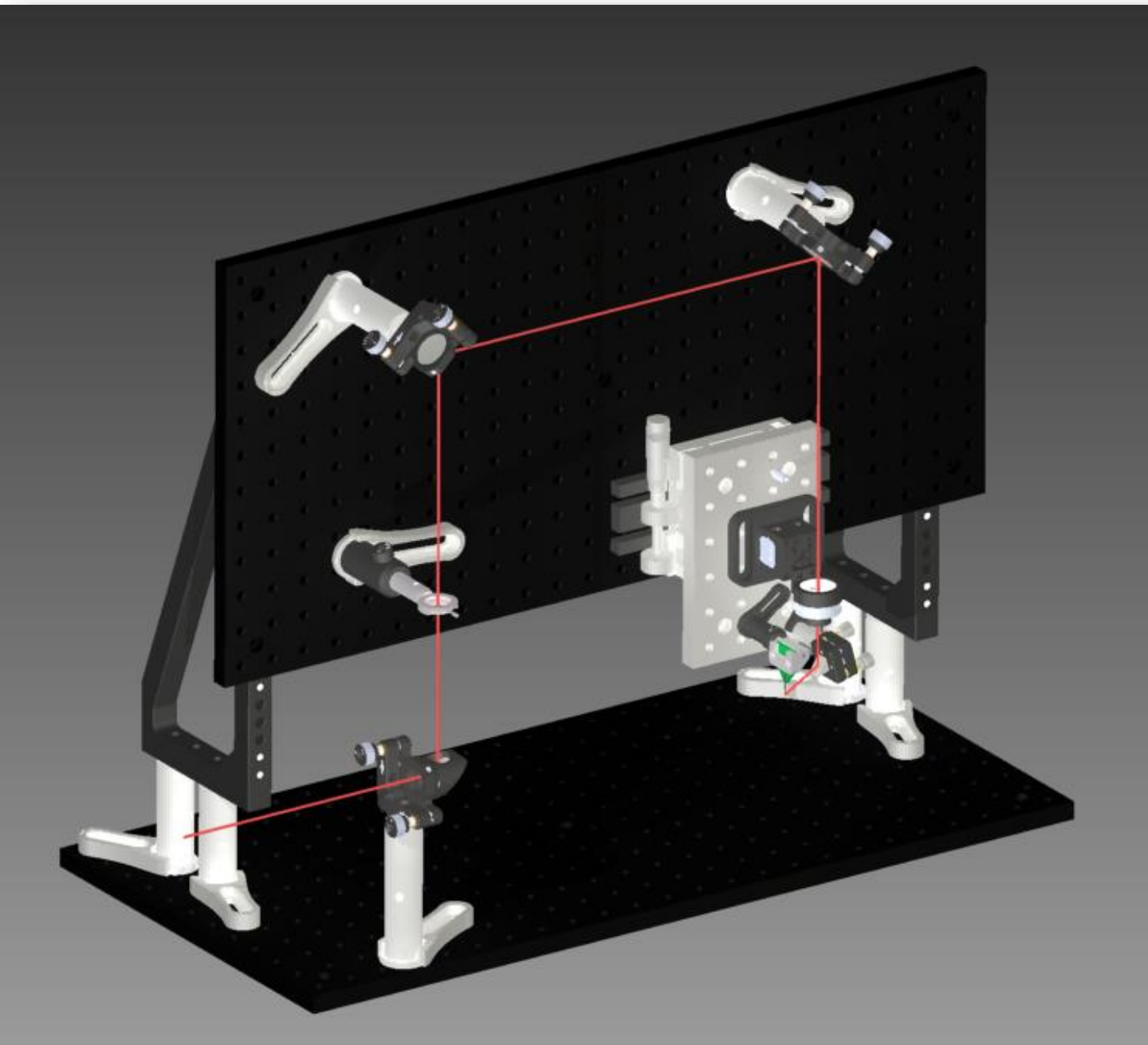
Sub-System D-B2

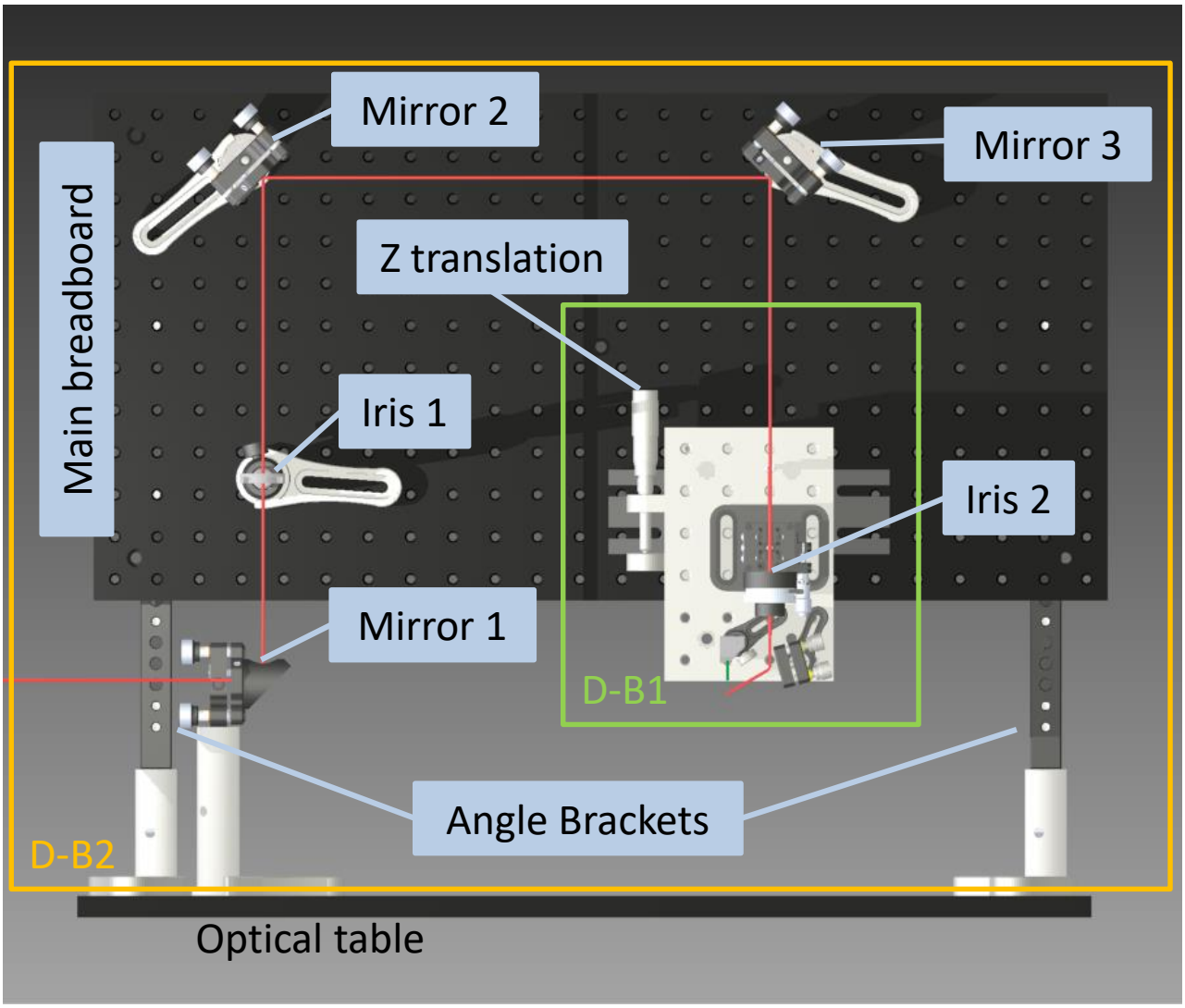
Installation notes



Overview

General information:

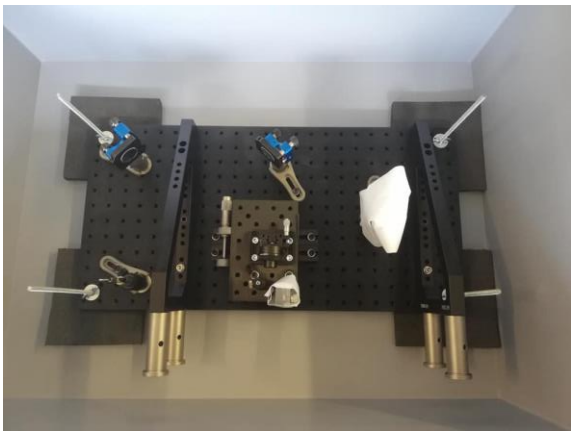
- The main breadboard of sub-system D-B2 contains pre-aligned optical components and has a size of 60cm * 30cm.
- Mirror 1 is a separate component which needs to be mounted on your optical table. Mirror 1 default adjustment is for a laser beam height of 10cm.
- The base breadboard represents the optical table and is not included in the delivery.



Unpacking and Installation (Gray Transportation Box)

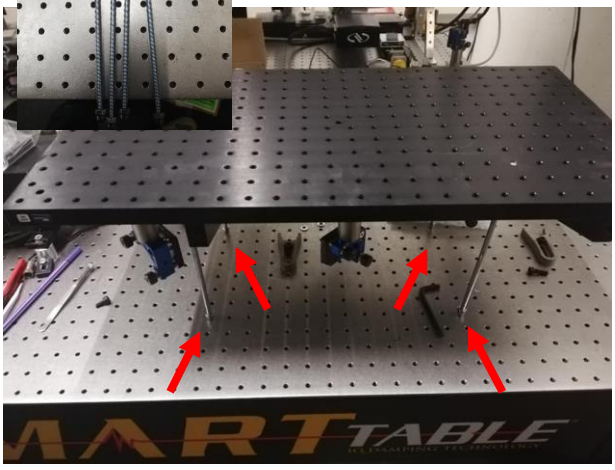
Unpacking:

- Unpack the Sub-D-B2 transportation plastic box and all other components from the carton.
- Unscrew the wing screws from the threaded rods on top of the breadboard. It might be necessary to retain the counter screw nuts on the bottom side of the box to release the wing screws. Transport the Sub-DB2 to a save place on your optical table.



Installation 1:
Fixing angle brackets on breadboard back

- Remove the angle brackets from the Sub-DB2 breadboard front.
- Mount the four 22 cm long threaded rods to the breadboard so that the optics are beneath the rods. The turn the breadboard around so that it will stand on the four threaded rods, as marked by red arrows. (As an alternative two people can hold the sub-system, while a third mounts the angle brackets.)

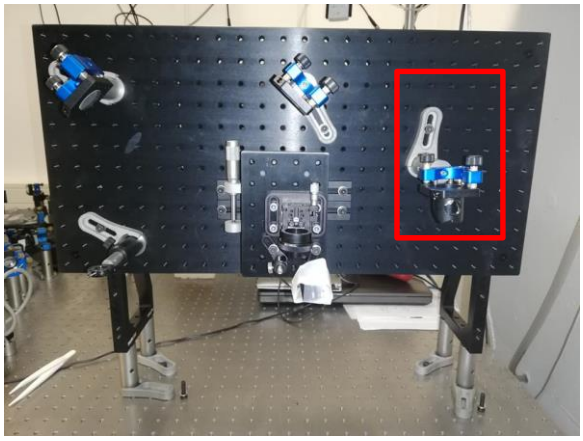


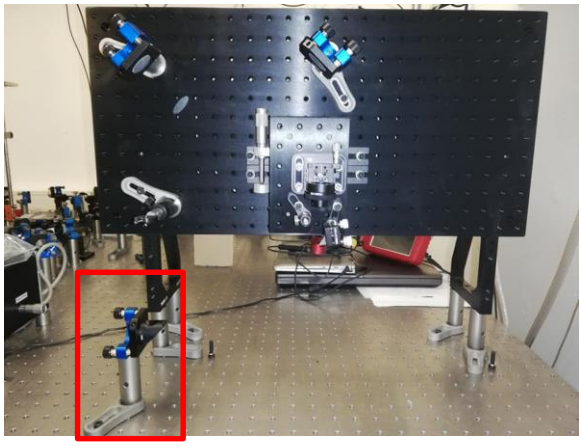
- Fix the angle brackets on the breadboard backside using the included screws at the desired height. Note that the TeraSpike tip will overhang the lower edge of the breadboard.

Unpacking and Installation

Installation 2:
Mounting on optical table

- Carefully raise the D-B2 of the optical table and fix it to it by the clamping forks.
- **Caution!** Take care that the distance tubes do not hit the optics.
- You can remove the protection covers from the mirrors.
- Remove the right angled mirror (red rectangle) and place it on your optical table. (For complete alignment procedure see next page.)

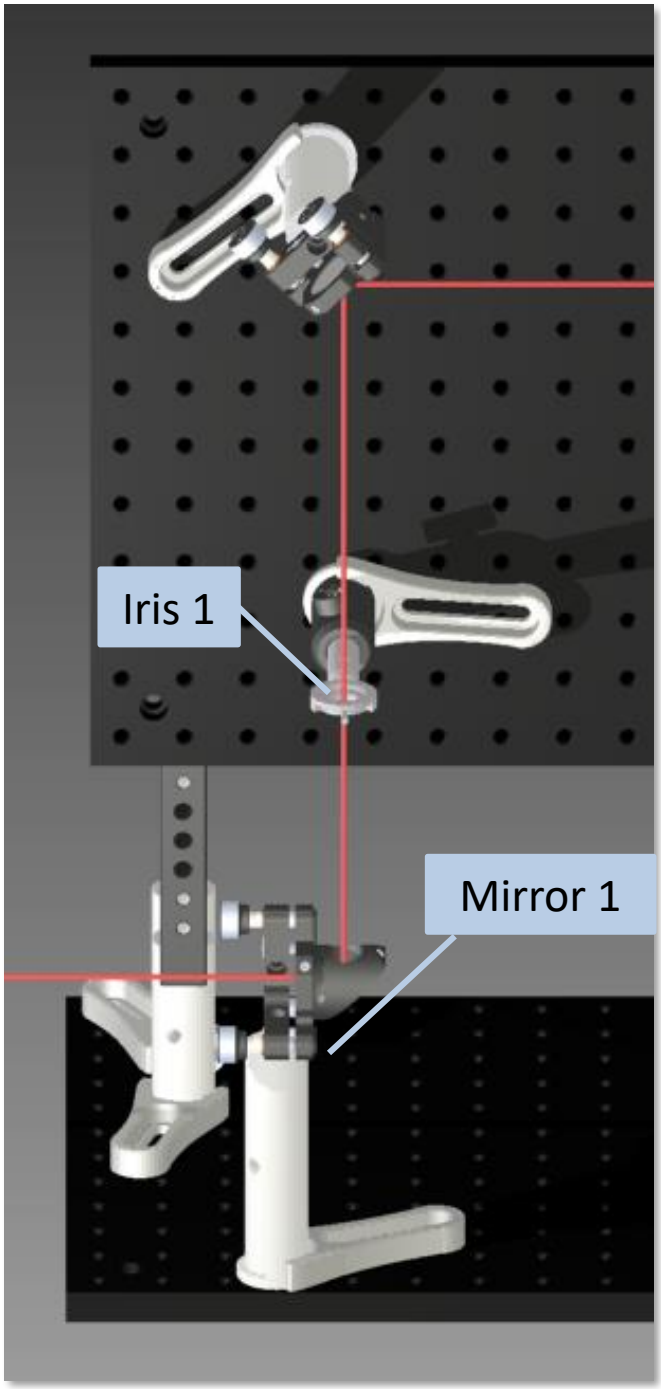




D-B2 Installation

System installation:

- Place the system on its final position on your optical table. Fix it with the provided clamping forks.
- Position and mount **Mirror 1** with one clamping fork to guide the laser beam upwards to **Iris 1**.
- Make sure laser-safety rules are applied, when guiding the beam upwards.
- Adjust **Mirror 1** and the next upstream mirror in your system to centre the beam on **Iris 1** and **Iris 2.** Mirror 2 and 3 should not be realigned.



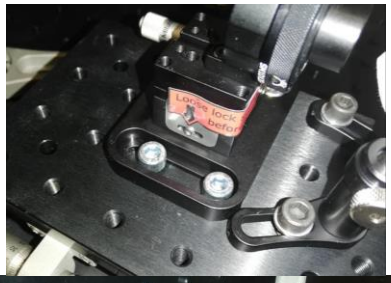
D-B1 Alignment

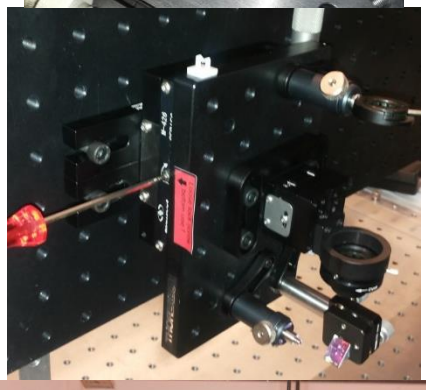
Fine adjustment:

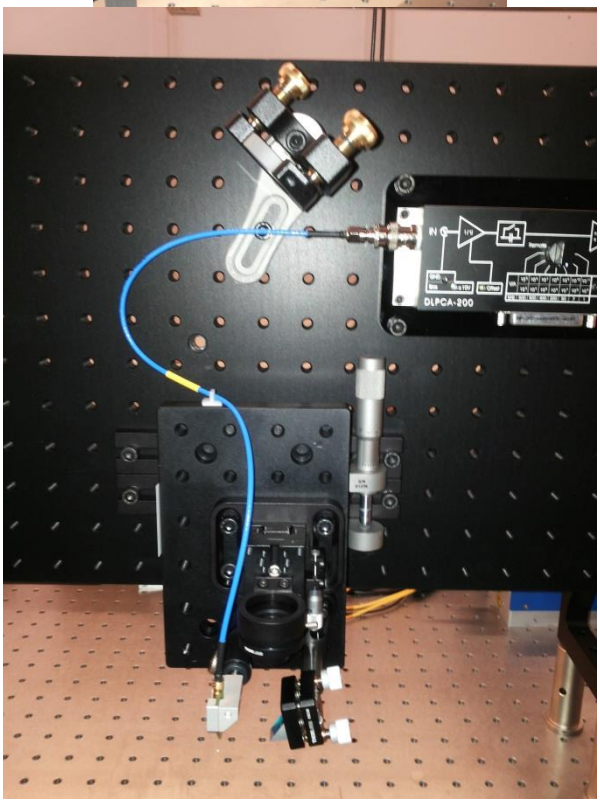
- Though your sub-system **D-B2** / **D-B1** comes pre-aligned, some fine adjustment might be necessary.
- Loose the marked lock screws of the translation stages by one turn.

  Not loosing this screw can cause damages during translation!
- Next adapt the optical power to the values recommended in the TeraSpike application notes.
- Now you can build in your microprobe and connect the cable to the current amplifier.

  Please read carefully the corresponding application notes before installing the TeraSpike into the setup.
- In case you also ordered a DLPCA current amplifier prepare for alignment procedure by switching on the bias (preadjusted to 1V) and connect a Voltmeter to measure photo-current using an amplification of 10^6 V/A.

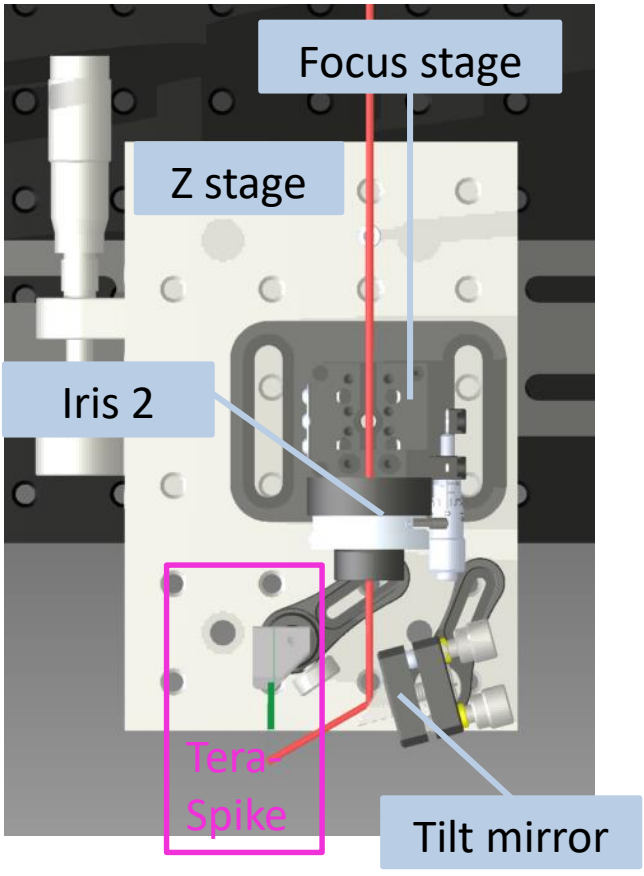






D-B1 Alignment

- Start the alignment procedure as described in the TeraSpike application notes using the focus-stage and the tilt mirror. Small readjustments should be sufficient.



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