

Schulman Telescope Hand Paddle

The hand paddle used at the Schulman Telescope is technically an non-optimized device for the LCOGT controller. The controller (like most of its kind) was designed for semi-professional operation and research and not so much for “starparty” type usage. Thus this paddle has some “features” that should be known before using it.



- The Red button at the top of the paddle is an Emergency Stop (E-Stop) plunger. Pressing this button will de-energize the brakes (causing them to clamp down) and disconnect the drives from the telescope. The E-stop plunger on the [telescope controller](#) works in the same way. Gently twist an engaged E-stop plunger to release it.
- Moving the joystick will send commands to the controller to move the telescope. In this implementation moving the joystick will result in a single commanded JOG (moving the telescope of a set number of arcminutes). The behavior is NOT as is customary with the paddle moving the telescope continuously while using the joystick (like a remote controlled toy or video game). Holding the joystick in a particular direction will not initiate further motion. The joystick must be permitted to return to the neutral (central) position for another JOG. In addition, a first JOG must be completed with the telescope settling to the new position before another JOG will

be possible.

- The magnitude of the JOG is determined by adjusting the not-currently-well-named *SPEED* knob. Recommended JOG magnitudes for centering in an eyepiece are 1-5. The largest jogs move the telescope a degree or more. If the telescope servos are not tuned properly (or the telescope is out-of-balance) this can be problematic.
- The other knobs and buttons are not currently in service (including the station, “Fast”, or “Next/park”).

NOTE: Paddle Error from Experience!

If the paddle is ever inadvertently dropped, there is a small chance the E-stop will be pressed. This will do its job and bring the system to a halt- but no sirens will be heard. (It should be possible to hear the brakes clamp down...but in a crowded observatory filled with people this may not be obvious. The E-Stop light on the controller will light up.) The telescope tracking will suddenly be observed to be OFF. In order to recover, the fault must be cleared using the LCOGT GUI.

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