

THE ISAAC NEWTON GROUP OF TELESCOPES

INSTRUMENT CHANGE CHECKLIST

(SUPPLEMENTAL)

MOUNTING THE MOSAIC CAMERA AT UES



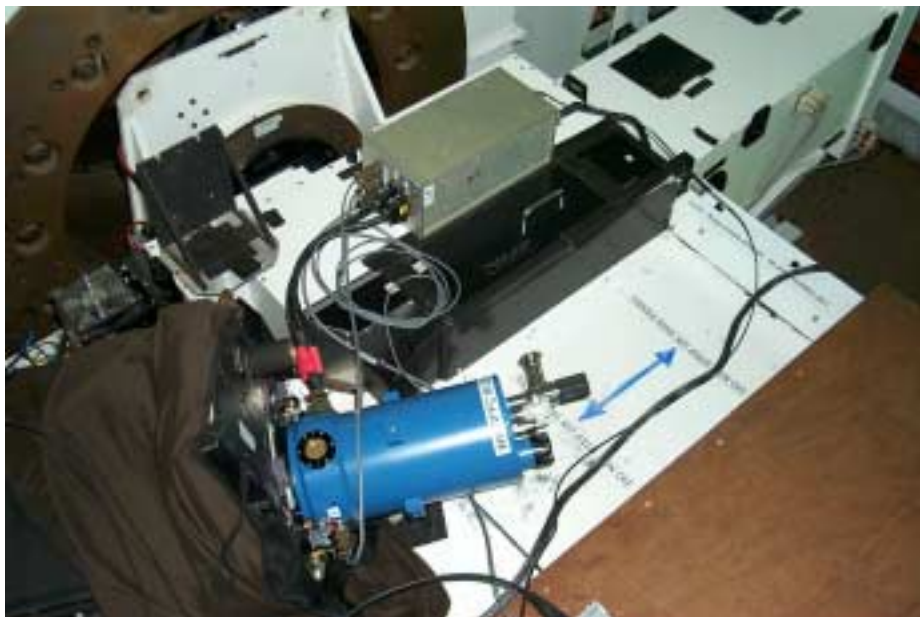
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Mounting the Mosaic camera at UES.

The physical layout is shown in the two photos below:



In addition to the camera cryostat , the SDSU controller and PSU/shutter control unit are also required. These are shown below:



SDSU Controller



PSU/Shutter control unit

The SDSU controller should have a black metal plate attached which allows it to be mounted at PFIP. This plate should be left attached as it functions as a heatsink. At UES the controller is simply placed on the UES structure, no bolts are fitted. The mounting procedure is as follows:

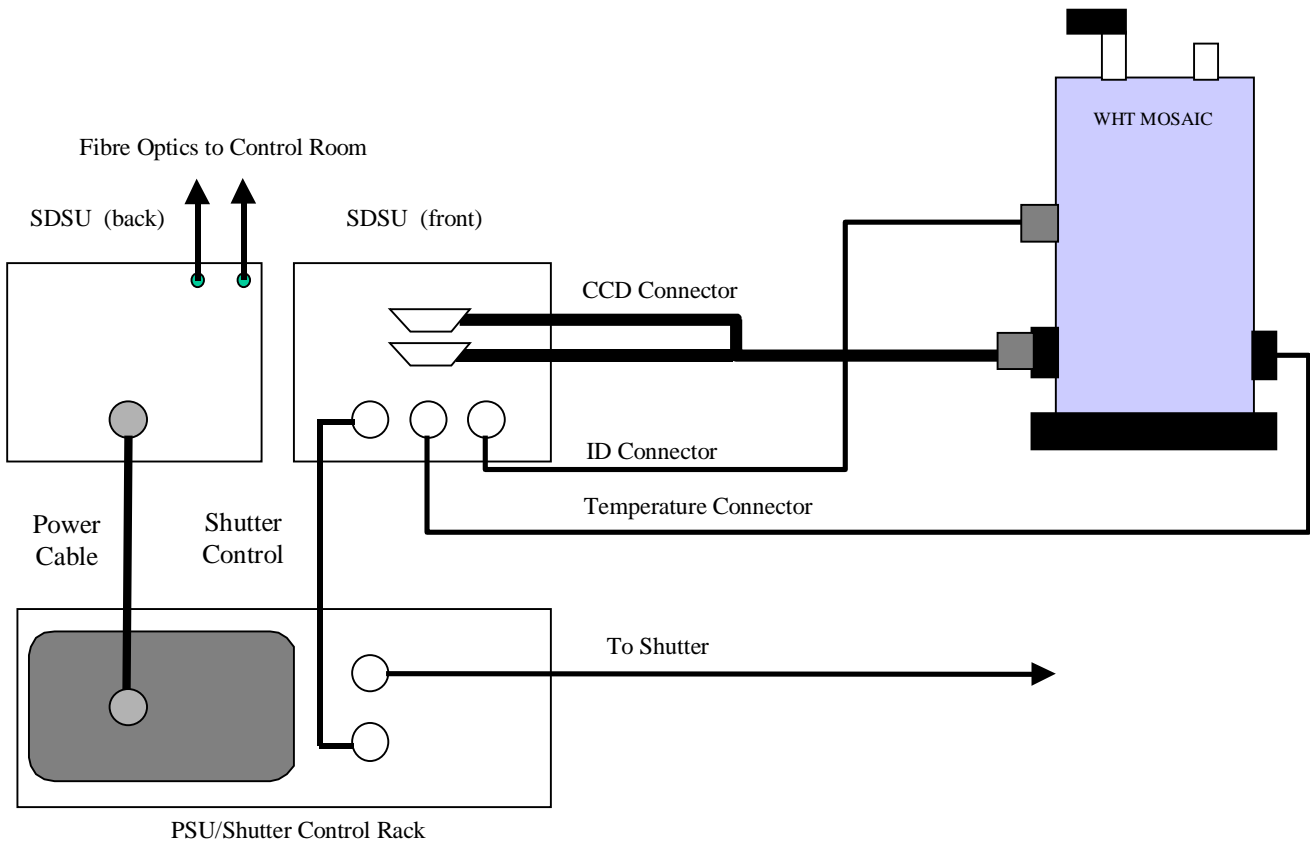
- 1) Blow the window of the camera clean with compressed air and fit the camera to the UES port with the nitrogen fill tube in the 12 O'clock position.
- 2) Place the controller to the right of the camera on the UES structure, place the PSU/Shutter interface unit on the wooden platform to the left.

Some cables must now be attached to the SDSU controller. These are : the bifurcated CCD cable to the cryostat, the two fibre optics, the CCD ID connector and the CCD temperature connector. All are labelled and there should be no confusion as to which cable goes where.

When attaching the bifurcated CCD cable to the camera make sure the controller is powered off and make sure you are grounded

either through a wrist strap or by holding the metal of UES. Unlike the Dutch CCD controllers, where a pre-amp remained permanently connected to the cryostat, the new system requires complete disconnection of the cryostat and the consequent temporary exposure of CCD signal pins in the open connector. One must be very careful not to touch these pins and to cap the connector with a shorting plug, when not in use. Once all cables are in place the two power switches on the back of the PSU/Shutter Control unit can be switched on.

The wiring is shown in the diagram below:



The fibre optics, one to receive commands from the Sparc, the other to send data should be connected to fibre ports 1 and 2. These are located on the UES fibre optics distribution box mounted in the rack cabinet. These are labelled, as are the ports on the back of the controller and in the control room.

Back in the control room, the two fibres from the SDSU controller go to the fibre optics distribution tray (labelled To/From UES SDSU controller) in the end blue cabinet. Make sure that the *lacerta* fibres are connected these two ports. The uDAS system is then run up on *taurus*, the machine to the right of the ICL mimic screen. The username and password can be found on a label on the screen. Several windows should then appear; four orange DAS windows and a pink Central Intelligence window. If they don't, you may need to start again with a different window manager. Choose the option : OpenWindows Desktop.

Type:

```
obssys
```

In the DAS 5 (orange) and C.I. (pink) windows and select the UES option from the list. *If there is no UES option then simply select any option the that contains UES.*

Then type:

```
startobssys
```

in the DAS 5 window and wait for the prompt to return.

nb. If the ISIS cameras are also to be used then *obssys* and *startobssys* will also need to be entered in the orange DAS 3 (**ISIS RED**) and DAS 4 (**ISIS BLUE**) windows.

Once all the relevant orange windows return prompts, enter:

```
startobssys
```

in the C.I. window. During this time more windows will start up, such as the Talker, CCD monitor etc.

A bias frame can then be taken by typing:

```
bias      at the SYS> prompt.
```

A GUI (CCD Monitor) window on Taurus will contain information on where the images are being stored. Each image pair is contained in a single FITS file. To display the image from chip one you should enter at the IRAF prompt :

```
display image[1] 1 fill+
```

To display the image from chip two :

```
display image[2] 2 fill+
```

Both images can be displayed side by side by selecting the '*tile frame*' option available from the `ximtool` control panel.

Information on the expected bias levels of the two chips can be found at :

http://vela.ing.iac.es/Engineering/detectors/ultra_2eev.htm

For a more thorough test, a tungsten spectrum can be taken. The following sequence of commands should be entered at the ICL :

```
u79 5000  
uslitwidth 1 arcsec  
umirror ulamps  
ulamps w
```

then type at the Taurus uDAS prompt :

```
flat 5
```

A typical 'tiled' frame will then appear thus :

