
PXi GenX-130

X-Ray Imaging

Operational Manual

July 2017

A. OPERATING PROCEDURES

2.1 System Start-up

Follow these step to start up the machine:

- 1) Turn on switch in the back to provide AC power to the machine.
- 2) Turn on the computer.
- 3) Turn the **Power** key to the right (located on the front panel). The red light below **Power**, the yellow light below **Standby**, and the green light below **X-Ray** should be on.

2.2 Operating Machine

Follow these steps to view part:

- 1) Load parts into the machine. Try to place part directly under the head and make as parallel so that you won't have to move the part with the mouse as much later.
- 2) Turn **Standby** key to the right (located on the front panel). The red light below **Power**, the yellow light below **Interlock**, and the green light below **X-Ray** should be on. (Interlock light takes a while to warm up and to turn on. If it does not turn on after about 30 seconds, continue on through step 4. Do NOT continue past step four if interlock light does not turn on.)
- 3) Launch PXi Pro from the desktop window. If no window is displayed go to the **View** tab in the taskbar and click on **Live Image**. There is a shortcut on the ribbon, right next to the snapshot button.
- 4) Use the mouse to positon the part under the laser.
 - a) To move in the Y push forward or backward
 - b) To move in the X push left and right



- c) To move in the Z, pull control up or push down. (Ring light must be off for Z-control to function. Press button on side of mouse to turn ring light on or off.)



- 5) When ready press the red **ON** button to activate X-ray. There should be a slight delay, if the system does not respond it is due to the X-ray source filament warming up. Just wait 30 seconds and try again. (Make sure interlock light is on before performing.) (Question: Do you have to hold the power button for the X-ray red light to turn on?)

NOTE: If you cannot see anything after a few seconds, you must increase the x-ray penetration and/or intensity. You may not be able to see anything until you move them past the first notch

2.3 Viewing Image

Follow these steps to view and analyze part:

- 1) Slowly adjust these parameters on the front panel to get the image you desire. (Edit when and why to use each)
 - a) **kV Adjustment Knob:** Adjusts x-ray penetration
 - b) **mA Adjustment Knob:** Adjusts the x-ray intensity
 - c) **4”/2” I.I. Switch:** Doubles on screen magnification by 2x
 - d) **Camera Lens Zoom Control Rocker Switch:** Adjusts the camera lens zoom control
 - e) **Camera Gain Rocker Switch:** increase or decrease the gain of the CCD camera (Affects contrast of image shown by Live Image. Use to emphasize certain features of the part and to phase other features into the background.)
- 2) In the computer program, you can use the following when analyzing parts.
 - a) **Recursive Frame Average:** a drop down menu located at the top of the program. Takes an average of a certain number of images.
 - b) **Snap Shot:** A button located on the top of the program. Takes a screenshot of the live image. To save a snapshot image, go to file and press “Save As.” Then choose a location to save it to and give a name to the file in the file name field before pressing “Save.”
 - c) **Image Tools:** A set of tools located on the right side of the program. Adjusts image, brightness and contrast. Can also apply filters.
 - d) **Draw Tools:** a set of tools located on the right side of the program. Can draw shapes and add text to images.

2.4 System Shut Down

Follow these steps to shut down the system:

- 1) Turn kV and mA knobs fully counter clockwise and hit the green **OFF** button.
- 2) Exit the computer program and shutdown the computer.
- 3) Turn the **Standby** key to the left.
- 4) Turn the **Power** key to the left.
- 5) Turn off AC power using the switch in the back.