

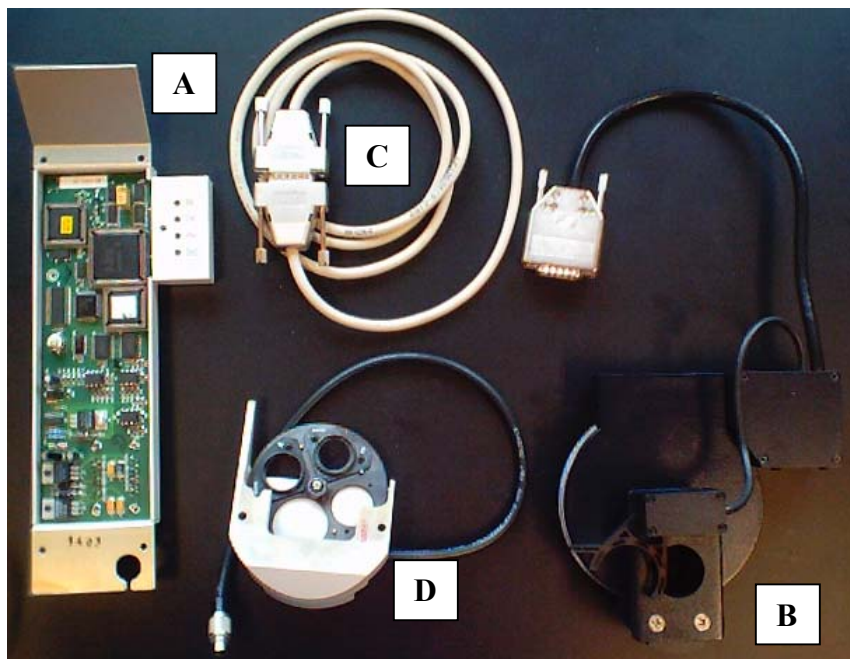
## How to retrofit the Leica **Smart Condenser** to an existing Leica DM IRE2!

With the retrofit-kit you will get following parts:

- the electronic back-plane **A**
- the motorized condenser **B**
- the Leica FX-Bus cable **C**

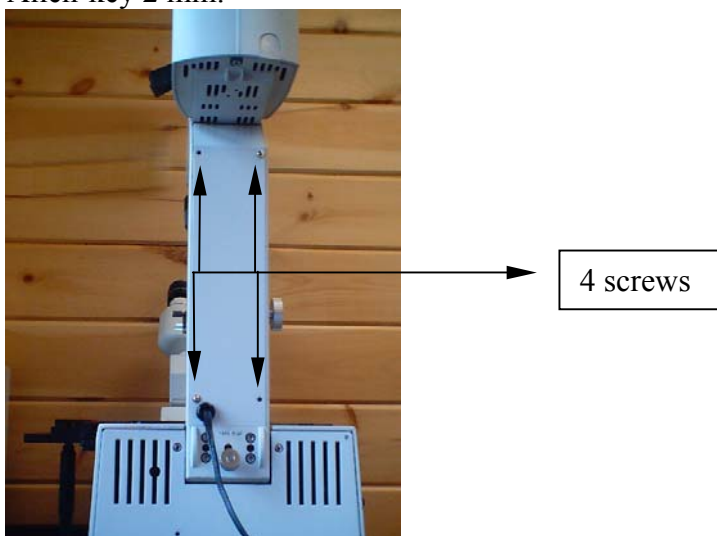
and in case of DIC retrofit

- the motorized DIC-turret **D**

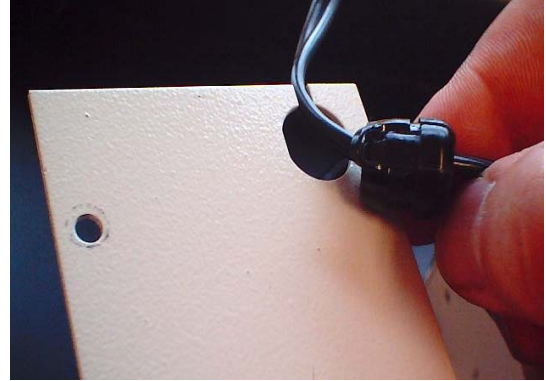
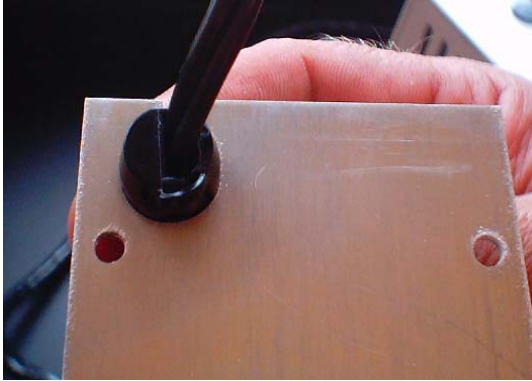


**Follow the 20 steps:**

1. Remove the back-plane of the Transmitted Light Column by loosening 4 screws with an Allen-key 2 mm.



2. Loosen the strain relieve on the 12V power cable going to the lamp house and separate the back-plane and store this plate with your spare parts. The strain relief can be pushed out from the inside of the back plane toward the outside with a thumb.



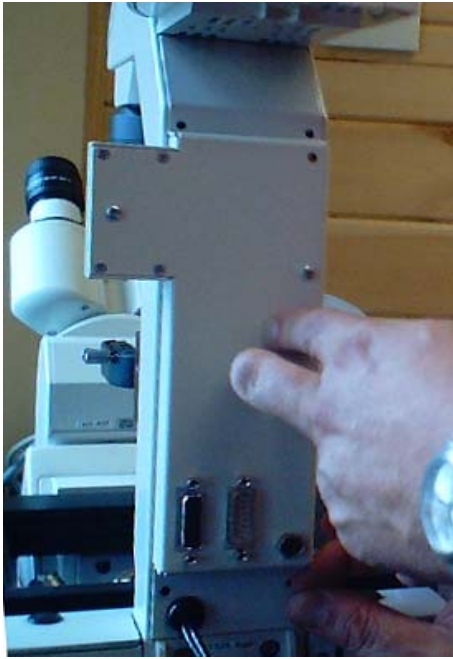
3. Take the smart condenser back-plane and put the strain relieve into the opening of the back-plane turn the strain relieve to tighten it.



4. The plastic electrical interconnect (see figure) usually slides out of its slot after removing the backplane. Slide it back into its cubby hole - a central space at the top of the column just under the transmitted light lamp-house before replacing the backplane.



5. Mount the back-plane with the 4 screws to the back of the TL-column.



6. Remove (if already set-up) the present condenser from the Leica DM IRE2 but leave in case of an S1/S23 condenser the dovetailed condenser holder (Fig. 4).

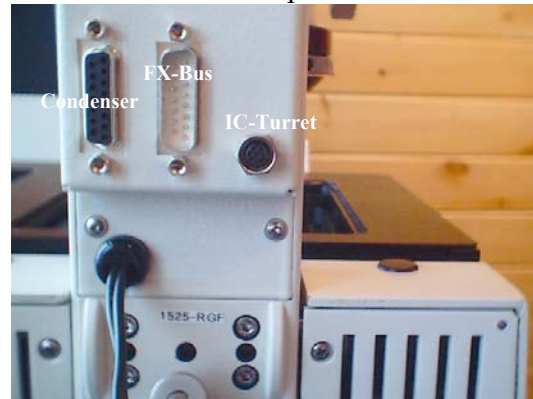


7. If needed take the phase-rings and DIC-prisms out of the turret \*) of the manual condenser and place them into the Smart Condenser in the same order, watch orientation of DIC-prisms. (*Remember for inverted microscopes, “K” letter in the centre: **Inverted** = **Inner** direction*). Mark the positions with stickers (e.g. BF, Ph1, Ph2, 10, 20/40, 63) on the outer edge of the turret. If you are not familiar follow the detailed instructions “*Assembly of DIC condenser prisms*” in the Leica DM IRE2 User Manual. The large opening adjacent to the small opening is defined as BF position. If stickers are not at hand, please carefully write down the prisms or phase rings for each position relative to the BF position, which will be used to set up the SDK software.

**\*) Warning:** When removing the turret from the condenser, as the perimeter of the turret passes through the center, it may feel tight. Gently pull out the turret without forcing it. When replacing the turret, align the notch on the turret with the bearing in the condenser, and push in the turret gently. When properly placed, the turret should turn smoothly.



8. Put the Condenser top-lens in condenser. Read for more information the instructions “*Condenser top*” in the Leica DM IRE2 user manual. Put the polarizer into the holder. Orientation: **POL** facing up = w/o lambda plate    **λ** facing up = with lambda plate.
9. Put the Smart Condenser into the dovetailed condenser holder (polarizer is on top, motor with cable on the right). Fix the condenser with the screw in the rear of the holder, afterwards connect the cable into the socket of the back-plane.



10. Connect the delivered “FX-Bus”-cable with the back-plane of the TL-column of the Leica DM IRE2 and the Leica CRT MIC-Box socket: **Leica FX-Bus**. Remove first the red cover of this socket (in earlier versions of Leica CRT MIC-Boxes (< year 2001) you have to remove a single safety-pin inside of the socket).



11. If you have no motorized DIC turret continue with 13. Remove the present DIC-Turret or the plastic cover if no turret was installed yet. Use an Allen-key 3 mm. Take the motorized DIC-turret and place the IC prisms (from the removed turret) into it. Write down the Prisms (A...F) and positions (e.g. Position 1 = A, Position 2 = C, Position 3 = Empty, Position 4 -the bigger hole- is always empty for non-DIC contrasting methods like Brightfield or Phase Contrast).



12. Build in the DIC-Turret fix it with the 2 screws (Allen-key 3 mm), see “Assembling the DIC objective prisms” and connect the cable to the TL-column back-plane (round socket). **Do not plug it into of the stand socket close to the turret X (this is only for the encoded model)**



13. Connect your PC (equipped with SDK software) to CRT MIC Box via a serial cable.
14. Switch on the microscope.
15. Put the SDK-Disc delivered with the Smart-Condenser into your PC and start the SDK-Update. Follow the software instructions.
16. After installing the new SDK you will find the folder “Leica DM SDK...” under “Programs”. Select this folder it will show you different programs. Point 5 – 7 is useful information, read it first.

17. Select and start “Mic-Config” and select the “IRE2” and your “COM-port” and set-up the Leica DM IRE as follows.



Test the functions after activation of checkboxes.  
Continue with “Save”.

“Save” will save this installation  
“Setup...” will save this installation and active the MIC-Wizard

If you do not see all the dialogs listed here you have to do a “Firmware Update” see below.

Go out of the Dialog with “Save” and continue with point 16.

Just in case you should go into the Firmware Update even if you’ve got the dialog as listed above. You can check whether you’ve got really the latest SDK-Update.

18. Select “Firmware Update”. Follow the software instructions. Update all modules out of date. This will take some time (up to 30 minutes)

19. Restart CRTMIC-Box.

20. Ready to go!