











HT7800 Transmission Electron Microscope Instruction

Startup procedure:

1. Take out sample holder; load sample, then put sample holder in the column

Load Sample holder:

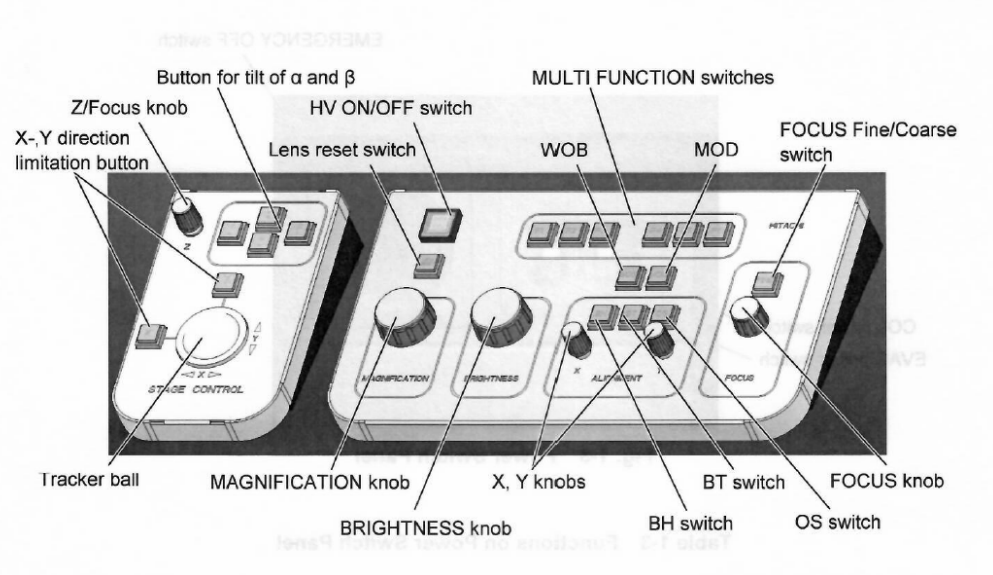
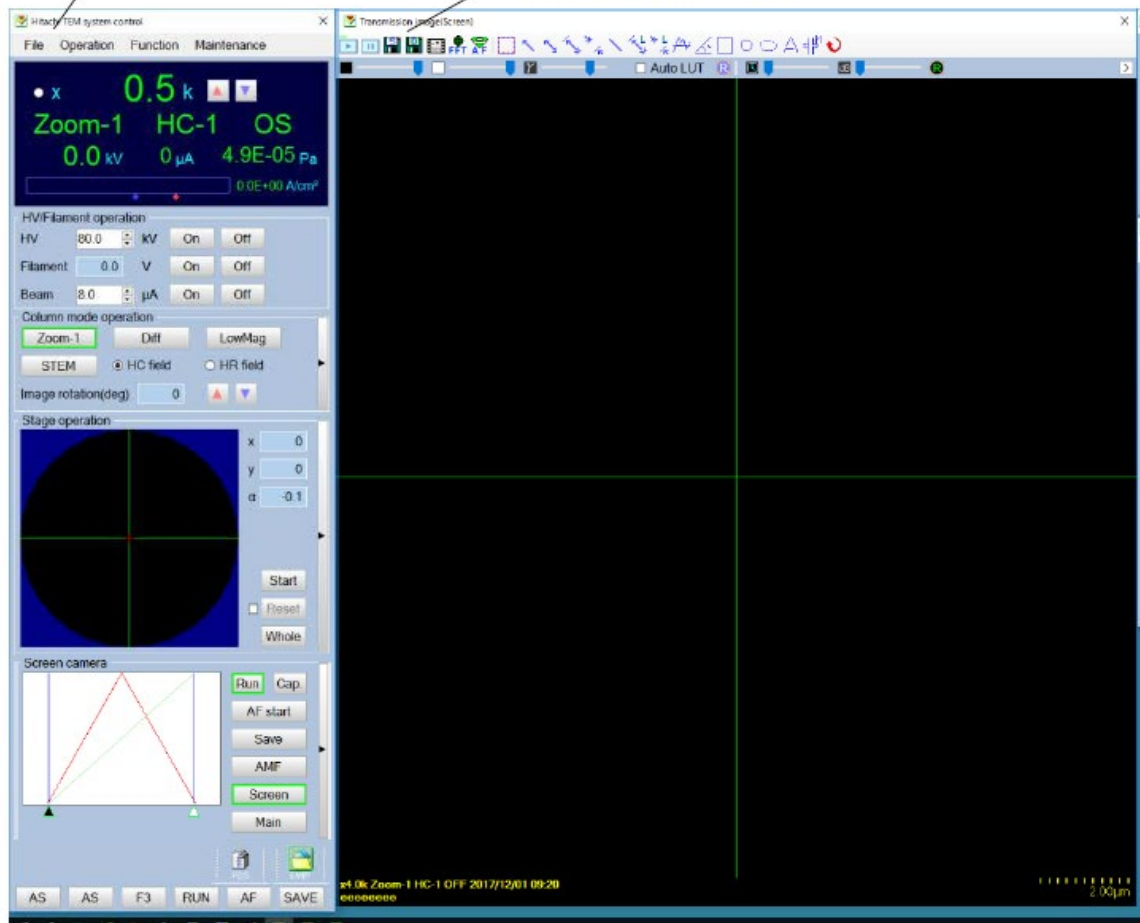
Sample holder in: all the way in  ; switch to evac, when hear beeping and light turn green; turn right  ; then In  ; turn a little left  ; then in 

Sample holder out: out  ; turn a little right  (this is park position); then out  ; turn left  (this is pre evac position); switch to air, wait a little, out  sample holder.

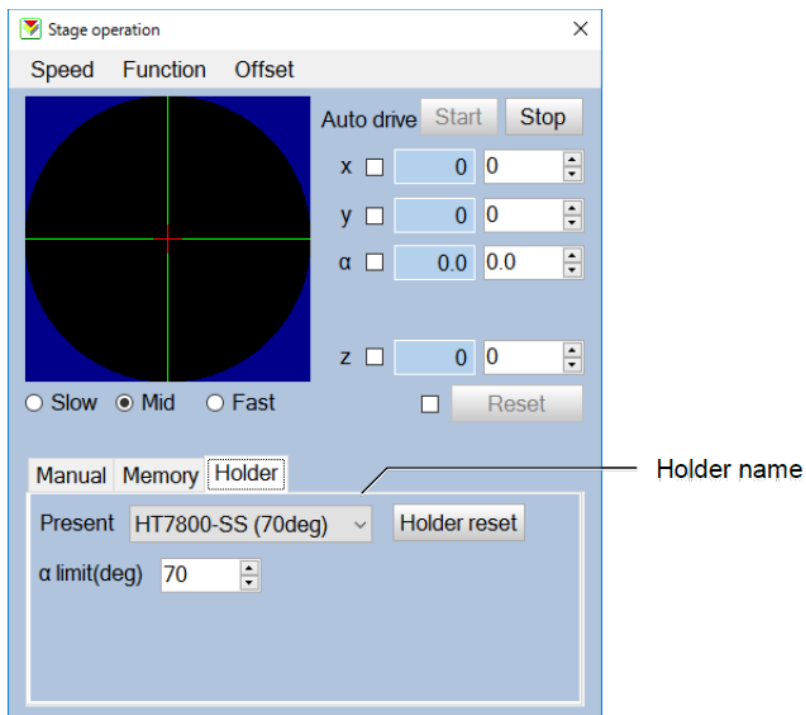
2. In Hitachi TEM system control window, make sure HV is on (the “on” button next to the HV tab is green), then turn on filament by clicking “on” button next to filament tab and turn on emission by clicking “on” button next to emission tab in HV/filament operation section of TEM system control window.
3. In Hitachi TEM system control window, select “Zoom-1” and “HC”; Click “Maintenance” pull down menu, select “BH” button on control panel. At last, make sure in the information area of the TEM system control panel shows “Zoom-1”, “HC-1”, “BH”.

Hitachi TEM system control
(main window)

Transmission image



4. In TEM system control window, click on “**Screen**” button in camera section to choose screen camera.
5. In Transmission emission window (this window can be open by click on the small black triangle on the right side of screen camera section in TEM system control window), check on “**auto LUT**”, click on **R** button to reset gain and offset
6. In TEM system control window, click on the small black triangle on the right side of stage operation section. Click on **Holder tab** and choose the appropriate sample holder you are using. Then check on “**holder reset**” button to reset sample holder.



7. On the control panel, Click “**lens**” button to reset lens.
8. **Centering the beam:** On the control panel, centering the beam by turning the **brightness knob** to let the beam form a spot, then turn the **X and Y knob** to center the beam spot.
9. **Put in the Objective aperture** by click on F1 button on the control panel (note: if the F1 button is light up, it means the objective aperture is already in); **Adjusting the objective aperture:** Click “**Diff**” button on the column mode control section of TEM system control window, centering the objective aperture X and Y knob on the aperture. Then go back to Zoom-1 mode by click on “Zoom-1”button on the column mode control section of TEM system control window.

10. **Change magnification and move sample position:** On the control panel, change the magnification by turn the **Magnification knob**; Moving sample position by using **tracker ball** on the control panel
11. **Focus image:** Click on the “**AF start**” button in screen camera section of TEM system control window. Image can also be fine focused by turning the **focus knob** on the control panel.
12. **Adjusting MDL:** Change the magnification to between 20K and 60K, click on the **MDL** button on the control panel, adjusting x, y knobs to make the image expanding and contracting to the same center point.
13. **Before capturing images:** REDUCING the brightness of the image by using the **brightness knob** on the control panel; Then on TEM system control window, click on “**main**” button in camera section to switch to main camera. In the Transmission imaging window, check on “**auto LUT**”, and click “**R**” button to reset gain and offset.
14. **Capturing images:** In TEM system control window, in camera section, click “save” button to capture and save image by choose file folder and type in image file name. (* all the user images should ONLY be saved in “user” folder on desktop. Recommending building a new folder with your name on it in the “user” folder.)

Turnoff procedure:

1. **Back to screen camera** by click on “screen” button in the TEM system control window
2. **Reset lens** by Click “**lens**” button in Virtual panel control
3. **Reset sample holder** by checking on “holder reset” button in stage operation section of TEM system control window.
4. **Turn off emission** by click “off” button in HV/filament operation section of TEM system control window
5. **Turn off filament** by click “off” button in HV/filament operation section of TEM system control window
6. **Take out sample holder and sample**
7. **Put the sample holder back in the column**