RT-21 APPLICATION NOTE
REMOTE RELAY CONTROL

1. When configured as described, the RT-21 is optimized for applications where remote power for the rotator is controlled via relays. The use of relays precludes the use of the PWM speed control. This application uses the Fail Safe option as described in the manual. You may also use an external power control relay connected to the BRK terminal. (See #4 below)

2. *FOR RELAY CONTROL* - This unit provides +/- Relay control voltage and should be connected as in the Relay Control drawing in appendix C of the manual. Note that the diode steering provides for separate relay control for CW and CCW operation using two wires. ***Green Heron recommends the implementation of mechanical limit switches as an additional precaution.***

3. Standard Voltage uses the Brown-Yellow transformer taps to provide approximately 24 VDC for the relays. If other relay coil voltages are required, you may select other transformer taps as appropriate. For 12 VDC you may use the Orange to Violet (Red) wires to obtain about 14 VDC for the relays.

4. Connections are:

TERM STRIP #	FOR RELAY CONTROL	
1	CW	To Motor Relays
2	CCW	To Motor Relays
3	GND	Ground (Pot Ret)
4	POS	Pot Wiper (Pulse)
5	REF	Pot Reference V
6	BRK	Fail Safe external **

** Instead of the internal Fail-Safe option, you may use an external control relay for fail-safe operated by the internal brake relay. For Ground to pick, wire the AC terminal J9-2 to Ground J9-1. For +24 to pick:

a. Before s/n 2000 - Wire the AC terminal J9-2 to J4-1 (near the filter capacitor) for +24 VDC.

b. s/n 2000 up - Move the white wire from terminal #6, disconnect from from J9-3 and connect it over to J14-2.

Connect up the Position Feedback. For a Potentiometer, use 3, 4 and 5 on the Terminal Strip. If you use a proximity switch, connect across 3 and 4. Make sure you set the correct SETUP – OPTION for POT or CT. If you will be using < 80% of the pot range for full rotation, you should use OPTION = TIC-PST. This will yield an added safety of the POT OUT-OF-RANGE detection that we use for rotators that have no limit switches..

4. Set both the MAX and MIN SPEED settings to 10 in order to disable the PWM speed controller.