Citizen-Ship RADIO CORPORATION

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Dear Model Builder:

We receive many letters daily requesting information about radio control flying. They range from questions of plane design to questions about electronics. It is impossible to write a personal letter to every such writer although we would like to do so. Therefore, we are briefly listing some information in addition to that contained in the attached catalog which will answer a number of questions.

Primarily, radio control (R/C) is a method whereby the modeler can control a model plane, boat, or car by means of a transmitter held in his hand which transmits impulses to a receiver installed in the model.

Prior to 1950, radio control for operating models was restricted by law to the use of individuals who possessed "ham" radio amateur's licenses. In 1950, Vernon Macnabb, owner and president of Citizen-Ship Radio Corp., secured approval from the Federal Communications Commission to manufacture R/C equipment on the 465mc frequency to be used as "examination free" equipment. This enabled modelers without technical knowledge to operate models by R/C without obtaining a "ham" license.

From this small beginning in the production of R/C equipment for models, Citizen-Ship has constantly kept pace with technical developments and new F.C.C. allocations until now the line includes 27.255mc single channel (both tone and carrier) sets; 27.255mc 6, 8 and 10 channel equipment (permitting the use of elevator, rudder, aileron and motor control on command without sequential operation); escapements; motor driven actuators; and selective superheterodyne equipment for the 6 frequencies in the neighborhood of 27mc. This last-named equipment is particularly useful in congested areas where many flyers come out to fly at the same time, or in areas where traffic signals on 27.255 and communication equipment (Class D Stations) on adjacent frequencies make the selective superhet equipment necessary to eliminate the interference of these two services.

The explanation of how radio control operates is as follows: Single Channel transmitters send a simple radio signal (unmodulated carrier) or tone modulated signal, depending on the kind of transmitter used. A companion receiver, installed in the model, receives and detects this signal causing a large current increase in the final stage of the receiver. In the case of relay receivers (3VTR, UR and JSH), this current pulls in the relay which in turn triggers the actuator, escapement or motor driven servo by the use of additional batteries. The advent of transistorized circuits has made possible the operation of actuators directly from transistors, and most newer receivers do not therefore need to have relays. Relayless receivers (single channel MDL and LT"3") operate the actuator directly from the last stage, eliminating the relay and extra batteries.

In the case of multi channel equipment, the transmitters send different tone modulated signals. These signals are detected by the receiver and sorted by the reed bank operating our TNA or TCA Servos directly from relayless receivers through a transistor amplifier included in the servo. RNA and RCA Servos are used with multi channel relay type receivers.

For the beginner in R/C we recommend starting with simple rudder control only and working later into multiple control as experience grows. Citizen-Ship single channel equipment provides such control, and with it the modeler can steer a plane, make it dive, loop, spin and roll - all with practice and experience. Motor speed control may be obtained by the addition of Citizen-Ship's Model SE-2-M Escapement. As the modeler's experience grows, the BT-6 and BR-6 are ideal for the beginner in multi channel. This equipment is especially adapted to the multi trainer kits being produced by most of the plane kit manufacturers. The ultimate in R/C flying is Citizen-Ship 8 & 10 channel equipment (the TMS, CNT 8 and 10, ZR-10, WR-8 and 10) and with it the experienced modeler may maneuver his model in any way that he chooses.

More than one unit of the same frequency cannot be flown at the same time because each transmitter would affect each receiver's operation. However, with the use of Citizen-Ship selective superheterodyne equipment (JSH, ZR-10, WR-8 and 10 Receivers used with matching SPX, CTX TMS or CNT Transmitter) it would be possible for 6 planes to fly simultaneously by utilizing each of the following frequencies: 26.995, 27.045, 27.095, 27.145, 27.195 and 27.255 megacycles).

The foregoing simple explanation is adequate knowledge for the modeler who wishes to begin R/C flying, and it is not necessary to be technically informed on Citizen-Ship radio control equipment to use it successfully. If, however, you wish to increase your knowledge of R/C your local library will have back issues of the leading model magazines in which many excellent articles on R/C can be found. You will also find plans for planes recommended for R/C flying. Kits for building planes are also produced by many manufacturers.

Citizen-Ship equipment is sold through the leading Hobby Distributors and Hobby Stores. Complete operating and installation instructions are packed with the sets. They are in considerable detail, and if you are interested in these before you obtain the equipment, ask your local Hobby Dealer to look them over. If he doesn't have a set in stock, ask him to put in one and he will have no trouble selling it.

This is approximately what it will cost you to get in the air:

	Single Channel		Six Channel	8 & 10 Channel
	TTX & MDL	Other Sing. Chan.		
Transmitter-------$	29.95	15.95 to 39.95	Rec. & Trans.	104.95 to 119.95
Receiver----------	24.95	22.95 to 49.95	both for 99.95	79.95 or 84.95
Servos------------	-	11.95 to 14.95	69.90 to 77.85	103.80 to 129.75
Escapement--------	5.95 or 7.95	5.95 or 7.95	-	-
Batteries(approx)-	1.50	1.50 to 7.00	7.00	1.50 to 7.00
Motor(approx)-----	7.00 or 8.00	7.00 to 10.00	10.00 to 15.00	22.00
Airplane----------	3.50	3.50 to 12.00	12.00	12.00 to 29.95

Total cost could run as low as around $65.00 for the simplest single channel up to around $385 for the most complex 10 channel installation.

The above information applies to boats also.

THIS EQUIPMENT IS NOT MADE FOR COMMUNICATIONS PURPOSES, and although it can be used for opening garage doors, it is not recommended for that purpose.

Sincerely yours,

CITIZEN-SHIP RADIO CORPORATION