

# **CANNON** RADIO CONTROL SYSTEMS

2828 COCHRAN STREET, SUITE 281

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## 1991 CATALOG OF

### SUPER-SMALL R/C SYSTEMS RADIO CONTROL UNITS ACCESSORIES AND G-MARK ENGINES



ALL CANNON EQUIPMENT BUILT & SERVICED IN THE U.S.A.!



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WORLD'S LEADING MANUFACTURER  
OF  
SUPERLIGHT DIGITAL R/C SYSTEMS



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## HOW TO ORDER

### CANNON RADIO CONTROL EQUIPMENT

**ORDER DESCRIPTION** Please Specify, as applicable, on all orders: Full Description - Model No., Freq., No. of Channels desired, Tx Type & Stick Mode; Dual Rates; Mixer Type; Special Options; Rx Type Plug Type and Color; Servo Type & Qty; Battery Size and Type (by Part Number); Retail Price and Special Price, if applicable. On other items: Full Description, Part No., correct price, etc., Sales Tax & Shipping Costs.

#### PLEASE USE PART NUMBERS TO IDENTIFY EVERY ITEM

**SYSTEM PRICING** R/C Systems, Transmitter and Receiver prices are based on 27 or 72 MHz frequencies, 2-Axis Tx sticks, and with types and quantities of Servos listed. Compute variations from regular Systems or Flite Packs as follows:

1. Add \$15.00 to System prices, or \$10.00 to Flite Packs and separate Tx or Rx for 29, 35, 40, 50, 53 MHz or other frequency band. Add \$17.50 for Single (3-Axis) Transmitter Stick.
2. If equipment ordered varies widely from the standard catalog offering, or if more than one item is deleted from a standard package, total price will be based on accumulated prices of individual items.

**SPECIAL ORDERS** When making a SPECIAL ORDER be very precise as to exact requirements. Verify Special pricing on your order. A 50% NON-REFUNDABLE DEPOSIT is required with SPECIAL ORDERS. Note that all Cannon equipment is built to your specifications.

**WARRANTY AND REPAIR SERVICE** Please note that most all items of equipment listed herein are warranted by Cannon Electronics, Inc. This includes CANNON equipment sold under the Charlie's Label. Equipment needing warranty service MUST be returned to Cannon Electronics. A list of U.S., Canada and Mexico Service Centers is included with every new System, or is available with a S.A.S.E. envelope. These Service Centers DO NOT handle CANNON Warranties but you may use them for any other repairs if Factory Service is not convenient. Refer to the specific equipment warranty with your purchase.

**SHIPPING AND HANDLING** (Contiguous U.S. Only - Additional Cost for other areas). Radio Control Units - Add following amounts to order: Systems - \$10.25; \*Flite Packs - \$7.75; Transmitters - \$6.50; Receiver, Servos, or batteries - \$3.00. Small Items or Parts - \$2.50; Schematics - \$2.00 \*When Tx is sent in for Rx Tuning, use System Cost of \$10.25.

**DEALER ORDERS** All items from Cannon Electronics are priced F.O.B. Simi Valley, CA. Shipping and handling will be added to all Dealer Net Prices. Shipping and Handling as well as Equipment Costs are subject to change without notice. If changes occur, you will be advised at time of order. Equipment prices are also subject to change if supplier has increased selling price.

**TELEPHONE ORDERS** Will be accepted to expedite scheduling and delivery. However, detailed written confirmation of order is requested. Otherwise we will accept no responsibility for incorrect or late shipments due to verbal misunderstandings.

**PAYMENT TERMS** Money Order or Cashier's Check with order will expedite shipment. All payments are required in advance. Personal or Business Checks are acceptable; allow three (3) weeks for checks to clear before shipment. Exception: Customers with whom we have had satisfactory prior experience - NO DELAY.

C.O.D. Orders - Accepted only with 20% advance deposit. C.O.D. fee extra.

Open Accounts - Orders will be shipped Open Account only to those who have submitted required application form and have been advised of Open Account status.

Special Orders - These require a 50% NON-REFUNDABLE ADVANCE DEPOSIT regardless of Open Account or Customer Status. MC or VISA accepted on orders of \$25.00 or more. (Not accepted on Repairs.) A 6% Card Surcharge above TOTAL PRICE will be applied to CARD ORDER. Personal Check or C.O.D. O.K. if MC/VISA Card is offered as security. (THIS SAVES YOU THE 6% CARD CHARGE!)

**METHOD OF DELIVERY** For R/C Systems, Flite Packs and R/C Components, shipment is via UPS Ground unless otherwise specified. Sometimes small items may be shipped first class or parcel post instead of UPS. (Extra charge will be made for Parcel Post, Air or UPS Next Day or Second Day Air). Larger or heavier items will be sent UPS Ground.

**ORDER CANCELLATION OR RETURN** Any items returned for exchange or credit will be subject to a 25% restocking charge. Charges are for checking and/or repackaging equipment. Items will not be accepted for return without prior written approval in advance. Letter must contain complete and specific reasons for item request. Customer must pay shipping costs both ways for returned or exchanged items. Special Order items, including Systems and Flite Packs, will not be accepted for credit or exchange.

**SCHEMATICS** Available for all CANNON or CHARLIE'S R/C Systems ONLY at \$5.00, plus \$2.00 S & H (USA), or \$5.00 Shipping to Foreign Countries (Canada \$3.00). No COD's. Specify in detail: Equipment Type & Year, exact Models, No. of Channels, Frequency, Tx & Rx types, Servo type, plug type and plug color, Battery type and size, 3 or 4 wire, etc. Internal photos of equipment are helpful in identifying unit.

**PRO-FORMA INVOICES INVOICES THIS MARKED INDICATE THAT ADVANCE PAYMENT FOR MATERIAL IS REQUIRED BEFORE SHIPMENT WILL BE MADE.**



MASTER CARD OR VISA ACCEPTED ON ORDERS OF \$25.00 OR MORE. ADD 6% FOR CARD PURCHASES. NO COD'S WITHOUT 20% ADVANCE DEPOSIT. COD FEES ARE EXTRA. REMEMBER THAT SHIPPING COSTS DECREASE AS ADDITIONAL ITEMS ARE PURCHASED. PRICES SHOWN HEREIN ARE EFFECTIVE IMMEDIATELY UPON RECEIPT. PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ADD YOUR LOCAL SALES TAX IN CALIFORNIA.



# NEW SUPER-MICRO & SUPER-NOVA R/C SYSTEMS FOR 1991

After months of design effort and exhaustive flight testing, Cannon now offers two new Narrow Band R/C Systems. Both feature excellent selectivity to reject undesired interference from other frequencies. Each is designed to operate on the new 20 KHz channel spacing. Both Systems utilize AM transmission modes, not FM. Units are not warranted against 2nd or 3rd order I.M. or Image Frequencies.

## SUPER-MICRO SYSTEMS

The new NARROW-BAND SUPER-MICRO units are externally identical to our STANDARD 910 Series SUPER-MICRO Systems which have proven so successful over the years. Always known as the World's Smallest and Lightest R/C Systems, the new Model 910 Series MICRO now adds the distinction of being the ONLY Sub-Miniature NARROW-BAND equipment available.

New Model 910 Transmitter features now include Servo Reversing on all Channels, Light Touch Control Slides, Servo End Point Adjustments and, as options, Dual Rate Controls and 2 Two-Channel Mixers. Transmitter, with Gold Stacker, meets all AMA & FCC requirements for narrow band operation beyond 1991.

The New Model 920R(S) Narrow Band Receiver is identical in size and weight to our SUPER-MICRO offered previously. Now it incorporates new I.F. filter circuitry to insure optimum selectivity and desired narrow band operation. In addition, the new receiver offers operation up to six channels.

In order to differentiate between 810 & 910 Micro Receivers & Servos, Micro type plugs are color-coded. Older units have BLACK Micro plugs, Narrow Band Models have RED plugs. There has been a receiver-servo wiring change in the newer Micro plugs. CE-9 Servos with BLACK Micro Plugs and with RED Micro Plugs are not interchangeable because of plug wiring differences; Servo mechanics and electronics are identical. Plug colors are for identification; be sure and specify when ordering which type is desired. There has been NO WIRING CHANGE in units using Dean's plugs. NOTE: 920R(S) Micro Receivers are available on Special Order with BLACK Micro Plugs for interchangeability with older units. Specify plug type.

New receiver battery packs are offered with the 910 Series in three sizes: 75 mah, 110 mah and 270 mah. These come in either square or

inline packs, selectable for your specific installation. Weights are decreased by use of shrink wrap battery pack covering instead of hard plastic. An added standard feature is an External Charge Receiver and a charge reducer integrated with the ON-OFF switch, providing ease of external charging with virtually no weight increase.

File Pack weights are shown on page 7. Outline drawings are included on pages 5 & 8.

## SUPER-NOVA SYSTEMS

This "NEW STAFF" in the R/C Sky offers the same Model 910 Transmitter supplied with the new SUPER-MICRO System, and with the same options.

Performance of the SUPER-NOVA Receiver is comparable with that of the SUPER-MICRO, but in a slightly larger size. Cabied Dean's plugs are standard with this system, no other types are offered. Seven-channel capability is available in the SUPER-NOVA Receiver.

A choice of servos enables you to fit this system to ANY size aircraft you wish to fly. CE-9C Micro Servos together with this 1.0 oz. NOVA receiver permit operation in the smallest aircraft; the new CE-15 NOVA Servos at only 0.9 ounce provide power and speed for up to 80 powered aircraft.

With the above equipment we offer receiver packs in 75 mah, 110 mah, and 270 mah battery sizes. These cover all practical needs for both Micro and Nova equipment.

The following pages cover detailed specs on everything mentioned above, plus accessories for same, and items that are still available to interface with older equipment. SHIPPING AND HANDLING COSTS are shown on page 2.

## DETAILED DESCRIPTION OF SYSTEMS

### NEWEST SUPER-MICRO EQUIPMENT WORLD'S SMALLEST R/C SYSTEMS

CANNON presents the 1991 NARROW BAND SUPER-MICRO System, by far the smallest and lightest R/C System in production today and the ONLY Micro System with NARROW BAND capability! The photos show that both the RECEIVER and CE-9C SERVOS are considerably smaller than a standard U.S. Commemorative Stamp, emphasizing the importance of SIZE and WEIGHT in aircraft such as for Electric power and small models.



FIGURE 1. SUPER-MICRO NARROW-BAND R/C SYSTEM

Reduced sizes and weights of both the SUPER-MICRO Receiver and companion Servos make this system possible. It is light enough for multi-channel COE airplanes, indoor aircraft, Schoolyard Scale, small & large electric planes, miniature Old Timers, Rocketry and Free-Flight return, yet has servos powerful enough for gliders and aircraft using engines up through .40 cubic inch displacement! To prove this point, in 1980 Mr. Dave Latscha of Pennsylvania set a new World Speed Record using the standard SUPER-MICRO system in a Quarter-Midget nylon racer. This Record still stands!

Each complete SUPER-MICRO System consists of a Transmitter, 1x Antenna, Frequency Flag, Dual Charger, Discrete Receiver, Rx Nicad Battery of your choice, specified quantity of CE-9C Servos, Servo Mounting Plates and Aileron Tray (4 and 5 Ch. only). Equipment is available in 2 thru 5 channels. Any System or File Pack may be converted up to 5 channels at factory for basic difference in system costs, plus \$20.00 for labor. Extra servos must be purchased separately.

Unless customer specifies otherwise, standard Rx Nicad Pack supplied with 2 or 3 channel units is 110 mah; 270 mah for 4 or 5 channels. Either pack available upon request, or lighter 75 mah pack can be supplied. All batteries available at same price, but specify type when ordering.

### DELUXE SUPER-MICRO SYSTEM PRICES

ITEM	PART NUMBER	PRICE
2 Ch., 2 SERVOS	MSM910-22A	\$244.95
3 Ch., 3 SERVOS	MSM910-33A	\$291.45
4 Ch., 4 SERVOS	MSM910-44A	\$338.95
5 Ch., 4 SERVOS	MSM910-54A	\$349.95

Prices are based on Standard 27 or 72 MHz only. Refer to Available Frequencies page 7. Frequency Pricing, Shipping Costs and Ordering information are on page 2.

System prices are based on a Standard Transmitter (See page 4). For Dual Rate Controls (Aileron & Elevator) add \$15.00 to prices shown above. For A/E Mixer Option add \$39.95, \$10.00 more for A/R Mixer.

PLEASE UNDERSTAND that ALL of our equipment is BUILT TO ORDER, so reasonable time must be allowed for production and shipment. Because of the wide variety and options of units we produce, including Model Types, Frequencies, Number of Channels, Battery Selections, etc. It is impossible for us to stockpile equipment which MIGHT meet your desires.

### TRANSMITTER, MODEL 910

This plastic cased transmitter is extremely rugged, made of high-impact ABS plastic with stylized design. Small size and light weight make it very comfortable to handle. In many years of production we have NEVER seen a Tx case which required replacement because of damage.

Case size is 1-11/16 x 4-13/16 x 5-3/8"; total transmitter weight, with antenna, is only 1-1/4 lbs., including 600 mah 9.6V nicad batteries. Transmitters are normally supplied in One-Stick (2, 3 CH) or 2-Stick (4, 5 CH) configurations, either Mode 2 (Standard) or Mode 1. A single 3-Axis Stick is available for \$17.50 extra (4 and 5 channel Models only).

Transmitter control sticks are the new Dunham "Soft-Touch" controls, reducing operational effort required by 50%. These are Open Circuits designed to give optimum "feel" and best control response.

Incorporating an RF output meter, 600 mah nicad batteries, a 48" 9-Section collapsible antenna, and other features described herein, this unit becomes an outstanding, yet powerful, small transmitter which is very light, perfectly balanced and preferred by hundreds of R/C owners. A new "Max-Pow" RF section provides a nominal RF output just below the legal 750 mw maximum on 72 MHz prescribed by the FCC. NO OTHER TRANSMITTER OFFERS HIGHER POWER OUTPUT!



FIGURE 2. MODEL 910 TRANSMITTERS

Basic Standard Transmitter controls are as follows: The 2-channel model employs one 2-axis RH centering control stick for Rudder & Elevator, no LH control. However, if desired and specified at time of order, we can supply this unit with TWO sticks, a RH single axis horizontal centering stick for Steering Control and a LH vertical ratcheted, or centering, stick for Throttle or Elevator operation. Specify when ordering. For two separate sticks instead of a single 2-axis stick add \$10.00 to Tx or System price.

On 3-channel models a 2-axis RH centering stick controls Rudder & Elevator; a LH proportional lever is available for Motor Control, or other desired proportional function.

Four and five channel models utilize two full sticks for four proportional channels. The fifth channel (not proportional) is switch controlled to give up-down operation of Landing Gear, Spoilers or another function.

Transmitters on Mode 2 have the RH horizontal centering stick to operate Aileron (or Rudder) and the RH vertical

centering stick to control Elevator, whereas the LH stick provides horizontal centering control of Rudder and vertical ratcheted control of MOTOR.

Mode 1 type is similar except ratcheted MOTOR Control is on the RIGHT Stick and centering elevator is on LEFT Stick.

As an option, a THREE-AXIS Single-Stick Model is available, but only on four and five channel Units. The Three-Axis Stick is on the RH side and has controls for Aileron, Elevator and Rudder (with Control Knob on end of Stick). The fourth channel (MOTOR) has a ratcheted vertical stick, with trim, on the LH for Motor control. Fifth channel, when included, gives UP-DOWN Switch control (not proportional) for Landing Gear, Spoilers - or other function. Extra cost for the SINGLE STICK (3-Axis Model) is \$17.50.

Added Standard features on the Model 910 Transmitter include Servo Reversing on all channels and Servo End Point Adjustments which permit the operator to tailor individual servo throws to obtain desired control action. Example: access to the most needed servo adjustment (Motor Control) is available through an opening in the rear of the transmitter case. A special tool is furnished to make this adjustment. All other channel servo throws may be adjusted in like manner after removal of the transmitter case back.

Transmitter Charging is thru a diode-protected Charge Jack. Matching plug is on the Cannon Model 12CC-910 Charger.

Optional transmitter controls, available at extra cost, include Dual Rate switches for the first two channels; Aileron and Elevator or Rudder and Elevator. Selectable use of these switches gives full or partial travel of either or both of these two related servos. Pots internal to the transmitter permit operator to make Dual Rate adjustments to obtain the throw desired.

Another option is a Mixer Circuit, Switch Selectable, for mix of Aileron and Elevator channels in any proportions desired. This circuit offers various control mix ratios with control preference on selected function. An Aileron & Rudder Mixer, or other combination, is available on Special Order (\$10.00 more).

### MODEL 910 TRANSMITTER PRICES

910T(2) 2 CH - \$118.95 910T(3) 3 CH - \$129.95

910T(4) 4 CH - \$141.95 910T(5) 5 CH - \$151.95

Add \$17.50 For Single Stick (3 Axis, 4 & 5 CH only).

Prices shown are for Standard 27 or 72 Mhz frequencies only. Add \$10.00 to Tx cost for other frequency bands. See list of Available Frequencies, page 7.

### OPTIONAL EXTRAS:

DUAL RATE SWITCHES - (Aileron & Elevator) \$15.00

MIXER CIRCUIT - (2 Types) - Adjustable & Switch Selectable

Type AE - For Aileron & Elevator - \$39.95

Type AR - For Aileron & Rudder - \$49.95

NOTE: On Type AE Mixer, both Dual Rate and Mixer Controls can be used simultaneously on Channels 1 and 2.

### IMPORTANT! FREQUENCY MATCHING

Bandwidth on these new SUPER-MICRO and SUPER-NOVA Receivers is so narrow that they require PRECISE frequency matching to the operating Transmitter. Although we offer these receivers in Flight Packs, we can not guarantee proper receiver operation with Transmitters other than Cannon units unless your Tx is EXACTLY on frequency. We can determine this if you send your Tx to us when ordering a matching Flight Pack. If your Tx is on frequency, our Flight Pack will be tuned to match at no extra charge. If your Tx is out of tolerance (maximum 500 cycles) from correct frequency, we will recommend that you purchase a CANNON Tx to mate with our Rx, or have your Tx put on correct frequency by your Manufacturer, Dealer or Technician before Rx tuning.

If you purchase a Narrow Band Flight Pack without verifying your Tx frequency and properly matching it to our Rx, we accept no responsibility for correct match and trouble-free in-flight operation.

Tuning instructions will be supplied with each new Flight Pack but we offer no guarantee of perfect match if tuning or other adjustments are attempted outside our control.

## SUPER-MICRO RECEIVER, MODEL M920R(5)

The new NARROW BAND SUPER-MICRO Receiver Model M920R(5) is supplied as standard in 2, 3, 4 or 6 channels. It is capable of 6 channels to use with 6-Ch Rx. If channel conversion is desired later, use \$15.00 as Mod cost per channel added. RED Micro plugs are standard with this unit, but Dean's or BLACK Micro plugs can be specified if desired, at no cost difference. No other plugs are available on this Rx.

This Receiver has single-tuned RF, a FET Mixer, dual AGC, narrow band Crystal Filter and simplified decoder with 6 channel capability. It has a short 30-inch antenna for installation ease in small aircraft. Even so, receiver range is the same as any full size receiver, therefore can be used in any size aircraft, even Quarter Scale, with appropriate servos and battery pack. Selectivity is outstanding!



FIGURE 3. SUPER-MICRO NARROW-BAND RECEIVER

### SUPER-MICRO RECEIVER WEIGHTS & PRICES

ITEM	PART NO.	WEIGHT(MICRO) OUNCES GRAMS	WEIGHT(DEAN'S) OUNCES GRAMS	PRICE
2 CH.	M920R(5)2	.52 14.8	.55 15.5	\$83.95
3 CH.	M920R(5)3	.53 15.0	.56 15.9	86.95
4 CH.	M920R(5)4	.54 15.3	.57 16.3	89.95
5 CH.	M920R(5)5	.55 15.6	.58 16.5	92.95
6 CH.	M920R(5)6	.56 15.9	.59 16.7	95.95

Refer to Figure 5 for additional data on Dimensions & Weights of Super-Micro Receiver and Servo.

Prices are same for Rx with either Micro or Dean's plugs. Specify type desired when ordering.

### CONNECTOR TYPES

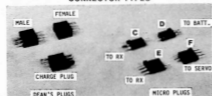


FIGURE 4. CONNECTOR IDENTIFICATION

A new Cannon Micro plug is standard with 2 thru 6 channel Systems or Fite Packs using the MICRO Rx. Plugs are ultra small (40S of 3-pin Dean's size and color), have gold-plated contacts and are keyed to prevent incorrect plug-in. On MICRO Rx, if specified, Dean's plugs can be supplied instead at no extra cost. All channel units come with plug you specify. When ordering plugs separately, specify type needed; use letter designation to identify correct style when purchased separately and color (RED or BLACK) MICRO plug. Dean's plugs are \$1.20 each; Micro plugs are \$1.50 each. (No extra cost for either Dean's or Micro plugs in Fite Packs or Systems.)

DIMENSIONS SHOWN  
IN INCHES AND MILLIMETERS,  
WEIGHTS IN OUNCES AND GRAMS.

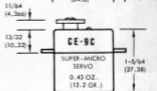
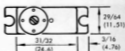
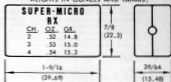


FIGURE 5. SUPER-MICRO RECEIVER AND SERVO DIMENSIONS (SHOWN ACTUAL SIZE)

## SUPER-MICRO SERVO, MODEL CE-9C



FIGURE 6. SUPER-MICRO SERVO, MODEL CE-9C

This improved version of the Cannon SUPER-MICRO Servo, still smallest and tightest in the world, uses an isolating input capacitor, tiny but very efficient high speed coreless motor, and a new surface mount NE544D I.C. by Signetics for added speed and power. Servo is compatible with standard positive-pulse receiver-decoders. Price includes choice of Dean's or Micro plugs. When ordering, BE SURE to specify plug type, ESPECIALLY whether Micro plug color should be BLACK or RED. See descriptive plug data on page 3. Proper Micro plug color should be ordered. Go switch either older System (BLACK) or newer Narrow Band Models (RED). For Futaba AM plugs, add \$3.50 per Servo. Also, advise Tx and Rx types that servo will be used with. (Other plugs not available on Micro Rx).

CE-9 and CE-9B Servos (BLACK plug) are available in Standard rotation (unmarked) or reverse rotation (marked "R"). Specify desired type when ordering. New Model CE-9C Servos (RED plug) are available only in Standard rotation. Tx reversing switch can select rotation desired.

For those who need a light weight retract servo, we offer a 150 degree version designated CE-9C(RT). Specify plug TYPE & color (RED or BLACK). Price is \$52.95 with Standard MICRO or Dean's plugs, \$3.50 more for other types.

## MICRO SERVO SPECIFICATIONS

SUPER-MICRO Servo, Model CE-9C, World's Smallest

Size	29/64 x 31/32 x 1-3/32 inches	43 ounce
Weight (Micro plug)		24 oz.-in.
Torque (Nominal)		0.5 Sec.
Transit Time (100 degree)		External
Centering Method		6 No.
Static Drain		\$49.95
Servo Price (CE-9C)		\$52.95
Servo Price (CE-9C RT) 150 degree		

NOTE: Servo usage is independent of equipment operating frequency or type of System transmission (AM or FM).

## MICRO SERVO ACCESSORIES



FIGURE 7. SUPER-MICRO R+3 MULTIPLE TRAY

R+3 SYSTEM TRAY (Figure 7). This adaptable tray accommodates any SUPER-MICRO Rx and up to three Cannon Micro Servos in a single shock-mounted unit. In addition, tray is marked so that it may be cut apart to make a number of vertical tray configurations (Figure 8). Not supplied with System or Flite Pack; R+3 tray available separately - \$2.99.



FIGURE 8. SERVO TRAY CONFIGURATIONS



FIGURE 9. MICRO SERVO AILERON TRAY

AILERON TRAY (Figure 9). This servo mount (for Micro Servos only) can be used for either horizontal or vertical mounting. One is supplied with each System, but not with Flite Packs. Available separately, P/N AT-100 - \$1.99.

SERVO MOUNTING PLATES. Figure 10 shows Servo Plate usage with all CE-9 Series Model Servos. Designed as light-weight mounts, these plates can be attached to wood rails in the aircraft, allowing servos to be mounted as in a standard single tray. Two are included with each servo. Priced separately, P/N SMP-100 (per pair) - \$ .60



FIGURE 10. SERVO MOUNTING PLATES AND OUTPUT ARMS

SERVO OUTPUT ARMS (Figure 10). One round and one straight arm come with each servo. Extra - \$ .75 each. (Specify type req'd). The adjustable arm shown provides somewhat greater throw. Not supplied, available separately \$1.25. 50% longer straight arm is available - \$1.00

## RECEIVER NICAD BATTERIES

Small sizes offered are 75, 110 and 270 mah, all in either square or inline packages. These are illustrated in figures 11 and 12. All batteries are 4.8V and include a subminiature switch in the battery switch plate, as is a charge reducer resistor (or diode) as needed. This jack permits external charging of battery and removes need for a separate Charge Reducer or Adapter on Receiver batteries. Small Rx Battery Specs are listed below. \$29.95 any size.



FIGURE 11. NICAD RECEIVER PACKS (INLINE)

## RECEIVER BATTERY SPECIFICATIONS

NICAD INLINE RX PACKS (Figure 11) (\$23.95 each)

BATTERY	MICRO	PART NO.	(PLUS TYPE) DEAN'S	SIZE	WEIGHT
75 MAH	18-75H	18-75D	17/32 x 19/32 x 2"		.99 oz. (28.3gr.)
110 MAH	18-110H	18-110D	9/16 x 3/4 x 2.25"		1.24 oz. (35.4gr.)
270 MAH	18-270H	18-270D	9/16 x 1-1/16 x 2.25"		2.1 oz. (59.9gr.)



FIGURE 12. NICAD RECEIVER PACKS (SQUARE)

NICAD SQUARE RX PACKS (Figure 12) (\$23.95 each)

BATTERY	MICRO	PART NO.	(PLUS TYPE) DEAN'S	SIZE	WEIGHT
75 MAH	58-75H	58-75D	17/32 ht 1" Square		.99 oz. (28.3gr.)
110 MAH	58-110H	58-110D	5/8 ht 1-1/8" Square		1.24 oz. (35.4gr.)
270 MAH	58-270H	58-270D	1-1/4 ht x 1-1/8" Sq.		2.1 oz. (59.9gr.)

## BATTERY FLIGHT LIFE

Everyone wonders how long small battery packs will last with Cannon Micro Systems. Expected Flight Life for various battery sizes and operating channels is charted below. These figures are based on fully charged batteries in A1 condition, flite life derived from user field experience.

EXPECTED FLIGHT LIFE (MINUTES)			
BATTERY	2 CH	3 CH	4 CH
75 mah	30	25	20
110 mah	50	40	30
270 mah	150	120	90

## SYSTEM CHARGERS

**DUAL AC CHARGER** (Figure 13) Charger, with two charge indicator lamps, is supplied with Systems to charge Tx and Rx nicad batteries simultaneously or separately. Nominal charge rate is 40-50 mils except for 75 and 100 mah cells whose charge rates are restricted by built-in charge limiters to prevent overcharge and cell damage. Charger incorporates two phone plugs, miniature size for Tx, Sub-miniature size for Rx.

Dual Charger, P/N 12CC-910 (120V) - \$16.95  
Dual Charger, P/N 22CC-910 (220V) - \$19.95



FIGURE 13. SYSTEM DUAL CHARGER AND FLITE PACK CHARGER

**FLITE PACK CHARGER** (Figure 13) P/N 4CA-910 (120V only) is available separately, if needed. Equipped with one miniature phone plug, unit charges 4-cell Rx nicad pack at 40-45 ma. Price \$10.95



FIGURE 14. MODEL AC-910 AUTO-CHARGER

**AUTO CHARGER** (Figure 14) P/N AC-910, equipped with one Sub-min. phone plug, works from automobile cigarette lighter socket and permits charging of 75, 110 and 270 mah Rx battery packs at field in 15 minutes max. Price \$14.95

## CHARGE PLUGS

Miniature size plug (and socket) are used for Transmitter charging; the Subminiature size is used for Receiver charging. Either Plug OR Socket are priced at \$1.25 each. Please specify size and type desired when ordering, and add \$1.00 for shipping and handling.



FIG. 15 CHARGE PLUGS, SOCKETS

Note: Refer to page 15 for description of Chargers used for earlier Cannon Systems and Flite Packs.

## SUPER-MICRO FLITE PACKS

New NARROW BAND SUPER-MICRO Flite Packs, available separately, are compatible with practically all standard AM R/C transmitters on the Market today, PROVIDING the Tx is ON FREQUENCY! See note, page 4, regarding Frequency Matching.

Flite Packs include all components which are to be installed in the aircraft, glider or other vehicle: namely, Receiver, Servos and Nicad Rx Battery of your choice (please specify). Transmitter, Tx Antenna, Frequency Flag and Charger are not included. However, a Flite Pack Charger is available separately, if needed. (See page 7).

## NARROW BAND SUPER-MICRO FLITE PACK PRICES

ITEM	PART NUMBER	PRICE
2 CH., 2 SERVOS	MSH010FP-22H	\$184.95
3 CH., 3 SERVOS	MSH010FP-33H	\$217.45
4 CH., 4 SERVOS	MSH010FP-44H	\$245.95
5 CH., 4 SERVOS	MSH010FP-54H	\$249.95
6 CH., 4 SERVOS	MSH010FP-64H	\$253.95

Deduct \$15.00 for omission of one CE-9C Servo from Flite Pack. If a second item is omitted from Flite Pack, calculate total cost on individual unit prices, not Flite Pack prices. See Pricing, Page 2. Extra Servo \$49.95

## SUPER-MICRO FLITE PACK WEIGHTS

Weights listed below include new Narrow Band SUPER-MICRO Rx, 75 mah Rx nicads, Micro plugs and one CE-9C Servo per CH.

2 CH. - 2.37 oz. ( 67.2 gr.)	3 CH. - 2.81 oz. ( 79.7 gr.)	4 CH. - 3.25 oz. ( 92.1 gr.)
5 CH. - 3.26 oz. ( 92.4 gr.)	6 CH. - 3.27 oz. ( 92.7 gr.)	

Add .25 oz. (7.1 gr.) to above Flite Pack Weights for 110 mah pack; 1.2 oz. (3.4 gr.) for 270 mah pack. Add .03 oz. (.85 gr.) to above weights for each Dean's plug.

## FREQUENCIES AVAILABLE

All PVC Systems, Flight Packs, Transmitters and Receivers are available on the 27 and 72 MHz frequencies listed below at prices quoted herein. If equipment is desired on any other frequency band, add \$15.00 to these prices for complete Systems, \$10.00 for Flight Packs or individual Transmitters or Receivers.

ODD-NUMBERED CHANNELS AVAILABLE AT A LATER DATE.

BAND	SPECIFIC FREQUENCIES
A-27 MHz:	26,995, 27,045, 27,095, 27,145, 27,195
B-29 MHz:	29,745, 29,785, 29,825, 29,865, 29,905, 29,945, 29,985
C-35 MHz:	35,010, .040, .070, 100, .130, .160, .190, .650
D-40 MHz:	40,555, 40,575, 40,595
E-50 MHz:	(00)50,000, (02)840, (04)880, (06)920, (08)960
F-53 MHz:	53.1, 53.2, 53.3, 53.4, 53.5, 53.6, 53.7, 53.8
G-72 MHz:	(12)72,030, (14)72,070, (16)72,110, (18)72,150, (20)72,190, (22)72,230, (24)72,270, (26)72,310, (28)72,350, (30)72,390, (32)72,430, (34)72,470
H-72 MHz:	72,720, 72,760, 72,800, 72,840 (Canada only)
J-72 MHz:	(38)72,550, (40)72,590, (42)72,630, (44)72,670, (46)72,710, (48)72,750, (50)72,790, (52)72,830, (54)72,870, (56)72,910
K-75 MHz:	(62)75,430, (64)75,470, (66)75,510, (68)75,550, (70)75,590, (72)75,670, (74)75,710, (76)75,750, (80)75,790, (82)75,830, (84)75,870

Parenthesis denotes Channel No. for Frequencies. Bands A, E, F, G, J & K legal in U.S.A. Bands A, B, C, D for certain foreign countries. Bands A & H legal in Canada. Frequencies 72,080, 72,160, 72,240, 72,320, 72,400, 72,960, & 75,640 not legal in U.S.A., but possibly may be used in Canada.

No operator license required for bands A, G, J & K. Bands E & F require FCC Amateur License. Bands G & J are for Aircraft & Glider use ONLY, Band K for surface use.

NOTE: LOW BAND Channels 12 thru 34 are assigned to NARROW BAND Equipment ONLY. HI BAND Channels 38 thru 56 may be either WIDE or NARROW BAND Equipment. NARROW BAND TRANSMITTERS ARE NOW MANDATORY ON BOTH LO AND HI BANDS!

## ADDING CHANNELS (All Models)

Factory cost of adding channels is based on retail price DIFFERENCE between system channel counts BEFORE and AFTER conversion, plus \$15.00 for labor. If additional servos are desired they may be purchased separately. Conversion costs of Transmitter or Receiver are based on current hourly repair charges, plus parts. Add to this shipping, handling and any repair costs needed.

## SUPER-NOVA NARROW BAND R/C SYSTEMS



FIGURE 16. SUPER-NOVA NARROW BAND R/C SYSTEM  
**NEW SUPER-NOVA EQUIPMENT**  
**WORLD'S MOST VERSATILE R/C SYSTEM**

CANNON now offers a new R/C System, the SUPER-NOVA, which could become a Universal Standard because of its application to AIR SIZE AIRCRAFT. The Receiver offers Small Size, Light Weight, Long Range, outstanding Selectivity and Narrow Band capability. Standard Dean's plugs on the Receiver permit use of a wide range of servos. No other plugs offered.

With Super-Micro Servos and small Rx batteries, total weight is so low that the SUPER-NOVA can be adapted to very small aircraft and gliders. The next size servo, (CE-18 NOVA), still light weight, has sufficient speed and power to control large gliders and aircraft through 80 size. Because of high speed, high torque, and strong gearing the NOVA Servo is particularly adaptable to Cars and Car Racing. And with HIGHER POWER Servos, the sky is the limit as far as vehicle size and application are concerned!

Components of the SUPER-NOVA System include a Transmitter, Antenna, Frequency Flag, Receiver, appropriate number and type of Servos selected, and Rx Battery Pack of your choice. System is available in 2 through 5 channels, but the NOVA Receiver offers up to 7 channels if so ordered. This NOVA System offers the option of Micro or Nova Servos, as well as several Rx battery sizes. All items are described below.

### TRANSMITTER, MODEL 910

This unit is exactly the same as described previously under the SUPER-MICRO section of this Brochure (Page 4). The Transmitter & other SUPER-NOVA units are shown in Figure 16.

### DELUXE SUPER-NOVA SYSTEM PRICES

WITH NOVA SERVOS

ITEM	PART NUMBER	PRICE
2 CH., 2 SERVOS	SN910-22N	\$208.95
3 CH., 3 SERVOS	SN910-33N	\$253.45
4 CH., 4 SERVOS	SN910-44N	\$287.95
5 CH., 4 SERVOS	SN910-54N	\$302.95

## SCHEMATICS

Schematics for Cannon's older R/C Systems as well as the new Narrow Band Systems are available for \$5.00 plus \$2.00 shipping and handling. When ordering be sure and identify both Transmitter and Receiver by part number so correct schematics will be sent. If Part Numbers are questionable please send internal & external photos of equipment for identification. NO C.O.B. ORDERS ARE ACCEPTED!

### DELUXE SUPER-NOVA SYSTEM PRICES (CONT.)

WITH MICRO SERVOS

ITEM	PART NUMBER	PRICE
2 CH., 2 SERVOS	SN910-22M	\$219.95
3 CH., 3 SERVOS	SN910-32M	\$264.45
4 CH., 4 SERVOS	SN910-42M	\$318.95
5 CH., 4 SERVOS	SN910-52M	\$333.95

Prices are based on Standard 27 or 72 MHz frequencies only. Refer to Available Frequencies page 7 and Frequency Pricing and Shipping costs on page 2.

System prices are based on a Standard 910 Transmitter as described on page 4. For Dual Rate Controls add \$15.00 to above prices. For Mixer add \$39.95(CE) or \$49.95(MR)

### SUPER-NOVA RECEIVER

Although similar in circuitry and Narrow Band performance to the Super-Micro Receiver, this Model SN920R(5) SUPER-NOVA Receiver utilizes standard size components, both discrete and I.C., making it slightly larger and heavier than the Micro unit. Also, it is easier to work on should this ever become necessary.

Dean's 3-pin plugs, on cables, are standard with this Receiver, all Servos and Rx Batteries. No other plugs are offered. A technical description of the Rx circuit is the same as for the Super-Micro Rx on page 5. The SUPER-NOVA Receiver measures 1 1/16" thick x 1-13/32" wide x 1-9/16" long. Weights are shown on Receiver price schedule below.

ITEM	PART NO.	WEIGHT (DEAN'S PLUGS ONLY)		PRICE
		OUNCES	GRAMS	
2 CH.	SN920R(5)2	.99	28.0	\$69.95
3 CH.	SN920R(5)3	1.00	28.3	72.95
4 CH.	SN920R(5)4	1.02	28.6	75.95
5 CH.	SN920R(5)5	1.02	28.9	79.95
6 CH.	SN920R(5)6	1.03	29.2	81.95
7 CH.	SN920R(5)7	1.04	29.5	84.95

DIMENSIONS SHOWN  
IN INCHES AND MILLIMETERS,  
WEIGHTS IN OUNCES AND GRAMS.

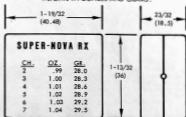


FIGURE 17. SUPER-NOVA RECEIVER DIMENSIONS & WEIGHTS

### SUPER-MICRO SERVO

This Model CE-RC Servo, available as an option with the SUPER-NOVA System or Flite Pack, is the same as described on page 4, except that it is supplied with a 3-pin Dean's plug ONLY. Servo Accessories, arms & trays are described on page 6. Individual Servo price is \$49.95, with Dean's plug.





FIGURE 10. SUPER-NOVA RECEIVER, EXTERNAL VIEW

### NOVA SERVO, MODEL CE-15

Small, but fast and powerful, the NOVA Servo completely fills the needs of the average R/C flyer. It is small and light enough to fit in small aircraft, yet fast & powerful with enough "muscle" to control large models. Dimensions & Data are listed below.

The NOVA Servo uses a high speed motor, optimum gear reduction, and high strength gear material to provide a tough, outstanding and powerful mechanism.



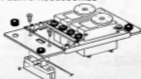
FIGURE 11. NOVA SERVO, MODEL CE-15

### CE-15 NOVA SERVO SPECIFICATIONS

Size ..... 3/4 x 1-5/32 x 1-1/2 inches  
 Weight ..... 0.9 oz. (25.5 grams)  
 Torque (Nominal) ..... 30 oz.-in.  
 Transit Time (300 degrees) ..... 0.3 Sec.  
 Centering Method ..... External, Screwdriver  
 Static Drain ..... 6 ma  
 Servo Price (CE-15) ..... \$39.95  
 Retract Servo (CE-15RT) 170 degree ..... \$42.95

### NOVA SERVO ACCESSORIES

FIGURE 20  
 UNIVERSAL  
 SERVO TRAY



**UNIVERSAL SERVO TRAY.** This Servo Tray accepts two CE-15 Servos side-by-side and one across. Double-sided design also accepts other servos such as DMR and ACE Bantam Midpot, Kraft KPS-12, CANNON CE-3, CE-4 and CE-5, standard size Dunham servos & Charlie's Servos, plus ON-OFF Switch. Mounting hardware included - P/N UST-1 - \$2.99

### CE-15 TRAYS

CE-15H Single Horizontal (Aileron) Mount ..... \$ .50  
 CE-15V Single Vertical Mount ..... .50  
 CE-15M2 Dual Vertical, Mount, side-by-side ..... .55  
 CE-15M3 Triple Vertical Mount, side-by-side ..... .60

### CE-15 SERVO ARMS

CE-15F Triangular Arm ..... .75  
 CE-15S Long Straight Arm ..... .75

If you order trays or servo arms separately, add sales tax, if applicable, plus \$ 1.50 Shipping & Handling.

### SUPER-NOVA RECEIVER NICAD BATTERIES

Batteries supplied with SUPER-NOVA Systems and Flite Packs are the same 35, 110 and 270 mah packs used on the SUPER-MICRO Systems, but come only with Dean's plugs (Figures 11 & 12). Any size or type - \$23.95



FIGURE 11. NICAD RECEIVER PACKS (INLINE)



FIGURE 12. NICAD RECEIVER PACKS (SQUARE)

### SYSTEM CHARGERS

System Chargers for the SUPER-NOVA equipment are exactly the same as that used on the SUPER-MICRO System. Charger 120C-910 is \$16.95, Charger 4CA-910 is \$10.95, and Auto Charger AC-910 is \$14.95.

### SUPER-NOVA FLITE PACKS

Nova Narrow Band Flite Packs are also available for use with other make transmitters, subject to Frequency Matching qualifications outlined on page 4 for Super-Micro Systems.

Flite Packs include all components which are to be installed in the aircraft, glider or other vehicle; namely, Receiver, Servo and Nicad Rx Battery of your choice (please specify). Transmitter, 1x Antenna, Frequency Flag and Charger are not included. However, a Flite Pack Charger is available separately, if needed. (See page 7).

### SUPER-NOVA FLITE PACK PRICES

#### NOVA RX WITH CE-9C NICAD SERVOS

ITEM	PART NUMBER	PRICE
2 Ch., 2 SERVOS	SN910FP-22H	\$176.95
3 Ch., 3 SERVOS	SN910FP-33H	\$209.45
4 Ch., 4 SERVOS	SN910FP-44H	\$237.95
5 Ch., 4 SERVOS	SN910FP-54H	\$241.95
6 Ch., 4 SERVOS	SN910FP-64H	\$245.95
7 Ch., 4 SERVOS	SN910FP-74H	\$249.95

Additional CE-9C Servos - \$49.95 Each

Deduct \$15.00 for omission of any one CE-9C Servo from Flite Pack. If second servo is omitted from Flite Pack, calculate your total cost on individual unit price, not Flite Pack price.

#### NOVA RX WITH CE-15 NOVA SERVOS

ITEM	PART NUMBER	PRICE
2 Ch., 2 SERVOS	SN1510FP-22H	\$160.95
3 Ch., 3 SERVOS	SN1510FP-33H	\$188.45
4 Ch., 4 SERVOS	SN1510FP-44H	\$212.50
5 Ch., 4 SERVOS	SN1510FP-54H	\$215.95
6 Ch., 4 SERVOS	SN1510FP-64H	\$219.95
7 Ch., 4 SERVOS	SN1510FP-74H	\$223.95

Additional CE-15 Nova Servos - \$39.95 Each

Deduct \$12.00 for omission of any one NOVA servo from Flite Pack. If a second servo is omitted from Flite Pack, calculate your total cost on individual unit prices, not Flite Pack prices.

### SUPER-NOVA FLITE PACK WEIGHTS

Weights listed below include a new Narrow Band SUPER-NOVA Receiver, 75 mah Rx Nicads and ONE CE-10 MICRO SERVO (with Dean's) per channel.

2 Ch. - 2.84 oz. ( 80.5 gr.)	3 Ch. - 3.28 oz. ( 93.0 gr.)	4 Ch. - 3.72 oz. (105.5 gr.)
5 Ch. - 3.74 oz. (106.0 gr.)	6 Ch. - 3.75 oz. (106.3 gr.)	7 Ch. - 3.76 oz. (106.6 gr.)

Flite Pack Weights shown below are with the SUPER-NOVA Receiver and ONE CE-15 NOVA SERVO per channel.

2 Ch. - 3.78 oz. (107.2 gr.)	3 Ch. - 4.69 oz. (133.0 gr.)	4 Ch. - 5.6 oz. (158.8 gr.)
5 Ch. - 5.6 oz. (159.0 gr.)	6 Ch. - 5.62 oz. (159.3 gr.)	7 Ch. - 5.63 oz. (159.6 gr.)

Add .25 oz. (7.1 gr.) to above Flite Pack Weights for 110 mah pack; 1.2 oz. (34.0 gr.) for 270 mah pack.

### ACCESSORIES FOR OLDER CANNON EQUIPMENT

#### SERVOS



NO.	MODEL	TYPE	WEIGHT OZ.	THRUST (OZ./IN.)	PRICE
1	CE-29	Rotary	1.4	NOT AVAILABLE	
2	CE-30	Misc-Rotary	1.25	NOT AVAILABLE	
3	CE-40	Misc-Rotary	1.25	20	36.00
4	CE-50	Rotary Linear	1.25	18	36.00
5	CE-60	Super-Misc	.75	NOT AVAILABLE	
6	CE-100	Misc-Rotary	.88	NOT AVAILABLE	
7	CE-11	Ht-Power Rotary	1.82	40	36.95

#### SERVO MOUNTING TRAYS



ITEM	DESCRIPTION	PART NO.	PRICE
1	Horiz. mount for 1 CE-4	CE-4H	\$ 1.49
2	Vert. mount for 1 CE-4	CE-4V	1.49
3	2 CE-4, 5 by 5	5M-2	2.50
4	3 CE-4, 5 by 5	5M-2	2.75
5	Vert. mount for 1 CE-2	CE-2V	1.59
6	Horiz. mount for 1 CE-2	CE-2H	1.59
7	Vert. mount for 1 CE-3	CE-3V	1.59
8	Horiz. mount for 1 CE-3	CE-3H	1.59
9	2 CE-2, 5 by 5, 1 across	CE-2H	2.95
10	Tri-Twin plus 1 CE-4	TI-3	3.00
11	Vert. mount for 1 CE-8	CE-8V	1.49
12	2 CE-4, 5 by 5, 1 across	512M-2	2.95
N/S	Set of CE-4 trays (5 pieces)	CE-4T	3.95

CE-3, CE-4, CE-5 and RPS-12 Servos fit all CE-4 trays.

#### PLUGS & CABLES

ITEM	DESCRIPTION	PART NO.	PRICE
1	Ext. chge. recept., plug	CCR	\$ 3.25
2	Imm. wires	CCR-W	4.75
3	Batt. cable, smel sw.	BC-55	4.75
N/S	Batt. cable, no sw.	BC-55	3.50
4	Batt. cable, noble sw.	BC-85	5.50
5	Sw. harness, w recept.	CE-SWCR	9.00



N/S	Sw. harness, w/o recept.	CE-SW	\$ 8.50
6	Dean's all. ext. cable	D-REC	6.50
N/S	Dean's 3-pin male	D3M	1.25
N/S	or Female plug	D3F	1.25
N/S	Buddy Box Cable, Assembled	BB-C	10.00
N/S	Servo cable, male Dean's plug	SC26-3M	3.00
N/S	Rx cable, female Dean's plug	RC26-3F	3.00
N/S	Multicon servo cable	MCS-4	3.75
N/S	Multicon female Rx cable	MCF-4	3.75
N/S	Multicon batt. cable	MCS-3	3.75
N/S	Multicon all. ext. cable	M-REC	6.50

#### MISCELLANEOUS FITTINGS



ITEM	DESCRIPTION	PART NO.	PRICE
1	Tx Switch, SPDT	T-SPDT	\$ 2.50
2	Sw. guard for (1)	SG-SPDT	1.25
3	Noble switch, 4PDT	NS-4PDT	3.25
4	Sw. cover for (3)	SC-4PDT	1.00
5	Sw. guard for (3)	SG-4PDT	1.00
6	Sw. protector for (3)	SP-4PDT	1.25
7	Submini. sw., SPDT	SS-SPDT	2.50
8	Switch lock	WE-5L	N/A
9	Buddy Box P.B. sw.	BB-SPDT	4.50
10	L.G. sw., SPDT	LG-SPDT	4.00
11	Male plug, 6 pin	STEX-6	4.50
12	Matching receptacle	MEB-6	3.25

**PRODUCTS AVAILABLE TO LEGITIMATE HOBBY DEALERS AT STANDARD DISCOUNTS**  
SEE DEALER CODE SHEET FOR DISCOUNT RATES

We carry only the most popular items of products listed below. Please inquire if detailed price & info lists of Specific Lines are needed.

MANUFACTURER	PRODUCTS	DISCOUNT CODE	MANUFACTURER	PRODUCTS	DISCOUNT CODE
ASTRO FLIGHT	Accessories, Miscellaneous	G	HOT STUFF (SATELLITE CITY)	Accelerators	H
	Airplane Kits	"		Accessories (Adhesive)	"
	Airplane with Electric Motor	F		Cyanocrylates (Instant Glue)	"
	Chargers	G	Solvents	"	
	Connectors, Low Loss	F	LIND PRODUCTS	Building Jigs	G
	Electric Motors & Sets	F		Construction Tools	"
Gear Boxes	F	Duplicators		"	
Glider Kits	G	EZ Pain Jig	"		
CANNON R/C	G-Mark Engines, Small R/C & UC	G	MASTER AIRSCREW	Adjustable Electric Props	G
	R/C Radio	D		Bata Stripper	"
	R/C Accessories	"		Drive Adapters	"
CHARLIE'S R/C	Accessories, Miscellaneous	G		Folding Electric Props	"
	Air Flo Hinges	"		Fuel Filter	"
	Glo Head Adapters	"		Gear Reduction Units	"
	Litespan Covering, Balsaloc Adhesive	"	Nylon Props	"	
	Modeler's Tools	"	Wood Props	"	
	Perma Grit Sanding Tools	"	Razor Plane	"	
Pin Vise	C	Spinners	"		
Realy's Everlast Sanders	G	MICRO-X	R/C & FF Airplane Kits	G	
DAVE BROWN PRODUCTS	Adhesives, Fuel Pumps, Miscellaneous		G	PECK POLYMERS	Airplane Kits, R/C & FF
	Items, Motor Mounts, Retractor Gear, Wheels	"	R/C Glider Kits		"
CERMARK MODEL SUPPLY	Savoy Batteries, Chargers, Fuel Pumps,	**	Electric Flight Systems		"
	Multi-Meters, Quarter Scale Servos,	"	Sharpies, Wipers	"	
	Power Panels, Tachometer	"	Free Flight Accessories	"	
COVERITE	Graphite, Paints, Super Coverite,	G	PERMA GRIT	Sanding & Shaping Tool	G
	Thermometer, Transit Knife	"		PHARIS MODELS	Free Flight Airplane Kits
DAVEY SYSTEMS	Sailplane Kits	G	Profile Fun Gliders		"
	Electric Airplane Kits	"	Desert Storm Gliders		"
	Engine Powered Kits	"	Outline Rubber Kits	"	
	Electric Motors	"	RIN MODELS	Small Scale R/C Kits	G
Flight Accessories	"	Scale Free Flight Rubber Kits		"	
W. S. DEANS CO.	R/C Antennas	G		Old Time Classic Kits	"
	3-pin Plugs	"	Unlimited Rubber Kits	"	
D & R PRODUCTS	Power Pods	G	ROYAL PRODUCTS	Model Accessories	G
	DYNA FLITE	Glider, Accessories		G	Electric Fuel Pump
& Stand-off Scale Airplanes		"		Engine Locking Socket	"
EDJER		Knife Sharpening Tools		G	Heat Gun, Heat Iron
	FLORIO FLYERS	Fun Fly Airplane Kits		G	Field Box
Glider Kits		"		Retract Gear	"
Folding Wing Gliders		"	Power Pod	"	
FLYLINE MODELS	Small Scale Airplane Kits	G	Analog, Digital Tachs	B	
		"	Titan Servos	D	
FOX ENGINES	Engines, R/C & UC	G	L.R. TAYLOR CO.	Power Pacer	E
	Glow Plugs	"		Multi Chargers	"
	Reamers	"		Dual Rate Multi Chargers	"
MYGRADE MODELS	Mini Electric R/C & FF Models	G	NOVAK ELECTRONICS	Chargers	**
	LITESPAN	LITESPAN - The lightest iron-on synthetic Heat Shrink Covering, available 1 oz. per Square Yard. Replaces tissue and dope! For your smallest models - and larger - to 60" Span. Light, Strong, Airtight, Waterproof, Fuel Resistant. Can be painted or doped, but beautiful colors offered make it unnecessary. Colors: Red, Yellow, Orange, Blue, Cream, Black, White, Silver/Dark Green. Sizes: 20" x 36" or 20" x 72" sheets - Easy to install with non-toxic water base BALSALOC adhesive. Prices: 36" Size - \$3.00, SPEC. \$2.50 72" Size - \$6.00, SPEC. \$5.00 BALSALOC - 110 Gr. - \$4.00, SPEC. \$3.25 Applies to 10 - 36" Litespan. S & H 7 Sheets 20" x 36" or 4 Sheets 20" x 72" + 1 BALSALOC - \$3.00. To 14 Sheets 20" x 36" or 7 Sheets 20" x 72" + 2 Balsaloc - \$4.25.		G	Receivers
HOT STUFF (CYANOACRYLATE)			Speed Controls		"
			The foremost INSTANT adhesives in the WORLD! Specialty Formulated for Models - even used to build Full Size Aircraft, like the around-the-World Voyager. Useful for Models, plastics, rubber gaskets,		Small Electric Propulsion Systems
			Batteries	"	
			Chargers	"	

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**LITESPAN**  
LITESPAN - The lightest iron-on synthetic Heat Shrink Covering, available 1 oz. per Square Yard. Replaces tissue and dope! For your smallest models - and larger - to 60" Span. Light, Strong, Airtight, Waterproof, Fuel Resistant. Can be painted or doped, but beautiful colors offered make it unnecessary. Colors: Red, Yellow, Orange, Blue, Cream, Black, White, Silver/Dark Green. Sizes: 20" x 36" or 20" x 72" sheets - Easy to install with non-toxic water base BALSALOC adhesive. Prices: 36" Size - \$3.00, SPEC. \$2.50 72" Size - \$6.00, SPEC. \$5.00 BALSALOC - 110 Gr. - \$4.00, SPEC. \$3.25 Applies to 10 - 36" Litespan. S & H 7 Sheets 20" x 36" or 4 Sheets 20" x 72" + 1 BALSALOC - \$3.00. To 14 Sheets 20" x 36" or 7 Sheets 20" x 72" + 2 Balsaloc - \$4.25.

**HOT STUFF (CYANOACRYLATE)**

The foremost INSTANT adhesives in the WORLD! Specialty Formulated for Models - even used to build Full Size Aircraft, like the around-the-World Voyager. Useful for Models, plastics, rubber gaskets,

ties, fingernails, home repairs, etc. Very Special Prices Shown - Guaranteed FRESH from the Factory. All types and Sizes of Hot Stuff, Accelerators, Solvent and Comparison Products available on Special.

ITEM	SIZE	RETAIL	SPEC.
CLEAR, SUPER T	2 OZ.	\$ 9.95	\$ 5.80
"	4 OZ.	\$19.95	\$11.00
UFO (Thin or Thick)	20 GR.	\$ 7.95	\$ 4.80
"	50 G R.	\$17.95	\$10.40
HOT SHOT ACCEL	3 OZ.	\$ 4.75	\$ 2.75
"	6 OZ.	\$ 8.50	\$ 4.95
KICK IT ACCEL	3 OZ.	\$ 5.75	\$ 3.35
"	6 OZ.	\$ 9.50	\$ 5.50
NEW 'SPRAY' N CURE SOLVENT	2 OZ.	\$ 5.25	\$ 3.05
"	2 OZ.	\$ 5.98	\$ 3.50

ACCESS. AVAIL. SAME DISC. S&H, BASED ON FLUID WEIGHT OF ITEMS: 10 OZ., \$5.00 UPS; 20 OZ., \$6.00; 40 OZ., \$7.00, 80 OZ., \$8.00

# SPARE PARTS AND ACCESSORIES LIST FOR COMMON R/C EQUIPMENT

## CHARGERS

ITEM	PART NO.	DESCRIPTION	PRICE
Auto Chargers	AC-100	45 ma output, from car cigarette lighter to Dean's Plug on 4.8V Rr bat. Model 810, 75, 110 or 270 ma pack. Field charges in 15 min. max. Same as above, but with Subson phone plug for Model 910 4.8V Rr bat.	\$34.95
	AC-910	4.8V for 4-cells w/Dean's 3-pin plug 4.8V for 4-cells w/Subson phone plug	\$30.95 \$30.95
Dual Chargers	12CA-810	For 9.6V Tx & 4.8V Rr batteries, with 2 cige indicators, Dean's Tx cige plug, 3-pin Dean's Rx plug for Model 910	\$36.95
	12CA-350	Same as above but with 6-pin Tx plug & 3-pin Dean's Rx plug	\$36.95
	12CA-840	Same, but with 6-pin Tx plug & 3-pin 12CC-910(120V)	\$36.95
	12CC-910(120V)	Same, but with one miniature Tx phone plug and one Subson Rx phone plug for Model 910 R/C bats	\$36.95
	12CC-910(230V)	Same, for 230V operation	\$39.95

## PLUGS & CONNECTORS

ITEM	PART NO.	DESCRIPTION	PRICE
Plug Connector	D1M	3-pin Dean's Male	\$ 1.25
Charge Plug	D3P	3-pin Dean's Female	\$ 1.25
Charge Plug	D3C	2-pin Dean's Male, plastic key	\$ 1.25
Charge Recept	DCR	Passive Mfg. with plug	\$ 3.25
	BCRW	Same, with wires attached	\$ 4.75
Micro Plug	MC1	2/1 pin, Bat to Rr, Blk or Red	\$ 1.50
	MD1	2/1 pin, Rr to Bat, Blk or Red	\$ 1.50
	ME1	3/1 pin, Rr to Servo, Blk or Red	\$ 1.50
	MF1	3/1 pin, Servo to Rr, Blk or Red	\$ 1.50

ORDER BY PART NO., TYPE & COLOR. SEE PAGE 3 FOR IDENTIFICATION.

Charge Plug	PTC	Miniature Tx phone type	\$ 1.25
Charge Socket	STC	Matching Tx Socket	\$ 1.25
Charge Plug	PRC	Subson Rx phone type	\$ 1.25
Charge Socket	SRC	Matching Rx Socket	\$ 1.25

## SERVO PARTS

ITEM	FOR SERVO MODEL	PRICE
Outer Case (2 pieces)	CE-1, CE-2, CE-3, CE-8, CE-10, CE-11	\$ 4.50
Gear Assy	" " " " " " " "	\$ 6.00
Outer Case (2 pieces)	CE-4, CE-5, CE-9, CE-15	\$ 5.00
Gear Assy	" " " " " " " "	\$ 7.00
Motor plate only	" " " " " " " "	\$ 2.25
Top Plate Only	" " " " " " " "	\$ 1.75
Gears Only (All Models)	(Wind Servo Type, Gear Description), Per Gear	\$ 1.00
Servo Mechanism (Plastic Parts Only)	Case, Gear Assy, Gear Plates, Specify Servo Model	\$12.00
Straight Arms	CE-4, CE-5, CE-8, CE-10, CE-11	\$ .75
Triangular Arms	" " " " " " " "	\$ .75
Servo W/ends	CE-9	\$ .75
Straight Arms	Short CE-9	\$ .75
Straight Arms	50% Longer	\$ 1.25
Adjustable Arms	Specify Servo	\$ 1.25
Servo Wiper Assy	Specify Servo	\$ 2.50
Servo Pot (SK)	CE-4, CE-5, CE-8, CE-11, CE-9, (All) specify white or fiberglass pot	\$ 4.00
Servo Motors	10mm coreless for CE-9 (All)	\$19.95
	12mm (black) for CE-8	\$10.95
	12mm for CE-15 (Nova)	\$12.95
	16mm for CE-4, CE-5	\$10.95
	20mm for CE-11	\$19.95

CE-9C Servo Amplifier With wires & cable, ready to solder into Servo Specify plug type & color and whether servo has white or fiberglass pot.

## CABLES

1. New style BATTERY CABLE, small DPDT switch, charge plate, external charge receptacle, "resistor or diode," plug - Dean's, Micro (red

## CABLES

- or black) on one end for attachment to battery. \*Specify plug, color, & resistor (75 or 110 ma bat) or diode (270 ma bat).
2. New SWITCH HARNES, same as above, with plugs on both ends. \$39.50
  - Specify plug & resistor, or diode.
  3. Older SWITCH HARNES with Noble 4 PBT switch, plate, cover, external charge receptacle, Dean's plug both ends. \$30.00
  4. Older BATTERY CABLE, same except plug one end only (Specify type)
  5. ALERION EXTENSION CABLE 8' long, plugs both ends (Specify plug type & color) (Add \$2.00 for each 4' added to cable length).
  6. "Y" SERVO CABLE (Specify plug type & color), in 12" long - \$12.50  
in 24" long - \$16.50

## COMPONENT PARTS

1. TX ANTENNA, Newer Cannon style, 8 section collapsible, 11/32" dia., 6-1/2" collapsed, 42" long. \$ 7.25  
Older Cannon Tx Antennas available, specify dimensions, as above \$ 6.50
2. RX ANTENNA, flexible 30 or 36" \$ 1.50
3. BATTERIES - Servos, 75, 110 or 270 mah, with solder tabs, in charge mat, single cells only - per cell \$ 3.75
4. CAPACITORS  
Standard size disc (round) caps \$ .50  
Subson disc (round) caps \$ .50  
Mono caps, subson \$ .75  
Dip tantalum caps, radial \$ 1.50  
Tantalum caps, axial \$ 1.50  
Electrolytic, axial or radial \$ 1.00

Values & sizes available are same as those used in Cannon R/C Units. Specify application when ordering.

## 5. CASES, PLASTIC

1. Battery Case, 8 cell, square type for 810, 910 TX \$ 3.50
2. Battery Case, 8 cell, flat type for 810, 910, 840 Tx \$ 3.50
3. SUPER - MICRO Receiver case (2 parts) \$ 5.00
4. SUPER - NOVA or Charo's CLASSIC Rx Case (2 parts) \$ 3.00

6. CRYSTALS (Transmitters) Specify Freq. & Type  
27 MHz, 1st Overton, wire leads \$ 7.50  
27, 29, 40 MHz, 3rd Overton, pin leads \$ 7.50  
35, 50, 53, 72 MHz, 5th Overton, pin leads \$12.00
7. CRYSTALS (Receivers) Specify  
Std. 27, 29, 40 MHz, 1st Overton, wire leads \$10.50  
Std. 35, 50, 53, 72 MHz, 3rd Overton, wire leads \$12.50  
Subson Micro, 50, 53, 72 MHz, 3rd Overton, wire leads \$12.50
8. DIODES - 1N4001, 1N4148, 1N750A (5V ZENER) \$ 1.00
9. HARDWARE - All Sorens, washers, grommets, nuts, etc., EACH \$ 2.00
10. I.F. TRANSFORMERS (455 KHz)  
5mm, 6mm, yel, white, blk, each \$ 2.75  
5 mm, subson, yel, blk, each \$ 3.50

11. INTEGRATED CIRCUITS  
LM324N (Monor, 14 pin), LM358N (Tx, 8 pin), NE544N (Servo, 14 Pin), NE544D (Servo, Surface Mt, 14 Pin), NE5044N (Tx, 16 Pin), NE5045N (Rr, 16 Pin), NE2045D (Rr, Surface Mt., 16 Pin), 74C53N (104 Rr, 14 Pin), 74C1666N (104 Rr, 14 Pin), SN2804 (104 Servo, 12 Pin) - EACH \$ 7.50

12. RESISTORS, 5% TOLERANCE  
1/4W, 5% Resistor \$ .35  
1/8W, 5% Resistor \$ .30  
1/2W, 68 Ohm \$ 1.00  
1/2W & 1/4 5% Resistor available from 3.3 ohms to 680K ohms, values as used in Cannon R/C Units. \$ 7.50

13. STOCK ASSEMBLIES (Denham)  
A. Single Axis, Open-Girball Stick, RH centering or LH ratchet, \$K pot, small face plate, chrome mask \$18.50  
B. Two Axis, Open-Girball Stick, RH, centering both axis, \$K pot, small face plate, chrome mask (Model 2) \$26.50  
C. Two Axis, Open-Girball Stick, LH, horizontal centering \$26.00  
vertical ratchet, \$K pot, small face plate, chrome mask (Model 2)

Items B and C also available as Model 1 Sticks; larger face plates optional - same price.  
D. Three-Axis, Open-Girball "Single Stick", with Rudder Knob, \$K pot, Chrome mask, choice of face plates \$36.50  
E. Rudder Knob only, w/\$K pot, choice of face plates, chrome mask \$12.50

14. TRANSISTORS (Standard Size)  
Small Signal TO18 case, MPS2369, 2N2139, PN3565, PNP3565, 2N4124, 2N4550, 2N4550 - EACH \$ 2.50  
Power output transistor, 4W, 2N2121A (TO3 case) \$ 3.50  
FET, 2N5457 or 2N5484 (TO18 case) \$ 3.00

15. TRANSISTORS (Subson)  
MT7002 (YEL) NPN, MT4103 (WH) NPN, MT4101 (GRN) NPN, MCT404 (RED) PNP - EACH \$ 3.50

16. WIRES  
NO. 26 Stranded, PVC, all Cannon colors \$ 250.  
NO. 26, Teflon, Red, Blk, Orange \$ 350.  
NO. 28, Stranded, PVC, all Cannon colors \$ 600.



2828 COCHRAN STREET, SUITE 281 Phone (805)581-5061

SIMI VALLEY, CA. 93065-2780

# G-MARK R/C & SPORT ENGINES

Cannon R/C Systems proudly presents this unique line of G-Mark R/C and Sport Engines to the Modelers of the U.S.A.

These engines are made in Japan by the foremost manufacturer of fine watch components in the World. A subsidiary of Citizen Watch Co., they have supplied quality parts for over 20 years to the parent company as well as other watch makers throughout the World.

Within the last few years they have turned their talents to the manufacture of Model Aircraft Engines, but none common-place. Quality of the resulting engines attests to their superior precision and skill in the field of design and metal working.

All engines shown herein offer sizes, applications, and design features not duplicated elsewhere. The throttle-equipped R/C engines are designed from the start to provide reliable idling, smooth speed transitions, and good top end performance, even with mufflers. The U-Control units pro-

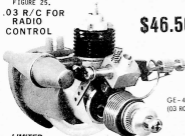


KAWAGUCHIKO SEIMITSU CO., Home of G-Mark Engines

duce the high RPM's expected for top performance. Mufflers are standard on all engines.

## .03 FRONT ROTARY VALVE ENGINES

FIGURE 25.  
.03 R/C FOR  
RADIO  
CONTROL



**\$46.50**

GE-4017  
(.03 RC)

**LIMITED  
QUANTITY!**

Ideal for three or four channel use in those ultra-small Schoolyard models. Efficient throttle action provides wide range of operating speeds. Engine idles well without muffler, runs at higher RPM's.

Standard equipment includes integral fuel tank, muffler, glow head, spring starter, propeller and wrench. Recommended fuel: 10 to 25% nitromethane mix. Rear mounting plate optional (\$3.00) for use with separate fuel tank.

### SPECIFICATIONS

Bore .....	.343 in. (8.72 mm)
Stroke .....	.324 in. (8.23 mm)
Displacement .....	.03 cu. in. (0.49cc)
Weight (with fuel tank, muffler)....	1.49 oz. (43.8 gr.)
Speed Range (Nominal) .....	6000 to 18,000 RPM
Propeller .....	4-1/2" dia. x 2" pitch
Tank Capacity.....	approx 1/3 oz.

## .03 U/C FOR U-CONTROL

FIGURE 26.

GE-4011  
(.03)

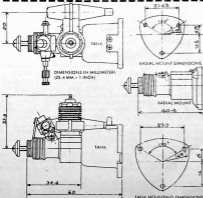
**\$42.75**

**LIMITED  
QUANTITY!**



No  
THRITTLE

Some Specifications as .03 R/C except:  
Weight (with fuel tank, muffler).... 1.36 oz. (38.56 gr.)  
Speed Range (Nominal) .....





## OLDER CHARGERS, ADAPTERS & LIMITERS

### DUAL CHARGERS



FIGURE 34. DUAL CHARGERS

Dual Charger, P/N 12CA-810, shown above with two Dean's plugs, is still available. It charges Tx and Rx independently or together, has two charge indicator lamps. Another charger, P/N 12CB-810 can be supplied. This unit has only one Dean's Rx plug, together with a miniature phone plug for the transmitter. If ordering a new charger, be careful to specify the correct type. Either unit is \$16.95 (120V) or \$19.95 (220V)

### FLITE PACK CHARGER & AUTO-CHARGER



FIGURE 35. FLITE PACK & AUTO CHARGERS

Flite Pack Charger, P/N 4CA-810, (120V only) is available separately, if needed. Charges Rx nfcad pack at 40-45 mA. Price with Dean's plug - \$10.95.

Auto-Charger, P/N AC-100, with Dean's plugs, plugs into automobile cigarette lighter socket and to charge 75, 110 or 270 mah packs at field in 15 minutes max. Price is \$14.95

## CHARGE ADAPTERS & LIMITERS



FIGURE 36. CHARGE ADAPTERS & LIMITERS

CHARGE LIMITER P/N 810-100CL(D) (\$3.50) is used with a Standard 40-50 ma charger to restrict overnight charge current to a safe level for 75 or 110 mah battery packs with Dean's plug. LIMITER, P/N 810-100CL(M), is for use with batteries with Micro plugs.

A 110 mah battery with Dean's plug works with a fast charge Auto-Charger without a Charge Adapter. For a Micro plug equipped 110 mah battery, CHARGE ADAPTER P/N 810-CA(M) (\$3.00) is needed for Auto-Charger use.

270 mah Micro plug batteries also require this same CHARGE ADAPTER, P/N 810-CA(M), to mate with Dean's charge connectors. No ADAPTER is needed for 270 mah Dean's equipped batteries.

### MISCELLANEOUS PARTS AVAILABLE

SRS-1	Servo Reversing Switch (Tx)	\$2.00
SMP-1	Submin Switch Plate, w cbge provisions	1.50
SCR-1	Submin Charge Electrode for SMP-1	1.50
SCP-1	Submin Charge Plug for SCR-1	1.50
SS-OPDT	Submin Rx Switch, OPDT	2.50
TX-ANT	Transmitter Antenna, 48" long, 9 section	7.50
TX-XTL	Transmitter Xtal, pin leads, 5th overtone	12.00
RX-XTL	Std. Rx Xtal, 3rd O.T., Doubler	10.50
MICRO-XTL	Super-Micro Rx Xtal, 3rd O.T., Doubler	12.50
Above crystals available on all current authorized 53 & 72 MHz frequencies. Receiver crystals have wire leads.		
D3M	Male Dean's plug, 3-pin	EA. 1.25
D3F	Female Dean's plug, 3 pin	EA 1.25
C,D,E,F	Micro Plugs (Identified on Page 5)	EA 1.50
Specify type and color (red or black)		

## MAIL LIST REQUEST



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ARE YOU ON OUR COMPUTERIZED MAILING LIST TO RECEIVE THE LATEST FANTASTIC PURCHASES? IF NOT, PLEASE FILL IN THE COMPUTER - MAILING LIST - BROCHURE REQUEST FORM AND WE'LL MAKE IT POSSIBLE FOR YOU TO BECOME ONE OF US.

NAME - PLEASE PRINT

AREA CODE TEL. NUMBER

ADDRESS

CITY

STATE

ZIP CODE (9 DIGIT)

IF YOU ARE A NEW ADDITION TO OUR MAIL LIST, PLEASE, COMPLETE THIS FORM AND SEND IT WITH \$1.00 TO COVER COST OF COMPUTER MAIL ENTRY AND FIRST BROCHURE. FUTURE CATALOGS WILL AUTOMATICALLY COME TO YOU AT NO ADDITIONAL CHARGE. IF REQUEST COMES WITH AN ORDER, CANNON WILL NOT REQUIRE THE \$1.00 MAIL ENTRY COST.

**REMEMBER - INFORM US OF ANY ADDRESS CHANGE IF YOU WISH TO REMAIN ON OUR MAIL LIST!**

