TECH NOTE

DATE: 5/13/99

SUBJECT: Using WinCal on a PS21

Setup

Put the ISS on an auxiliary stage, up against the corner support ridges. .Set theta to 0 degrees. This will make the ISS aligned almost straight and ready for software align.

Make sure the probes are up high, then either load a wafer and set probe height or set it anyway at about 10000 to 12000. Use the "stats" window in PS21 to see Z-coordinates (set the properties of that window to add display of x, y, z, theta). With the chuck in the UP position, carefully adjust the probes to make contact on the ISS align mark, as described in the manual. Always be careful of probe height when going between ISS and the wafer.

Software Align

WinCal has a feature called Software Align of the ISS. It is found under the ISS menu. Bring it up and record the position when the probes are making contact with the alignment mark. Then move the probes up slightly, so that both probes and ISS remain in focus. Perform the software align (see manual and help). Use the PS21 move interface with the button "Allow adjustment moves at contact" checked. This will move in x,y without dropping the chuck. Do **not** move into the wafer area with this setting. It will be at a different height.

Calibrating and Running

Move back to the recorded alignment mark. Bring up all desired calibration dialogs and record the same position there.

If you are using a GPIB switch box (P/N 107-107) and another computer for testing, then make sure the use of the switch box is enabled under WinCal menu Config-Options and GPIB tab in the dialog. When using the switch box WinCal will start and stop System Managers GPIB use as needed. Note that the switching is done when opening a calibration dialog and switching back when closing. Do not leave the calibration dialog sitting up, when done calibrating. The "Read S-parameter" tool switches the box for each request to read and can be left up. Do not use it when a calibration dialog is up, since that would do a switching the calibration dialog does not know about. Probe Test and PPR behave the same way as calibration dialogs in this aspect.

If you are **not** using the switch box you must open the system Manager and remove the Communications: GPIB component (or at least stop it). It will try to be a GPIB talker/listener and conflict with WinCals need to be a controller.

WinCal also has a button that looks like a wafer in the main window. This button can be used to record any position (x, y, z, theta) but was intended to record a wafer position before moving to the ISS. That way it is possible to move back and fourth between the ISS and the wafer with different Z heights and thetas. If you load a new wafer you must probably re-record the wafer position. Be careful. If the next wafer is thicker you cannot use the "move to wafer" recording without risking probe damage.

See also:

TECH NOTE Installing WinCal on a PS21.doc
TECH NOTE WinCal and GPIB switch box.doc