Byers Upgrade Design Requirements

The project to restore lost functionality to the Byers telescope should consist of the following capabilities:

Add subroutines that will provide the following tracking rates based upon the position of a three position switch. Ideal would be to use the current switch on the Byers pedestal.

Solar	9000 us	15.00 degrees per hour
Lunar	9300 us	14.49 degrees per hour
Sidereal	8973 us	15.04 degrees per hour

We can fine tune all of the tracking rates based upon the switch settings on the Stepper Motor Controllers.

Add subroutines to the main program code that will check whether the paddle buttons have been activated, and which ones were. We need to investigate the paddle circuitry to determine how it actually works. The code will have to determine which button is activated, and modify the direction and appropriate stepper rates experimentally, but a good starting point might be the following:

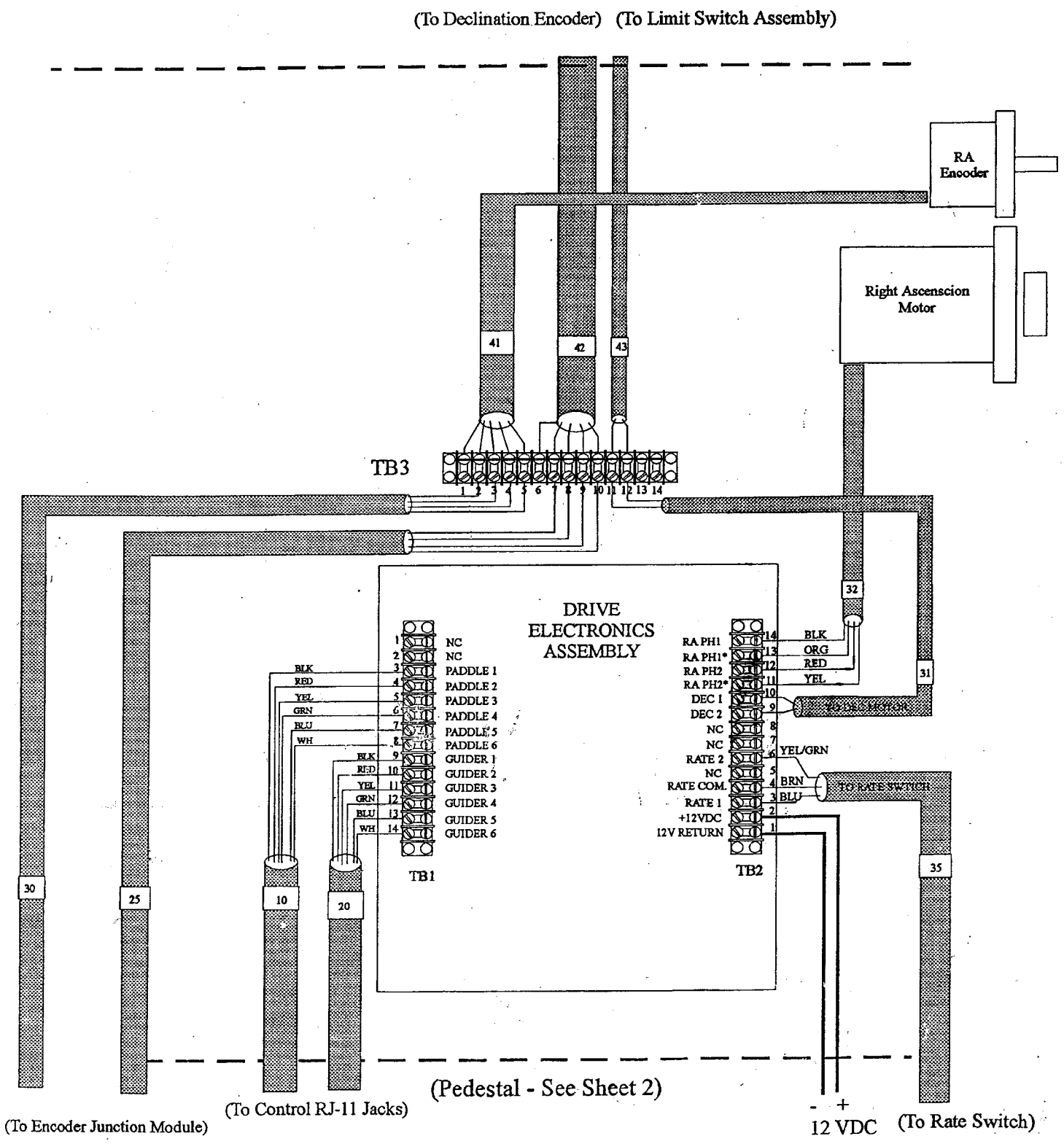
RA 20 degrees per hour slow, 30 degrees per hour fast. (7200 us, 6300 us)

DEC 20 degrees per hour slow, 30 degrees per hour fast. (7200 us, 6300 us)

Tracking should return to the preset rate once the button is released. Once again, ideal would be to use the existing rj-11 jack on the pedestal.

Finally, it would be useful to re-enable the RA/DEC readout display on the pedestal. If this display simply reads the shaft encoder we may be able to simply supply 12 volts back to the display logic board. This display would be useful to roughly position the scope to a new object based upon one of the six predetermined alignment stars preprogrammed into the display logic.

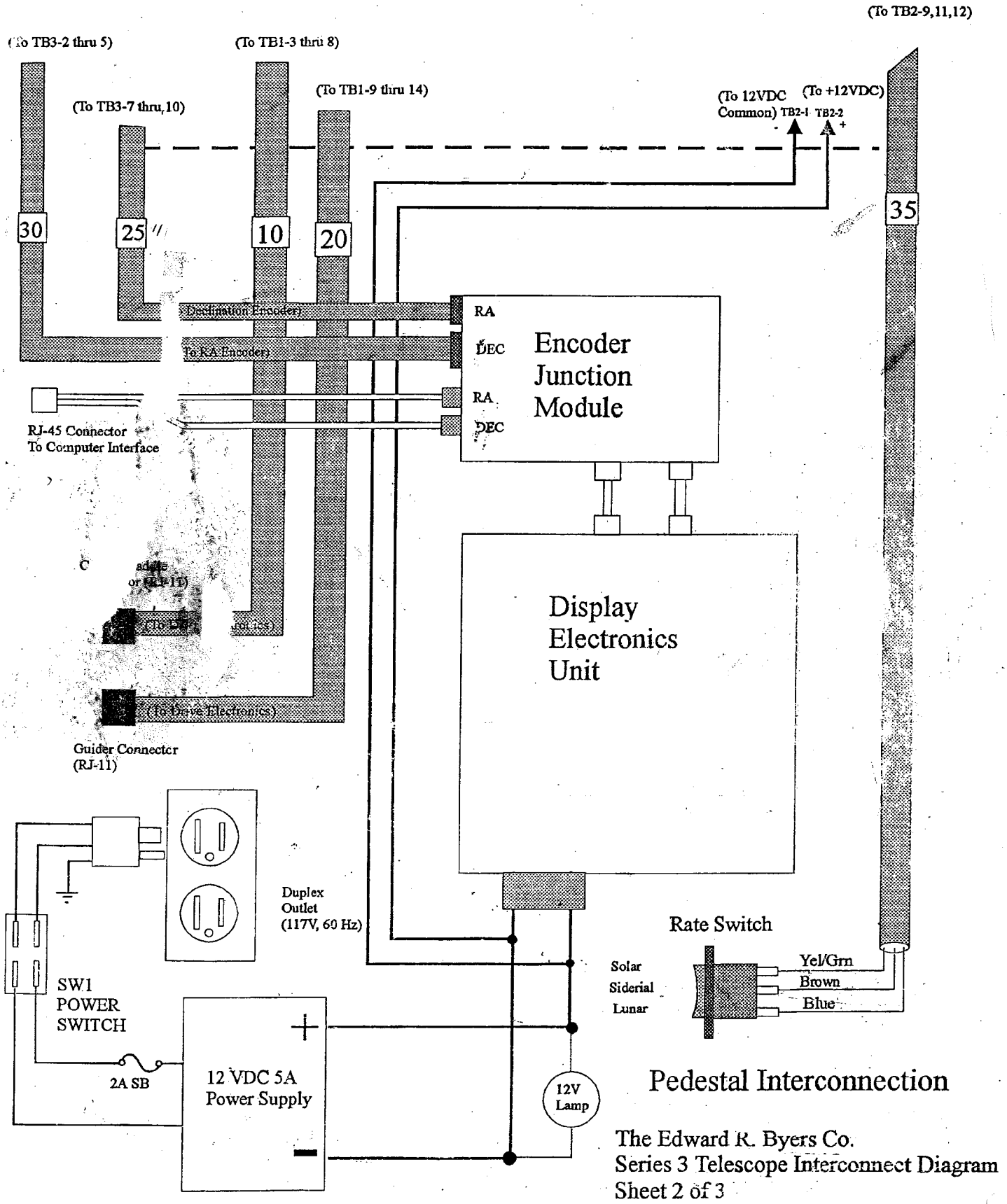
(Declination - See Sheet 3)



The Edward R. Byers Company
Series 3 Telescope Interconnect Diagram
Sheet 1 of 3

Mount Interconnection

(Mount Area - See Sheet 1)



Pedestal Interconnection

The Edward R. Byers Co.
Series 3 Telescope Interconnect Diagram
Sheet 2 of 3