

1983 SUPER-MICRO EQUIPMENT

WORLD'S SMALLEST RADIO CONTROL SYSTEMS

CANNON presents the 1983 SUPER-MICRO System, by far the smallest and lightest R/C system in production today. Note in the photos that both the RECEIVER and CE-9 SERVOS are considerably smaller than a standard U.S. Commemorative stamp.

Reduced sizes and weights of both the SUPER-MICRO Receiver and companion Servos make this system possible. It is light enough for multi-channel CO₂ airplanes, indoor aircraft, Schoolyard Scale, small 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 Latsha of Pennsylvania set a new world speed record using the standard SUPER-MICRO system in a Quarter-Midget pylon racer.

Each complete SUPER-MICRO System consists of a Transmitter, Tx Antenna, Dual Charger, Discrete Receiver, Rx Nicad Battery, CE-9 Servos, Servo Mounting Plates and Aileron Tray (4 Ch. only). Equipment is available in 2 thru 5 channels. Any System or Flite Pack may be converted up to 5 channels at the factory for the basic difference in system costs, plus \$15.00 for labor.

Unless the customer specifies otherwise, the standard Rx Nicad Pack supplied with a 2 or 3 channel system is 100 mah; 250 mah with 4 or 5 channel units. Either battery pack, or 450 mah pack, is available upon request.

TRANSMITTERS

Two different transmitters are available, described below:

- Deluxe 820T Metal transmitter measures 1-19/32 x 5-1/16 x 5-1/4". Dunham precision open-gimbal sticks, output meter and 500 mah nicad batteries make this an outstanding transmitter, very light and perfectly balanced.



FIGURE 2.
ALTERNATE
810T
(PLASTIC) TX



FIGURE 1. SUPER-MICRO SYSTEM. 820T SHOWN.

A new "Max-Powr" RF section provides nominal 750 mw max. output on 72 MHz. This Tx is pictured in figure 1.

820 Tx prices: 2 CH. - \$ 98.95; 3 CH. - \$109.95
4 CH. - \$119.95; 5 CH. - \$129.95
Add \$15.00 for Single Stick (3 axis, 4 & 5 CH. only).

- Figure 2 shows the alternate 810T plastic cased transmitter. Size is 1-11/16 x 4-13/16 x 5-3/8", material high-impact ABS plastic. Except for case material, it incorporates the same sticks, meter, batteries and circuitry as the 820T.

Cost for the 810T is \$10.00 less than for the 820T, either singly or with a system.

DELUXE 1983 SUPER-MICRO SYSTEM PRICES

ITEM	PART NUMBER	PRICE
2 CH., 2 Servos	MSM820-22A	\$202.95
3 CH., 3 Servos	MSM820-33A	\$252.95
4 CH., 4 Servos	MSM820-44A	\$299.95
5 CH., 4 Servos	SM820-54A	\$308.95

Price includes Metal 820 Tx with 2-axis stick(s). If 810 Tx is more desirable, deduct \$10.00 from System price. Please specify Tx desired. For Single 3-axis Tx Stick (4 or 5 CH. only) add \$15.00.

Deduct \$17.00 for omission of one CE-9 servo from a System. Add Shipping Costs and applicable Calif. Taxes. See Frequency Pricing. For 220V add \$5.00.

SHIPPING COSTS

Add \$6.50 for Systems, \$4.50 for Flite Packs, and \$2.50 for Receivers, Servos or Accessories for Shipping and Handling. California residents add applicable Sales Tax to order. If Tx is sent in for Flite Pack matching, use System shipping costs.

NEW FREQUENCIES

Please note that this equipment is now available on the new AMA approved frequencies, as well as all older frequencies.



FIGURE 3. SUPER-MICRO AND SUPER-MINI RECEIVERS.

RECEIVERS (See Figure 3)

The 1982 SUPER-MICRO is supplied as standard in 2, 3 or 4 channel Systems or Flite Packs; it can not be converted to 5 channels. Micro plugs are standard with this unit, but Dean's plugs can be specified if desired.

This Rx has single-tuned RF, FET Mixer, dual AGC & simplified decoder with 4-channel capability. Has short antenna for use in small aircraft.

Micro Rx Prices. 2 CH. - \$75.95 3 CH. - \$78.95
4 CH. - \$81.95

When a 5 Channel unit is ordered, the SUPER-MINI Rx will be supplied. It is .28 ounces heavier than the SUPER-MICRO, but has 8-Channel capability and double-tuned front end with FET RF amplifier. Dean's plugs are standard with this receiver. Micro plugs not available.

Super-Mini Rx Prices. 2 CH. - \$75.95 3 CH. - \$78.95
4 CH. - \$81.95 5 CH. - \$84.95

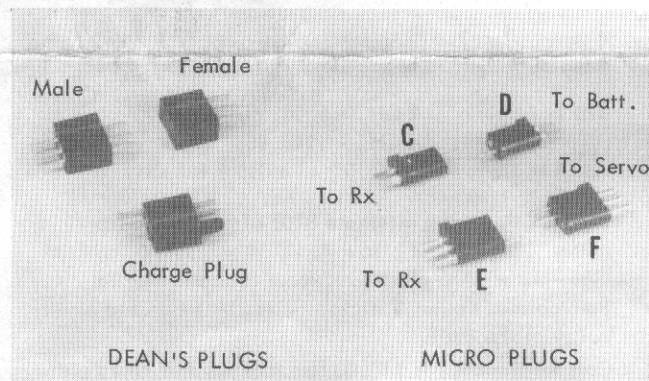


FIGURE 4. CONNECTOR TYPES USED.

CONNECTOR TYPES (Figure 4)

A new Cannon MICRO plug is standard with 2, 3 or 4 channel Systems or Flite Packs using the MICRO Rx. Plugs are ultra small (40% of 3-pin Deans size and weight), 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. Five channel units come only with Dean's plugs. When ordering plugs, specify type needed; use letter designation to identify correct style MICRO plug. Dean's plugs are \$1.00 each; Micro plugs are \$1.25.

CE-9 SERVO SPECIFICATIONS

SUPER-MICRO Servo, Model CE-9, World's Smallest
Size 29/64 x 31/32 x 1-3/32 inches
Weight47 oz.
Torque (Nominal) 15 oz.-in.
Transit Time (100°) 0.5 Sec.
Centering Method External
Static Drain 6 ma.
Servo Price (New Low Price) **\$34.95**

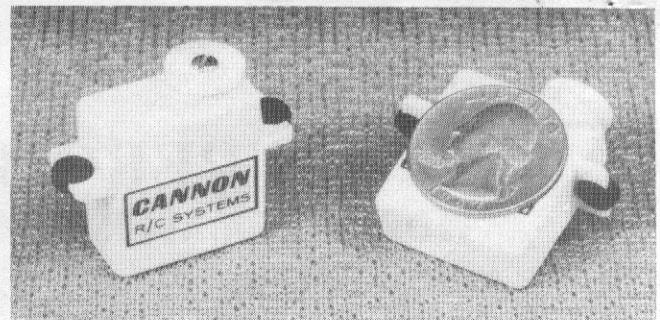


FIGURE 5. SUPER-MICRO SERVO.

SUPER-MICRO SERVO

The original Cannon SUPER-MICRO Servo, smallest in the world, uses an isolating input capacitor, tiny 10mm motor and Signetics NE644W I.C. Servo is compatible with standard positive-pulse receiver-decoders. Price includes choice of Dean's or Micro plugs. When ordering specify plug type; add \$2.50 per servo for Cirrus, D&R, Futaba, Multicon or Sanwa plugs. Also, advise Tx and Rx type to be used with.



FIGURE 6. SERVO MOUNTING PLATES AND OUTPUT ARMS.

SERVO MOUNTING PLATES. Figure 6 shows Servo Plate usage with the CE-9 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 (per pair) - \$.50.

SERVO OUTPUT ARMS (Figure 6). One round and one straight arm come with each servo. Extras - \$.60 each. The adjustable arm shown provides somewhat greater throw. Not supplied, but available separately - \$1.00.

SERVO COMPARISONS		
		
SUPER-MINI	KPS-18	SUPER-MICRO
.75 oz	.582 oz	.47 oz

FIGURE 7. SERVO COMPARISONS.

NICAD BATTERIES

Figure 9 shows 100 and 250 mah Rx nicad sizes and weights. 450 mah pack (not shown) is $27/32 \times 1-5/16 \times 2-7/8$ inches. (21.5 x 33.5 x 73 mm); weight is 3.47 oz. (98.5 gr.). All batteries are 4.8V and include a subminiature switch in the battery cable. If desired, a Dean's external charge receptacle can be added for \$2.95. All three battery sizes are optional with Systems or Flite Packs, and are available separately at \$19.00 each.

A CHARGE LIMITER for 100 mah battery comes as part of a System or Flite Pack to restrict charge current to proper level. It is not supplied when 100 battery is purchased separately (\$2.95 if needed). Also, CHARGE ADAPTERS for 250 and 450 mah batteries are needed to charge Micro plug batteries from Dean's charge plugs. These are supplied with complete System or Flite Pack, but not with individual battery packs. (\$2.50, if required). In all cases, specify plug combination(s) desired.

Expect battery flite life for 100 mah cells and Micro equipment to be as follows: 20 minutes for 4 channels; 30 minutes for 3 channels; 40 minutes for 2 channels. For 250 mah, multiply these times by 3; 450 mah by 5.

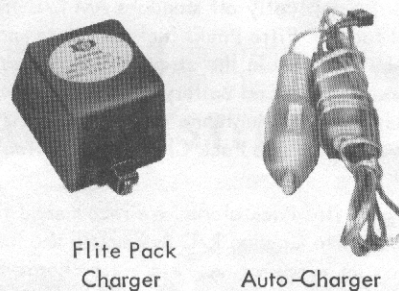


FIGURE 8. FLITE PACK & AUTO-CHARGERS.

CHARGERS

Dual Charger (Figure 1) supplied with System charges Tx and Rx independently or together, has two charge indicator lamps. Price (110V) - \$12.95; 220V - \$17.95.

Flite Pack Charger (110V only) is available separately, if needed. Charges Rx nicad pack at 40-45 ma. Price, with Dean's plug - \$9.95.

Auto-Charger (Figure 8). Plugs into automobile cigarette lighter socket and permits charging of 100 mah pack at field in 15 minutes max. Price is \$9.95.

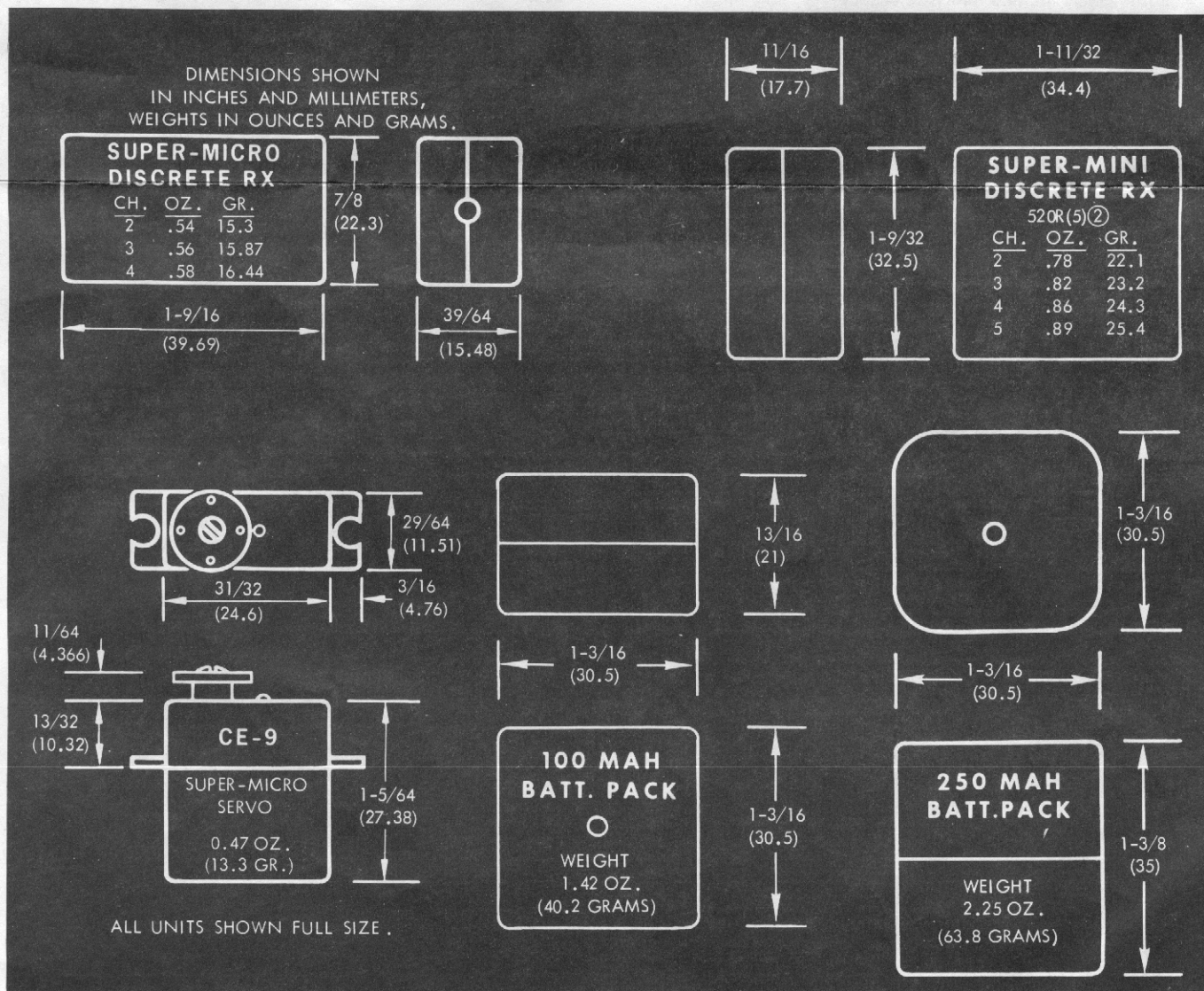


FIGURE 9. DIMENSIONS AND WEIGHTS OF SUPER-MICRO UNITS.

FLITE PACKS

SUPER-MICRO Flite Packs are available separately and are compatible with practically all standard AM R/C transmitters on the market today. Flite Packs include all components which are to be installed in the aircraft or vehicle: namely, Receiver, Servos and Nicad Battery (of your choice - please specify). Transmitter, Tx antenna and Charger are not included. However, a Flite Pack Charger is available separately, if needed.

When ordering a Flite Pack alone, we recommend that your transmitter be sent to Cannon R/C Systems so the Receiver can be tuned for optimum operation. No extra charge for this service - your transmitter adjustments will not be altered. If no Tx is sent, we will send tuning instructions to assist your local technician in matching this Rx to your Tx. In any case, please advise your transmitter type so we can assure compatibility.

1983 SUPER-MICRO FLITE PACK PRICES

ITEM	PART NUMBER	PRICE
*2 CH., 2 Servos	MSM820FP-22A	\$149.95
*3 CH., 3 Servos	MSM820FP-33A	183.50
*4 CH., 4 Servos	MSM820FP-44A	216.95
5 CH., 4 Servos	SM820FP-54A	219.95

*Model numbers include new Micro Receiver, and Micro plugs. Five channel Model includes SUPER-MINI Receiver and Dean's plugs.

Deduct \$17.00 for omission of one CE-9 servo from Flite Pack. Add Shipping Costs and applicable Calif. taxes. See Frequency Pricing.

FLITE PACK WEIGHTS

Weights for 2 thru 4 CH. below include SUPER-MICRO RX, 100 mah Rx nicads and number of CE-9 Servos shown. (Except for 5 CH. which has SUPER-MINI RX).

2 CH. - 2.9 oz. (82.3 gr.)	3 CH. - 3.39 oz. (96.2 gr.)
4 CH. - 3.88 oz. (110.1 gr.)	5 CH. - 4.19 oz. (118.79 gr.)

Add .83 oz. (25.53 gr.) to Flite Pack weights for 250 mah pack; 2.05 oz. (58.1 gr.) for 450 mah.

AVAILABLE FREQUENCIES

SUPER-MICRO, and all other Cannon equipment, is now available on the following frequencies:

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, .450, .550, .650, .750, .850, .950.
D-40 MHz:	40.665, 40.675, 40.695.
E-53 MHz:	53.1, 53.2, 53.3, 53.4, 53.5, 53.6, 53.7, 53.8.
F-72 MHz:	72.080, *72.160, 72.240, *72.320, 72.400, *72.960, *75.640.
G-72 MHz:	72.720, 72.760, 72.800, 72.840, (Canada only).
H-72 MHz:	(12)72.030, (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, *72.960.
J-75 MHz:	(62)75.430, (64)75.470, (66)75.510, (68)75.550, (70)75.590, *75.640, (74)75.670, (76)75.710, (78)75.750, (80)75.790, (82)75.830, (84)75.870

*Shared frequencies between aircraft & non-aircraft. Parenthesis denotes Channel No. for new frequencies.

FREQUENCY PRICING

Prices shown are for 27 or 72 MHz, either Units or Systems. For any other frequency band, add \$15.00 for Systems, or \$10.00 for Flite Packs, Transmitters or Receivers alone.

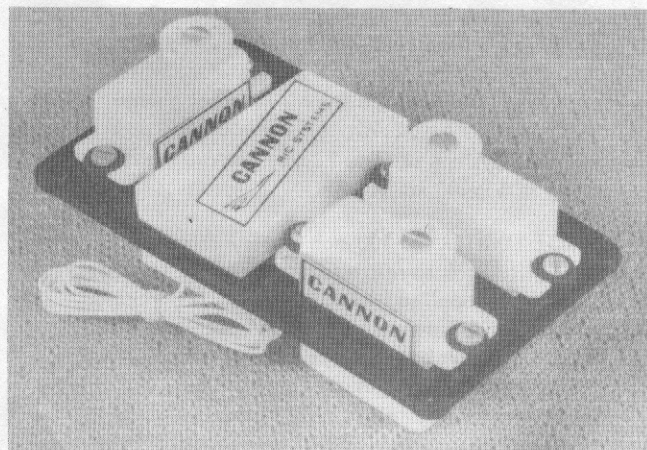


FIGURE 10. SUPER-MICRO R+3 MULTIPLE TRAY.

SERVO ACCESSORIES

System Tray (Figure 10). This R+3 tray accommodates the SUPER-MICRO RX and up to 3 servos in a single shock-mounted unit. In addition, tray is marked in such a way as to permit it being cut apart to make a number of vertical tray configurations (Figure 11). Not supplied with System or Flite Pack; available separately \$2.79.

Aileron Tray (Figure 1). This horizontal servo mount is supplied with Systems but not with Flite Packs. Available separately - \$1.49.

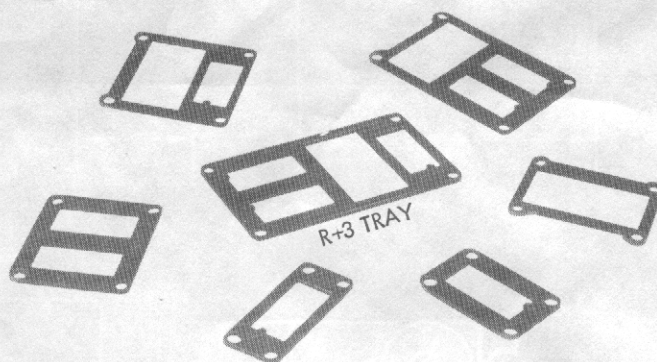


FIGURE 11. SERVO TRAY CONFIGURATIONS.

FREQUENCY ALLOCATIONS

Bands A,E,F,H & J legal in U.S.A. Bands A,B,C,D & F for certain foreign countries. Bands A,F & G legal in Canada. FCC Class "C" license required for Bands A,F,H & J. Band E requires FCC Amateur License. Band H, new band allocation for Aircraft use only, and Band J, new band allocation for non-aircraft use only, legal after 20 December 1982.

Master Card and Visa accepted on Retail Orders above \$25.00. California Residents add Sales Tax.



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DEALER AND DISTRIBUTOR DISCOUNTS AVAILABLE