

# Blue Spec – Re-install Calibration Unit

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## Procedure

Please contact me as few days before the re-installation, such I can check that everything is working as it should. My email or phone: [nicholasemborgjannsen@gmail.com](mailto:nicholasemborgjannsen@gmail.com) or +45 22406783, respectively. If you have any questions, just give me a call. The relevant setup can be seen in figure 1, and is physical placed beneath the big SONG spectrograph in the main container. The complete setup is the calibration unit, the ThAr power supply and the eshel spectrograph. The setup is currently shielded from its surroundings by a wooden box as seen in figure 2. As seen from figure 2 all the relevant wires, the fiber etc. is placed inside the wooden box. Next continue with the following steps to re-install the calibration unit to the setup:

1. First step is to unpack the ThAr lamp and install this in the calibration unit. This is easily done by rotating the black socket labelled (1) in figure 3 to the left until its unmounted. Now place the ThAr into the socket and replace it in the calibration unit.
2. Place the calibration unit beneath the ThAr power supply inside the wooden box and beside the spectrograph (just like displayed in figure 2).
3. Connect all electronics into the calibration units back-side, as seen in the upper plot of figure 3. Wire (1) connects to the ThAr power supply. Wire (2) connects to the 12 V power supply. Wire (3) connects also to the ThAr power supply. Wire (4) is an external power.
4. Turn on all the switches: *On*, *Mirror*, *LED*, *ThAr* and *Tung..* For each a green light should indicate that each function is working. You can also try to turn each lamp on separately, and look into the fiber outlet at the frontside of the unit. White, blue, and purple light should be seen when turning on the LED, Tungsten, and ThAr lamp, respectively. When done leave all switches turned on.
5. Now connect all electronics into the calibrations units front-side, as seen in the lower plot of figure 3. Wire (1) is the network, wire (2) the power to the guide unit, and (3) the optical fiber. When placing the optical fiber, first remove the black cap (OBS: do not touch the white outlet of the fiber). To connect the fiber properly, rotate the fiber until a small dot is visible on top of the metallic outlet. In this way it should be possible to put in the fiber and rotate it slightly (either to the left or right) to fasten it properly. Now rotate the ring of metal at the outlet to secure the fiber.
6. Now we need to check that the calibration unit can be controlled remotely. Contact me and I will turn off all the components remotely. If you have the time, I would like to take a calibration image, for a final check.
7. Thank you for your time and help!

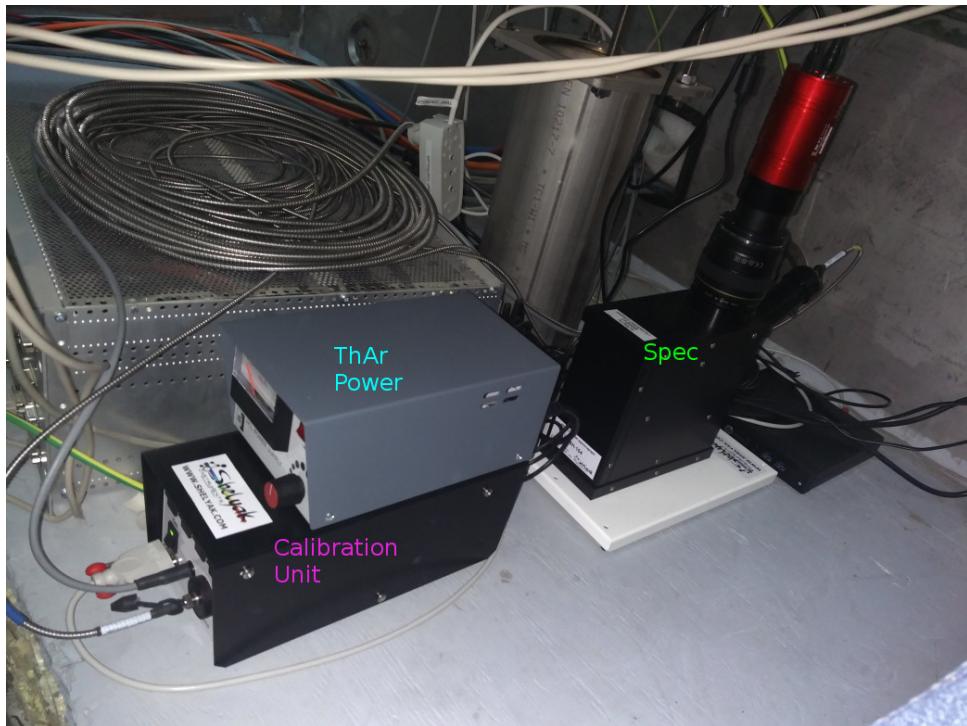


Figure 1: Setup of Eshel spectrograph (**Spec**), ThAr power supply (**ThAr Power** and the calibration unit (**Calibration Unit**). This was the previously working setup.

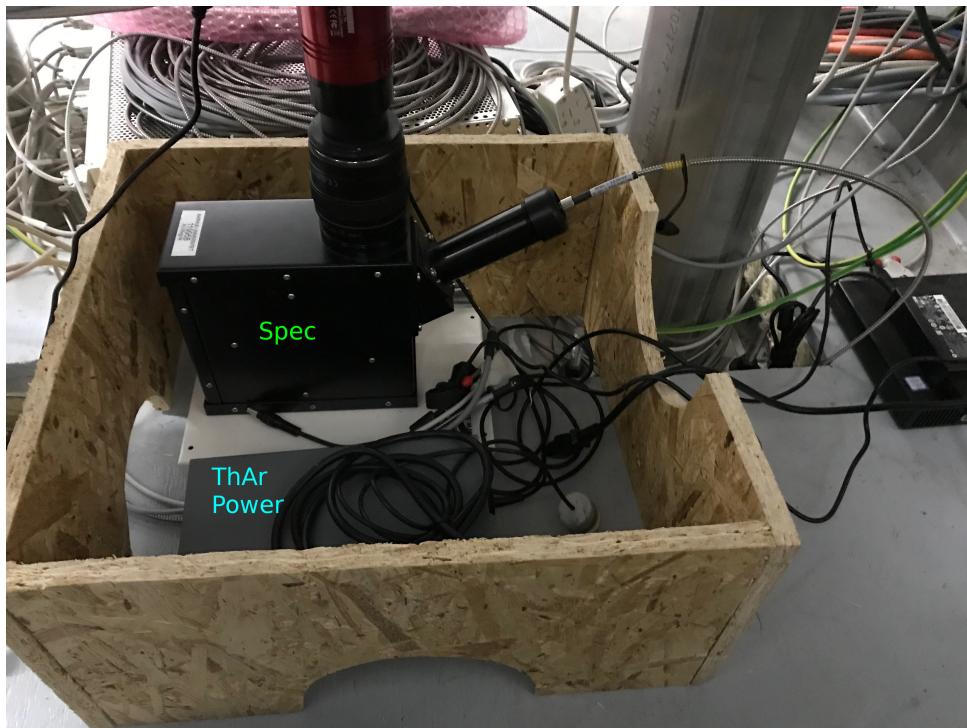


Figure 2: Setup of Eshel spectrograph (**Spec**) and ThAr power supply (**ThAr Power**. The wooden box shields the current working setup.

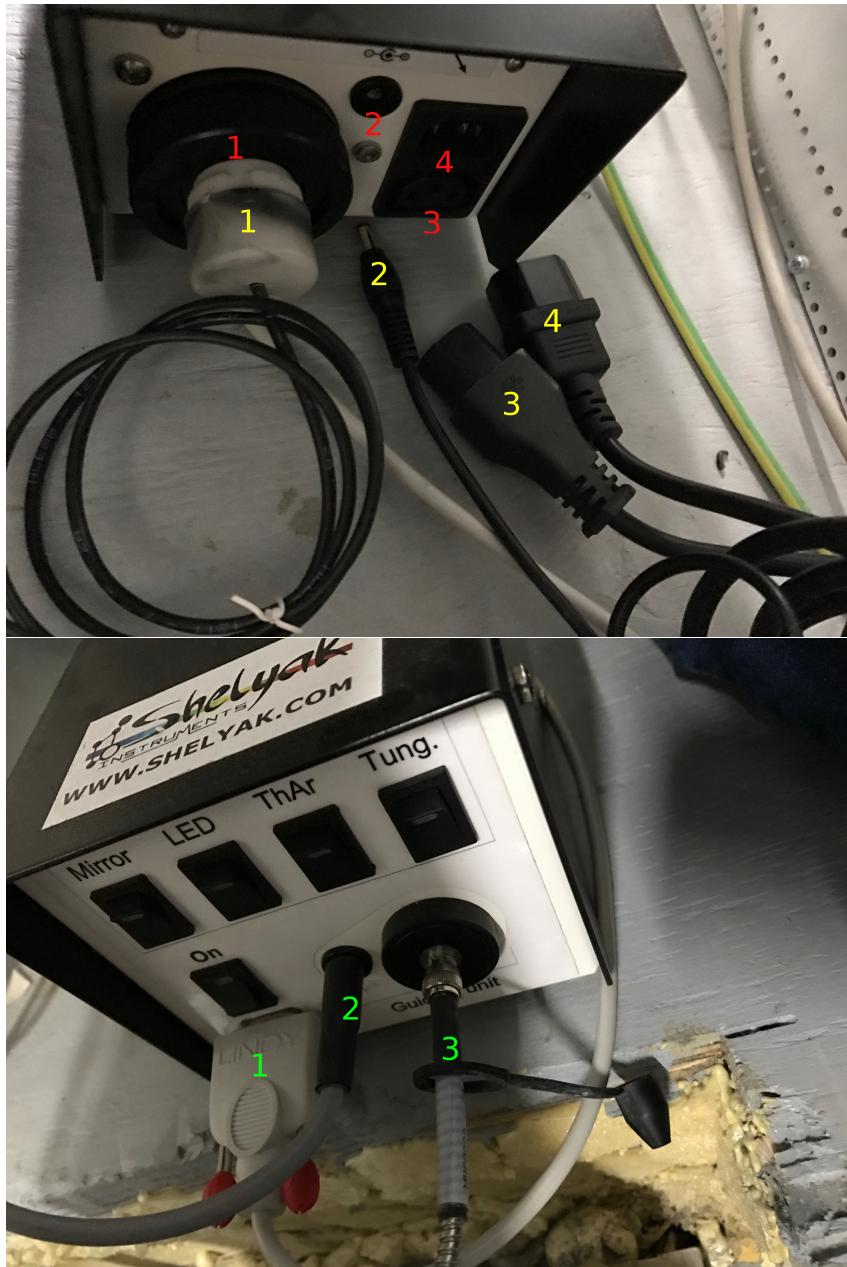


Figure 3: Upper panel: backside of calibration unit. The yellow and red numbers corresponds to the electromincies that needs to be connected. Lower panel display the network wire (1), power to guide unit (2) and the optical fiber (3). When connected it is important that all frontside switches is turned on (*On*, *Mirror*, *LED*, *ThAr* and *Tung.*). Also, when attaching the fiber, only the right angle will fasten the fiber properly.