UNIVERSITY OF CALIFORNIA
LICK OBSERVATORY

SHUTTER CONTROLLER
General Purpose

REV. NO. 1 OF 2

DESIGN: T. Contrall
ORIGIN DATE: 87/19/95
MODIFY DATE: 87/23/97

PATH: GENERAL/EL−1183/EL−1183A/R

Note: L1 = 350 ohm
12" 22# stranded wire on .25" CD core
(10417868−3J2A)

* DIAGNOSTIC SIGNALS;
NOT USED BY CONTROLLER

89 Apr 96
Added One−shot to limit solenoid "on−time" to 200ms.

16 Apr 96
Added "left−only/right−only" switch and EPD gates.

83 Jul 97
Added 74LS541 output buffer and 180μf cap.

15 Jul 97
Changed 18 pin IOC to DB15S, 5v filter cap to 1μf.
The problem with the old way of connecting the Skinner Valves is that sometimes, when air is applied, the shutter blades will both close, jamming them together. Although the valve "remembers" its last position, the memory device only becomes effective after a certain pressure threshold. Before that point, an internal spring holds the air shut so that air comes out of the 'B' port, in the old system, that would move the blades inward, towards each other. By plumbing the 'B' port to the "OPEN" end of the air cylinder, (the end closest to the shutter opening) the stray air will push the shutter blades apart. Since the air connections have been reversed, the electrical connections must also be reversed.