

## Initializing the System - Do this before Testing

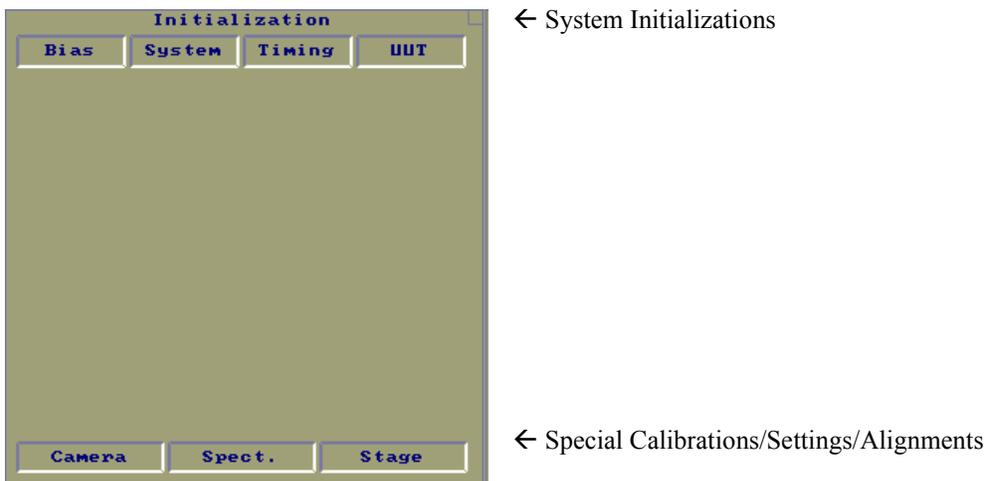
Before any testing is done on the panel the system needs to be initialized. Initialization will establish the following parameters:

- Home the roll and skew axii
- Perform a Bias/Dark current calibration
- Determine that the screen is properly under pattern generator control
- Locate the camera position in front of the panel
- Auto range to establish the proper working distance or set distance based on the “whisker” distance if enabled.\*\*
- Seek the UUT center.
- Adjust panel perpendicularity

\*\* The system uses two approaches when determining the working distance. The auto range approach will try to find the working distance by moving the skew and focus axis while displaying a small box pattern on the display. The whisker approach will use the whiskers to set an initial working distance and then back up from that point a known amount. The whiskers are positioned on the sides of the goniometer and are used to determine a proper and safe working distance. When the goniometer is in the full forward position, the panel should be positioned such that it just touches the tips of the whiskers. This will guarantee that no portion of the goniometer can touch the panel.

### **Running Init**

Enter the Initialization menu by clicking on the “Init” button in the upper left corner of the screen. The initialization plug-in is divided into two groups: The System Initializations and the Special Function Initializations.



**Figure 1 - Initialization menu**

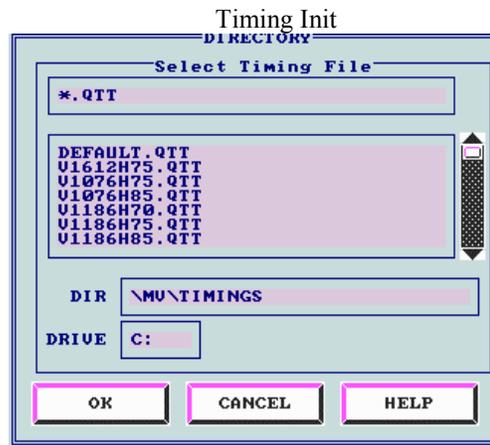
Initialization Plugin displayed after pressing the “Init” button.

## System Initializations

- Bias - Does not initialize but sets the bias/dark current only. Used to re-establish reference levels for low light level measurements.
- System - Performs complete initialization. Assumes that Panel size information has been entered using UUT function.
- Timing - Performs complete initialization with prompting to allow for timing file selection. The default timing file can be permanently saved through the main setup.
- UUT - Performs complete initialization with prompting for viewable area entry. The viewable area is required for proper initialization. It is not determined automatically and must be entered at least once for each new panel type. Use the UUT initialization when changing panel types or using a panel for the first time.

Only one initialization need be performed. The different methods are provided so changes to timings or panel specifications can be performed before the initialization begins.

The viewable area is also required for proper initialization. It is not determined automatically and must be entered at least once for each new panel type. Use the UUT initialization when changing panel types or using a panel for the first time.



**Figure 2 - Timing Init**

Timing file selection at the beginning of initialization. Timing files can be saved as the default in the main setup menu.

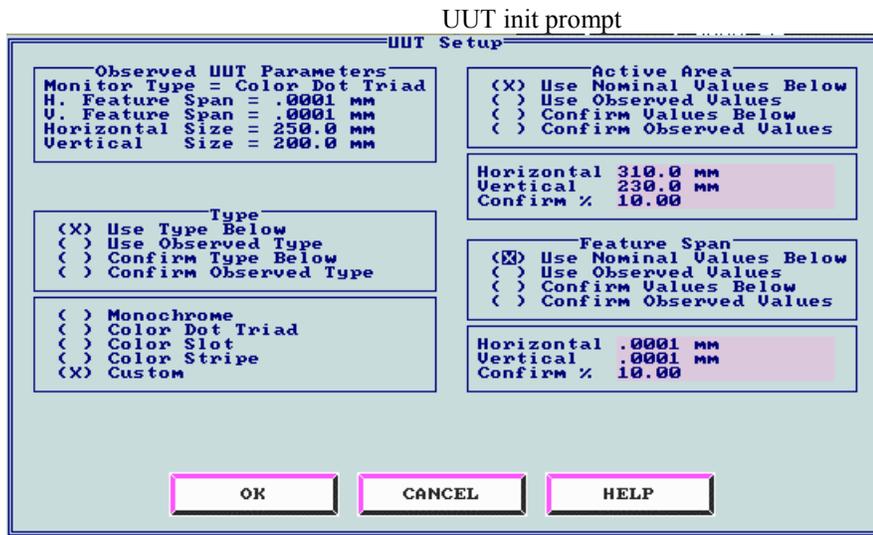


Figure 3 - UUT Init

UUT initializations allow panel specifications to be entered prior to initialization. The above defaults are recommended. Only the horizontal and vertical Active area need to be entered. Dimensions need to be entered.

### Special Functions Initialization (Measuring UUT Tilt)

Special function initializations are used to change system-operating parameters or to align the UUT for testing. For 13406-2 operation, measuring UUT Tilt and aligning the panel is an important step. The following discusses this procedure.

To start the UUT alignment process, click on the “Stage” button as shown at the beginning of this section. The system will then prompt the user with the screen shown below. Check the box as shown for “Measure UUT Tilt”.



Figure 4 - Measure UUT Tilt

Stage - This menu is shown when the stage button is selected in the Initialization plugin. Select Measure UUT tilt when aligning the panel for the first time. This requires the use of the BRDF source.

The tilt angle adjustment uses the BRDF source and the skew axis to determine if the panel is perpendicular. The BRDF source is powered through the use of the second fiber cable attached to the back of the goniometer. When plugged into the light source, the light emitted from the BRDF source is reflected off the panel at a particular angle. This angle should match that of the BRDF source. If the panel is not perpendicular, the reflected angle will not match that of the BRDF source and adjustment will need to be made. The measurement is made at four different roll angles and the results are displayed as shown below.

```
Report
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DATA\uuttilt.rep
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Microvision
SS230:Goniometer Display Analysis System
Version U1.60b6
UUT Tilt Report
Thu Feb 25 11:28:42 1999

Roll=.00 Peak@Skew=9.690
Roll=90. Peak@Skew=9.690
Roll=180 Peak@Skew=9.690
Roll=270 Peak@Skew=9.690
Top is tilted .000 degrees forward
Left Side is tilted .000 degrees forward

The goniometer will be left positioned at the
specular angle (9.690 degrees) to allow adjustment
```

**Figure 5 - UUT Tilt Report**

After the UUT tilt angle is measured, the following display will show the measured tilt angle results. Re-adjust the panel as necessary.