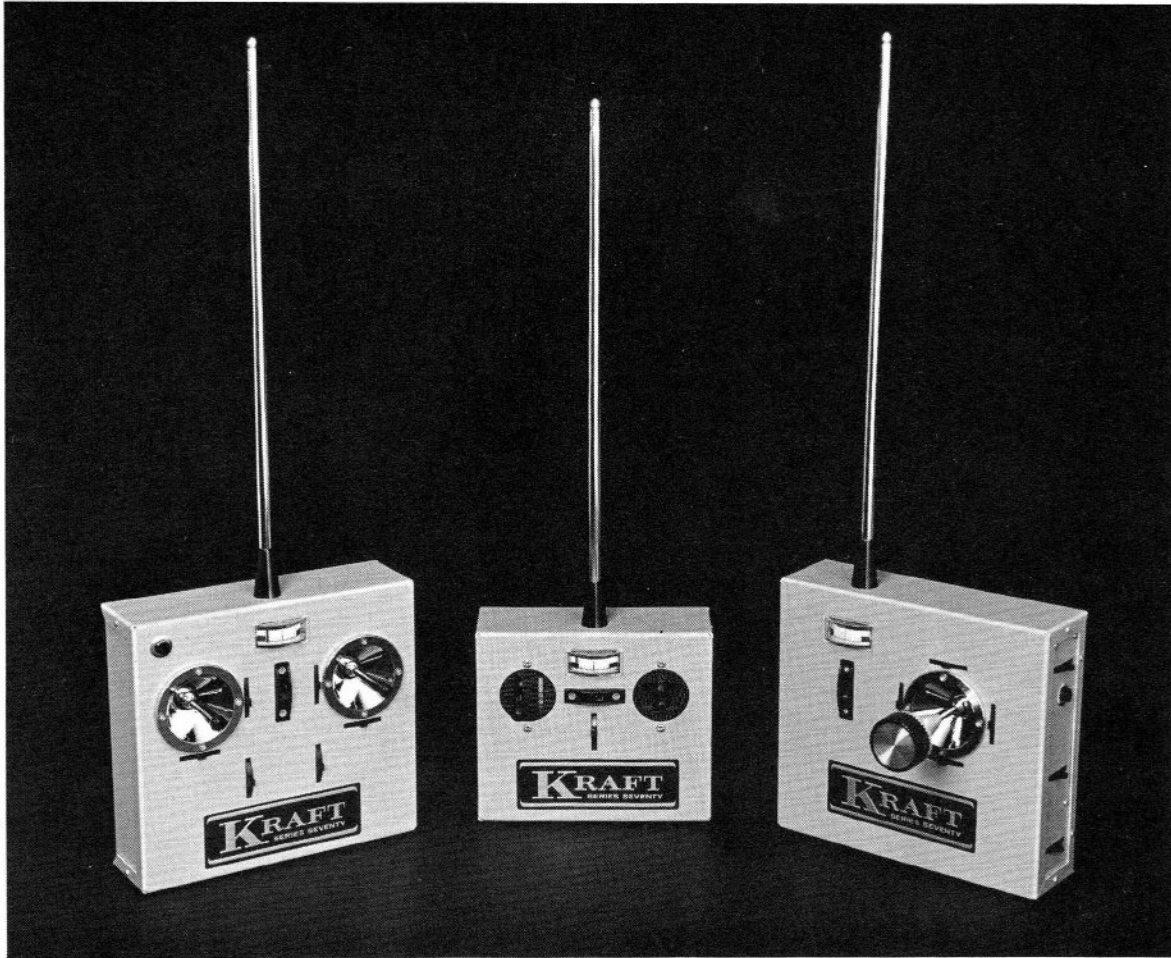


KRAFT
SERIES SEVENTY



The transmitters shown above (left to right) are the KP-6B, the new KP-3B three channel, and the KP-6S single stick.

INTRODUCTION

From a modest beginning in 1963, Kraft Systems, Inc. has grown until it is now the world's largest manufacturer of proportional radio control equipment. Such growth in any field is never accidental; it is based on production of competitively priced, quality equipment, designed to the highest current technical level, and backed by fast efficient service.

Quality is expected of Kraft products and is perhaps taken for granted by our customers, but never by ourselves. From top to bottom we constantly strive to produce the best product possible. In an era when mediocrity is the norm, you will find the exception in Kraft Systems.

Your purchase of a Kraft product is protected by the sound business management, integrity, and financial stability of the company behind it. Radio control manufacturers come and go, but we will be here tomorrow to service the product we sell today.

THE RECORD

Since their introduction, Kraft proportional sets have won more major contests than all competition combined. Victories include four consecutive wins at the United States Nationals, the 1967-1968 World Championship, and second place in the 1969-1970 World Championship.

This outstanding record could only have been achieved with a system of absolute accuracy and unfailing dependability. Most Kraft proportional owners fly purely for pleasure, but they have the assurance that their enjoyment and progress is not limited by the performance of their radio control system.

SERVICE

No other factor is more important to the continued enjoyment of the radio control sport than service. Kraft Systems recognized this from the beginning and established a reputation for service unique in the industry. Perhaps because we are enthusiasts ourselves, we better appreciate the needs of our customers. Therefore, we emphasize speed, fairness, and quality in all our service dealings. In recent years we have established a world-wide network of service stations.

PERSONNEL

Production of quality proportional radio control equipment is a highly specialized business. Kraft Systems is a team of specialists with a personal interest in both the product and after sales service. Almost all of our male personnel are active radio control flyers. Cliff Weirick, Executive Vice President, won the United States National Championship twice, was a two-time member of the United States World Championship F.A.I. Team, a former National Goodyear Racing Champion, and past President of the Academy of Model Aeronautics. Phil Kraft, President, was twice United States Nationals Champion, won the 1967-1968 World Championship, placed second in the 1969-1970 World Championship, and is a former National Goodyear Racing Champion. Consulting Engineer, Jerry Pullen, designed and flew the first successful feedback proportional systems and is responsible for many of the technical innovations which make possible today's highly reliable proportional systems. This unequalled combination of experience is your assurance of the finest possible product.

"SERIES SEVENTY"

The Kraft "Gold Medal Series" radio control equipment, introduced in 1968, has become the comparison standard for the industry. More of these sets have been sold than the combined total of other makes. Improvement has not been easy, but it has been accomplished with the "Series Seventy"; the total approach to radio control.

Carefully planned and meticulously executed, the "Series Seventy" is our proudest achievement. Highly refined electronics have been packaged more conveniently, and reliably. Combine the Kraft reputation with the many new features and there continues to be almost no other choice in radio control.

RECEIVER

The design layout provides maximum mechanical protection and ease of service. Its cube shape is the most adaptable to various installations. The new unitized plug system offers lighter weight, improved reliability, and greater convenience.

The bulky wiring harness and block plug have been eliminated, reducing installation space requirements by one-third. Plugs are securely held in place by a lock tab, but will pull loose without damage in case of a crash. For convenience a jumper cable is provided for aileron hookup.

The connector block and connectors, designed and built by our subsidiary, Multicon Corporation, have been specifically developed for the demanding requirements of radio control use. Sockets are gold plated beryllium copper, crimp connected to machine cut and stripped wire. The plastic plug body extends over the wiring insulation preventing stress at the junction between pin and wire. Not only is this wiring method inherently more reliable than soldered connections, it also insures uniform quality.

Electronically, the receiver design has been refined over the years to a high degree of performance and dependability. No other radio control receiver can approach its ability to perform accurately under adverse conditions.

RECEIVER BATTERY PACKS

Three optional battery packs are offered to suit a variety of applications. The 500 MAH packs use cylindrical nickel cadmium cells either flat or in a cube shape. When minimum weight is desired, a light weight 225 MAH pack is available and is entirely practical because of the low current requirements of the "Series Seventy" sets. A lower rate charger is available for the 225 MAH pack. All battery packs use high rate discharge sintered plate nickel cadmium cells housed in a rugged nylon case. A charging jack is incorporated in the switch harness to permit convenient battery changing without the necessity of removing wings or hatches.

TRANSMITTERS

Four and six channel transmitters have been designed for perfect balance and feel. The hands position comfortably and naturally over the controls promoting maximum guidance

accuracy. Either two stick or single stick control configurations are available. Both feature the custom quality of Kraft-Hayes Products, Inc.'s control sticks. These controls have chrome-plated hand-lapped actuating bails with a centerless ground chrome-plated ball for exceptional smoothness, accuracy and long life. Mechanical trim controls are provided for the four primary control functions. These are conveniently located, easily operated, and do not affect control stick position.

Potentiometer bearing loads have been eliminated for long life, greater precision, and control freedom. Optimum control stick throw has been selected for precise control without excessive sensitivity. If desired, stick mode can be quickly and easily changed by the owner.

Transmitter cases are formed from handsome heavy-gauge, long wearing vinyl covered aluminum. The charger for both receiver and transmitter battery packs is built into the transmitter. An indicator light is provided to monitor charge operation.

A newly designed molded nylon antenna mount will not work loose and prevents R.F. power loss. The heavy duty collapsible antenna is quickly removable. Electronically, components are conservatively rated for reliability and long life. Efficiency and R.F. output power is very high.

SERVO

Five different interchangeable servos are available, giving almost unlimited freedom in design application. All feature the same full throw, instant response, accuracy and high power which have long made Kraft servos the comparison standard. In control performance these represent the ultimate.

Specially designed servo mounting trays are available for each servo type and are recommended for reliability and convenience.

KPS-9

The old favorite is retained in the line for replacement use and because it is still an extremely versatile design. This is the most popular proportional servo ever produced--over 100,000 are in use. Rotary and dual linear outputs are featured.

KPS-10

The first miniature proportional servo in production is still available for replacement use. Many models have been designed around its outstanding performance.

KPS-11

This new standard servo combines the versatility of rotary and dual linear output with small size and a rugged new mechanical design. Gear ratios have been selected for optimum transit time and power.

KPS-11A

Same as the KPS-11 except the rack outputs are not furnished and consequent production economies are reflected in a lower price.

KPS-12

The world's smallest, lightest, digital proportional servo. Despite its small size, it features the same full throw, high power and performance of the other Kraft servos. Its ruggedness makes it suitable for both miniature and heavy duty applications.

KP-3B SYSTEM

The KP-3B has been introduced to answer the demand for a high quality but simpler system suitable for gliders, cars, and boats. The miniature transmitter is a model of convenience. Single axis controls are used for adaptability between applications. As an example, the left-hand control stick would be used for elevator control with gliders. For cars and boats, centering springs could be removed from the left-hand stick and it would then be used for throttle control.

The KP-3B system is complete with transmitter, receiver, rechargeable transmitter and receiver battery packs, chargers, two KPS-11A servos, switch harness, and hardware. Other servos are optional at extra cost.

TRAINING SYSTEM

Four and six channel transmitters incorporate a training system which gives the beginner a chance to learn without the usual discouragement and expense of crashes. Each transmitter has a switch to select "Master" or "Slave" operation. For training purposes, two transmitters are connected together with a cable which is plugged into the normal charge cord receptacles. For trainer operation, transmitters need not be on the same frequency. They may be four or six channel, and the system is interchangeable between Mode II and single stick.

In practice, the instructor switches his transmitter to "Master" and the student to "Slave." The airborne system is the one normally used with the "Master" transmitter. The instructor retains normal control until he pushes a button transferring control to the student "Slave" transmitter. As long as the instructor holds down the transfer control button, the student has full control. If the student gets into trouble, the instructor releases the button and assumes control, preventing an accident.

SPECIFICATIONS

Complete airborne system weight with four KPS-11 servos and KB-4B Battery Pack:

KP-4B	13.7 ounces
KP-6B	13.8 ounces

As above with four KPS-12 servos:

KP-4B	10.9 ounces
KP-6B	11 ounces

Complete airborne system weight with four KPS-12 servos and KB-4C Battery Pack:

KP-4B	9 ounces
KP-6B	9.1 ounces

Complete KP-3B airborne system weight with two KPS-11 servos and KB-4C Battery Pack: 7.7 ounces

As above with optional KPS-12 servos... 6.7 ounces

(Note: Because Kraft proportional systems have one-half the current drain of competitive makes, the 225 MAH KB-4C pack is entirely practical.)

TRANSMITTER

RF Input power	700 mw	
RF Output power	350 mw	← *
Approx. current drain	100 ma	
Temperature range	0-150°F	

Modulation: Pulse position type. 1.4 ms pulse spacing at control neutral. Pulse time stability is +1% 0-140°F and over useful operating voltage of power pack. 9.6v 500 MAH General Electric rechargeable Nickel-Cadmium battery pack.

Size:

KPT-3B	5"x5 $\frac{3}{4}$ "x2-1/16"
KPT-4B)
KPT-4S	7-1/16"x6 $\frac{1}{2}$ "x2"
KPT-6B)
KPT-6S)

Weight:

KPT-3B	1 lb. 14 oz.
KPT-4B	2 lb. 8 oz.
KPT-4S	2 lb. 8 oz.
KPT-6B	2 lb. 10 oz.
KPT-6S	2 lb. 10 oz.

RECEIVERS

Sensitivity: 1.5 microvolts for .5 volt detected
Spurious Signal Rejection: High-Q RF Preselector
for >60 db rejection of unwanted signals
IF Frequency: 455 KHz
Selectivity: >3 db down at 3 KHz
Noise Limiting: A series type clipper and pulse
integration provides high immunity to shot and
ignition noise.
Temperature range: 0-150°F
Current Drain: 11 milliamperes (4 channel)
Size: 2.25"x1.10"x1.20"

Weight: KPR-3B	1.7 oz.
KPR-4B	1.8 oz.
KPR-6B	1.9 oz.

RECEIVER BATTERY PACKS

KB-4A 500 MAH Square
Size: 2.13"x1.27"x1.27"
Weight: 4 ounces

KB-4B 500 MAH Flat
Size: .67"x2.1"x2.7"
Weight: 4 ounces

KB-4C 225 MAH
Size: 2.150"x1.100"x.860"
Weight: 2.25 ounces

SERVOS

All servos feature excellent resolution and thermal stability. Specifications common to all servos include:

Positioning Accuracy: $\pm 0.5\%$
Temperature Drift: $\pm 2\%$ from 0-160°F

KPS-9

Weight: 2.2 ounces
Static Thrust: Over 3.25 lbs. with low drain 6 ohm motor
Transit Time: 0.6 seconds for .625" linear travel
Available Outputs: 1 rotary wheel or rotary arm
2 linear racks

KPS-10

Weight: 1.8 ounces
Static Thrust: Over 3.5 lbs. with low drain 6 ohm motor
Transit Time: 0.8 seconds for 100° rotary travel
Available Outputs: 1 rotary wheel or rotary arm

KPS-11

Weight: 1.9 ounces
Static Thrust: Over 3.4 lbs. with low drain 6 ohm motor
Transit Time: 0.7 seconds for .625" linear travel
Available Outputs: 1 rotary wheel or rotary arm
2 linear racks

KPS-11A

Weight: 1.7 ounces
Static Thrust: Over 3.4 lbs. with low drain 6 ohm motor
Transit Time: 0.7 seconds for 100° rotary travel
Available Outputs: 1 rotary wheel or rotary arm

KPS-12

Weight: 1.2 ounces
Static Thrust: Over 3.5 lbs. with miniature 3 ohm motor
Transit Time: 0.6 seconds for 100° rotary travel
Available Outputs: 1 rotary wheel or rotary arm

PRICE LIST

SYSTEMS

KP-4B	\$399.95
KP-6B	449.95
KP-4S	419.95
KP-6S	469.95

Systems include transmitter, receiver, four servos, transmitter and receiver rechargeable battery packs, charger, switch harness, and appropriate servo trays.

Type or types of servos, battery packs, frequencies, and transmitter stick mode optional at same system price. Four channel sets are convertible to six channel at any time.

KP-3B	\$199.95
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System includes transmitter, receiver, two KPS-11A servos, transmitter and receiver rechargeable battery packs, charger, and switch harness.

Choice of battery pack and frequency is optional at same system price. Optional servos available at \$5.00 extra per servo.

TRANSMITTERS

KPT-3B	\$ 99.95
KPT-4B	149.95
KPT-6B	179.95
KPT-4S	169.95
KPT-6S	199.95

TRAINER TRANSMITTERS

KTT-4B Two Stick \$ 89.95

KTT-4S Single Stick 99.95

Enables trainer operation on all "Series Seventy"
systems without any modification required.

Please order trainer interconnection cord separately.

RECEIVERS

KPR-3B \$ 79.95

KPR-4B 89.95

KPR-6B 109.95

BATTERY PACKS

KB-4A Square 500 MAH \$ 16.95

KB-4C Flat 500 MAH 16.95

KB-4C 225 MAH 16.95

KB-4CC Charger for KB-4C .. 8.95
(Includes jumper plug to permit
charging transmitter separately.)

Note: Unless otherwise specified, orders for
KB-4C battery pack will include the
KB-4CC charger at \$8.95.

SWITCH HARNESS \$ 5.95

TRAINER INTERCONNECTION CORD \$ 6.95

(This is required if trainer operation is desired.)

SERVOS

KPS-9	\$ 39.95
KPS-10	39.95
KPS-11	39.95
KPS-11A	35.95
KPS-12	39.95

When ordering please specify type of system, transmitter stick mode, frequency, and type or types of servos desired.

FREQUENCIES AVAILABLE IN MHZ

26.995	53.100	72.080
27.045	53.200	72.240
27.095	53.300	72.400
27.145	53.400	72.960
27.195	53.500	75.640

CONTROL STICK OPTIONS

	<u>Left Stick</u>	<u>Right Stick</u>
Mode I	Elevator-Rudder	Throttle-Aileron
Mode II	Throttle-Rudder	Elevator-Aileron

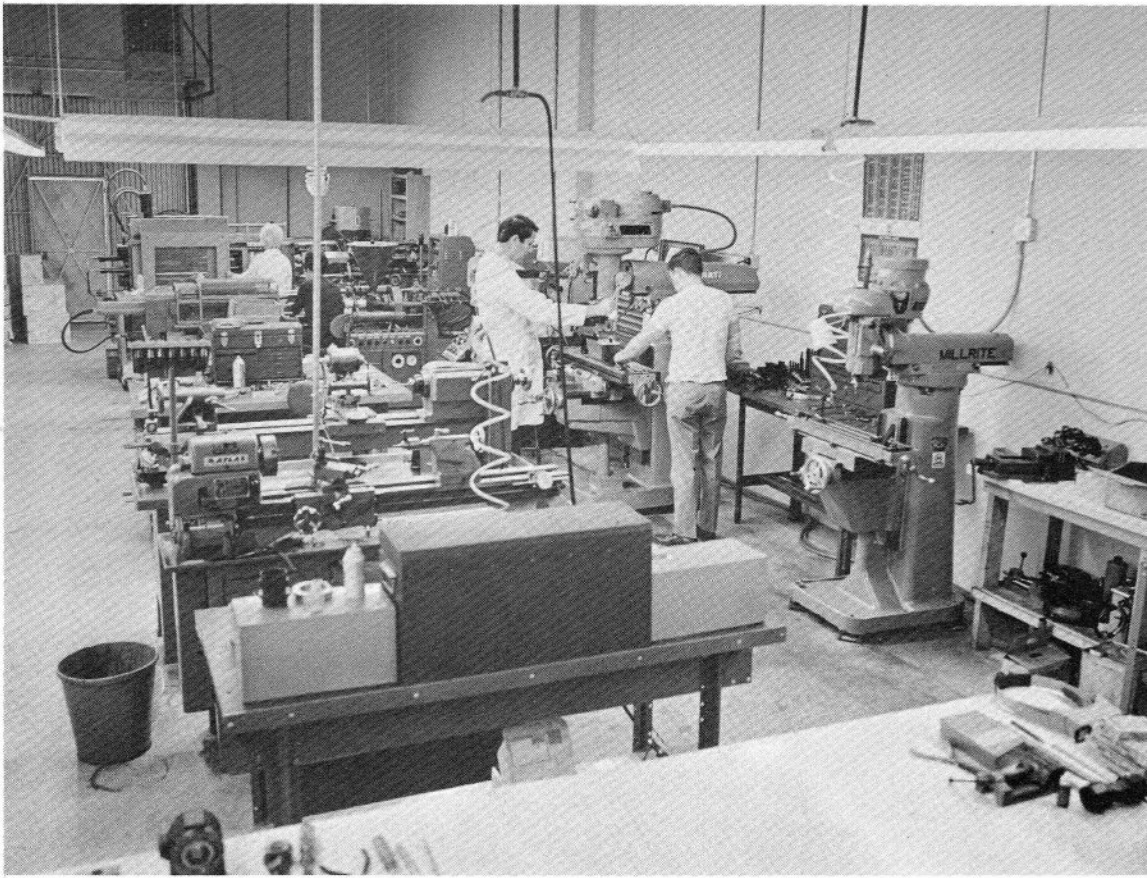
SINGLE STICK - Elevator-Aileron-Rudder on one control stick

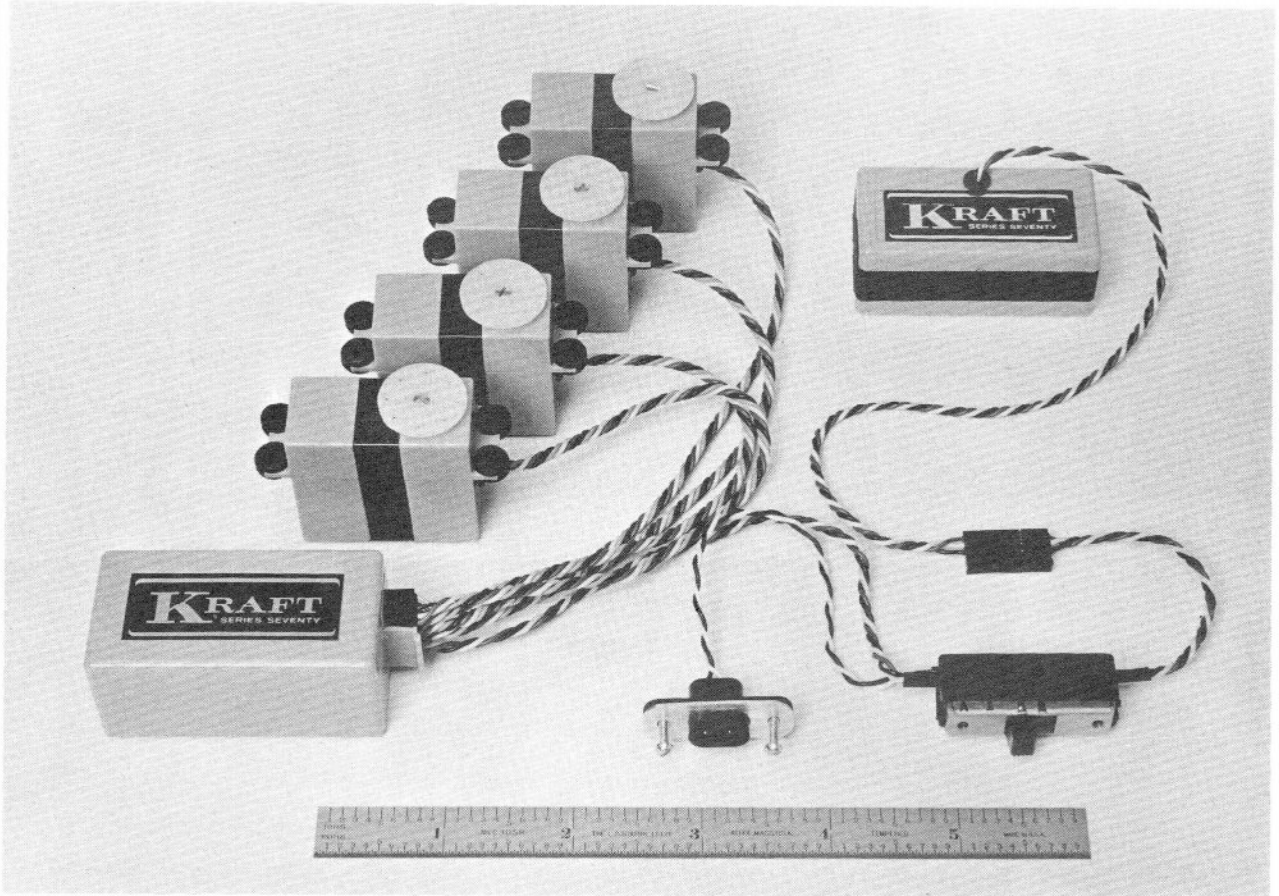
KRAFT-HAYES SERVO TRAYS

S9M-1	Mounts 3 KPS-9 servos side by side	\$2.49
S9M-2	Mounts 1 KPS-9 servo for aileron	1.49
S10M-1	Mounts 3 KPS-10 servos - 2 side by side, 1 across	2.49
S10M-2	Mounts 3 KPS-10 servos side by side	2.49
S10M-3	Mounts 1 KPS-10 servo for aileron	1.49
S11M-1	Mounts 1 KPS-11 servo for aileron	1.49
S11M-2	Mounts 3 KPS-11 servos - 2 side by side, 1 across	2.49
S11M-3	Mounts 3 KPS-11 servos side by side	2.49
S12M-1	Mounts 1 KPS-12 servo for aileron	1.49
S12M-2	Mounts 3 KPS-12 servos - 2 side by side, 1 across	2.49
S12M-3	Mounts 3 KPS-12 servos side by side	2.49

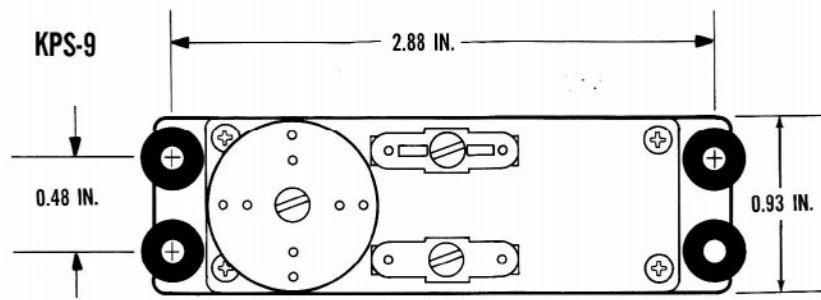


Some of the people who build and service our systems are shown with their models and over 200 trophies won in competition.

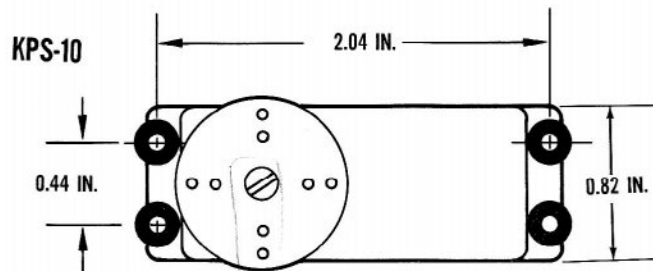
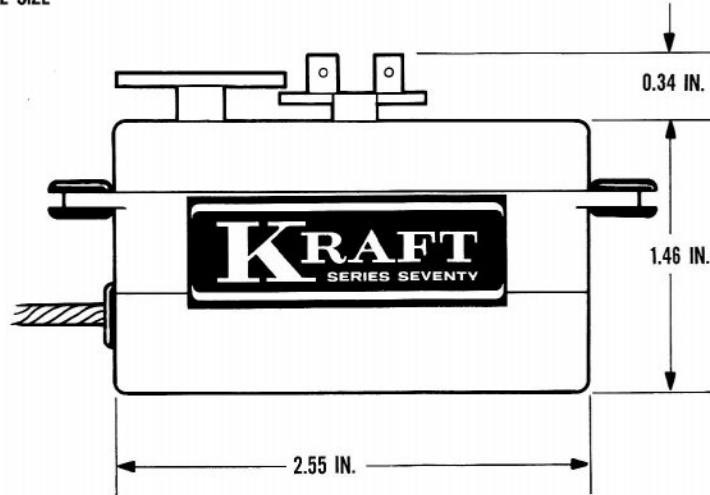




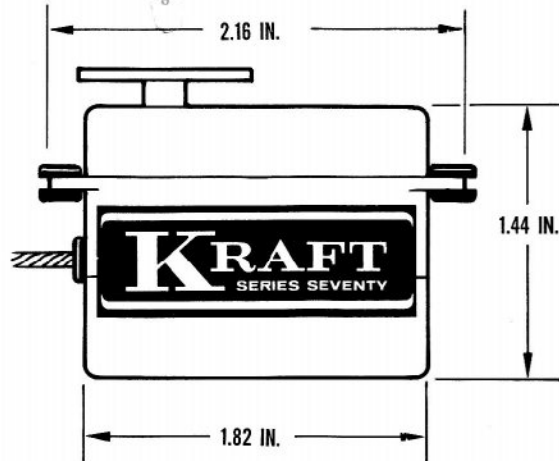
9 OZ. Pictured above is the lightest available four channel airborne system. Included are the KPR-4B receiver, four KPS-12 servos, KB-4C battery pack and switch harness.



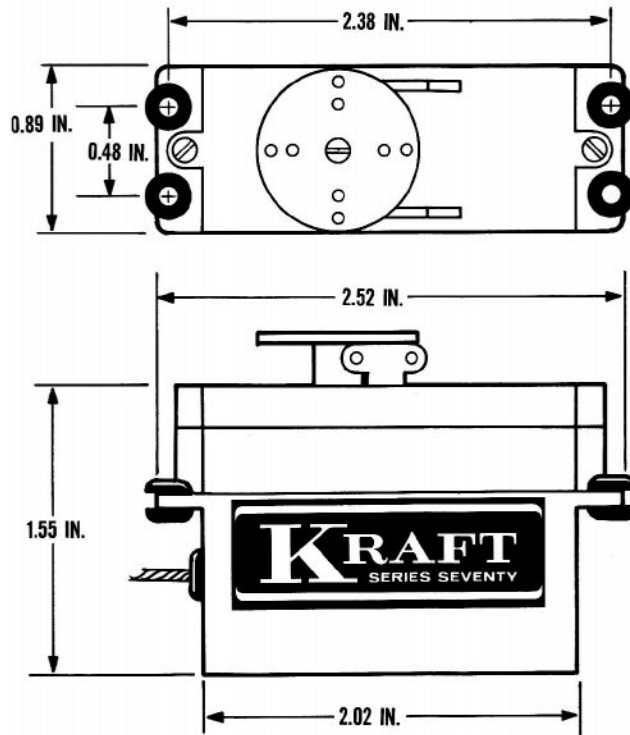
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ACTUAL SIZE

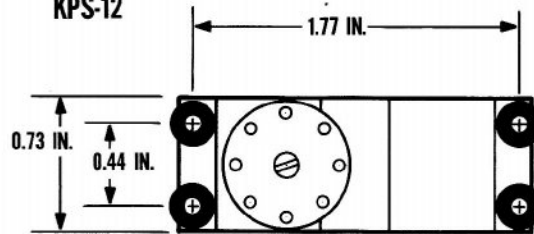


KPS-11

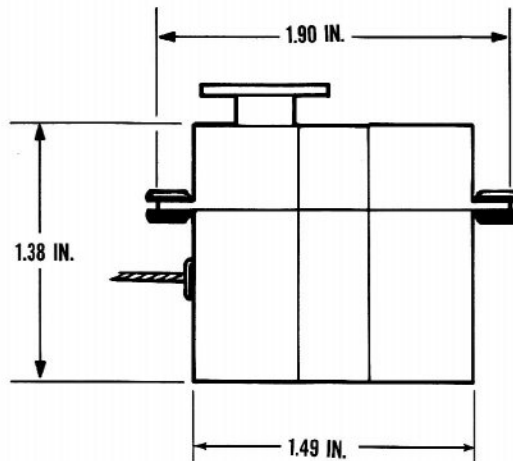


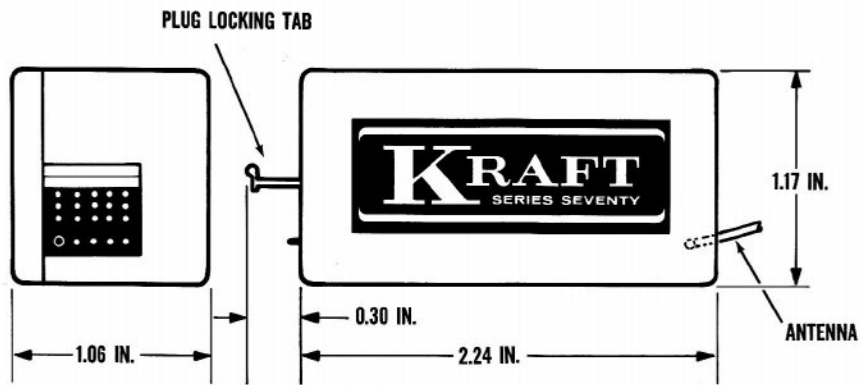
THE KPS-11A SERVO IS IDENTICAL TO THE KPS-11, BUT DOES NOT INCLUDE THE DUAL LINEAR OUTPUTS.

KPS-12



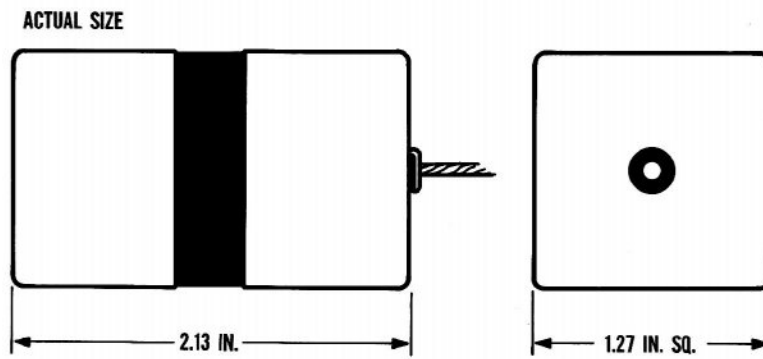
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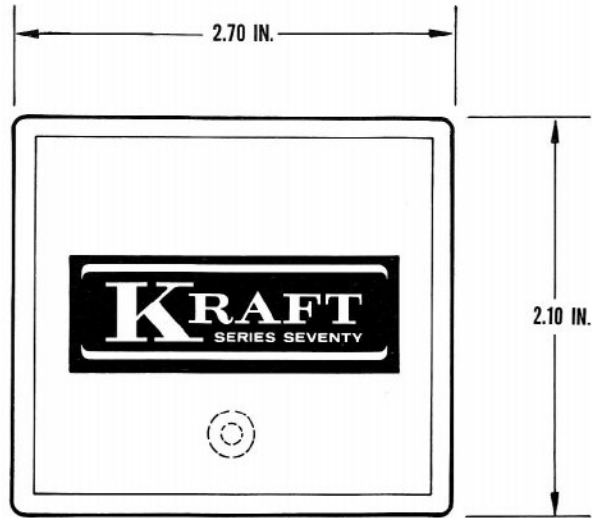
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RECEIVER

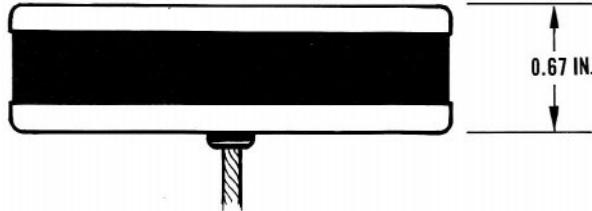


KB-4A BATTERY PACK

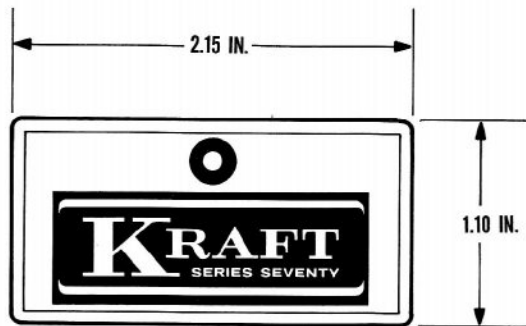
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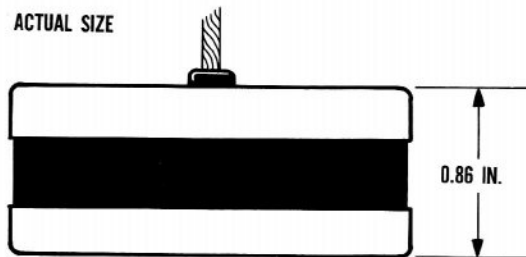
ACTUAL SIZE



KB-4B BATTERY PACK



ACTUAL SIZE



KB-4C 225 MAH BATTERY PACK

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