

# THE ISAAC NEWTON GROUP OF TELESCOPES

## INSTRUMENT CHANGE CHECKLIST (SUPPLEMENTAL)

### SAURON with EEV12 and UDAS



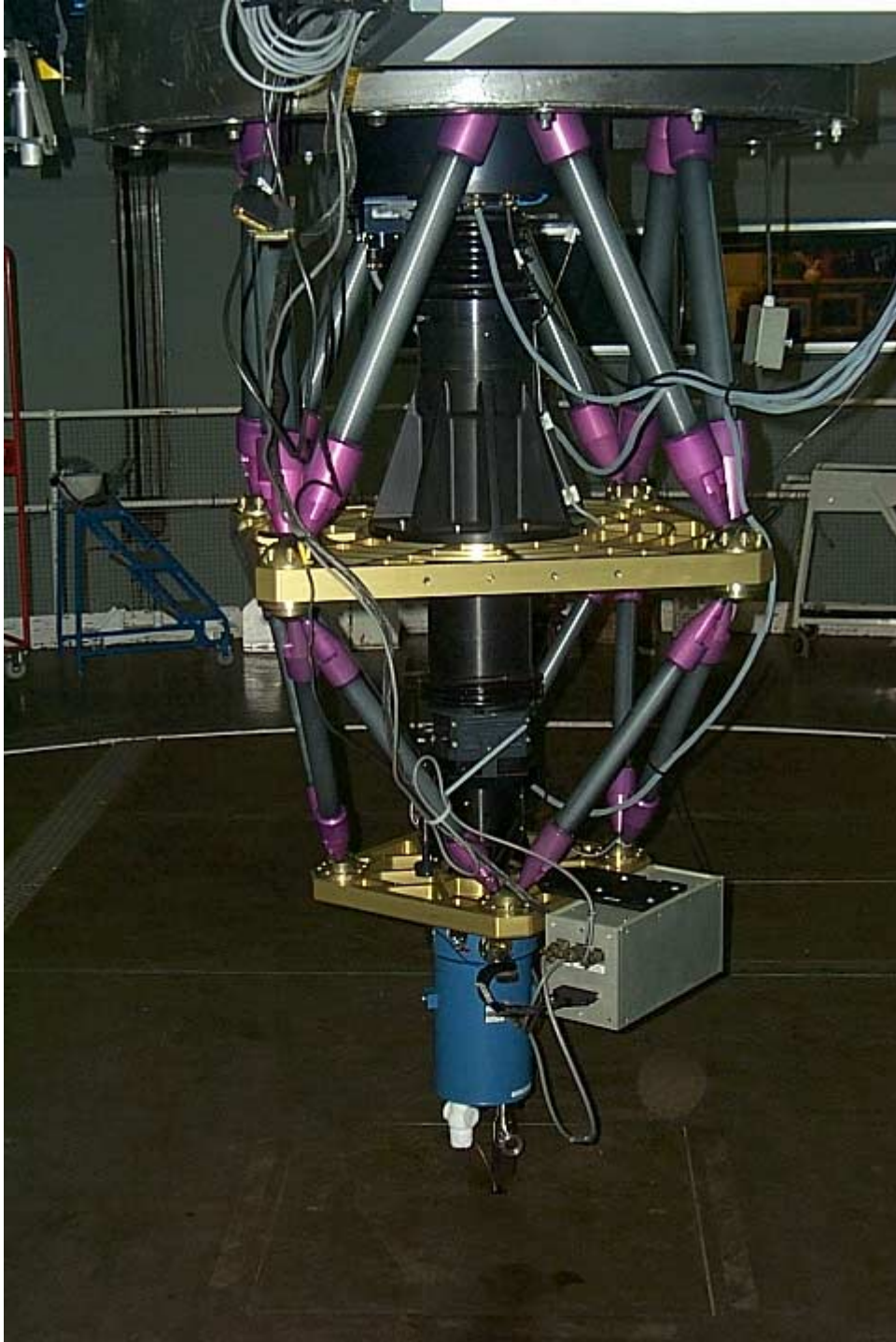
**Revision :**           **1.0**

**Description :**       Integral Field Spectrograph

**Location :**           WHT CASS

**Storage :**            Instrument Store

## Mounting EEV12 and its SDSU controller at SAURON



### Physical Mounting

The EEV controller is mounted on the bracket on the bottom plate of SAURON as indicated in the photo below. It is important that the four bolts that attach the controller to the anodised bracket pass through the four white plastic insulating sleeves. The controller is thus insulated from the telescope

structure and the risk of pattern noise appearing on the bias frames is reduced. Before any cables are attached to the controller, it is useful to check this isolation with a DVM.

The EEV 12 detector normally has a short fill tube fitted for its default ISIS BLUE station. This needs to be removed and a long fill tube fitted prior to mounting at SAURON.



*Controller mounting Position*

## Electrical/Fibre connections

The PSU/Shutter control rack that is normally used to power the ISIS RED detector is used to power the SAURON SDSU (The ISIS BLUE rack having been removed along with ISIS). Two connections are made to the SAURON SDSU from this rack : the large DC power cable and the smaller shutter control cable. Another shutter control cable then passes from the rack to the actual shutter mechanism on the lower plate of the SAURON structure. The shutter test button on the front of the rack can then be depressed to check the shutter operation. A red and green LED on the front panel of the rack should then reflect the shutter status. The SDSU should then be connected using two fibres to CASS fibre ports 2 and 3. The controller has two fibre connectors labelled 'To Sparc' and 'From Sparc'. The 'To Sparc' fibre should mate with CASS port 2, 'From Sparc' with CASS port 3.

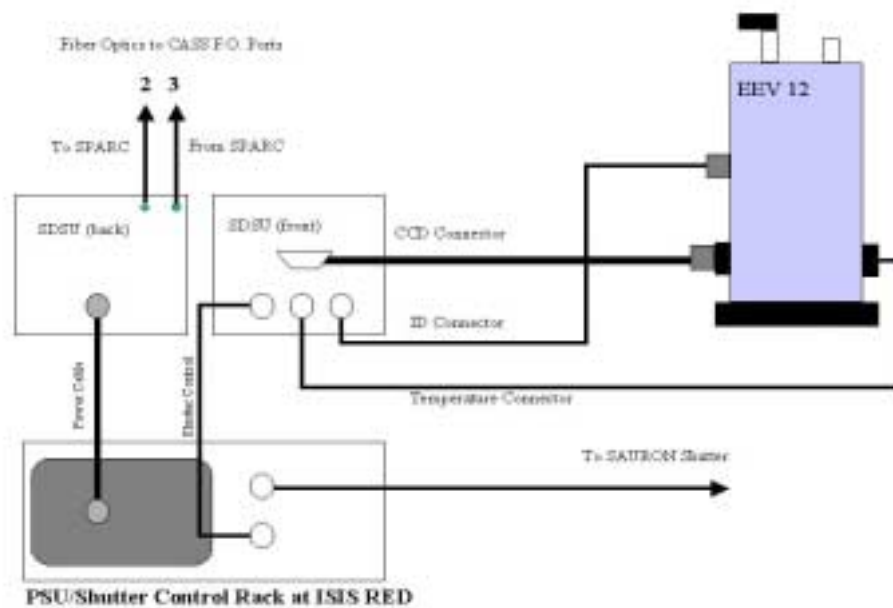
The detector itself can now be mounted on SAURON. First ensure that all the connections above are made, then ensure that the PSU/Shutter rack is switched off. There is a grey dust cap at the bottom end of SAURON that needs to be removed before fitting the cryostat. The EEV12 detector window should be blown clean with compressed air before mounting. There is a sticker indicating the position of capstan 'A' on the cryostat, which will help to prevent it being mounted in the wrong rotational position. The detector ID connection is then made between controller and cryostat, followed by the temperature cable and finally the CCD connector.



*cryostat orientation*

When attaching the CCD connector it is essential that the operator is grounded to the structure of the telescope/Sauron using a yellow anti-static wrist strap. One of these can be found hanging up in the WHT detector lab.

Once all this is done , the PSU/Shutter rack can be powered back on.



*Wiring Diagram*

## **Running up Ultradas with EEV12/SAURON**

The fibre routing in the WHT control room should first be checked. This routing is not normally altered but it is recommended that this check is done anyway. The CASS fibres are routed to the last blue cabinet on the right in the control room. The two fibres that connect with ports 3 and 2 should be labelled 'from Cetus' and 'to Cetus' respectively, Cetus being the designated SAURON DAS machine.

Ultradas can then be brought up by logging into Taurus as :

**whtobs**

Taurus is the machine in the corner of the consoles, to the right of ICL. Once logged in, 1 pink window labelled 'central intelligence' and 4 orange windows labelled DAS, DAS3, DAS4, DAS5 will appear. The windows DAS, DAS3 and DAS 5 should be minimised. Type :

**obssys**

in the orange window DAS4 , select the option number for : SAURON with EEV12

*nb. At the time of writing this was option 19, but the exact number may change.*

Now enter :

**startobssys** in this same window.

In the pink 'central intelligence' window. Type :

**obssys**

Follow by the same option number for : SAURON with EEV12

Now enter :

**startobssys**

in the Central Intelligence window. A new window giving detector status should then appear. A '>SYS' prompt will also appear in the pink window where subsequent camera commands can be issued.

The detector bias frame can then be read out using the :

**bias sauron**

command. Examine the bias using **ximtool** and check that it looks clean and free of structure. SAURON is quite 'leaky' so the dome lights should be out.

Finally the light sensitivity of the detector can then be confirmed using the internal preflash LEDs.

This is done by entering the command :

**flash sauron 0.1.**

The resultant image should look something like this :



*EEV 12 preflash image*

### **De-Mounting the EEV12 camera from SAURON**

When disconnecting the camera, the same static precautions should be followed as for mounting. The PSU/shutter control rack should be switched off but left with the mains plug in-place. The wrist strap should worn prior to uncabling the cryostat. The exposed cryostat multi-pin connector should then be promptly covered with the captive dust cap.

Remember that if the camera is to be subsequently used at ISIS BLUE, the short fill tube will need to be fitted.