

RC-85 / Motorola Micor Repeater Interface

Motorola Micor Repeater

The Motorola Micor series repeaters interface easily to the RC-85 controller. For these instructions, we'll assume that the Micor repeater is equipped with the Station Control Card and the Squelch Gate Card.

The Station Control Card provides the several keying voltages necessary to activate the transmitter. Circuitry may be substituted to provide the keying signals if the card is not available.

The Squelch Gate Card provides a COS logic signal, but is not essential for the interface since an alternate COS signal is available directly from the receiver.

Receiver COS

The COS signal input on the RC-85 controller is J3 pin 1. The COS signal is available at two points in the repeater.

The T-O-T RESET output from the Squelch Gate Card (pin 22 on the backplane) provides a suitable low true COS signal. A pullup resistor, 1K to 10K, should be added from that point to 12 volts, since the output is an open collector transistor.

Alternately, a COS signal may be obtained from the Receiver Audio & Squelch Board, pin 8 (Receiver Unsquelched Indicator).

Transmitter PTT

The controller PTT output, J3 pin 10, may connect to the backplane at the Squelch Gate Card, pin 18 (REPEATER PTT). J12 on the Squelch Gate Card should be removed to open up the repeater's internal keying path. This is important to ensure that only the controller may key the transmitter. Otherwise, the controller's "Repeater Disable" command will not work, and if allowed to time out, the repeater will still transmit.

Receiver Audio

Receiver audio connects to J4 pin 7 and may be obtained from the Receiver Audio & Squelch Board, pin 7 (Pre-amp Output). (The audio must be squelch gated.) If the audio level at this point is below .5 volts p-p, then install a 47K resistor on the controller's main board at location R6 to increase its input sensitivity. This will avoid marginal Touch-Tone decoding problems.

Transmitter Audio

Transmitter audio from the controller, J4 pin 8, may be applied to the backplane pin 11 (at the Squelch Gate Card) through a potentiometer or attenuator. Cut the trace on the Squelch Gate Card between C17 and pin 11 of the backplane to open the repeater's internal audio path. This is important to ensure that the controller can properly mute receiver audio to the transmitter when Touch-Tones are being sent.

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