

To set up a scan:

1. Hit the Manual Stage Control button.
2. Move to where you want the scan to start and push the Get Start button.
3. Move to where you want the scan to stop and push the Get Stop button.
*** Note: the Start position must be to the upper left of the Stop ***
4. Hit Return button.
5. Push the Scan Parameters button. Do this even if all you want to change is the start/stop position.
6. Fill in the pixel sizes and dwell time on the first tab.
7. Check the I0 (dump and channel) parameters on the second tab.
8. Fill in the file parameters (filename, base directory, scan number as in the EXAFS code) on the third tab.
9. Push Return.
10. The Start button will now be enabled. Push it to start.

To navigate on the sample:

Relative to an existing map:

1. Use the cursor and other graph controls to put the cursor on a point of interest.
2. In Manual Stage Control, push Move to Position (bottom row).

Storing/recalling positions:

The Position Registers hold an array of positions. You can recall one by dialing the index to whichever one you want and pushing the Move to Position button under the Registers indicator. You can store one by pushing the Load Position button. There is a space in the register for writing a name for each position. This is just for your memory - no effect on program operation.

Stop/Start:

Get Start Position and Get Stop Position load the current position into Start or Stop. You have to do Scan Parameters to 'set' these for a scan.

To set an MCA:

Fill in the blanks on the Region of Interest Settings. Assumption: the energy scale is 10eV/channel. You can't do this when a scan is going.

To get an average MCA spectrum of the scan region:

1. Set up a scan and push the Stage Only button (white box in upper left).
2. Start the MCA utility with Clear? set to No.
3. Push Start on XY mapper. No data will appear on XY map, but MCA will accumulate.

Display controls:

On Region of Interest block:

Select Selects which ROI you're looking at.
color box What color it appears as.

Auto scale?:

Causes intensity scale to automatically fit the data.

Auto upper limit?:

If this is on and autoscale isn't, then if the data exceed the range of the graph, the upper end of the range is expanded accordingly.

Scale

Manual upper limit to intensity map scale.

The above 3 controls are remembered from ROI to ROI. The controls you see reflect and affect the values of an array of hidden controls, one element per ROI.

Gamma

Affects the display of lowlights vs. highlights. If $\gamma < 1$, emphasizes the dimmer areas; $\gamma > 1$ emphasizes highlights. Works like a videocamera or Photoshop Gamma control.

Common error conditions:

"Bad data" light keeps coming on and scan never gets past first line:

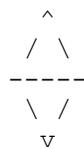
1. Check that Gate Select switch (physical switch on small gray box next to plexi roll-slit enclosure) is in Stage position.
2. Check that detector is OK using MCA utility.
3. If scanning very fast, may want to increase number of points clipped from each end of scan.
4. The MCA utility must not be running, or you will get bad data. Similarly, the MCA utility interacts badly with EXAFS scanning.

All controls seem dead:

1. You may not have Returned from Scan Parameters or Manual Stage Control. You have to hit the Return buttons, not just minimize the window.

Stage not moving:

1. The stage has probably hit a limit or a physical object. It is also possible that the breaker has popped out of the z driver located under the "06" on the label at the top of the rack closest to the hutch. If this breaker has popped, pop it back in. The U500 manual utility should be running in the background. If it is, its taskbar should show an icon like this:



with the top half blue and the bottom black. The name in the taskbar shows as "Unidex...". In this program, the two axes are X-1 and Z-1. There are buttons to Enable the axes and to Acknowledge any faults, which may be what it needs. If this works, you don't need to do a Home step because the stage still knows where it is.

If the Unidex program is not running on the taskbar, then find its shortcut and run it. The icon is as described above. This program will disable the axes. Enable the X and Z axes, acknowledging any faults, then hit Home for each. This will send the stage all over, so make sure its path is unobstructed. The stage will be left in a useless location, so hit the Move to Start button in the Manual Stage Control program to take it somewhere where you can see the sample.

Computer dies after ending Labview:

1. The driver for the stage seems to corrupt itself. You have to reboot, then reload the driver. Do the following:
 1. Reboot using the upper button on the UXASES CPU. Let it go through its file-system check.
 2. Click on Start->Settings->Control Panel->Add/Remove Hardware.
 3. Remove the U500 driver by selecting Remove and finding the U500 on the list.
 4. Finish the Wizard, then go back to Add/Remove Hardware, this time choosing Add/Install. The computer will detect the U500 as a Multimedia card. Let it go through its paces in installing the driver.

This procedure will keep it good for another few weeks.