GE CT120 μCT

Quick Operation Guide
CT120: Logging In

• Log on to console computer
  – Log in as user VCT using the password provided

• iLab usage tracker login screen
  – Enter your kerberos ID
  – To streamline the billing process you should be careful to use the same kerberos ID to log in here as was used to make the reservation in iLab.
  – Timer will appear to indicate time used (can be minimized)
  – When done, end session by logging out from timer window

• GE software should be active
  – If not, start the Console Application by double clicking the “Console” desktop icon
  – After starting the Console App you will be required to click on the “system” tab, select the CT120 from the list of scanners, then click the “connect” button to connect the software to the scanner.
  – The software/hardware are now ready for use.
CT120: Pre-Scan

- Select the **Scan** icon
- Find the **Select Protocol** tab and select an appropriate protocol for your specimen
  - For mouse lung tumor models use:
    - CT120 Soft Tissue Fast Scan (comparable to 14min SS)
    - CT Fast Scan Vision 120 90kVp Full
- Name your scan
  - Use your name for the **Project**, this will set up a file structure under your name
- Push the yellow **Safety Interlock** button to activate the X-ray source
- Warm up the X-ray source by pressing **CT Warmup**
  - If it has been more than 1hr since the last image you must do the warm-up process
CT120: Pre-Scan (Cont.)

- Pre Scan preparation (at the specimen table and cradle)
  - Carefully open the specimen table chamber door (pull the chamber away from the gantry, find a latch on the inside right edge of the specimen table to open the chamber door.
  - Place specimen on the cradle (stage)
CT120: Pre-Scan (Cont.)

- Position specimen using the **Tableside Controller**
  - Activate lasers-press **Toggle Lasers** button
  - Press arrows to center your specimen; move the center of the sample to the intersection of the lasers
  - To change horizontal placement, turn the silver knob to adjust stage height,
    If you have positioned the stage to a level that is not safe for the imaging system, the stage on the screen will turn red

- Once you are satisfied with the location of the specimen, press the **Laser Mark Plane** set button
- Turn off lasers by pressing **Toggle Lasers**
• Fine tune sample positioning using the **CT Fluoro** tab
  - Use the table positioning buttons at the bottom of the fluoro screen
• Press **Stop X-rays** to stop the fluoro image
• Select **Run Protocol** tab
  - Protocol progress can be tracked in **Status** box
• When protocol is complete, go to the **Explore** icon
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In the explore files, find your Thumbnail image

Click on **thumbnail** to highlight

Select the **View** tab to open the minivolume image in MicroView

Define a reconstruction Region of interest (ROI)
- Manipulate the 3-D planes to find the edge of a ROI for analysis.
- Position the mouse arrow at the intersection of planes and press 7.
- Move the planes through the sample to the opposite corner of your desired ROI.
- Position the mouse arrow at the intersection of the planes and press 8. This will form an ROI cube

Save the ROI crop coordinates by clicking on the **File** tab of the MicroView tool bar. Click on **Save Crop Coordinates**
CT120: Reconstruction (cont)

- Go back to the **Explorer** icon
- Highlight the thumbnail that you used to create crop coordinates
- Select **Send to Recon** tab
- Select **Recon** tab to open the reconstruction window
  - Change output name
  - Click **Load ROI** to add the crop coordinates
  - Select **Full Res**
  - If **Half Scan Recon** is selected in the advanced settings box, deselect
  - Press **Submit Recon** button
- After reconstruction is complete, return to the **Explorer** icon and highlight the reconstructed file and hit the **View** tab
- On the Tableside Controller, remove specimen from imaging tube by pushing **Move to Home** tab
CT120: Ending A Session

• Move any files you want to save to a remote location such as Rowley or an external hard drive
  – Directions for connecting to Rowley are posted on the wall and available upon request.

• Leave the console application running.

• Click “logout” from the iLab usage tracker timer window
  – If you fail to log out from the usage tracker, you will continue to be billed for time you did not use.