Starting TCSng

- 1. Xephem
 - Click "RT" button under looping if Xephem is not updating the time.
 - ∘ Click "View" and Select "Sky View".
- 2. In the "Sky View" window click on the "telescope" tab and select "INDI Panel"
- 3. In the "INDI Panel" window that opens connect to the following module:
 - 1. Expand "TCS-NG-INDI"
 - Telemetry → Connection → On
- 4. Click "Enable" (red light next to "TCS-NG-INDI" turns green)

Stopping the Telescope

Using "cancel in XEphem":

- 1. In the "Indi Panel" window
 - 1. TCS Module
 - Telemetry → Actions → Cancel

Using "SafeTelescope" Buttons:

1. Enable/Disable and Cancel

Moving the Telescope

- YOU MUST LOOK AND MAKE SURE IT IS CLEAR TO MOVE THE SCOPE (ladders out of the way,etc).
- Telescope must be enabled.

Ways to move:

- 1. With the Sky View window
 - 1. Right click on the desired object.
 - 2. Click Telescope GOTO
 - The Coordinates should populate in the NEXT section of TCS telemetry
 - 3. Under "Actions" Click "Go Next"
 - Watch the telescope move and make sure to move the dome!
- 2. Equatorial Coordinates
 - 1. In Indi control Panel:
 - 1. Under TCS-NG-INDI
 - 1. GOTO Functions
 - 2. Enter Desired RA, Dec and Epoch
 - 3. Click "set" or hit the enter key
 - 4. Then under "Actions" "hit Go Next"
 - Watch the telescope move and make sure to move the dome!
 - When moving with the Sky View Window or Entering Equatorial coordinates, the

telescope will start tracking automatically.

- Remember the telescope moves much faster than the dome, and you need to watch to make sure telescope does not hit the staircases or platform attached to the dome.
- 3. Alt/Az coordinates:
 - 1. In Indi Control Panel:
 - 1. Under TCS-NG-INDI
 - 1. GOTO Functions
 - 2. Alt Az Goto
 - 3. Enter the desired Altitude and Azimuth.
 - 4. Click "Set" or hit the enter key.
 - Watch the telescope move and make sure you move the dome
 - Note: the telescope will start moving after you clicking Set or hitting enter. There is no Go Next Button for Alt/Az postions.

Observing

Initializing:

- 1. Send the scope to a bright star close to the zenith.
- 2. Using the paddle, center the star in the finder scope.
- 3. Center the star in the eyepiece using the finderscopes and paddle.
- 4. In the "Actions" menu under TCS-NG-INDI Click "Init Next".
 - o Don't Click "Init Commanded" unless you are a very experienced user!

Focus:

• Focus is achieved by looking through an eyepiece and adjusting it using the paddle.

Limits:

- For this telescope there is no autodome function. Because of the design of the dome and telescope you need to keep a good eye on where the scope is in relation to the dome. There are many situations where the scope can run into the dome.
- Currently there is no indication (flashing etc) on the TCS screen that you have hit a limit or that you have run into the dome.

Catalogs:

- 1. Selecting a catalog
 - 1. In Xephem Main Window
 - Data
 - Files
 - The Files window will pop up you can add catalogs in the "Files" menu and remove them with the "Delete" button.

2. Catalogs in list form

- 1. In Xephem Main Window
 - Data Menu
 - Index
 - The Index window will pop up. You can select an object by name.
 - If you click Telescope GoTo the "Next" coordinates will be populated in the Indi Panel.
 - You can then click Go Next to move to that object.
 - To use the search function, you must type in the name of the object exactly or it will return no results.

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