

# BELLAMATIC II SERVO AMPLIFIER

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*RCM's servo amplifier for popular Bellamatic II provides relayless operation from standard reed bank. Designed for compact multi installations.*

R/C Modeler's Servo Amplifier for relayless operation of the Bellamatic servo was designed in answer to numerous requests for a servo driver for this small German import.

The Bellamatic II servo has ample power for all but the largest of multi aircraft, and is ideally suited for the smaller ship where standard servos would be too large. One of the main advantages of this particular amplifier design is that it does not require a split reed bank, for relayless operation, but rather, used a standard reed bank configuration with positive ground. Delivering full power to the

motor in both directions, the amplifier is short-circuit protected.

No appreciable return swing is noticeable, and with the slight drag of linkages to the control surfaces, none at all is apparent. The amplifier uses parts that are easily obtainable. A kit containing the printed circuit board and all components has been made available by Justin, Inc. for \$4.50 each, but the RC'er with minimum electronic assembly experience should have no difficulty constructing the board or wiring the amplifier.

Color coding of the wires is identical with that of commercial servos

with the exception that the green wire from the bias battery has been eliminated. In fact, if your receiver operates reliably on 4.8 volts, the bias battery may be eliminated entirely, as it is not needed for the servo operation.

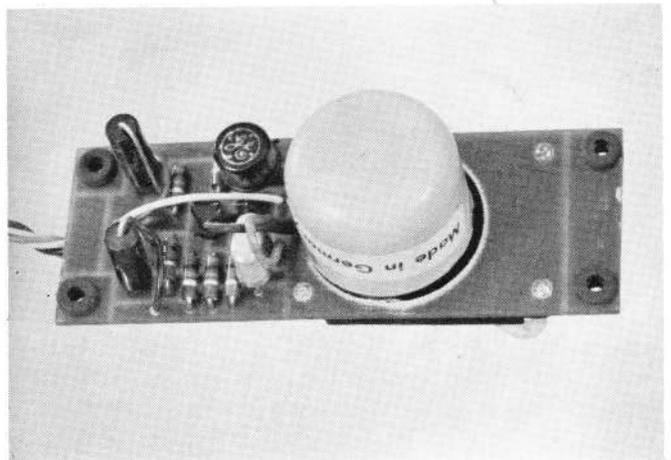
### Components

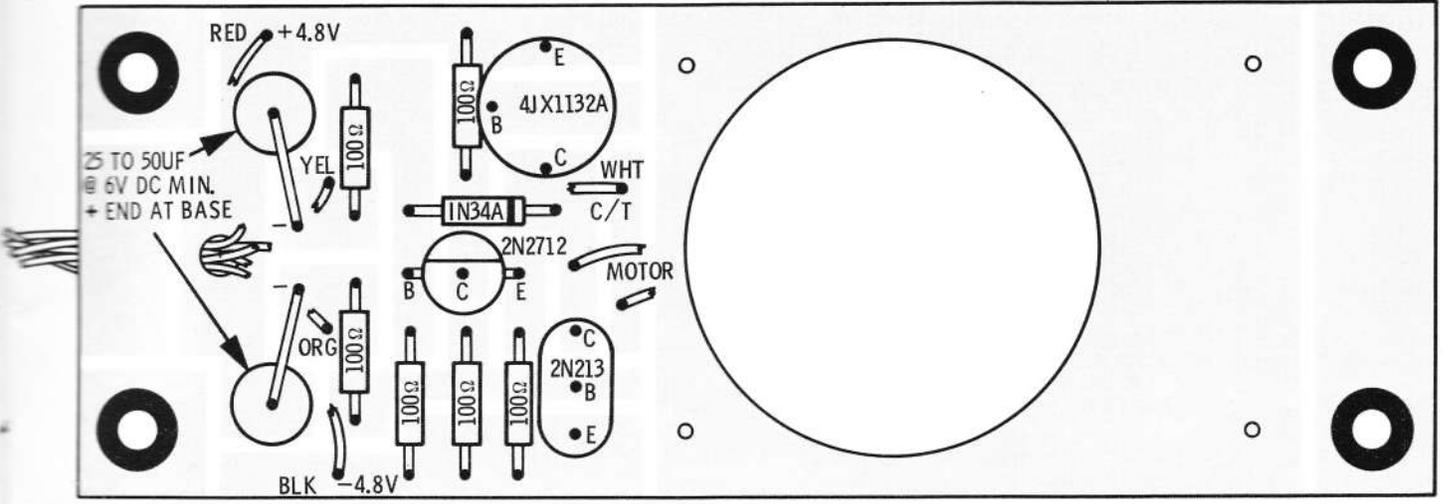
- 1—2N213 or 2N214 transistor
- 1—G.E. 4JX1132A transistor
- 1—2N2712 transistor
- 1—1N34A diode
- 6—100 ohm  $\frac{1}{4}$  watt resistors
- 2—25-50 mfd. 6VDC electrolytic cap.
- PC Board, hook-up wire.

Amplifier board design to hold Bellamatic servo and mount in the smaller, compact multis. Weight is 1.5 oz.

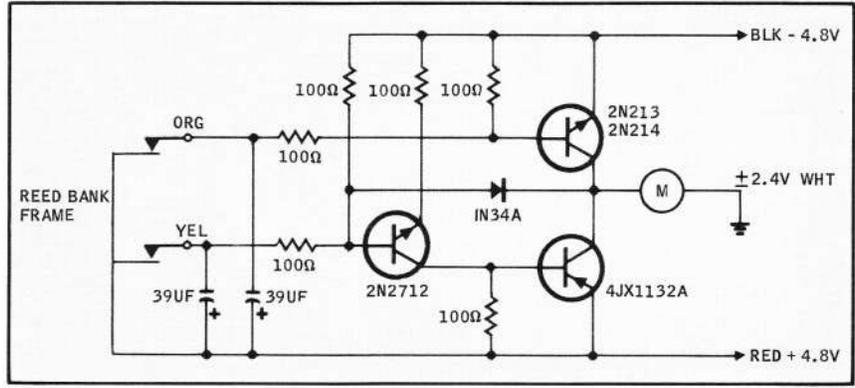


Don Mathes with RCM Technical Artist Dick Kidd during engineering development of the Bellamatic amplifier.

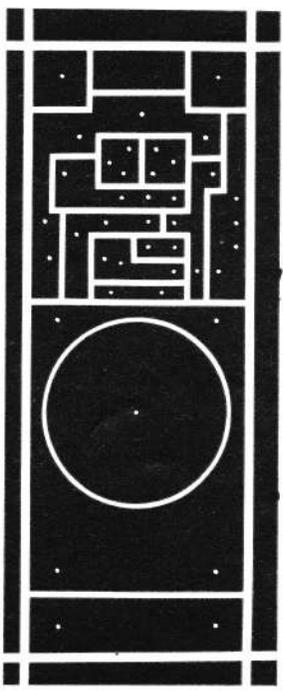




Above: Component layout for the servo amplifier. Schematic is shown below.



Full size printed circuit board layout.



Six channel receiver with Accutronics Accu-Tie, 225 ma nicad pack, two Bellamatics for rudder and elevator, plus Ancco servo for motor. All up weight is 11 ounces!

