/4" tail wheel, one square yard silk, one Fox Rocket .09 with tank, one Top Flite nylon 7 x 6 prop, one set cloth hinges, one Hillcrest D battery box, one 7 prong plug and socket, three feet 1/4" rubber, hardware and #62 and #64 rubber bands, torque rod bearing, Alpha hookup wire, Bonner VariComp, Kraft single channel receiver and transmitter--either built or in kit form depending on package desired.

Snapdragon Combo #1	\$92.95
Snapdragon Combo #2	\$72.95

BLACKWELL T-100

An entirely new concept in high-wing cabin design R/C model aircraft is the T-100 manufactured by Blackwell Models Manufacturing Co. of Canon City, Colorado. It offers clean lines, simplicity of construction, and dependable performance flight after flight and has already won many friends in R/C circles.

Sides and cabin bulkheads are factory assembled. The advanced R/C modeller will also find the T-100 excellent for proportional control or full house systems. Wing area is sufficient to give good performance with heavier radio installations.

Fuselage doublers of 1/16" plywood run from the nose to the rear of the cabin bulkhead.

Engine mounts are of maple interlocking the front of the fuselage. Engine mounts cannot be driven into the cabin. Wing spars are full depth, cut, notched for rapid rib assembly. Leading edges are full 3" balsa plank. The span is 54", has a wing area of 535 square inches. It is designed for engines of .15 to .19 displacement. The average wing loading is estimated at 14 ounces per square foot. No liquids or covering. \$10.95

A Word About Kits

Instructions have improved and instruction techniques have been refined over the past several years and it is now quite feasible for more of the newcomers to R/C to save money and to know what they are doing when the equipment malfunctions when they begin by building their equipment. However, some of the kits of receivers and transmitters listed are not for the novice or rank beginner. All

of these kits will be identified and marked with an asterisk (*). The asterisk will denote that these kits are for the advanced builder only. In the event that you have any question in your mind as to your ability to build one of Ace R/C's kits, may we suggest that you order the schematic and instructions listed elsewhere in this catalog, look them over very carefully and then make up your mind.

Effective November 15, 1959, docket #12902 of the FCC went into effect. This docket provides, very simply, that no longer may kits be assembled and tuned by individuals. They may still be assembled but all tuning must be done by, or under the supervision of, someone holding a commercial class operator's license.

We, at Ace Radio Control, still offer kits, however, we also offer all of our kits in assembled form so this will not present too much of a problem to you. However, all Ace R/C kits may be tuned and sealed by Dale Springsted, 837 Eastern Avenue, Schenectady, New York who operates our Service Center. There will be a fee of \$2.00 plus return postage for this service. This fee will not

include any service work if service work is required.

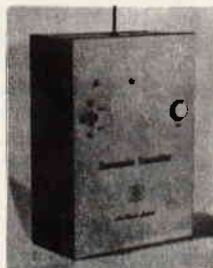
All transmitters which are assembled now are being furnished sealed and with a certification testifying to the effect that they are on frequency as required by the new docket #12902.

Under no circumstances is it possible for an individual to replace crystals, make any tuning operation on the transmitter. All that is permissible is to turn the filament switch on and off and press the key.

All completed transmitters sold are certified to be within the tolerance standards as specified by the FCC regulations.

★ Transmitters

COMMANDER KIT



The Commander transmitter swept the country and well it might for at \$9.95 as a transmitter kit, it is more powerful than many commercially available jobs. Housed in aluminum case, it comes complete with tube, crystal, and all required parts except for a 3 foot section of music wire and batteries. Has been built by R/C fans who have had absolutely no previous radio control experience and it worked right out of the box. With a fabulous pictorial diagram, it's a cinch to wire. 2 watts input. May be used with power supply and never become obsolete. It is not necessary to go to heavy equipment for dependability. If a kit is purchased, it must be tuned by someone holding a commercial operator's license. With punched screened cabinet, only

\$9.95

With 27.120

\$10.95

Custom built, tested, frequency-checked, and certified,

\$16.95

ALPHA TECH T-300



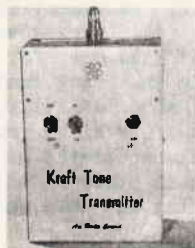
Alpha-Tech's T-300 transmitter. Powerful hand-held tone transmitter with detachable telescoping antenna, keying button, plus built in pulser socket. Socket was wired ready for connection of pulser or external batteries. 100% tone modulation. Sturdy handsome red anodized aluminum case. One hand operation of power switch. Crystal controlled. Conforms to FCC authorized Class C Citizen's band. Shipped with 26.995 mc crystal unless otherwise specified.

Extra strong glass melamine circuit board, long battery life, power input to final amplifier 1 watt, loading coil tunes antenna, contributes to long range, stable, drift-free at all frequencies, no transistors. Batteries required are 1½ volt A (Burgess 2D), two 67½ volt B (Burgess XX45), one 3A4 and one 3A5 tube. Size is 2 3/4" x 4 1/4" x 8". Weight 3 pounds and 3 ounces with batteries. Transmitter includes antenna, male plug for pulser/external battery, tubes and crystal, complete instruction manual, less batteries.

\$39.95

Transmitters, Continued

KRAFT SINGLE AUDIO KIT



The Kraft Single Channel transmitter kit, is designed for the Kraft receiver, and other receivers requiring an audio signal of 400 cps at 100% modulation. Features a printed circuit base, which is completely drilled, for easy assembly. Housed in 3" x 5½" x 8" case which is completely pre-fabbed. Has unique HI LO switch which means the greatest economy of any transmitter available. Power output also is among the highest available. By using transistors in the audio sections means the lowest A battery drain of any transmitter in the audio category. Highly stable in all ranges of temperature.

Kit is complete with all transistors, tube, as well as capacitors and resistors. Includes a telescoping and demountable antenna 54" long. Your choice of either imported or domestic antenna, as well as 27 or 50-54 mc operation. A designer approved kit, this is the highest in quality of material offered anywhere. Kit may be assembled by anyone, but must be tuned, to meet FCC requirements, by someone holding a commercial operator's license.

27 mc	\$24.95
50-54 mc	\$26.95

MIN-X



The Min-X transmitter is skillfully constructed, extremely powerful, and is a hand-held tone-CW unit. It is a reliable MOPA circuit 100% modulated. Highest output, quality components, gold anodized case with two color name plates. Specifications-3V4 tube in output stage, 3A4 in oscillator and modulator. Housed in attractive 5½" x 7½" x 2½". Batteries required are one Burgess 4F 1½ volt, two Burgess XX45 67½ volt. Comes complete with telescoping chrome antenna.

Min-X transmitter is designed specifically to operate with companion Min-X receiver. Transmitter will also operate any CW or tone type receiver. \$38.50

MC 250B

MC250B transmitter, 3A4 tube in a very simple rugged and stable circuit, 2½ watts input, crystal controlled, 27½ megacycles. Green hammertone case 3" x 5½". Uses two Burgess XX45, one S4F or their equivalents. Completely built up, tested, frequency-checked and sealed. \$16.95

MC250T

MC250T tone transmitter designed specifically for the MC100T receiver. Uses two 3A4 tubes. Metal hand-held case 3" x 5½" x 8". Beautiful hammertone finish. Comes with small telescoping antenna. Ready to operate less batteries. Batteries required are two Burgess XX45, one S4F or their equivalents. Completely assembled, tested, frequency-checked and certified. \$22.95

RAMECO VP 1-A



The Rameco Vest Pocket Transmitter has been improved by an increase in power input and the addition of a base loading coil for the antenna atop the case. The top of the coil accepts a piece of 1/16" piano wire 3' long for an antenna. The original VP1 used a separate antenna system which costed \$2.75 extra. This saving, plus a new lower price, makes the VP1-A an outstanding buy.

Operating range of the VP1-A is conservatively rated at 50 to 100 yards. In actual field tests, we have reliably triggered an all-transistor superregen receiver at over 400 feet on the ground. A gas or hard tube receiver with good sensitivity will readily duplicate these results.

Whether the VP1-A is used for bench testing, demonstrations or regular control activities, its low power design eliminates the need for any license whatsoever as covered in section 15.205 of the FCC regulations. It may be operated within the frequency band of 26.970 to 27.270 mcs. This band covers all R/C frequencies.

Specifications as follows: power input, 45 milliwatts; battery, Eveready 216 or equivalent, (9 volts); size, flip-top cigarette box size (aluminum); signal mode, carrier only; frequency, supplied with 27.255 mc crystal only.

New low price, complete except for piano wire and battery, \$12.95

★ Transmitters, Multi

MARCYTONE SINGLE KIT



Marcy transmitter contains two 3A5's, an MOPA RF and multi-vibrator audio. Modulator has variable frequency so that the desired cycles for the MarcyTone receiver may be selected. Slight modification allows the unit to be used with other single channel audio receivers. Housed in handsome aluminited punched case 3" x 5½" x 8". Unit is expandable by plugging in either one of the control boxes. Comes complete with 13.6275 megacycle crystal, resistors, capacitors, tubes, everything required except for batteries and 3 foot section of music wire antenna. Complete combo kit which may be assembled by you but must be tuned by the commercial class operator. **\$19.95**

Assembled, tested, frequency-checked and certified. **\$39.95**

* MARCYTONE CONTROL BOX KIT



Marcy 6 channel push button control box to instantly convert the Marcy single channel transmitter to 6 channel operation with the MarcyTone 6 channel receiver. Jack is provided in the transmitter and control box plugs in. Stable, provides six channels. Housed in handsome aluminited case, completely punched and ready to assemble with Chi Tel pots for reliability. **\$16.95**

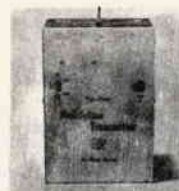
MARCYTONE STICK BOX KIT



MarcyTone stick box. Small hand-held case measures 2 5/8" x 4" x 1 1/4".

Unique box holds pots and plugs into the Marcy single transmitter to convert to six channel operation with the Marcy 6 channel receiver. Gives positive stick action for left, down, right, up and slow and fast on motor speed. Strong centering neutral on both sticks. **\$17.95**

* MARCY TWIN SIMUL KIT

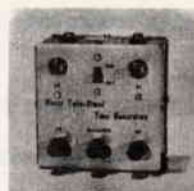


Marcy Twin Simul transmitter with dual tone generators are housed in a 3" x 5½" x 8" case. It is an MOPA type RF section with 3A5 amplifier. May be operated with push buttons or with pulser below for twin simul operation. Complete unit including transmitter and Twin Simul tone generator, designed for use with Marcy Twin Simul receiver, comes in highly pre-fabbed kit which may be built by you but must be tuned and tested by someone holding a commercial class operator's license. **\$37.95**

As above but with completely wired transmitter RF section and amplifier section but with Twin Simul tone generators still in kit form. **\$52.95**

As above but with wired Twin Simul tone generators. **\$62.95**

* MARCY TWIN SIMUL TONE GENERATOR KIT



Marcy Twin Simul tone generators housed in aluminited case 2" x 4" x 4" for converting existing MarcyTone equipment to dual operation. **\$17.95**

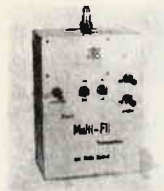
* MARCY TWIN PULSERS KIT



Marcy Twin pulsers. Stick control housed in small metal case. Plugs into Twin Simul tone generator for dual proportional flying. Motor control may be added using either full off or full on. **\$32.95**

Transmitters, Continued

* KRAFT 4-6 MULTI-FLI KIT



First in series of multi equipment is the 6-4 transmitter designed by Phil Kraft. These are designer approved kits, assuring you of the best quality available. These kits were designed with the idea of the best performance and then and then only, was the price figured. The Multi-Flt 6-4 transmitter is a versatile unit--may be used with 6 or 4 channel receivers. Non-simultaneous operation. Features use of a toroid for ultra stability. Also has the lowest A-B drain of any multi outfit on the market. Kit comes complete with all required parts, crystal, tube, transistors, telescoping antenna, drilled printed circuit board, audio capacitors, Switchcraft Lev-R switches. Housed in 3 x 5½ x 8" hand held aluminum case. Designed for battery operation, but may be converted to converter use later. Uses 1½V A, two 67½V B batteries.

Complete 6 4 transmitter kit for 6 channels,	\$52.95
50-54 mc version	\$54.95
As above, but with components for only 4 channel operation	\$49.95
50-54 mc version	\$51.95

AVAILABLE AS ASSEMBLED UNITS BY ECKTRONICS
EARLY IN 1961.

Ecktronics Kraft 6 channel transmitter,
available soon, \$79.95

ECKTRONIC KRAFT SINGLE AUDIO



A new concept in radio control, the Kraft transmitter, gives the modeler optimum performance with an absolute minimum in operating cost. Very low current drain enables expensive "B" batteries to last almost shelf life. Just look at the features: 8" x 6" x 3½" case is made of high-grade aircraft aluminum. Dual triode true Master Oscillator--power amplifier RF circuit with amplifier doubling into output frequency. New fixed pi-network antenna circuit for high efficiency. Dual transistors provide optimum modulation with lowest possible battery drain. Factory-tuned for maximum output--no need for wasteful, energy-consuming indicator bulb. First quality chrome plated antenna included

with transmitter. Amphenol connector provided for easy removal. Collapsed length 20", extended, 54". Temperature compensated to work to 140° F.--stays right on frequency, even under hottest conditions. Completely legal and will not become obsolete--stable enough to use with superhets. Easily converted to higher frequency operation if new R/C bands should open up. Quality toggle switches used--eliminates troublesome slide contacts. Double-thickness printed circuit board completely tinned. Exclusive "HI-LO" switch makes expensive "B" batteries last over ten times as long. Use normally only on "LO"--if model gets out of range because of mis-tuned receiver, old batteries, etc., just flip to "HI" for five times power. With practically shelf life for "B" batteries, no need for expensive power converter. \$34.95

* WAG DUAL KIT



While at first glance the WAG Dual transmitter appears quite complicated, closer study of the schematic reveals that it is in four sections. There are two twin 3V4 pulsers, two-tube audio modulators, and two-tube MOPA transmitter. By building a section of this at a time, the complexity is cut down. Because of the precision required, quite a number of 5% tolerance resistors are used. Individually measured capacitors are furnished in matched pairs for pulsers and modulators for uniform results.

Basic MOPA transmitter section contains wound coils, RF choke, air type trimmer, resistors, capacitors, crystal sockets, DPST, sockets, etc., pre-fabbed base. May be wired by you but must be tuned by someone holding a commercial class operator's license. This particular unit may also make a very handsome CW transmitter or may be modulated with a single tone modulator for a good tone transmitter. \$6.95

Basic pulser-modulator section kit contains matched pairs of condensers individually measured, 5% resistors, sockets, two DPST switches, push switch, six Allen-Bradley pots, four with lock nuts, 8 wire cable, plug and socket, pre-fabbed chassis. \$18.95

Deluxe combo. Basic combo kit, basic transmitter, basic pulser-modulator, 8 x 10 x 10 case, seven 3V4's, one 3B4, crystal, 112" antenna, new Sigma relays, improved stick control box with punched, silk-screened case. \$74.95

Completely assembled, tested, frequency-checked and certified and sealed. \$104.95

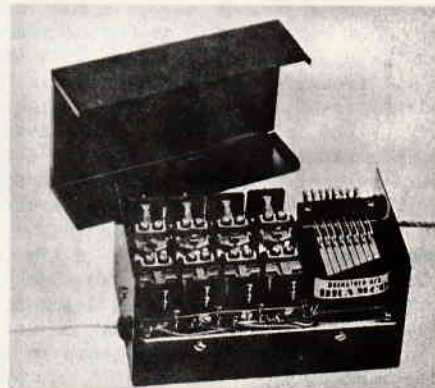
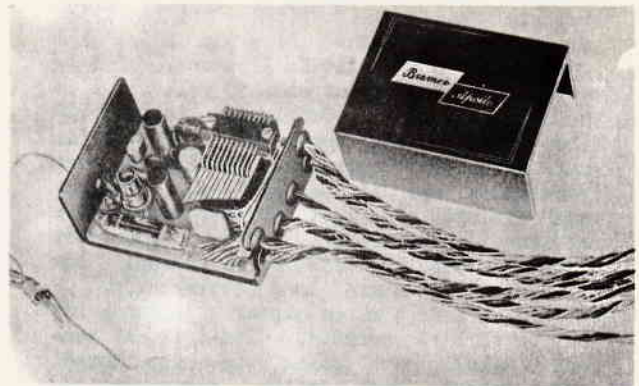
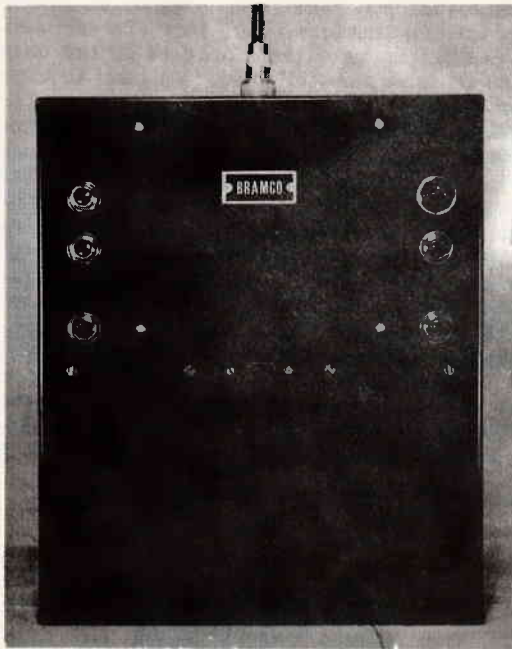
50-54 megacycle version is available at the same price as above. Please specify.

Bramco Multi Equipment

Available from Ace Radio Control for the first time--the Bramco line of precision radio control equipment which has been a contest favorite in many sections of the country by some of the top R/C'ers such as Harold DeBolt and others.

While a complete description of all of the equipment is not available, illustrations

have been included of many of the units and the entire Bramco line will be stocked during 1961 at Ace Radio Control for "off-the-shelf" shipment. All of the receivers in this listing are of the superregenerative type. Completely built-up, tested, and guaranteed by the manufacturer. For complete descriptions, see the Bramco advertising in the national model magazines.



RECEIVERS

Signet I single channel	\$ 29.95
Signet II single channel	34.95
Regent "8" eight channel simultaneous	118.00
Regent "10" ten channel simultaneous	150.00
"Competition 10" ten channel simul	150.00
Apollo Relay-less	64.50

TRANSMITTERS

Single channel - hand-held	\$ 34.95
8 channel simultaneous hand-held	116.00
8 channel simultaneous control box	131.00
10 channel simultaneous hand-held	131.00
10 channel simultaneous control box	146.00

EXTRA CONTROL BOXES

Eight channel	\$ 56.00
Ten channel	71.00

REED BANKS

Five channel	\$ 16.95
Eight channel	18.95
Ten channel	24.95

ACCESSORIES

Installation kit single channel	\$ 2.95
Installation kit 8 or 10 channel	3.95
Hookup Wire #24 32 ft. 8 colors	.75
Throttle, Type A, .15 to .60 silver	4.95
Throttle, Type B, .35 to .65 gold	4.95



★ Receivers, Single Channel

ALPHA TECH R300



The Alpha-Tech Model R-300 features what is said to be the world's strongest assembly. Fiberglass component board, specially designed aluminum case. Attractive red anodized scratch-proof finish. Size is 1 1/4" x 1 7/8" x 2 7/8". Weight is 3 ounces. One 1 1/2 volt pencil for A and one 30 volt for B is the recommendation. Complement is one 6007 tube, two high-gain transistors. Circuit is compensated for temperature variations and transistors are bias-stabilized. "Trans-tone" circuit uses 250 milliwatt transistors and finest miniature electrolytic capacitors to deliver stable, reliable performance. Low idling current means long battery life. .8 ma idle. 4 to 5 ma on signal. Antenna 24" whip or wire recommended. Non-critical tuning. Simple one tuning slug--once tuned, stays tuned! Will follow faithfully the fastest pulsing. Receiver comes completely assembled with 7 pin plug--ready to operate, DPST slide switch for installation, 7 pin receptacle, phone jacks, complete instruction manual. Must be used with an audio transmitter but the use of the Alpha Tech T300 transmitter is recommended because it will take full advantage of the Alpha-Tech's high selectivity. Due to its high Q tube detector design, the receiver displays amazing ability to separate radio signals of nearby frequencies. This feature is normally available only in heavy, expensive superheterodyne type receivers, however, Alpha-Tech units have been used successfully for two-at-a-time model airplane flights without interaction. One receiver is tuned to 26.995 mc and the other to 27.255 mc with transmitters to match. Complete assembled. \$39.95

COMMANDER KIT



By using the famous McEntee Simple Single circuit with subminiature parts, an utterly reliable receiver has been made which is being used by the beginner and expert alike. Simple, easy-to-follow instructions give you reliable performance which has been checked out on the ground in excess of one-half mile. Housed in small plastic case for crash-resistance, comes complete with tube and Gem relay. Measures 2" x 2 7/8" x 1". Requires 1 1/2 volts A and 45 volts B. Thousands of satisfied customers with comments ranging from wonderful to terrific. Get yours now! Superregenerative detector.

Must be used with CW or carrier type transmitter.

Complete kit with Gem standard relay \$ 7.95
Complete kit with Gem micro relay \$ 8.65
Custom built \$12.95

COMMANDER CONVERSION KIT

Many requests have come in for a conversion kit to transistorize the Commander receiver. This circuit first appeared in Grid Leaks about a year ago and has been tried in all parts of the country with terrific success. The conversion is quite simple to do and only requires a matter of about an hour to wire completely. The transistorized Commander features a .5 to .8 mil idle which, upon receipt of signal, rises to 4 or 5 mils through the relay for really respectable relay action. It has been tested on the ground in excess of 3,000 feet and temperature checked in excess of 130° and has been proven utterly reliable. Conversion kit consists of all components required to make the conversion as well as complete instructions to make it easy. Considering the many thousands of Commanders that are in the hands of satisfied customers, we feel we are offering a service by making the conversion kit available. Includes transistor and 3Q4. Only \$2.50

ECKTRONIC KRAFT SINGLE AUDIO



First presented to the modeling world in the March and April, 1959, Model Airplane News, the Kraft receiver has met with overwhelming success everywhere. Range and reliability are unexcelled. Case is 2 1/8" x 1 5/8" x 1" and is lightweight, crash-resistant polystyrene; super-regenerative circuit--proven hard tube detector for maximum reliability under all conditions; three transistors follow hard tube detector to provide amplification and relay operation; maximum gain and stability; reliable, top-grade sub-miniature Deans relay for dependable operation--permanent factory adjustment; truly adequate arc suppression included--no relay problems; temperature compensated--tested from 0° to 140° F. with minimum drift; suitable for extremely fast pulsing--over 15 cps; latest printed circuitry--completely tinned on double-thick epoxi board; proven circuit--thousands in use. \$29.95

Receivers, Single, Continued

KRAFT TONE KIT



The fabulous Kraft tone receiver responding to 400 to 600 cycles per second which features a current rise using only 22½ volts of battery. Utilizes a 6007 detector, three transistors, a printed circuit board--undrilled, and all components required for a deluxe parts package. According to all reports from Ed Lorenz and others throughout the country, it has received the most fabulous reception of any receiver of the tone variety that has been kitted. A check with Phil Kraft, the designer, noted one or two improvements over the circuit as it originally appeared in March, 1959, Model Airplane News. These changes have been made. Features an exploded view of the receiver as well as step by step instructions so that it is very difficult for even a beginner to go wrong. We consider this one of our best kits and one of our best buys. Must be used with a tone transmitter of a type capable of producing 400 to 600 cycles per second. Superregenerative detector. Uses 1½ volts A and 30 volts B.

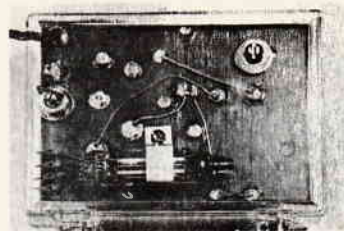
27 mc version \$19.95
50-54 mc version \$21.95

MC101B



Here is a new receiver from MC Manufacturing and Sales -- a current rise version of the MC100B receiver, pictured at the right. By using a transistor in addition to the 3S4 detector, the receiver idles at ¾ of a mil and upon receipt of signal rises to 4 mils or more for really reliable relay operation. Is similar in appearance and size to the 100B -- but relay action is positive for extra dependability. Unit measures 2½ x 1 5/8 x 2" and features an epoxy printed circuit base. Is completely assembled and tested. Weight is just over 2 ounces. 27 mc operation. Superregenerative detector. Uses 1½V A, two 22½V B. Only \$14.95

MARCYTONE SINGLE KIT



MarcyTone single channel receiver measures 2" x 2 7/8" x 1". Weight is under 3 ounces. Responds to audio signal only. Kit includes tube and three transistors, relay, filter, all capacitors and resistors, wound coil, drilled base. Must be used with transmitter of the MarcyTone type. Requires 30 volts of B and 1½ volts of A. Superregenerative detector. \$18.95

MC100T



MC100T--tube and transistor tone receiver at 1000 cycles per second uses 1½ volts A and 30 volts B. Features a current rise, has only a 13 mil filament drain, comes completely assembled. Must be used with a transmitter capable of 100% modulation at 1000 cycles per second such as the MC250T. \$20.95

Deluxe, housed in metal case \$24.95

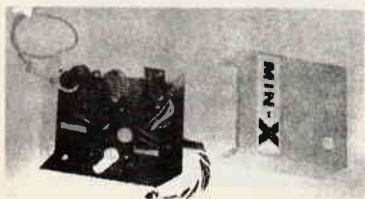
MC100B



The popular MC100 receiver has been redesigned so that it uses printed circuitry. Complete with 3S4 tube and Gem relay. Wired and tested. Easy to tune and will stay tuned over long periods of time. Lowest priced American made unit on the American market. Superregenerative detector. Uses 1½V A and 45V B. \$11.95

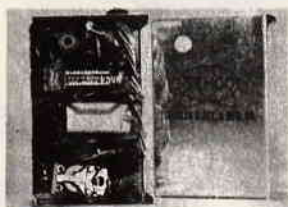
Receivers, Single, Continued

MIN-X



Min-X receiver introduces a new standard to the radio control field. The receiver features new all-transistor circuitry and weighs only $2\frac{1}{2}$ ounces with case and plug. Size is $1" \times 2\frac{1}{16}" \times 2\frac{3}{8}"$. You can fly all season on 25¢ worth of receiver batteries. Simplified tuning procedure. 30 day warranty. The all-transistor receiver with the reliability of tube receivers. Flight-tested for months across the nation under all temperature conditions. Must be used with a transmitter capable of 600 cycles per second at 100% modulation such as that furnished by Min-X. Superregenerative detector. 3 volt battery. \$39.95

TEMCO



The Temco receiver measures $1\frac{3}{4} \times 2\frac{3}{4} \times 1$ inch thick. Weight is $2\frac{1}{2}$ oz. Uses a tube and two transistors. Requires $1\frac{1}{2}$ volts A and 30 volts B. While a transmitter for this particular receiver is under development at the present time, the existing transmitters of the MarcyTone type--the ones going from 1000 cps to 4000 cps--may be easily adapted for use. Superregenerative detector. Price is a low \$34.95

* TR 4.5 KIT



The TR 4.5, an all-transistor 27 mc receiver, is sure to appeal to the advanced radio control enthusiast. It has many fine features including reliable operation over a wide temperature range, high current change, ultra-economical battery life. It is sure to win many friends! All required components have been assembled and the total price is less than if individual parts are purchased individually. Package includes three special transformers, a special Gem relay, four transistors, and all wound coils, top grade resistors and capacitors. Epoxi resin fiber glass printed circuit board contains the parts placement guide to make assembly easier than would be expected.

The TR 4.5 is housed in a special lightweight aluminized case to make a compact unit measuring $2" \times 2\frac{7}{8}" \times \frac{3}{4}"$. Weight is slightly over 2 ounces. Requires only $4\frac{1}{2}$ volts of battery and idles at two mls which, upon receipt of modulated signal of 400 cycles per second at 100%, rises to 35 to 40 mls for really reliable operation. Also, it may be used quite successfully on 3 volts although the current change is not as great.

It is available only from Ace Radio Control by a special arrangement with the designers, Don Kamm and Red Costlow. An Ace exclusive designer-approved kit. Complete parts package--nothing else to buy! Must be used with transmitter capable of producing 400 to 600 cycles per second, 100% modulation. Superregenerative detector. Uses $4\frac{1}{2}$ volts of battery. \$22.95

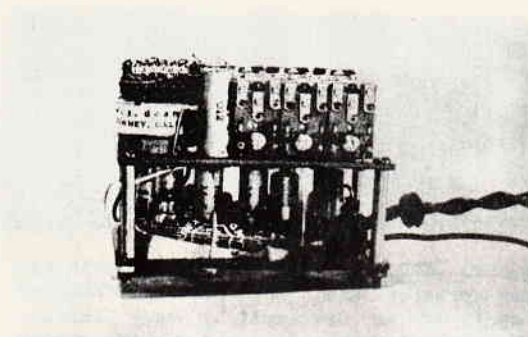
In keeping with our policy of improving our service to our customers, we have, with the co-operation of an excellent R/C fan, opened a Service Center for the convenience of customers who experience difficulty in getting any Ace kit into proper operation, or if the receiver suffers a prang. Not just every service man for radio or TV is equipped or has the "know-how" required by R/C receivers and transmitters. An entirely different technique is required and we are proud to say that the operator of our Service Department has that technique. He is a licensed opera-

tor of long standing and has been in radio control since the early days. His service is fast, courteous and friendly. Service charge for all ordinary repairs is \$2.00 plus return postage. Should the unit require more than ordinary work, he will advise approximate cost of repair. In the event of defective components on the kit from Ace, it will be replaced without cost.

Ace Service Department
837 Eastern Avenue
Schenectady, New York

★ Receivers, Multi Channel

* KRAFT 4 6 RECEIVER KIT



Unique printed circuit two-deck construction, unit is only $1\frac{7}{8} \times 2\frac{1}{2} \times 1\frac{3}{4}$. Uses the light Deans reeds for best performance. PC boards are drilled. Housed in protective aluminited can for protection. May be converted to power converter operation at any time--PC board contains provisions for adding converter! This feature is provided at no extra cost. Components for converter will be available on a separate basis shortly. Start with batteries and then go converter using your nicad servo supply! Or buy 4 channel now and convert to 6 later! Superregenerative detector. Uses $1\frac{1}{2}$ volts A and 30 volts B.

Uses PI electros. Either unit contains all required parts EXCEPT FOR POWER CONVERTER. Full information and circuit is supplied, however--and board is printed and drilled for them at NO EXTRA COST!

4 channel kit, including reed, 4 relays, can, boards, and all components, $27\frac{1}{4}$ mc \$52.95

50-54 mc version \$54.95

6 channel kit, including reed, 6 relays, can, boards, and all components, $27\frac{1}{4}$ mc \$65.95

50-54 mc version \$67.95

6 channel transmitter and 6 channel receiver combo \$105.95

6 channel transmitter and 4 channel receiver combo \$95.95

Elektronics Kraft 6 channel receiver, available soon, \$74.95

KRAFT 50-54

The popular Kraft equipment in both receivers and transmitters, single and multi, may be easily adapted to 50-54 mc operation. Kits for 50-54 mc are offered for all Kraft units. Look for them elsewhere in this catalog.

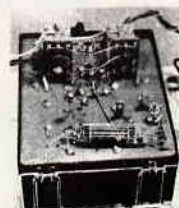
* KRAFT RELAYLESS 10 KIT



The Kraft Multi-Fli superregen relay-less receiver is housed in a case $2\frac{1}{2} \times 1\frac{7}{8}$ " and is only $1\frac{7}{8}$ " thick. It is designed to be used with the Transmite servos. It is available only with a 10 channel reed bank but may be used for any number of channels from two on up to ten if desired at any stage of the game. Relay versions also will be available at a little later date.

Has provisions for a built-in 30 volt power converter which may be added at a later date thus eliminating expensive B batteries and yet uses the reliable vacuum tube detector circuit for ease of operation and ease of maintenance. Comprehensive instruction manuals make the assembly of this kit almost surefire. However, it is not recommended for those with little or no radio experience. Features printed circuit boards completely drilled on epoxy, all components required except for power converter, including tube and three transistors, Deans 10 channel reed bank, all electrolytics, capacitors, and resistors. Price, only \$44.95

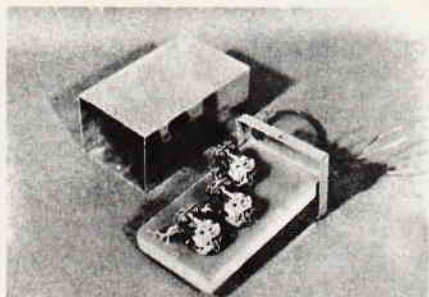
* MARCY TWIN SIMUL KIT



A simple, fool-proof dual channel simultaneous receiver designed by Marcy Inkmann, developer of the MarcyTone single and 6 channel receivers. You can use either channel for push button or pulse flying since each channel may be pulsed simultaneously up to 20 cycles per second. Marcy's Twin Simul receiver kit contains 6007 tube, three T0037's, two Gem 5K relays, two filters, and all other required components. Weight is under 5 ounces. Unit measures $2\frac{1}{2} \times 3\frac{5}{8} \times 1\frac{7}{8}$ ". Must be used with the Marcy Twin Simul transmitter listed elsewhere. Superregenerative detector. Uses $1\frac{1}{2}$ volts A and 30 volts B. Complete kit, \$27.95

Receivers, Multi, Continued

WAG DUAL RECEIVER KIT



We've had the pleasure of working very closely with Dr. Walter A. Good in the development of kits for his dual proportional R/C system. Ace has been given the exclusive kitting rights to the receiver and transmitter and these are designer-approved kits. The WAG dual receiver kit contains submini tube sockets, epoxy resin fiber glass bases completely drilled with over 100 holes, all capacitors and resistors including the 5% values, Federal #1215 high back resistance diodes, wound tank coil, #6152 RF0, wire, plugs and sockets, spaghetti, solder and instructions for wiring and tuning. The most complete kit we have ever offered. Remember, it is approved by Dr. Good for your protection. It is not recommended for beginners or those with limited R/C experience. Kit saves you more than \$3.00 on parts if purchased separately or individually. May be had for either 27 mc or 50-54 mc. Be sure to specify frequency desired. Must be used with WAG dual transmitter as listed elsewhere in this catalog. Superregenerative detector. Uses 1½ volts A and 45 volts B.

Basic kit, less tubes and relay	\$15.95
Combo kit, basic kit, tubes, 3 Gams	\$39.95

MARCY TESTER KIT



6 channel MarcyTone tester. With a flick of the switch, fast tuning is provided. Unit simply plugs into receiver and provides testing ease. Comes complete with moving magnet 0-5 ma and six position selector switch. Housed in aluminited 2 x 3 x 5 case. Only \$10.95

* MARCY SIX CHANNEL KIT



6 channel MarcyTone receiver. In this designer-approved kit, Ace offers a fabulous new audio system developed by Marcy Inkmann. In development over five years, the system has been thoroughly flight-proven and since it has been on the market, hundreds of letters have been received from satisfied customers.

By using simple filters instead of expensive toroids, cost is held down. Filters have a band-width of at least 200 cps so that transmitter drift is no problem and you have no constant adjustment worries and can devote your time to flying.

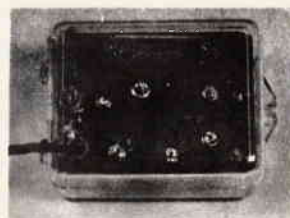
6 channel MarcyTone receiver consists of two sections. One is completely self-contained RF detector amplifier section. Housed in plastic case, it measures 1 3/4" x 2 1/4" x 2 1/8". Couples to filter and relay deck which provides the channels required. This measures 1 1/2" x 4" x 2". Overall weight is under 10 ounces. Two unit installation makes for flexibility and is very versatile. Complete kit contains drilled bases, all filters transistors, tubes, capacitors, resistors, relays, everything except batteries. Superregenerative detector.

Recommended for use with the MarcyTone transmitter and 6 channel control box only.

Batteries required are 1½ volts A and 30 volts B. The use of the largest batteries that the unit will carry is recommended.

\$53.95

MARCY BASIC RF AF SECTION KIT



Basic RF detector and AF unit is available separately. Filters may be purchased in numbered frequencies so that two to six channel equipment may be built as desired by the more experienced. Contains all parts including tube, two transistors, but no filters or relays. \$11.95

(For use with Marcy 6 channel receiver)

★ Books -- Other Publications

A new and unique idea for the R/C fan was introduced in October, 1957 with the publication of "Grid Leaks--R/C Data Service".

It has met with a smashing success. The subscription list is constantly expanding. It is strictly confined to R/C with a brand new concept of R/C news.

R/C Data Service is published on 8½ x 11 paper so that it may be punched for a three ring binder so that circuits, as presented, may be readily filed and instantly available. It brings to the serious R/C fan a brand new idea of building up a very practical library of R/C literature and informative material. Articles in Grid Leaks are designed for both the beginner and advanced amateur.

Top contributors such as Dale Springsted, John Worth, E. J. Lorenz, Jerry McGeorge and many others have made contributions to Grid Leaks in the past. The names of those in future issues is in a "Who's Who in R/C?"

Grid Leaks--R/C Data Service will present new ideas and circuits for gadgets and devices, receivers, and transmitters from simple single channel equipment to multi-channel. It's a must for every serious R/C'er.

Volume III is currently in production and, unless otherwise specified, the subscription will begin with the latest issue published. Subscription price is a very reasonable \$2.00 for a 10 issue subscription. It is published once every two months.

BEST OF GRID LEAKS

Grid Leaks has enjoyed a continual rise since its initial publication almost four years ago. There have been demands from the field that the best articles for the beginner that have appeared in this span of time be reproduced. Accordingly, we have pulled what we consider to be the best articles slanted at the beginner and now have a 36-page brochure which contains this information having titles such as these: "R/C Glossary", "Color Code Primer", "Soldering Takes Technique", "What is Proportional Control?", "Relays, Their Adjustment and Care", "Develop a Pre-Flight Countdown", "Filling out Form 505", and many others that are certain to answer the beginner's and even more advanced questions. The reason for this is that we receive many requests for back issues of Volume II. By compiling the best from Grid Leaks over the two-volume history and offering it attractively bound at \$1.00, we feel you will have an excellent book that you can use to provide you with the broad basic background of what radio control is all about. This is not a handbook, this is a compilation of a series of articles which were written with the beginner or novice in mind. With more and more people entering into radio control, this, we feel, will provide an answer. \$1.00

SCHEMATICS

The schematic collection offered previously is no longer available due to the fact that the most popular schematics are being completely revised during 1961. However, any receiver or transmitter schematic of an Ace kit may be had by naming it and remitting 10¢ each except for the WAG Dual and Kraft units. The then current schematic will be sent.

WAG Dual Transmitter	\$1.00
WAG Dual Receiver	\$.50
Kraft Single Channel Receiver	\$.25
Kraft Single Channel Transmitter	\$.25
Kraft 6-4 Multi-Fli Receiver	\$1.00
Kraft 6-4 Multi-Fli Transmitter	\$1.00
Kraft 10 Relay-less Receiver	\$1.00
Kraft 10 Relay Receiver	\$1.00
Kraft 8-10 Triple Simul Transmitter	\$1.50

RC FOR MODEL BUILDERS



Here is a book written in the language of the model builder by a man who knows the field--who has had tremendous experience in model building. Radio-control systems for planes, boats, cars and other "objects" are made completely understandable--even if you do not have any electronic background. Now, you can build a remote control system to operate any type of model. This book is 100% practical--its value lies in its complete usefulness. Every fact applies in practical fashion if you wish to understand, build and operate something by remote control without having to distinguish between complex, or impractical dream stuff, and what is proven and practical. It provides a time-and-money-saving guide for the model builder who is selecting a kit or parts for kits. It details the procedure for equipping and operating all kinds of radio controlled models. Truly, it covers the subject of radio-control of models from A to Z including FCC regulations. 232 pages. Soft cover. John F. Rider publication #235 \$4.25

MODEL RADIO CONTROL

Here is a completely revised book, "Model Radio Control" by E. L. Safford which replaces the old version which was a popular Gernsback seller. It has 192 pages and will make a very valuable addition to your R/C library. There is enough theory, background, and general information to provide both the beginner and expert with material that he can easily adapt to his own use. Only \$2.65

DUAL SPDT



Servo makers--Mickey Mouse experts--here is the switch you've been looking for. Provides two SPDT snap action switches with silver points which may be operated by cams, levers, or what have you. Measures $7/8" \times 7/8" \times 1"$ and weighs less than $1/2$ ounce. Many R/C applications. Only \$.25

WAG DUAL CONTROL BOX KIT



There have been so many requests for separate control boxes for the WAG dual system that we are selling them separately. This is the same quality of stick box that is used with the WAG dual system utilizing 1 meg 60° pots so that no special gearing is required. This simplifies the construction and makes for trouble-free operation. Available separately less cord and plug. \$7.95

CONVENTIONAL CONTROL BOX KIT

Conventional stick control box is also available with 100K 60° pot and a 1 meg 60° pot for conversion of your pulser or the WAG pulser listed elsewhere. This comes to you less cable and plug but with completely pre-fabbed box. Just as the WAG dual. \$7.95

TRANSISTORIZED MODULATOR KIT



Here is a modulator which may be used to modulate your present MOPA type transmitter such as the Aristrol MOPA, the Lorenz MOPA, the WAG dual RF section and many others currently available. Completely transistorized, is temperature stable, will produce audio of 400 to 600 cps depending upon which size capacitor is used. Three different capacitors are provided. Kit comes to you with printed circuit base, all components required to make up this modulator which will give you 100% modulation at 400-600 cps. Unit is exceptionally small. Measures $1 \frac{5}{8}" \times 2 \frac{1}{4}"$ and is approximately $1/2"$ thick. May be housed in plastic case or bolted to the interior of transmitter. Requires no extra batteries. Uses the transmitter batteries to give the tone. Is quite easy to convert your transmitter with this modulator. \$6.95

BAISDEN GG PULSER KIT



So many requests have been received for the Baisden GG pulser in kit form as was detailed in Grid Leaks that we have gone ahead with the kitting of the Baisden Galloping Ghost type of pulser for \$17.95. This is highly pre-fabricated, contains a Mighty Midget motor and all parts required to make the unit. This is a mechanical pulser and doesn't use any electronic circuitry. Assures trouble-free and simple operation. Provides proportional rudder and elevator. A review of the Nationals will reveal that proportional was top dog in Intermediate, Open Rudder, and Junior-Senior Rudder. \$17.95

MOST PULSER



Here is a pulser that has no interaction because it has no critical electronic circuits, no expensive batteries, requires only two C cells. The true centering stick controls rate and proportional change. The mechanical pulser can be used for Galloping Ghost or inductive dual proportional systems, or with rudder only proportional systems. Comes complete with connecting cable, factory guaranteed in the $3 \times 5 \times 2$ anodized two-tone case. Completely assembled, only \$27.95

PULSE OMISSION DETECTOR KIT



To help facilitate the building of the POD (pulse omission detector) unit featured in Grid Leaks by Jim Shows and Don Dickerson, Ace R/C is making available kits including the printed circuit board and all parts required for the unit including a reprint of the article as contained in Grid Leaks and parts placement instructions. This is the high voltage transistorized unit and is complete with relay and transistor, electrolytic, plastic box, and all other components. May be used with single proportional units and dual proportional units of the WAG and Marcy types. Only \$13.95

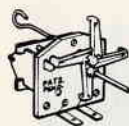
WORTH SIMPLE SIMUL PULSER KIT



If you've been wanting to go multi with proportional rudder and elevator and have shied away from the WAG TTPW, the Simpl-Simul by John Worth as described in July, August, and September, 1958 Model Airplane News is just the thing for you. It will convert any single channel CW or audio receiver and transmitter which is capable of being pulsed up to 10 cycles per second into a simple, yet very effective proportional rudder and elevator plane. Motor control may be added with a minimum of complexity. The Simpl-Simul kits are approved by John Worth and are complete in every detail, including 5% resistors and individually matched capacitors where required. Chicago Telephone pots are used for reliability and dependability. All metal parts are punched and formed. Case is of aluminized material for sturdiness and lightness. Measures 4 x 5 x 6. Pulser portion and batteries are completely contained inside the case. Cures any RF interaction tendency. Full stick type of control. Complete with two subminiature tubes, Sigma relay, everything required except batteries. In the plane, a simple Mighty Midget motor may be used as an actuator or the Robot Junior will provide both rudder and elevator. \$21.95

★ Escapements

BONNER SN



A simple self-neutralizing action for rudder only or as elevator or motor control for throttle engines when worked off either compounds or in multi work.

Size is 1" x 1 1/2" x 1 1/4". Weight is 5/8 ounce. \$5.95

BONNER VARICOMP COMBO

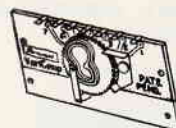
Two VariComps provide rudder, engine, elevator control and an extra control which can be used to trigger some other device. Comes complete with linkage support and two cam followers. Size with dual support is 3 3/8" x 3" x 1 1/4" deep. Weight 2 ounces. \$18.95

BONNER VARICOMP



A versatile and powerful compound escapement. Can be used in every type of single channel control system for rudder only through cascaded multi. One VariComp will provide rudder control, blip engine control and another control off another third position. Size with linkage support is 2 1/8" x 1 1/4" x 1 1/4" deep. Weight is 1 1/8 ounces with support and follower. \$8.95

BONNER R.E. VARICOMP



The R. E. Varicomp is a compound escapement which has virtually the same action as other Bonner compound escapements except that it has an elevator tripped in which gives up elevator allowing both rudder and trip elevator action from one escapement. Printed circuit switching also allows quick blip engine control and cascading with other VariComps. Has the same general physical size and weight as the Varicomp. \$9.75

For a listing of extra parts for Bonner equipment, see the end of this section.

BABCOCK MARK 2



The Babcock Mark II Super-Compound escapement is the leader of all model aircraft servos. Conceived by Dick Schumacher. Maximum control with greatest simplicity. The tens of thousands now in use attest to its reliability. This ideal rubber-powered escapement servo provides left rudder, right rudder, elevator control PLUS motor control switch. Adaptable to all sizes of models. Weighs only 3/4 oz. Complete with actuating arms and easy-to-follow instructions. Model #886. \$7.95

BABCOCK MODEL EM-1



Motor-Minder Motor Control Escapement is perfect in-flight control of throttle-equipped R/C engines. Same reliable relay action as the Mark II Super-Compound escapement. Also can be used as two-position escapement for rudder or elevator control. Bleed valve accessory available to convert standard engines to two-speed operation. Model #EM-1. \$4.95

Escapements, Continued

QUAD-TROL



A companion control mechanism for use with the Code-A-Matic controller. This escapement is actually two compound units, pre-mounted on a "Uni-Panel". Factory wired (with "deep-etched" printed contact) so that multi channel control from single channel equipment is available. Positive precision control of rudder and elevator, plus electrical contacts for motor control mechanism. All these controls are possible from a simple, single channel receiver. The "Quad-Trol" is lightweight, will not override control position, and is self-neutralizing. \$12.95

SELECTIVE COMPOUND



A lightweight, instant responsive escapement. The exclusive "built-in" control linkage provides easy control movement without override. The Selective Compound has internal electrical contacts for operating an additional control device. Uses up to 1/4" rubber; 3 volt operation; ball bearing thrust washer. \$6.95

MOTOR CONTROL OR RUDDER



Here is a dual purpose unit that is lightweight (only 1/2 ounce) and will operate effectively on 3 volts DC. The heavily plated, corrosion resistant finish withstands the effects of constant fuel spray. The small physical size of this device allows easy installation in the most cramped quarters. \$3.95

PILOT CONTROL



Stick type control box which will work with any transmitter. Counts the correct number of pulses when stick is moved to correct position. Designed primarily for the Cobb system of the Selector 4 with Cobb Slim Line Servo but may also be re-worked to work with most compound escapements. Clock-work driven. \$12.95

CODE-A-MATIC

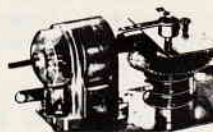


A new concept in a control box--a device that actually "thinks for you". The Code-A-Matic is small (3 1/4" x 2 1/4" x 7/8"); may be hand-held or permanently attached to the transmitter by means of a threaded, hollow mounting stud which is supplied. The Code-A-Matic has a "flight-feel" control stick and a separate "throttle" button. Energized automatically by a special mechanism, the Code-A-Matic is self-neutralizing and transmits your commands with accurate precision. Guaranteed, comes with instructions. \$10.95



Servoes

BABCOCK MODEL 897



Electric Compound Servo. Exclusive electrical cams provide right and left rudder control, PLUS--positive start and stop control of electric propulsion motor. Realistic servo power for even the largest boats, yet only 3 1/2 oz in weight. Thousands in use. Complete with easy-to-follow instructions. Model #897. \$8.95

BABCOCK MODEL 887



Electric Motor Speed Control & Sequence Reversing Relay for battery-powered R/C model boats, cars, trucks and other control uses. Exclusive 8-position printed circuit contact wheel rotated by integral electromagnetic mechanism insures positive contacts in each position. Amazing control and sequence reversing performance when hooked up to single or multi-channel receiver or escapement. Operates instantly from transmitter signals. Handles any single or twin battery-operated motor installation; corrosion-proof parts--phosphor bronze contacts, rhodium plated current-carrying elements, other parts cadmium plated; set of speed control resistors furnished free; maximum contact rating 10 amps 6V, actuating circuit 1 amp 3V, auxiliary 5 amp contact for other signal devices. Model #887. \$9.95

Servoes, Continued

COBB SERVOES

The MICRO series of servos listed below all have the same general physical shape and physical size which is 1 1/2" x 1 1/2" x 2 1/2". Weight is 2.1 ounces. No overrun regardless of voltage with the new Electro brake. Mount in any position for use with any transmitter and receiver.

MICRO CONTROLLER



A stick type electric control box. Sends correct signals for Micro 4. Mounts in transmitter or auxiliary box. \$14.95

MICRO SN

is driven by a motor instead of a rubber band. It performs the same function as the SN escapements listed in the escapement section with the exception of the fact that no rubber band is required. The manufacturer claims that it is four times as powerful as any other escapement tested. \$9.95

MICRO 3P

This three-position servo performs the function of the three-position escapement except that it uses an electric motor instead of a rubber band for drive. \$9.95

MICRO 4



The Micro 4 is the same size and weight as the other members of the Micro family. The unit gives four selective positions. Two for use with direct connection to the control surface such as rudder. The other two for operating another servo or actuator by means of electrical contact. It also has a provision for operating a quick blip engine escapement or servo with no signal. \$13.95

MICRO MULTI

The Cobb Micro Multi servo developed and tested over 1,000 flights. Manufacturer guarantees to be the best multi servo available at any price. Weight is 2.1 ounces, size is 1 1/4" x 1 1/2" x 1 1/2" high. Voltage may be from 1.2 to 4.5. Current used at 3 volts--no load; 80 ma; 1 pound load; 160 ma; stall; 350 ma. Maximum power developed is 4 1/2 pounds. Single unit housing of tough plastic, virtually crash-proof. \$10.95

MICRO BC



Cobb BC servo. Use with any transmitter and receiver. Features selective left and right steering. Wire drive motor. Hookup directly to BC servo. Uses a single set of dry batteries. Uses low-drain Micro motor. Automatic self-neutralizing. Control forward, stop, and reverse. \$10.95

MICRO 4 L-D



New improved model of the Micro 4 features lower drain L-D. Replaceable brushes and housing for cleaning of the brushes. Another feature is the back-up motor control which gives quick blip motor control with an escapement without connecting to the receiver relay. Really something different and very effective. \$13.95

COBB OUNCER MULTI



The Ouncer Multi servo was created to meet the need for a truly light and small multi servo. Sure to be a fine favorite. As Cobb states, they have spared nothing to make it the finest available. Weight 1.4 ounces; size is 15/16 x 1 3/8 x 3; 150 ma drain; impact case; push-pull output; vibration immune. \$11.95

COBB RLS OUNCER MULTI



The RLS Ouncer multi servo with six transistor amplifiers in a case. Completely temperature compensated. Designed by Atlanta Electronics engineer, C. G. Riddle. \$29.95

Servoes, Continued

HILLCREST MOTOR CONTROL



Model Plastic Products, manufacturers of the Hillcrest battery boxes, are now announcing a throttle control servo. Weight is 1 1/2 ounces. It operates on 1 1/2 to 4 volts. Nylon and metal gears. Completely enclosed for dust protection. Measures 2 1/8" x 1 3/8" x 1 3/16". Features a spring-loaded disc clutch that will let you control engine speed manually without turning on receiver or transmitter. Unit may be used on Veco and K & B throttles or Bramco and RotoValves. Designed for multichannel work. \$5.95

BONNER DURAMITE



For conventional relay use, develops over 4 pounds thrust. Versatile mounting with fine adjustment screw features Bonner's Duramite motor which was built especially for servo use. May be used with self-neutralizing, trimmable, or proportional radio control systems. Voltage is 2 to 4 1/2 volts; has 5/8" travel; winding is 3 ohms; shunt test is 60G; vibration test is 500 to 600 cycles per second; measures 1 5/8" wide, 3" long, 1" deep. \$12.95

BONNER TRANSMITE



From Bonner Specialties comes the latest innovation in reed flying--the relay-less Transmite multi servos. Contains the transistor circuitry necessary to operate directly from the reed eliminating the relay. Especially designed for the Bramco Apollo, Kraft Relay-less 10, Orbit, CG, and other equipment of this nature. Built-in six-transistor circuit performs functions of two relays and reed filtering. Powerful, dependable, light-weight, versatile fine adjustment screw, weight 3 ounces; travel 5/8"; 93% silver brushes; no load current, 200 to 300 ma; winding 3 ohm; voltage 2 1/2 to 3 volts; minimum signal input, 1.5 ma; centering, ± .007"; oilite bearings; nylon housing; neutralizing or trim. \$29.95

Trimmable only
Amplifier only

\$27.95
\$19.95

★ Actuators

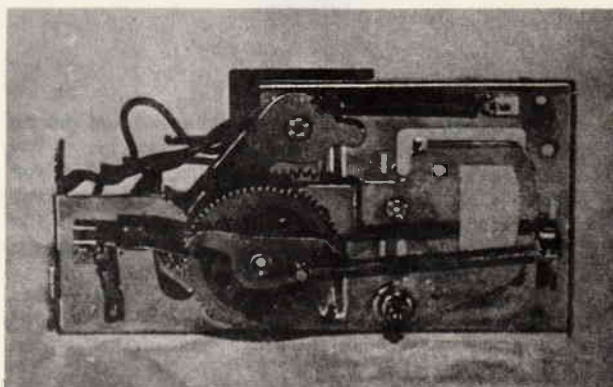
Pulse systems will give proportional control. In most cases, the actuator will follow the control stick or knob on the pulser; that is, if the stick is moved a little bit to the right, the actuator will follow a little bit to the right in direct proportion to the degree in which the stick or knob is turned. Pulser is generally an electronic keying switch for the transmitter and is used in place of the regular push-button. Most contacts of the receiver relay are used and neutral is had if the pulses from the transmitter are equally on and off. If one contact is closed longer than the other, the actuator and motor will pull the rudder harder to one side than the other resulting in a turn. The ability to control this pulse width creates true proportional control. Pulse rate variations are used in getting proportional rudder and elevator.

SOUTHWESTERN ACTUATOR



The Southwestern Actuator is designed for trouble-free operation of model planes using proportional control system based on pulse width. It may be used with any CW or audio receiver and transmitter which is pulsed with the WAG or any other type pulser. Rotor is made from Alnico V and coils are wound with Formvar wire. Plastic housing, weighs 1 3/4 ounces. Size is 1 x 1 x 1 1/2 inches. \$5.95

ARISTOMATIC COMPOUND



Self-contained electric motor (low drain), plus special integral switching give TWO channel operation from low-cost single channel receivers. Gives Electrical Switching Action--forward, stop, reverse, stop. Mechanical Directional Control--left, neutral, right, neutral. All in one compact unit. Operates on 3-6 volts. Guaranteed high quality design and workmanship. Complete with instructions. \$10.95



DURAMITE



The Bonner Duramite motor as used in the new servos manufactured by Bonner features exceptionally low drain; oilite bearings; 93% silver brushes; nylon housing; weight, 1.2 oz.; winding is 3 ohms; voltage from 2 to 4½.

\$3.95

MIGHTY MIDGET



The Mighty Midget motor comes with a built-in 7 to 1 gear reduction. Extra gears are available so that additional reduction may be had. Uses 3 to 6 volts in most applications although 1½ may be also used to satisfactory operation in smaller systems. Weighs just under two ounces. Size is 1 5/8" x 1 5/8" x 1 1/2". Replaceable brushes on terminals. Current consumption is 150 ma.

\$2.95

Extra 7-1 brass reduction gear sets \$.65
Extra brush sets \$.35

NYLON GEARS

Your search for nylon gears is over! Ace has located a manufacturer who produces a quality gear at a reasonable price. Shim of brass tubing will allow fitting--gears are 1/8" thick and 48 pitch. Indestructible, require no lubrication.

No.	Teeth	Dia. Hole	OD
N1	12	3/32"	6/32"
N2	24	1/8"	17/32"
N3	36	3/16"	24/32"
N4	48	3/16"	1-1/32"
N5	80	Only 20¢ each	1-3/4"
		Only 35¢ each	

BONNER ACCESSORIES

Extra dual linkage supports	\$1.45
Extra cam followers	.15
SN rotor wheel	.55
VariComp cam wheel	1.35
R. E. VariComp cam wheel	1.50
Duramite servo sector	1.50
Duramite Crown Gear	.50
Duramite Combination Gear	.35
Duramite Pinion Gear	.20
Duramite Cans, bottom half	2.00
Duramite Can, top portion less PC board	1.00

Field Strength Meters

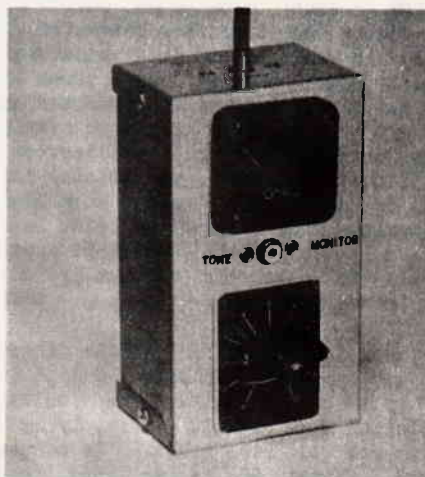
BASIC FSM KIT

Every transmitter needs a field strength meter to determine how much RF is being put into the air. The new and improved Ace FSM may be housed in this all-plastic case and used to plug into your regular multimeter. A 0-5 meter movement is recommended. May also be housed in small aluminum case with a meter for a permanent installation. Kit consists of wound coil, trimmer, bypass, diode and wiring instructions. \$1.50

BASIC TRANSISTORIZER FSM KIT

With the use of a transistor amplifier, the regular FSM listed above will work highly satisfactorily with 0-5 milliamp meter movements because it provides an amplification factor of 10. May be housed in your multimeter or may be made into a separate instrument with the use of a permanent meter and aluminum case. Kit consists of the parts as supplied in the field strength meter above plus transistor to provide the amplification factor. \$2.85

GYRO FSM AND MONITOR



Here is a combination field strength meter and tone monitor. Meter used is 500 ua type and FSM monitor is tunable from frequency ranges of 25 to 54 megacycles.

Housed in a handsome gray hammertone aluminum case, unit measures 2 1/8" x 3" x 5 1/4".

Comes with telescoping antenna, has a tone monitor jack on front of cover into which earphone may be plugged to listen to the audio being put out by your transmitter. No batteries are required. High sensitivity diode provides good reading on the meter.

Completely built up, no batteries required, ready-to-go. \$13.95

★ Power Supplies

FOR TRANSMITTERS

The cost of dry batteries is increasing constantly and many R/C fans are getting rid of the high cost by using power converters or power supplies in their transmitting and receiving equipment.

GYRO TRANSVERTER



New Transverter by Gyro. All transistor B supply for transmitters. 6 volt input, 135 volt output, maximum output current 50 ma, $2\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{1}{2}$, weight 4 oz. Complete kit--- nothing else to buy but the batteries.

Model TCK-6, kit \$14.50
Model TC-6, factory wired and tested \$17.95

HILLCREST POWER SUPPLY CONVERTER



Hillcrest transmitter power supply converter. Will provide adequate power for all R/C transmitters single to 10 channel simultaneous, CW or tone; over 40 ma output at 135 volts; using four 8 amp/hr. batteries (fully charged) it will operate the transmitter for over ten hours--two or three times longer than a set of dry batteries; converter cannot be damaged by temporary shorts or overloads; extreme temperature stability--operates from 0 to 150° F.; advanced type printed circuit etched on epoxi glass board; high quality, 100% American-made components; size is $2\frac{1}{2} \times 4\frac{1}{4} \times 1$; completely sealed in specially made plastic case for maximum protection. Mounts in any position. \$27.95

MC 20 power supply is one of the finest two volt power supplies available. Output is 180 or 150 volts at 40 mils. The A voltage is variable and can be made to supply $1\frac{1}{2}$ volts for from one to five tubes. Is completely filtered. Model 20 is for large, ground-based units. Measures $3\frac{1}{2} \times 5\frac{1}{2} \times 4\frac{2}{3}$ ". Kit \$11.95

Completely assembled, tested and guaranteed. \$13.95

MC 20-250 has same features as above. However, its measurements are slightly smaller so it may be placed in a hand-held cabinet. $3 \times 5\frac{1}{2} \times 4\frac{2}{3}$ ". Kit \$11.95

Custom built, tested, and guaranteed \$13.95



NOW! TRANSISTOR CONVERTERS FOR TRANSMITTERS! Flight tested for single channel and multi-- made by MC Manufacturing & Sales, units are completely wired and tested and come in two models. (May be used with 90¢ lantern battery, or with 2 and 5 amp nicads.)

MC135T-20--135 volt output at full 20 mils-- primarily for single channel equipment either CW or audio. Measures $2 \times 3 \times 1$ " overall. Accepts 5 or 6 volts. Only \$15.95

MC135T-40--135 volt output at full 40 mils-- tested under multi conditions. Measures $2 \times 4\frac{1}{2} \times 1\frac{1}{4}$ " overall. 5 or 6 volts in. Coming soon. \$19.95

FOR RECEIVER

When the Kraft 4-6 receiver was shown in Grid Leaks, there was an immediate demand to have a built-in power converter available as a separate item. In working with Phil Kraft, this has now been accomplished in one small, complete package as shown in the picture. The unit measures $1 \times \frac{5}{8}$ " weight is .6 oz; includes case and leads; has an output of 35 volts, no load which drops to 32 volts with 15 mils out. May use the same battery as used with servo for real economy of operation. May also be used with 3.6 volts in for $22\frac{1}{2}$ volt receivers.

Kit consists of printed circuit board, completely drilled, plastic box, diodes, transistors, two filter capacitors and resistors, specially wound cup core transformer.

KP/CK, only \$10.95

Parts package also available for those who already have the Kraft 4-6 and 10 channel relay-less receivers for conversion to add power converter to battery operated receiver. Includes all required components including specially wound cup core transformer and sold to owners of the Kraft receiving equipment.

KP/C only \$9.25

Transformer only, wound for the Kraft 35 volt power converter, only \$3.95

MC model 45R power converter with an input of 3 volts and output is 30 volts. With $4\frac{1}{2}$ volt input, output is 45 volts. Maximum load is 5 mils. Size is $1\frac{5}{8} \times 2\frac{1}{2} \times \frac{5}{8}$ ". Weight is $\frac{3}{4}$ ounce. Wired. \$11.95

Special cup core transformer for above MC power converter, with schematic \$3.00

★ Rechargeable Batteries

ABC BATTERIES



ABC Battery Company offers rechargeable life-time batteries which are ideally suited for the hobbyist. In several sizes. The 2 ampere battery is just it for powering transistor power converters of small hand-held transmitters. The 5 ampere hour is fine for glow-plug starting and larger installations in boats, etc. All may be used in boats as well.

The ABC battery is rechargeable and almost completely maintenance-free and will provide a continuous power source in extreme low overall cost. The ABC battery may be charged from one cell of an automobile battery. Nothing else--not even a meter--is required. Recharging may be done at any stage of the discharge cycle. These are removed from surplus equipment. Original cost to the government was quite a bit higher than our price. Quantities are limited and sizes may vary somewhat from those listed. All ABC batteries are completely filled and come to you in a charged condition.

ABC 2 amp hour 1 1/8" x 4" x 5/8" \$5.95
ABC 5 amp hour #1 4 9/16" x 2 5/8" x 3/4" \$4.95

Due to changes in distribution, the VO series of rechargeable batteries, were not available for some time. Now, ABC Battery Company has secured the exclusive franchise, and is again making them available.

VO.250 measures 1.375" in diameter, is .1875" thick and weighs .5 ounces. \$2.95

VO.500 measures 1.375" in diameter, is .3125" thick and weighs .75 ounces. \$3.25

VO.800 measures 3" long including two screw terminals, 1 7/16" wide, 5/16" thick, and weighs 1.5 ounces. \$5.95

VO1 measures 2" x .3" thick. Weight is 2.2 ounces. \$5.95

VO potted servo packs are completely self-contained power supplies for servos. This type of unit was originally developed for high G military applications and is equally desirable for rugged R/C use. The packs are

manufactured around four VO cells, solidly encapsulated and fully guaranteed against breakage in the crash of a model. Vibration and weather won't effect them, salt water won't corrode them. Physical specifications:

4 VO.250 - 2.94" long x 1.50" wide x .7" high, weight, 4 oz.

4 VO.500 - 2.94" long x 1.50" wide x 1.0" high, weight, 5 3/4 oz.

Special exclusive engineering features found only in the ABC potted servo pack are: Use of special materials that will not become brittle and crack in extreme cold or soften in heat; welded cell interconnections; smallest volume with maximum strength form factor; no internal wiring, terminals are assembly jigs and busses; carefully controlled manufacturing steps that limit the maximum temperature experienced by the cells to 140° F. to prevent damage; the only pack that was engineered to meet MIL-SPECS.

These are not in stock but are made up specially. Delivery, however, is very prompt direct from ABC Battery Company.

4 VO.250 Potted Servo Pack \$17.95
4 VO.500 Potted Servo Pack \$19.95

ARISTO 64



Aristo 64 batteries. Imported to replace NT6 so popular for boats. Rated at 6 volts, 4 amperes. Measures 2 1/4" x 3 1/2" x 1 3/4". Comes dry charged. Needs to be filled with 1.275 electrolyte. \$4.75

EVEREADY N46



Eveready N46 is a sealed nickel cadmium battery. 450 milliamp hour. Standard pencil AA size. Weighs only slightly more than a pencil. Voltage is 1.2. Rated at 450 mils with suggested drain of 45 mils. However, tests indicate that up to 250 or 300 mils may be pulled out of the battery but that it will go down faster than its rated 450 milliamp hour life. \$2.95

Eveready makes an energizer cell which is manganese type, their #E91 in the pencil configuration. Designed for heavy drain applications giving much longer life. \$.50

Batteries, Continued

WILLARD BB54A



Willard BB54A battery. 2 volts at 28 ampere hour rating. Comes dry charged. Fill with 1.275 electrolyte. Measures 3 x 3 3/4 x 5 1/2 inches. \$5.95

YARDNEY SILVERCELS



For years Yardney Silvercels have been the choice of discriminating modellers for filament and servo or actuator use. Light in weight, rechargeable 80 to 100 times, they will pay for themselves in active R/C work. Used and recommended by Dr. Walter A. Good for his dual receiver. Shipped parcel post. Available exclusively from Ace Radio Control by special arrangement with Yardney. At Yardney's suggestion, these are not carried in stock but are made up on order since the life of the battery begins from the date of filling regardless of how often it is used. Therefore, on the shelf, it would deteriorate considerably and it is at Yardney's insistence that these are made up specially to your order. 1.5 volts. \$6.00

IMPORTED BATTERIES



Imported batteries from Japan are increasingly favored by a large number of R/C fans, because they are proving very reliable and are low in price.

The BL-145 is a 67 1/2 volt transmitter battery. Is equivalent of the XX45. \$2.50

The BL-006-P is a 9 volt equivalent of the 2U6. \$.95

The BL-MV15 is a 22 1/2 volt equivalent of the Y15. \$1.05

The BL-015 is a 22 1/2 volt equivalent of the U15. \$1.05

The BL-020 is a 30 volt equivalent of the U20 \$1.35

★ Chargers

ARISTO



Aristo battery charger with selector switch. Charges 2, 4, and 6 volt wet cell batteries. Heavy duty transformer and rectifier. Compact, has a ventilated metal case, features indicator lamp and selector switch for correct charging rate. 110 volt AC input. \$7.95

GYRO NICAD

Gyro C-300 has a variable resistor to provide continuous current change from 10 ma on up to 2 amps. Transformer coupled. Contains a milliammeter which is used to meter the amount of voltage being fed to the batteries in charge. Handsomely made. A deluxe item. Fine for all nicad batteries. \$13.95

MC CHARGERS

MC 2 volt charger designed primarily for the BB54A type of battery. It will give the required wallop at 1 amp to provide the charge necessary for these two volt cells. While economically priced, this is a quality unit. \$6.95

MC 2-6 volt charger keeps your two or six volt batteries in the best shape. The MC charger will charge either two or six volts at two amperes. Will also charge NT6 batteries at .5 amp which is important to their life. Simply plug MC charger into 110 volt AC socket. Completely built, tested, and guaranteed. \$11.95

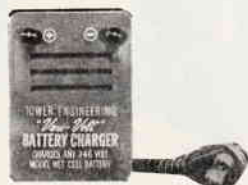
NICAD NO. 1



Uses step down transformer to secure proper voltage and safety. Milliamp range of unit is from 10 to 250 milliamps, making it ideal for most nickel cadmium cells, such as Eveready N46, VO.180, 250, 500, 800. Completely wired, this unit is top-notch quality and newly U. S. manufactured material. Meter is not furnished but any 0-300 milliammeter or equivalent may be used. Price only \$4.95

Charger, Continued

TOWER VARI-VOLT



For model wet cell batteries. Practical, versatile and fool-proof, actually "thinks for itself". No other like it. No switches or gadgets. Automatically adjusts itself to correct voltage and charging rate for any 2, 4, or 6 volt lead acid battery. Cannot over charge or burn out. Prolonged battery life assured by correct charging rate. Each charger includes T-553 booklet plus data for charging nicad and 9 volt transistor radio batteries. Model T-551. \$7.95

HYDROMETER



Battery tester. Miniature size, made especially for lead-acid model wet cell batteries. This precision instrument is surprisingly simple yet amazingly accurate. Use for automobile batteries, too. T-553 booklet included with each hydrometer. Model T-552. \$1.25

CHARGING BOOKLET

A 16-page booklet covering all important information in simple language. Practically an insurance policy on life and performance of lead cell batteries. Tells how to mix and handle electrolyte, when to add water, when and how long to charge. Explains specific gravity, sources of electricity. A must for every user of wet cell batteries. Model T-553. \$.25

★ Components

ANTENNAS

New telescoping antenna--chromium plated, 37½" long. Just fine for hand-held jobs. Telescopes down to 9". Has mounting bolt. Complete with plastic case. Imported. \$1.00

54" TCU-54 by Tenna. Highly satisfactory, heavy duty antenna for hand-held cabinets. Extends to 54", collapses to 24". 3-section. With Amphenol mount and cabinet mount. \$4.25

ANTENNAS, CONTINUED

49" Antenna Specialists antenna. 5-section telescopic. Collapses to 9 3/4" with special cabinet mount. \$2.45

3 section 9½ foot, takeapart surplus type for ground-based cabinets with top of the cabinet mount. \$2.95

112" telescoping antenna. A really deluxe item. With stand offs for side mount. \$4.95

BASE MATERIAL

1/16" Synthane linen base, cut to your specifications. Per square inch. .02

1/16" Epoxi resin fiber glass, cut to your specifications. Per square inch .05

Receiver blanks, receiver base cut to our stock size 1 1/2" x 2 1/8" x 1 3/4" x 2 1/4", 2 1/4" x 4", 2" x 2 7/8". .10

Epoxi resin cut to 2¼" x 4". Each .25

Copper laminate on epoxi glass, cut to your specifications. Per square inch .10

Copper laminate on epoxi in 1½" x 2" size. Designed to fit into PB#1. .30

Copper laminate on epoxi 2" x 2 7/8" size. fits PB#2 .50

BASES, PRINTED CIRCUIT

TR 4.5 printed circuit board, epoxi resin base along with 1/32" insulating material, drilled. \$2.50

KR1, for Kraft single receiver \$1.75

KR1R, for Kraft single relay-less \$1.75

KR4 combo, set of two boards for Kraft four channel receiver \$4.25

KR6 combo, set of two boards for Kraft six channel receiver \$4.25

PCB4610, bottom board for AF deck for 4, 6, and 10 channel Kraft receivers \$2.25

PCT4, top board for relay deck of Kraft 4 channel receiver \$2.25

PCT6, top board for relay deck of Kraft 6 channel receiver \$2.25

PCT10, top board for relay deck of Kraft 10 channel receiver \$2.25

KT4-6, board for Kraft 6-4 Multi-Flt transmitter \$3.25

KM, Kraft modulator board \$1.75

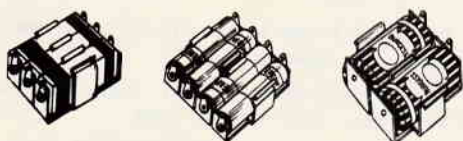
KT1, board for Kraft single channel transmitter \$3.25

BASES, RECEIVER

Linen bases punched and eyeletted for the receivers we kit are available separately. Specify which receiver base you desire.

Commander, MarcyTone single channel each	.50
Marcy Twin Simul	1.00
Marcy 6 channel, set of 3	1.50
Epoxi resin, drilled for WAG dual receiver	
One set of 2 bases	1.95

BATTERY BOXES



ACME

Approved fibre on all connections.
Spring tempered aircraft aluminum.
Pretinned solder lugs.
Mounting holes provided.

#2A--for 2 miniature pencells	.40
#5---for 1 regular pencell	.30
#6A--for 2 regular pencells	.40
#7---for 3 regular pencells	.65
#10--for 2 medium C cells	.50
#12--for 2 regular flashlight size	.50
#13--for 1 22½ volt	.40
#14--for 2 22½ volt batteries	.50
#17--for 1 short 30 volt battery or for the Magnalux wet cell	.50
#19--for 1 long 30 volt battery	.40
#20--for 2 long 30 volt batteries	.60

BETA

Model A. A spot-welded aluminum battery box with spring-loaded terminals giving large contact area. Easily mounted. Will fit smallest of planes. Will supply 22½ or 45 volts for B, 1½ or 3 for A, and 1½ to 6 volts for servos. Holds two 22½ volt U-15 type and six pencells. Measures 1 3/16" x 2 1/2" x 2 7/8". \$1.95

Model B holds one 30 volt and six pencells. Just it for MarcyTone and other receivers requiring 30 volts. Measures 1 1/8" x 2 5/16" x 3 1/8". \$1.95

Model C holds one 22½ (BL-015) and two pencells. Measures 2¼" x 2½" x 5/8" thick. \$1.75

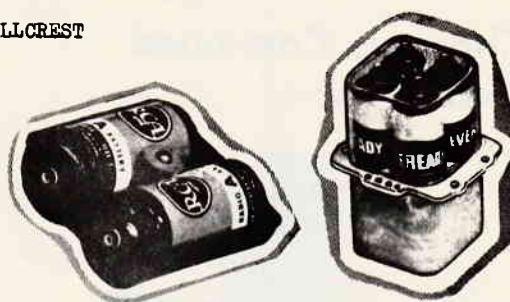
Model D holds one 9 volt (BL-006-P) and two pencells. Measures 2¼" x 2½" x 5/8" thick. \$1.75

Model E holds four pencells and measures 2¼" x 2½" x 5/8" thick. \$1.75

Model F holds 8 pencells and measures 2¼" x 2½" x 1" thick. \$1.95

Model G holds 10 pencells and measures 2 1/2" x 2 7/8" x 1" thick. \$1.95

HILLCREST

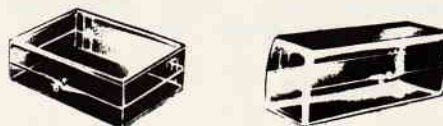


Two pencell model	.45
Two medium cell	.45
Four cell penlite. Bottom half now made of unbreakable nylon.	.95
Flat pack R/C battery boxes. 4½ x 2 x 5/8". Sliding cover holds cells in place. Light weight. Lugs are provided to anchor leads.	
Type A. Holds six pencells	.95
Type B. Holds two pencells and two U-15	.95
Type C. Holds 3 U15 B	.95
Type D. Holds 4 pencells, 1 U15B	.95
Type E. Holds 4 pencells, 2 Y15B	.95
Cover for Hillcrest flat pack boxes	.25

VOLTABLOCK

Here is the battery holder as shown in Model Airplane News, April, 1959 developed by Fred Stong of ABC Battery Company. It's quite simple to use for four VO.500's or four VO.250's and is designed for servo operation with VO.500's. It measures 3 1/2 x 1 1/2 x 1. \$.95

BOXES, PLASTIC



Just the ticket for housing your equipment or your receiver. Light weight, high impact. In five popular sizes. Order by number.

PB #1A 1 x 1 x 5/8	.05
PB #1 1 5/8 x 2 1/8 x 1	.10
PB #2 2 x 2 7/8 x 1	.15
PB #3 3 1/2 x 4 5/8 x 1 1/4	.25
PB #4 1 3/4 x 5 1/2 x 1 1/4	.15
PB #5 2 5/8 x 3 3/8 x 2	.25

CAPACITORS



SUBMINI ELECTROLYTIC

Submini electrolytics where small size is required. Ceramic, axial lead type

50 volt, .25, 1, 2, 4, 5, 10 mf	.75
6 volt, 160 mf	.75
6 volt, 60 mf	1.00
6 volt, 14 mf	.75

CAPACITORS, CONTINUED

Printed circuit PI types designed for printed circuit boards with both leads coming out of one end of the capacitor.

50 volt, 1, 2.5, 4 mf	.95
15 volt, 14 mf	.95
30 volt, 20 mf	1.00
30 volt, 30 mf	.95
6 volt, 80 mf	.95
.1 moulded plastic (large size)	.30
.25 moulded plas. (large size)	.30
.005 Mica	.25
.01 Mica	.25

For matched pairs for use in audio work or pulser systems, double unit price and add 10%. Pair will be matched - 2%.

SILVER MICA OR NPO TYPE

Submini type in stable unit designed for RF 1, 2.2, 5, 6.8, 10, 15, 33, 47, 50, 75 mmf each .25

GOODALL SUBMINI CAPACITORS, 50 working volts 1, 2.2, 6.8, 10, 15, 22, 33, 47, 50, 100, 120, 150, 220, 330, 470, 680 mmf each .15
.001, .002, .005, .01, .02, .03 mf each .20
.04, .05 each .25

GOODALL 5% capacitors for use in audio work.
.33, .22, .15, .1 mf each .45
.047 mmf each .40
.033, .022 mmf each .35
.01 mmf each .30

AEROLITE

.1 measures 1/4 x 5/8 .45
.25 measures 3/8 x 5/8 .65
.5 measures 3/8 x 1 1/8 .75

AIR TRIMMERS

15, 25, 35 mmf .60
50, 125 mmf 1.25
Ceramic trimmers, 3-13, 5-35 mmf each .60

COMPRESSION TRIMMERS

Arco 423 4-45 mmf .25
Arco 469 780 mmf .75
Arco 308 1380 mmf .90

CASES

These are made to our specifications and are finished with a distinctive aluminite finish aluminum for lighter weight and heat dissipation in the hot sunshine--exclusive with Ace for a real beauty of a case.

#01--1 5/8x2 1/8x4	1.40	#2---3x4x5	1.95
#1---2x3x4	1.45	#3---3x5 1/2x8	3.45
#1A--2x3x5 aluminum	1.85	#5---7x8x10	4.95
#1B--2x4x4	1.65	#6---8x10x10	5.95

CASES, PUNCHED

Screened, punched Commander cabinet	4.95
Screened, punched MarcyTone cabinet	4.95
Screened, punched WAG Dual cabinet	8.95
Screened, punched TR 4.5 can	1.45
Screened, punched WAG receiver can	1.45
Screened, punched KR4-6 receiver can	2.75
Screened, punched KR10 relay-less can	2.75

CLEVITE TRANSFILTERS

Here is something brand new in the radio field. Used by hams for superhet applications in the place of IF cans. The transfilter is a very small light weight inexpensive. Sold exclusively by Ace R/C. Temperature stable piezo electro units that can replace the inter-capacitance, transformer and inductive elements--frequency is at resonance at 455 KC; bandwidth is at 4 to 7%. Furnished with specifications.

TF-01A	\$1.10
TO-01A	\$1.25

CHOKES



RCA type, 10 uhy	.45
Wells 20 uhy	.45
Wells 36 uhy	.45
2 uhy Ohmite	.40
70 uhy Lateral Wound	.45
1 mhy	.65

COIL FORMS



CTC LSM 1/4" Red Dot Phenolic	.70
CTC LS6 1/4" Red Dot Ceramic	.85
CTC LS3 3/8" Red Dot Phenolic	.70
CTC SPC2 1/4" PC form	.35
CTC LST-L 3/16" White Dot Ceramic	.85
ACE 1/4" Vibration Proof	.30
ACE 3/8" Vibration Proof	.50

WOUND COILS (please specify receiver)

Commander, TR 4.5	.85
WAG Dual 27 or 50, MarcyTone 27, Kraft 27 or 50 mc	1.25

MarcyTone filters providing an LC ratio to give 6 audio frequencies. These are calibrated coils each individually measured to make sure they are plus or minus 1% of the rated cps.

Channel 1, 1500 cps; channel 2, 1900 cps, channel 3, 2400 cps; channel 4, 2800 cps, channel 5, 3200 cps; channel 6, 3900 cps, 2.25



TOROID, 1 henry, tapped at 1/3 of DC resistance, designed for Kraft multi units, but may be used in others. Newly manufactured by Torotel. Only \$6.95

RAMECO FILTERS

Rameco submini filters are available in an untuned form complete with instructions. Will enable selection of the audio cps by selecting capacitor used. These are in pot type cores, only 3/8" diameter and filters weigh only 1/5 oz per channel. They can be had tuned to various selected frequencies at \$2.50 on special order.

SMTF, untuned, but with complete instructions for ranging the audio from 1200 to 3700 cps. \$2.25

Kit of six with required capacitors for six channel. \$14.25

These units, when used with the circuit as provided by Rameco for a 30 volt receiver will work admirably well with the Marcy RF-AF detector.

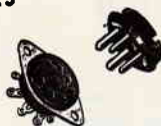
Also coming soon will be completely potted units containing three channels each which may be used for a 3 or 6 channel receiver.



QUENCH COILS

Commander II (also for Hill, Graupner) .75
Mini for Mini Mac, Commander, etc. 1.10

CONNECTORS



2 prong Eby plug and socket .25
5 prong Eby plug and socket .25
7 prong Aristo plug and socket/shield .40
9 prong Aristo plug and socket/shield .50
9 prong Cinch pl & skt as used WAG Xmtr .35

Vector 7 prong round-pin type plug is much more usable for repeated usage. Will not cause the socket to break down as square-pin models have been known to do. Standard miniature tube socket must be purchased separately. \$.70

CRESCENT

Light weight, low cost miniature electrical connectors for your R/C needs. Moulded of tough heat resistant linear polyethylene. Offered in four different sizes to fit most R/C needs:

3 pin	\$.75
7 pin	1.00
11 pin	1.40
15 pin	1.80



Littell Plug, standard phone plug .50
Littell Jax, Open Circuit .30
Littell Jax, Closed Circuit .45
Tini Plug, 1/3 size of standard .50
Tini Jax, Closed Circuit, 1/3 size .30



NU-WAY snap connector, snaps together for positive connection. Many uses in R/C. May be used anywhere a single connection is required. Per pair .25



Mini-gator clips each .10
Mini-gator insulators each .12
Standard Alligator clips, red or black .15
Insulated Alligator/rubber shield red or black .25



RCA type phono jack open circuit w/2 plugs .15
RCA type phono jack closed circuit w/plug .35
Pin jacks for standard phone tip, red or black .10
Pin jacks for tip of 1/8" antenna .10
Phone tips, standard .03



Snap on connectors for 67 1/2 volt B, pair .15
Snap on connector for 67 1/2 volt B battery on fiber connector, with leads .30
Plug for 1 1/2 volt A battery .15
Plug for 487 B battery .15
#6 dry cell connectors, pair .05

CONTROL CABLE

A new packaged item of the new control linkage cable for model aircraft. This cable has been made to specifications especially for this purpose by a prominent manufacturer of large-scale aircraft cable. Measures 1 x 7. Pre-formed, stainless steel strand with an extruded nylon coating. Has an O. D. of .052" to fit exactly into a standard 3/32" O. D. tubing. Used as a direct push-pull link for throttles, control surfaces, steerable nose wheel mechanisms in radio control models. 18" length .50

CRYSTALS

In conformance with docket #11994 of the FCC regulations, Ace has in stock several of the new values and all are to the tolerance of .005 when used in the correct circuit.

CRU 26.995	\$2.95
CRU 27.145	\$2.95
CRU 27.255	\$2.95
CRU 13.6275 (doubles to 27.255 in MOPA transmitters)	\$4.25
CRU 13.4975 (doubles to 26.995 in MOPA transmitters)	\$4.25
CRU 27.120 for Canada & Foreign	\$3.95
Z2 26 mc (doubles to 52 mc in MOPA transmitters)	\$3.95

EARPHONES

ARISTO earphone complete with holder, wired plug, and closed circuit submini jack. Light weight, has high impedance of 2,000 ohms. \$3.00

ACE imported earphone has 2000 ohm impedance high quality with cord. Does not have a plug or jack. Fits in ear. \$1.75

FOAM RUBBER

Foam rubber 1/2 inch thick is now available in sheets just the size required for the R/C modeller. Highly resilient, excellent for crash proof installation in planes, boats, or cars. Helps kill vibration difficulties.

6 x 6 sheet	.35
6 x 12 sheet	.70

HANDLES

Dress up your transmitter case and put on a handle for easier toting. Three models to choose from ranging from utility to beautiful.

H1--Utility type, cadmium plated, with mounting hardware. 4 inch centers.	.15
H2--Better grade polished cadmium with mounting hardware. 3 1/2 inch centers.	.45
H3--Beautiful polished brass as used with WAG Dual transmitters. 3 1/2 inch centers.	.90

FIBER GLASS CLOTH

Regular Fiber Glass cloth is 40 x 39 threads per inch; 2.12 ounces per square yard; .003" thick; average breaking strength is 92 pounds per inch; taffeta weave. Sheet is 24 x 38 inches. \$1.25

Super-Lite Fiber Glass cloth is 60 x 52 threads per inch; .58 ounces per square yard; .001" thick; average breaking strength is 30 pounds per square inch; taffeta weave. Sheet is 24 x 38. \$1.25

Fiber Glass resin and catalyst, manufactured by Technical Model Products is available in pint cans. \$2.50

Extra catalyst, 1/2 oz. bottle \$.50

HARDWARE MISCELLANEOUS

Machine Screws

1/72 x 3/8	pkg of 2 (brass)	.10
1/72 x 1/2	pkg of 2	.05
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
2/56 x 1	pkg of 6	.10
3/48 x 1/4	pkg of 10	.10
3/48 x 1/2	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 1/4	pkg of 10	.10
6/32 x 1/2	pkg of 8	.10
6/32 x 1	pkg of 6	.10
6/32 x 2	pkg of 4	.10

1/72 nuts, pkg of 2	.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 10	.10
6/32 wing nuts, pkg of 2	.10

Self Tap Screws

#2 x 1/8", pkg of 10	.10
#4 x 1/4", pkg of 10	.10
#6 x 1/4", pkg of 10	.10

Grommets, 1/4" mounting hole, 1/8" I. D. hole pkg of 4 .10

Grommets, 5/16" mounting hole, 3/16" I. D. hole pkg of 3 .10

Grommets, 3/8" mounting hole, 1/4" I. D. hole pkg of 2 .10

Grommets, 1/2" mounting hole, 3/8" I. D. hole pkg of 2 .10

Snap hole plugs, fits hole dia. 3/8", each.10

Snap hole plugs, fits hole dia. 1/2", each.10

Fahnestock clips, small, pkg of 3 .10

Polystyrene tube, 1/4 x 4 .10

Polystyrene tube, 3/8 x 4 .15

Lord Shock Mount .20

Solder, Ersin multicore, 1 oz. .25

Tuning Screwdriver, 6 inch .30



Tie lugs #1, #2, #3, each .03



Cable Clamp 1/4" 2 for .05

EYELETS AND EYELET LUGS



	Dia.	Thickness		
SE-33	3/32"	3/32"	30 for	.10
SE-43	4/32"	3/32"	20 for	.10
SE-53	5/32"	3/32"	10 for	.10
SE-44	4/32"	4/32"	10 for	.10
SE-37	3/32"	7/32"	10 for	.10

EL1 1/2 flat 1/8 diameter hole 10 for .10

EL2 1/4 L shape, 5/32" diameter 10 for .10

EL3 5/16 L shape, 5/32" diameter 10 for .10

#2 solder lug, fits #2 screw, 10 for .10

#4 solder lug, fits #4 screw, 10 for .10

#8 solder lug, fits #8 screw, 10 for .10

Wooden balls, 5/16" diameter. Fine for control boxes, antenna tops, etc., each .02

Dial Pointer Knobs, 1 1/4" long, either red or black .15

Hillcrest Aileron Bell Cranks. Made of nylon 70° or 90°. Please specify. Per pair .45

Bonner Tail Wheel Bracket. Of nylon .50

Bonner Control Horn. Of nylon .25

Williams nylon aileron bellcrank in 60°, 90° or 120°. Please specify. Per pair .55

Williams nylon aileron hinge, large. Two per package .45

Williams nylon aileron hinge, small. Two per package. .35

Williams nylon control surface hinge, large. Four per package .50

Williams nylon control surface hinge, small. Four per package .39

Phosphor bronze, .006" thick. Just it for making your own wiping type contacts. Will be cut to your specifications in strips up to 6" wide. Please specify size. Per sq in .02

HARDWARE, CONTINUED

Rubber, 1/4" flat. Just it for escapements. Three feet packaged in talc for preservation. .10

Rev Countess. Determines the RPM of engines. Uses vibrating reed principle. From 10,000 to 20,000 RPM may be measured. \$1.95

TOPFLITE ORION PARTS

The Orion hardware has been in great demand since the release of the Orion model airplane kit by Ed Kazmirski. While Ace will not carry the Orion kit itself, we will have an exclusive on the Orion hardware.

E10 Aileron Hinge Assembly	.75
E11 Tail Wheel Bracket	.50
E12 Rudder Horn Assembly	.25
E13 Aileron Bellcrank Assembly	.75
E14 Landing Gear Assembly	.60
E15 Engine Mount Assembly	.65
E16 Elevator Control	.85
E17 Landing Gear Clamp Assembly	.60
E18 Hinge Thread 14'	.25
E19 Pinking Tape 2 1/2'	.25
E20 Flexible Cable 2'	.50
E21 Phenolic Horn Material	.25

Ball bearing, 1/8" I. D. Fine for aileron control for smooth, positive action. \$1.50

ARISTO MULTITESTER



A combination multitester providing all ranges needed in R/C work. MA ranges are 0-1 0-5, 0-25, 0-50, 0-500, 0-1000. Voltages are 3, 10, 45, 135, 200. Resistances 100 ohm to 100K ohm. Measures accurate to $\pm 2\%$. Measures 4 5/8" x 3 1/8" x 1 5/8". Comes complete with carrying case and test leads. \$16.50

CASIE MULTITESTER

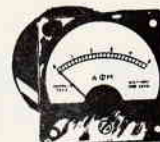


Another imported meter now available. Has DC and AC voltage ranges of 10, 50, 250, and 1000 volts. Measures resistances of 1 meg and 10K and has milliamp readings of 250 ua, 10 ma, and 250 ma. Housed in a case 1 1/2" x 3 3/4" x 5". Comes complete with test leads. Only \$13.95

TEST LEADS

Extra test leads for either of the above meters. Will fit standard pin jacks. One each of red and black wire. 40" overall including 5" test prods. Per pair only .50

METERS



Moving coil D'Arsonval type for a highly precision meter. In black bakelite case. Mounts in 2 1/16" round hole. 0-5 ma. \$5.95

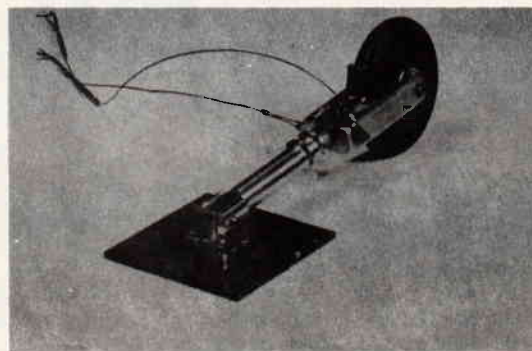
Meter as above but with shunts to increase range to 10 and 50 ma. \$6.95

1-0-1 MA METERS

These zero centering meters are ideal for single or dual proportional systems since they allow you to balance the swing of the proportional system so it is even on either side of center. May be hooked up to the relay of the transmitter for transmitter adjustment or hooked up to the relay of the receiver relay adjustment.

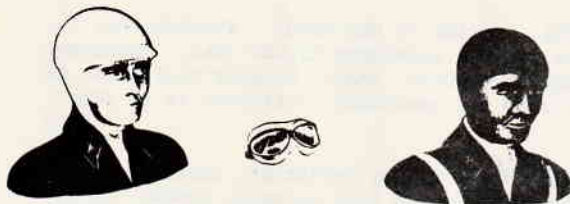
Unused surplus, manufactured by General Electric, moving coil

They read low and high but are basic 1-0-1 movements. At the price that we have on them, they are an exceptional buy since they cost the government considerably more. \$2.50



G & B Steerable nose wheel for multi fliers assures positive ground handling. Has a self-contained drag brake mounted on back of fire wall. Shock absorbing. Precision-machined of tough, durable T6 aluminum. OAL pivot to axle 5 1/4". Ball bearing for steering and ground loads. Wheel diameter 2 3/8" solid. Weight complete only 4 1/2 ounces. Adaptable to most multis, Orion, Astro Hog, etc. Installation drawings included. By special arrangement, these are available from Ace Radio Control. \$15.00

PLASTIC PILOTS



Williams Brothers high-quality pilots for scale modelers. Moulded of light-weight, flesh-colored styrene plastic and may be painted with any model enamel. Also, matching goggles of moulded crystal styrene to fit either pilot.

1" Standard pilot	.49
1" Racing pilot	.49
1" Goggles	.10
1 1/2" Standard pilot	.60
1 1/2" Racing pilot	.60
1 1/2" Goggles	.15
2" Standard pilot	.75
2" Racing pilot	.75
2" Goggles	.15

POTENTIOMETERS

Type JU Linear Taper in two sizes 100K or 1 Meg. With shaft. \$1.45

Type JLU Linear Taper, with locking bushing, in 50K and 100K. SD shaft \$1.75

Type JU60°. Special 60° movement for stick control boxes. Available in 1 meg and 100K. Eliminates the need for gears in stick type control box. Made as a special item exclusively for Ace. \$2.50

Chicago Telephone pots. Linear Taper. Made for Ace with round shaft. 1K, 250K, 1M, and 5M. \$.85

With screwdriver shaft, 50K and 100K \$.85

Submini dime size pots, 25K or 100K \$1.00

POT GUARDS as used in Kraft, Marcy Tr. \$.25

RELAYS



LITTLE GEM

Standard Gem, 5,000 ohm coil, SPDT \$4.25

Micro Gem, 5,000 ohm coil, SPDT 4.95

SPECIAL GEMS

Micro Gem, 350 ohm coil, SPDT 4.10

Standard Gem, 5,000 ohm coil, DPDT 5.95

Standard Gem, 50 ohm coil, SPDT 3.75

Standard Gem, 100 ohm coil, SPDT 3.75

GEM RELAY PARTS

Spring .20

Terminal Board (standard) 1.25

Terminal Board (micro) 1.70

Armature (standard) 1.00

Armature (micro) 1.25

5K Coil on frame 1.95

JAICO Contact Burnisher .70

MICRO Contact Burnisher .006 thick .97

The new Gem Tini Mite relay cuts weight by half, cuts size by 2/3. Here is the finest Gem of them all. Several years of Jaico engineering and development work bring this new break-through in miniaturization. .70" x .33" x .65". 22 milliwatts pull-in. 7 milliwatts drop-out. One-screw mounting. Extra tie points. Less than 1/4 oz. Silver palladium points. 5K resistance. \$4.25

W. S. DEANS

The new W. S. Deans Company SPDT relay is in stock. Measures .4 x .68 x .81 inches and weighs less than 1/3 ounce. Smallest and lightest suitable relay available for the R/C modeler in the low-price range. Armature contacts are silver palladium. Fixed contacts are nickel silver and excellent contact longevity is claimed even without the use of arc suppressors.

Average pull-in is 2.5 with drop-out 2 mils which means it should be used in receiver circuits which feature a current rise in excess of 3 mils.

Dean's relay, 5,000 ohm coil, SPDT \$4.25

OS submini high-resistance relay, a 3500 to 3800 ohms resistance at a special bargain price. Made by OS in Japan. 3/8" wide x 5/8" tall x 7/8" overall height. \$2.49

Sigma 4F surplus relay. A small quantity of these have again come to life. This is the old work-horse of R/C. Excellent for use in pulsers. Surplus but unused. Special \$2.95 SIGMA 5F

Because of the scarcity of the Sigma 4F relays due to defense orders and Sigma's deliveries being very spotty, we have secured the ultra-sensitive 5F. Larger unit, but for pulse applications, it has much to be desired. At the ridiculous price of this brand spanking new unused surplus, it is a steal. Has two 8,000 ohm coils which may be series connected, paralleled, or a coil used by itself to give the desired change. Unit measures 1 3/4" x 1 5/16" x 1 11/16". Weight is 4 1/2 ounces. Balanced armature adjustable over a range of .5 milliwatts to two watts. Supply on these is limited. Price terrific! \$5.95



2-4-6-8-10 Channel

Weight, 1 oz.

Size:

.88W, .93H, 1.38L

W. S. DEANS REED BANKS. WITH 3K COILS

Because of heavy demands, some reed banks listed are out of stock, but increased production assures that deliveries will catch up soon.

4 channel	\$13.95
6 channel	\$17.50
8 channel	\$19.75
10 channel	\$22.50

Handwritten notes:
 $E = \frac{1.5}{100} = .015$
 $P = (60 \times 100) = 6000$
 27.15

RESISTORS

Newly manufactured 10% values. In most popular RTMA sizes. Each .10

5% values for use with critical spots in R/C applications. Gold Band. Available in the following sizes. 15K, 47K, 82K, 100K, 160K, 910 ohm, 1K, 2K, 6.2K, 220K, 330K, 510K, 680K, 200K, 470K, 1M, 2M, 3M, 6.2M, 10M each .20

SOCKETS



7 pin miniature, wafer type	.10
7 pin miniature, moulded	.15
7 pin miniature, with shield	.25
Octal 8 pin for 3D6 or 3B7	.05
Octal moulded as above	.15
Submini hearing aid type 5 prong	.20
Flea clips 4/10¢, 12/25¢	50/1.00
7 pin miniature, for PC	.25

SWITCHES



SPST, slide type, knife action	.20
DPST, slide type, knife action	.25
DPDT, slide type, knife action	.35
SPST toggle, regular duty type	.50
DPDT toggle, Imported	.45
DPDT toggle, heavy duty for transmitter use, American made	.75
DPST toggle, heavy duty for transmitter use	.65
DPST toggle, heavy duty for transmitter use, American made	.75
Alco submini, Micro SPDT toggle	2.50
Alco submini, Micro DPDT toggle	3.00
Push Switch, smooth action, cabinet use	.50
Push Switch, cable use	.75
Switchcraft 203, NO or NC (SPDT)	.75
Switchcraft #3037 Lev-R switch	2.25
Switchcraft #12037, Lev-R switch same as above but a flat type of spring that doesn't protrude as far back	2.25

TUBES TRANSISTORS DIODES

XFG1	3.50 1AH4	1.95
KFY34	2.95 3A4	1.40
CK526AX	3.95 3A5	2.25
CK535	1.25 3B4	3.50
CK1054 (RK61)	4.25 3B7	1.00
CK5672	3.50 3D6	.95
CK722	.99 3Q4	1.20
CK705/1N66	.85 3S4	1.40
1S4	1.10 3V4	1.40
1S5	1.10 1N48 (Glass)	.85
1U4	1.40 1N66/CK705 Diode	.85
1U5	1.40 1N295 Diode	.45
1V6	2.50 #1215 Federal	.90
2N188A, GE	2.25 NE2	.15
*2N224, Philco Plain	1.60 NE51	.20
*2N224, Philco Blue	2.50 #47 Pilot	.15
*2N224, Philco Red	2.10 #48 Pilot	.15
T1324, Philco	1.90 Ampere 6007	1.95
2N465, Raytheon	3.45 T0037, Philco	1.70
1AG4, Raytheon	3.95 1T1 International	.90

*These are color coded for the output stages in the Kraft multi equipment. Red is for the 6 channel and blue is for the 10 channel.

TRANSFORMERS

ST11, similar to the CR60. Subminiature input primary impedance 20,000 ohms, secondary impedance 10,000 ohms. Primary resistance is 90 ohms and secondary resistance is 20 ohms. \$1.25

TECH TWO--wound by Jaidinger, manufacturer of Gem relays, with high mu metal cores, as required for the Tech Two receivers, either 27½ or 50 mc \$2.95

1500 ohm choke for Trans. Tech Two \$1.95

MC power supply transformer, 2 volt input, 180 volts at 30 mls secondary. \$2.95

Ferroxcube cores for either winding your own audio filters or power converter transformers. Two cores, one bobbin, 1/72 bolt and nut, completely packaged, unwound \$2.35

MC cup core for receiver power converter. Completely wound. With schematic \$3.00

Kraft cup core wound for 4.8 volts in, 35 volts out \$3.95

WIRE

Bonner 19 strand #24 hookup wire. Some of the smallest wire available. Available in 8 colors. Comes in a plastic package containing approximately a total of 24 feet of wire. Only .60

Alpha 16 strand #24 hookup wire, 10 colors, approximately 25 feet. .45

Thermatics, the finest wire there is. #24 hookup wire, 19 strand. Three feet each of black, green, white, red, yellow, and orange. Per package .30

8 wire cable containing 8 conductors of #22 strand wire for inter-connecting control boxes. Per foot .12

Magnet wire, enamel insulation. All even numbers from #14 through #40.

#14 per foot	.04
#16 per foot	.02
#18 and #20, per foot	.02
#22 through #40 per foot	.01
#20 solid, plastic insulation, per foot	.03
#24 solid, plastic insulation, per foot	.02
#46 Celenamel, just it for winding your own reeds, 750 feet	1.75

Spiral Wrap--a nylon spiral which may be put around the existing wires you have in your installation to make the installation very much more neat and allow an easy lacing. It will accept up to 10 conductor wires. Per foot .15

SPECTRA STRIP

Here is a flat wire which contains 10 pieces of wire #24 ASW 19 strand. Comes in a strip to make multi-channel wiring very neat. It might quite easily be cut down to 10, 9, 8, 7, or how many conductors are needed. This is one of the greatest advances for radio control installation that we've seen. Per foot .20

Spaghetti, fabric impregnated type 3 ft. .10

TOO LATE TO CLASSIFY

KRAFT RELAYLESS SINGLE KIT

NEW! Relay-less single channel Kraft receiver kit detailed in Ed Lorenz's column of the February, 1961, Model Airplane News. Developed by E. B. Chapman, this unit substitutes a transistor for the relay increasing reliability and lessens weight. Size exactly the same as the standard single channel Kraft. Housed in a plastic case. Printed circuit base completely drilled. Kit contains tube, and four transistors. Is a superregen detector using $1\frac{1}{2}$ volts A and $22\frac{1}{2}$ volts B. Can be used only for an actuator. Cannot be used with most servos which require the SPDT type of contact arrangement.

27 $\frac{1}{2}$ kit \$17.95
50-54 kit \$19.95

NIKE CONVERTER

Nike superhet enables you to convert the broad-tuning superregen receiver to a nice, sharp superhet with a minimum of fuss. Also allows the construction of an inexpensive relay-less circuit by following the circuit soon to be published in Model Airplane News. Has been tried with the WAG, the Kraft single and multi equipment and has been found very satisfactory in areas where superregens are suffering interference.

Unit is completely wired. The hookup to the conventional receiver is simplified. Unit is small-sized in its metal case measuring $2\frac{7}{16}$ " x $1\frac{5}{8}$ " x 1" high. Weight with cover is 2.4 ounces. May be switched to other frequencies by ordering special crystal from F & M Electronics. Furnished with a 27.145 crystal unless ordered otherwise.

\$39.95

R-C PRIMER

At long last--a new R/C book with the beginner in mind will be published by Kalmbach Publishing Company who are famous for their fine manuals for model railroading. Written by the old master, Howard McEntee, this takes a beginner, literally, by the hand and leads him through the maze of electronics and helps him to know where to begin and what to do. 8 $\frac{1}{2}$ " x 11" book, full color cover. Price is low considering the wealth of information it contains. \$2.00

SAGE ACTUATOR

Word has just been received that we will be receiving additional supplies of the Sage actuators. Here is, without a doubt, one of the finest actuators ever made. Using a plastic magnet, this is the first one which is self-neutralizing upon receiving no current. Without spring, dual coil winding features exceptionally low drain. Draws 60 mils on 3 volts and 90 mils on 4 $\frac{1}{2}$ volts. Size is $1\frac{3}{4}$ " x $2\frac{1}{4}$ " x $1\frac{1}{2}$ ". Weight is 3 oz.

\$9.95

TUNING SCREWDRIVER

Tuning screwdriver. This one is it! It will tune both screwdriver slot cores and capacitors and hexagonal head cores. Manufactured by General Cement, they list at a little more but of high impact plastic and will provide service. GC8282 .55

WIRE WOUND POTS

Wire wound pots. 15 ohm and 50 ohm. Please specify. These are the right wattage and the right ohmage for most mechanical pulsers and are available separately. Made by Clarostat. \$2.25

RAMECO SUBMINI FILTERS

Now, in addition to the untuned SMTF Rameco filters listed elsewhere in our catalog, Ace will stock the subminiature potted filters in 3 channel types. The size is $\frac{7}{8}$ " diameter x $\frac{1}{2}$ " high. Available in two models.

PCSF-3A--1200, 1500, and 2000 cps \$8.80
PCSF-3B--2400, 2900, and 3700 cps \$8.80

These are designed for mounting in printed circuitry. Comes complete with instruction manual and are for the serious experimenter.

RAMECO I&C MANUAL

Rameco instruction and circuit manual. This new manual is supplied with all orders for the new Rameco filters and contains many circuits and answers to the R/C enthusiast. All circuits are transistorized and included are transmitters, a typical receiver with filter circuitry for multi-channel operation, and tone generators. Available separately.

Rameco I & C Manual .20

BLACKWELL TORQUE ROD BEARING

Blackwell torque rod bearings will press-fit into a blank hole at the rear of the fuselage for the torque rod for either elevator or rudder. Of machine-hardened steel, precision drilled. \$.20

MIN-X MULTI

We are jobbers of Min-X material and, while the multi-channel (other than the 4 channel) is not carried, it is available on a drop-shipment basis from the factory.

RELAY	RELAYLESS
SR-4R 76.50	SR-4 50.45
SR-6R 95.70	SR-6 54.45
SR-8R 107.70	SR-8 59.45
SR-10R 127.95	SR-10 65.95
SR-12R 147.95	SR-12 75.95

T-4 non simul Tx	58.50
T-6 non simul Tx	74.50
T-8 simul TX	112.95
T-10 Simul Tx	125.95
T-11 Simul Tx	147.95

ORDERING INFORMATION

NOTE: INDIVIDUALS--order from the location nearest you. DEALERS--order ONLY from Higginsville, Missouri

This catalog replaces all previous issues. Prices are as catalogued. We reserve the right to change any prices without notice, due to shifting markets. When ordering--remember we pay postage to individuals on all orders over \$3.00. Under \$3.00 require 50¢ handling fee. Minimum dealer net is \$10.00. COD orders require 10% deposit. Missouri customers, please add 2% sales tax.

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PHONE---LU 4-3238

Ace R/C/East

3029 WEST CARY

RICHMOND, VIRGINIA

PHONE---EL 3-9303

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THE ELECTRONICS QUALITY LINE

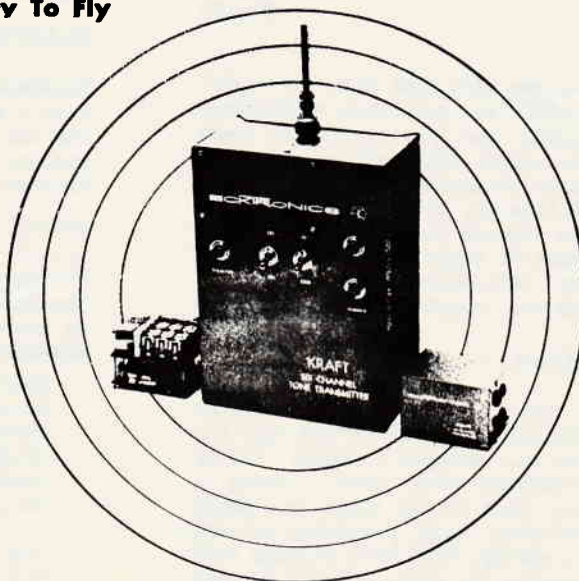
Genuine Phil Kraft Designs

NEW - 6 Channels - Ready To Fly

Perfect six channel non-simultaneous combination for rudder, elevator and motor control. EXCLUSIVE "HI-LO" SWITCH--"B" batteries last over ten times as long. Lowest current drain of any transmitter on the market. Transistor modulator for optimum efficiency--high "Q" toroid in tone section. Extremely small size receiver--bright-anodized aluminum case is only 2 1/2" x 1 1/2" x 1 3/4" complete with high quality sub-miniature relays. Proven hard tube detector for maximum reliability under all conditions. Fully temperature stabilized--positive operation.

KRAFT Six Channel Transmitter \$74.95

KRAFT Six Channel Receiver \$79.95



NEW MOST PROPORTIONAL SERVO MODEL P51B



Mechanical centering. No rubber bands needed. Fast response. Compact size. 5/8" x 1 1/2" x 1-11/16". Operates on 2.5 to 4.5 volts. Can be used in airplanes, boats, cars, etc. Automatic neutral on 50/50 pulse. Can be used with any pulse system. The perfect servo for use with the MOST PULSER. \$8.95

Ace Radio Central

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