

µCT Troubleshooting Guide

By PCMD MicroCT Imaging Core

pcmd.microct@gmail.com

(2020.10 updated)

Table of Contents

1. µCT Scanning	2
1.1. How to refresh the system session	2
1.2. System requires login	3
1.3. The Scan button is missing	3
1.4. The Control Box is missing	3
1.5. The command window is missing	4
1.6. There are no ongoing scan jobs, but the scanner's door is still locked. (for µCT 35 / µCT 45)	4
1.7. "File is not a Calendar Datafile."	5
1.8. Why can't I adjust the centrifuge tube holder (for VivaCT40 / VivaCT80)?	5
1.9. "X-ray tube is not ready! Wait for 20 minutes"	5
1.10. Error code 7: "WARNING: No Patient Name"	6
1.11. Error code 22: "FATAL: Failed to connect to server 192.168.XXX.XXX"	6
1.12. Error code 24: "Selected operator is not an operator"	7
1.13. Error code 90: "TCPIP error. Connection is lost!"	7
1.14. Error code 2112: "device already allocated to another user"	8
1.15. Error code 7040: "Z - motor moving error! Door is open. Move not allowed!"	8
1.16. Error code 7053: "Door opening error! Motors are still moving"	8
2. µCT Evaluation/Analysis (Command: <code>uct_evaluation</code>)	9
2.1. I can't load my sample that was scanned a long time ago (>4 months)	9
2.2. Error code 36: "Reading data %FOR-W-ATTACNON, attempt to access non-existent record!"	9
2.3. I can't draw any contours in the Evaluation software	9
2.4. Do I have to click the "Default VOI" in the Evaluation program?	10
2.5. The Evaluation program crashes when I draw the contours, especially when drawing semi-automatic contours (e.g., for cortical bone midshaft analysis).	10
2.6. The Evaluation program crashes when I click the "Start Evaluation" button	10
2.7. I have multiple GOBJ contour files, but the evaluation program was not using them for analysis.	11
2.8. Why do I see the tilde sign "~" and the exclamation mark "!" in my analysis result TXT?	11
3. µCT 3D Rendering (Command: <code>uct_3d</code>)	11
3.1. "Error Creating TIFF-Image"	11
3.2. Why is it so difficult to rotate the 3D view to my desired orientation?	12
3.3. Why do my 3D images look like stacked layers?	12

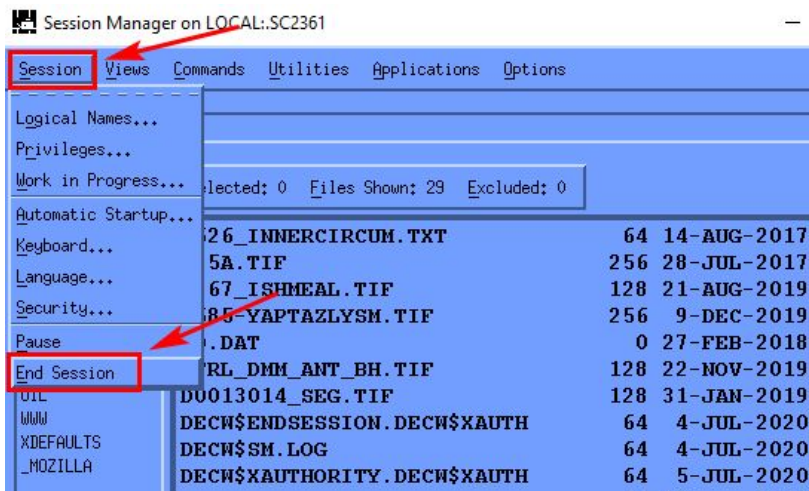
1. µCT Scanning



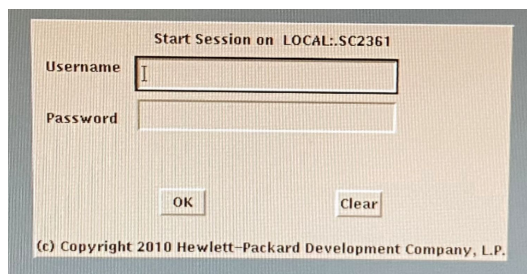
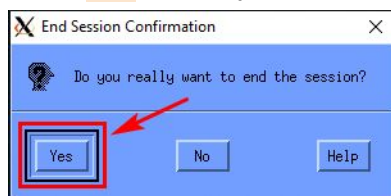
1.1. How to refresh the system session

Description: This is a thorough troubleshooting technique during your scan setup. If all other troubleshooting tips failed, try this one.

Solution: Look for the “Session Manager” window (at the top left of the screen). Click “Session”, and click “End Session”.



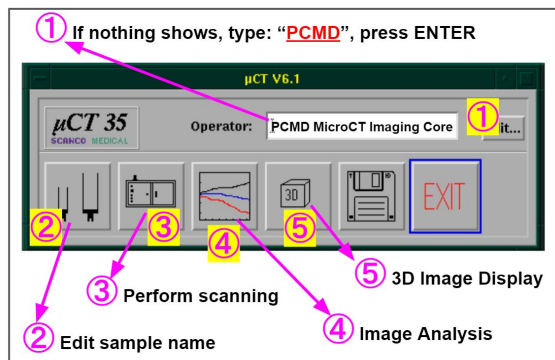
Click “Yes”. Then you will need to re-login the system



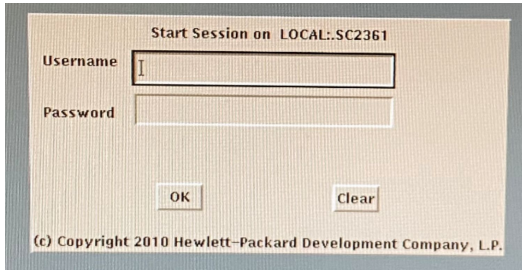
Please enter the username & password (**printed under the mouse pad**), and click the “OK” button.

Note: Nothing will be shown in the Password box (Unlike Windows or Mac system).

Type “PCMD” in the “Operator:” box, and press ENTER



1.2. System requires login

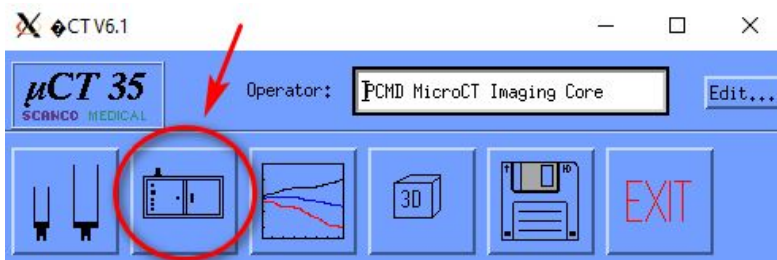


Solution: Please enter the username & password (**printed under the mouse pad**), and click the “OK” button.

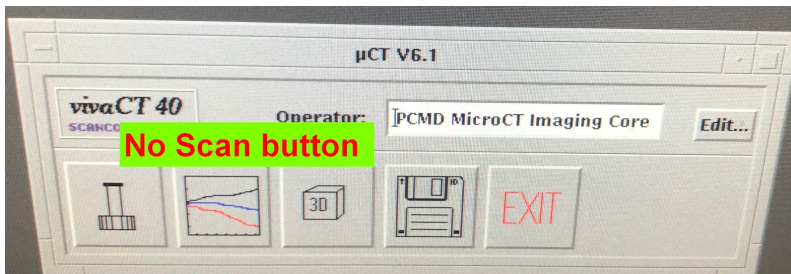
Note: Nothing will be shown in the Password box (Unlike Windows or Mac system).

1.3. The Scan button is missing

The scan button is usually the 2nd button from the left.



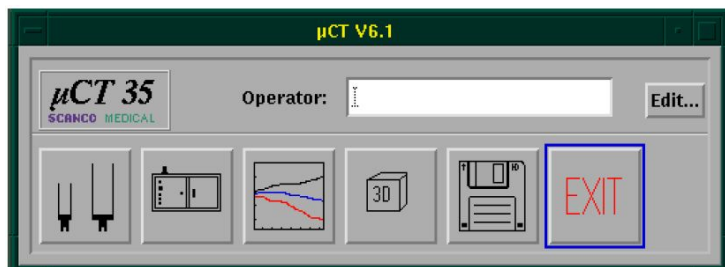
Sometimes the button is missing, such as below:



Solution: Refresh the system session. Please refer to [1.1 How to refresh the system session](#).

1.4. The Control Box is missing

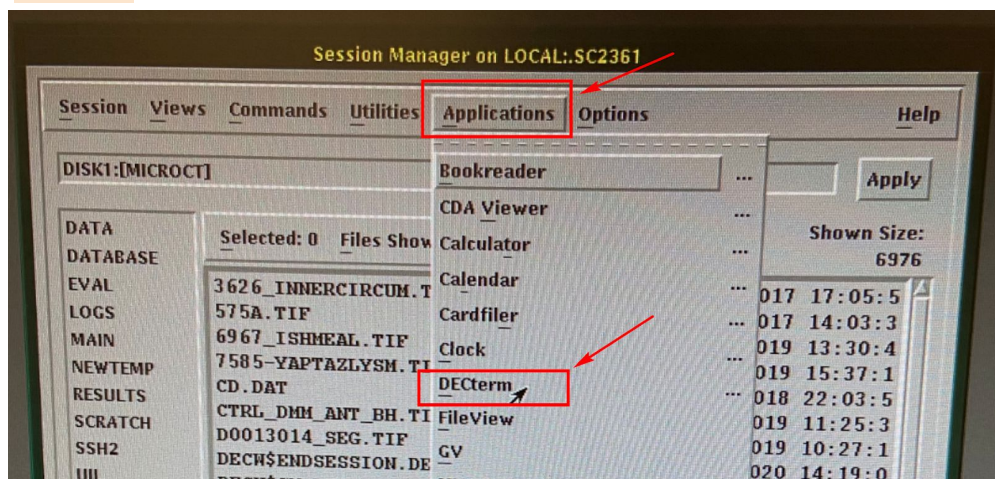
The control box (as shown below) is located at the left bottom of the screen.



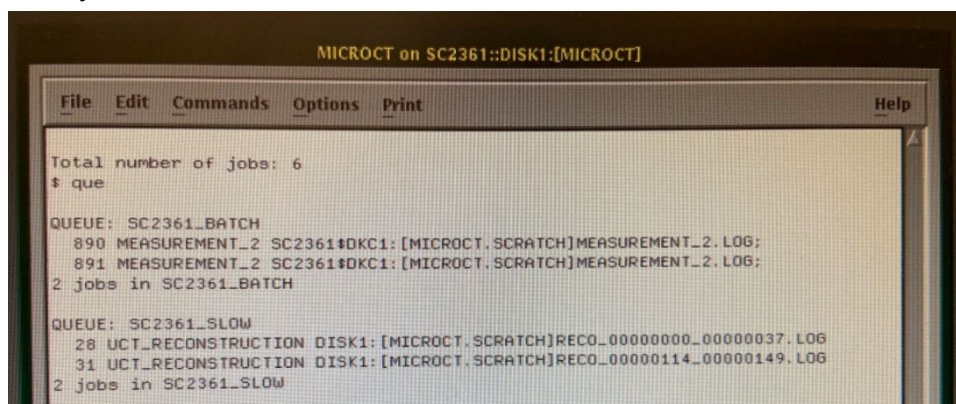
If the above box is missing, refresh the system session. Please refer to [1.1 How to refresh the system session](#).

1.5. The command window is missing

Solution: Look for the “Session Manager” window (at the top left of the screen), click “Applications”, and click “DECterm”.

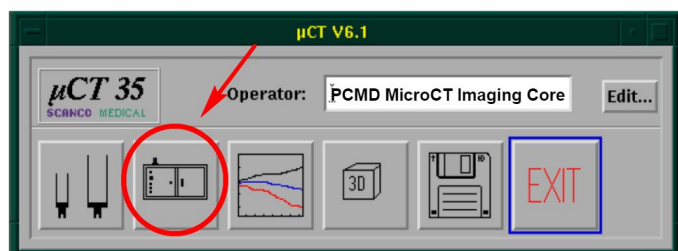


Then you will see the command window:



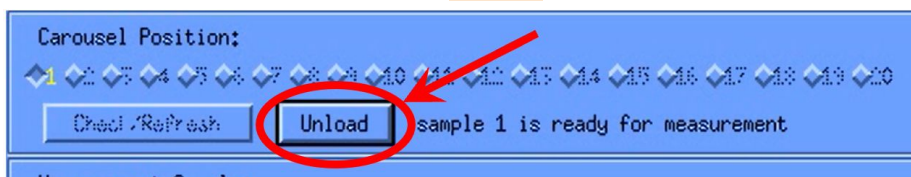
1.6. There are no ongoing scan jobs, but the scanner's door is still locked. (for µCT 35 / µCT 45)

Solution: Click the “Scan” button in the control box:

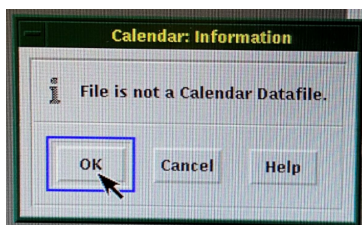


On µCT 35: The door will be unlocked now.

On µCT 45: You need to click the “Unload” button, and the door will be unlocked.

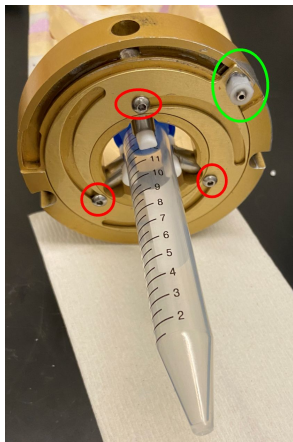


1.7. “File is not a Calendar Datafile.”



Solution: Click the “OK” button.

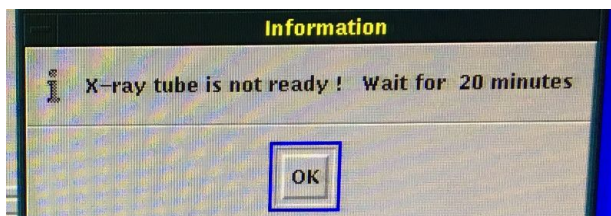
1.8. Why can't I adjust the centrifuge tube holder (for VivaCT40 / VivaCT80)?



Cause: The screws (red and/or green circles above) may be too tight.

Solution: Use Allen wrench to loosen the screws. Then you should be able to adjust the screw accordingly to fit your tube into the centrifuge tube holder.

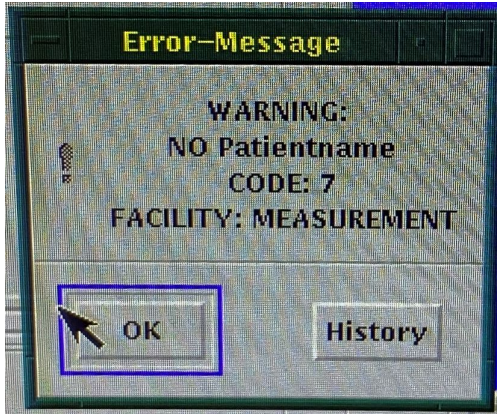
1.9. “X-ray tube is not ready! Wait for 20 minutes”



Cause: The scanner may be shut down or emergency stopped.

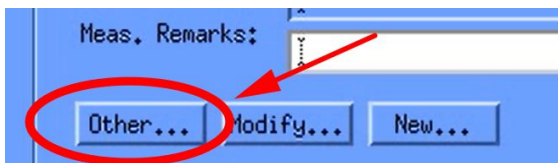
Solution: Please wait for 20 minutes.

1.10. Error code 7: “WARNING: No Patient Name”

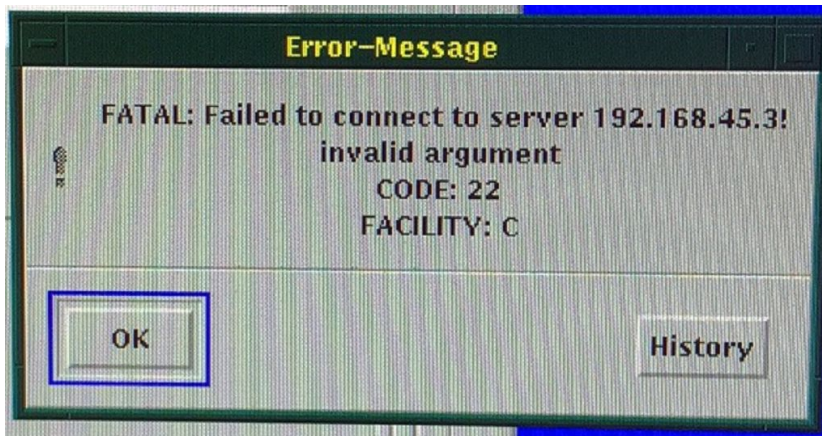


Cause: Sample number was not loaded correctly due to software glitches.

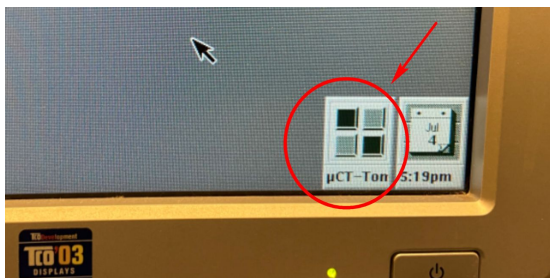
Solution: Reload your sample number by clicking the “Other...”. (You will then enter a sample number...)



1.11. Error code 22: “FATAL: Failed to connect to server 192.168.XXX.XXX”

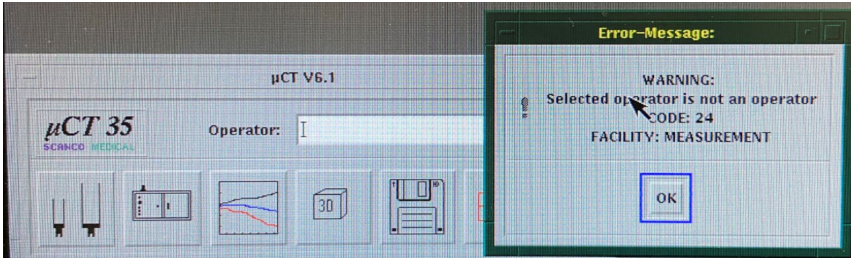


Cause: These is another minimized window at the right bottom of the screen (see below)



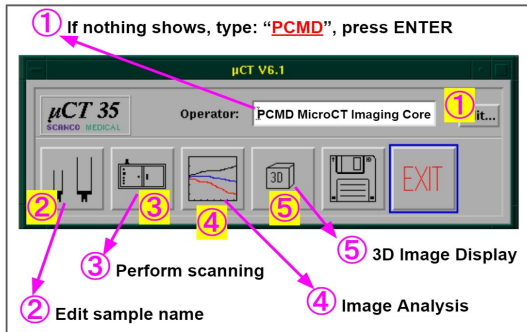
Solution: Close all minimized window at the right bottom of the screen (see the above image)

1.12. Error code 24: “Selected operator is not an operator”

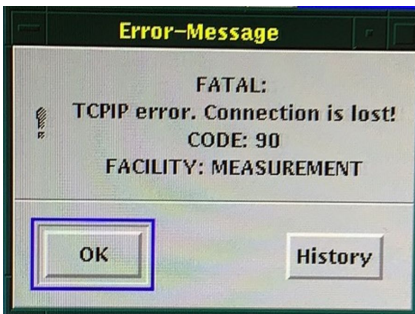


Cause: No name in the “Operator” box.

Solution: Type “PCMD”, press ENTER, as shown below.

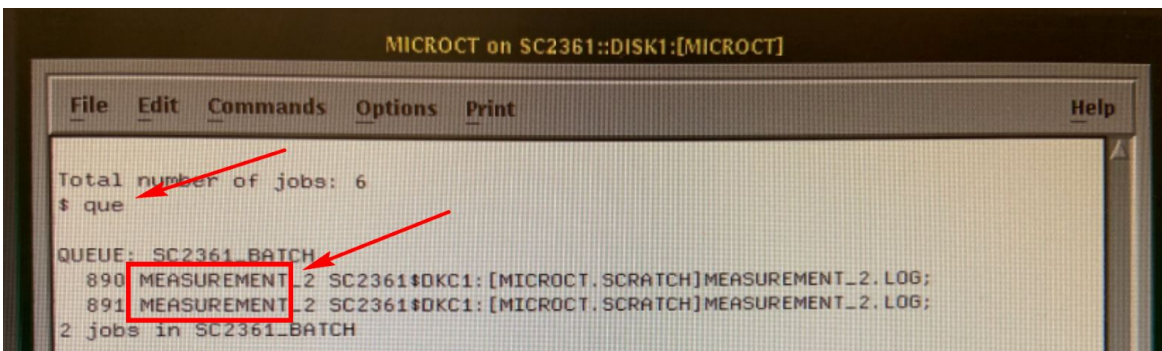


1.13. Error code 90: “TCPIP error. Connection is lost!”



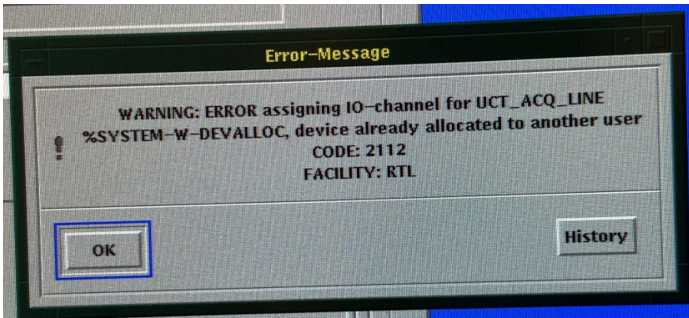
Cause: There is an ongoing scan. To confirm, type “que”, and press ENTER in the command window. When you see the keyword “MEASUREMENT”, it means there are currently ongoing scan jobs in the scanner.

Solution: Please contact the manager if you want to stop the ongoing scan.

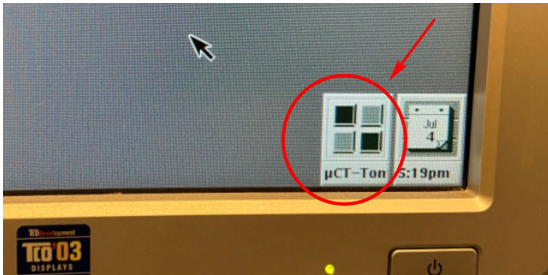


Note: If you don’t see the keyword “MEASUREMENT” after the “que” command, close all minimized windows at the right bottom of the screen (refer to the solution in [1.12: Error code 2112: “device already allocated to another user”](#)).

1.14. Error code 2112: “device already allocated to another user”



Cause: There is another minimized window at the right bottom of the screen (see below)



Solution: Close all minimized windows at the right bottom of the screen (see the above image)

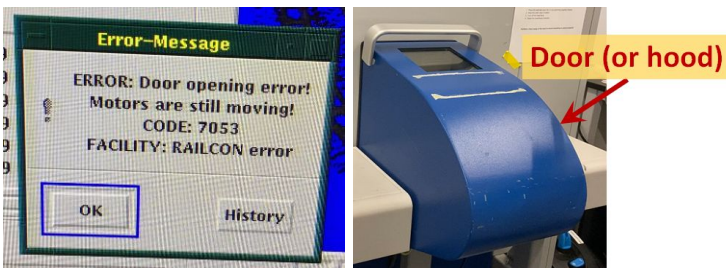
1.15. Error code 7040: “Z - motor moving error! Door is open. Move not allowed!”

This error may be seen on VivaCT40 or VivaCT80.

Cause: The door (or hood) is not closed entirely prior to starting the scan.

Solution: Close the hood completely, and restart the scan software.

1.16. Error code 7053: “Door opening error! Motors are still moving”



This error may be seen on VivaCT40 or VivaCT80.

Cause: You opened the hood when the motor inside the scanner was still moving.

Solution: Close the door, and open it again.



2. µCT Evaluation/Analysis (Command: `uct_evaluation`)

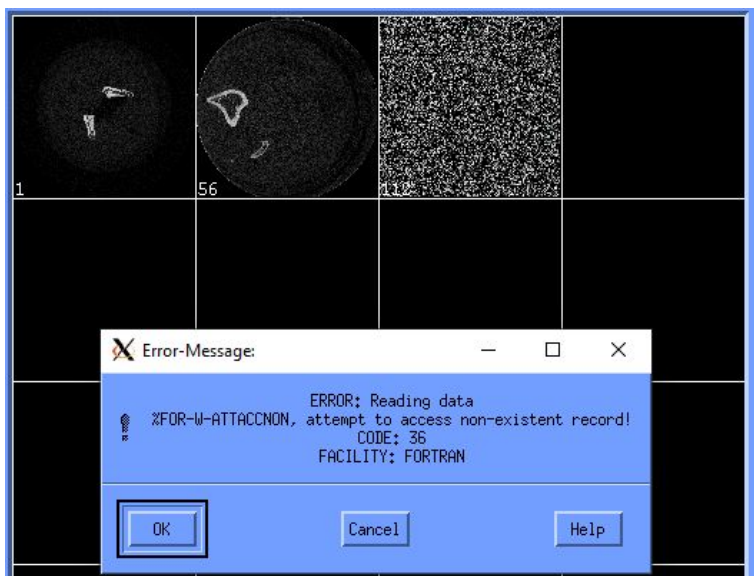
2.1. I can't load my sample that was scanned a long time ago (>4 months)

Cause: Due to limited space on the scanner server, we relocate samples onto tapes every 4 months.

Solution: We recommend users to finish analysis within 4 months after scan. If users want to retrieve historical samples from the tape, please send the tape retrieval form to pcmd.microct@gmail.com

Note: The tape retrieval processing time is dependent on the availability of both the server space and tape drive. **Please submit a request at least 7 days in advance.**

2.2. Error code 36: "Reading data %FOR-W-ATTACNON, attempt to access non-existent record!"



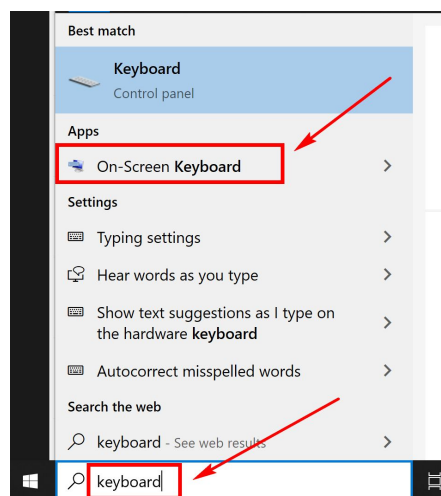
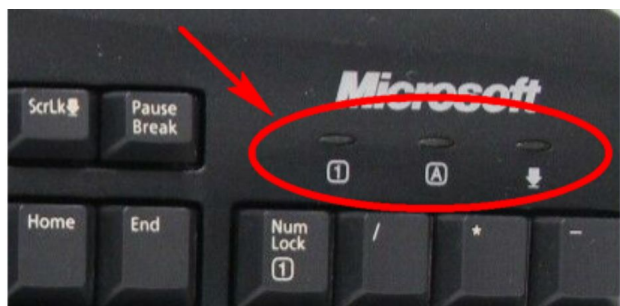
Cause: This happens shortly after (<2 hours) your scan. The system needs time to post-process your scans.

Solution: Wait up to 12 hours after your scan. If the problem still persists, contact the manager.

2.3. I can't draw any contours in the Evaluation software

Solution: Turn OFF the Num Lock, Cap Lock, Scroll Lock on your keyboard!

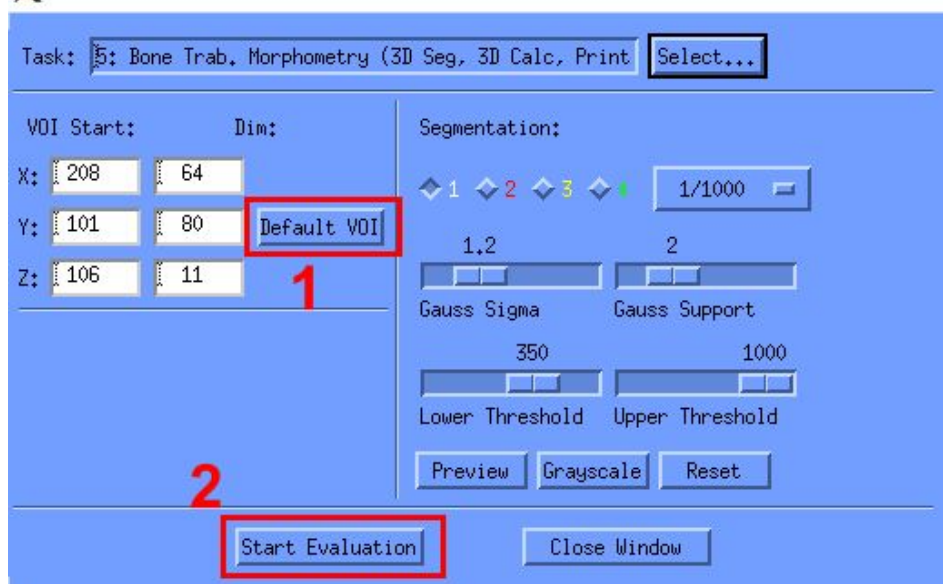
If you are on a remote computer, type keyboard in the Windows search box, and open the "On-Screen Keyboard" to turn them off.



2.4. Do I have to click the “Default VOI” in the Evaluation program?

Solution: YES! You must always click the “Default VOI” before clicking the “Start Evaluation” button.

3D-Evaluation



2.5. The Evaluation program crashes when I draw the contours, especially when drawing semi-automatic contours (e.g., for cortical bone midshaft analysis).

Cause: The software might be experiencing some errors.

Solution: You may restart this computer (Simplest solution).

Or: You may check our video tutorial <https://www.med.upenn.edu/orl/uct/resources.html>

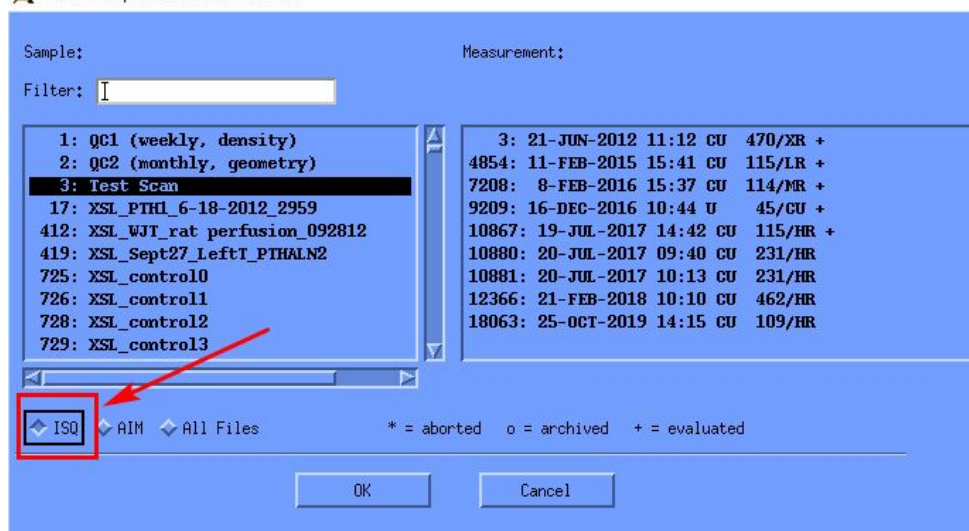
[How to use "microCT Analysis" computers \(3'26" to 4'26"\)](#)

2.6. The Evaluation program crashes when I click the “Start Evaluation” button

Cause: You might have opened an AIM file in the Evaluation program.

Solution: Always click the “ISQ” button when opening the images in the Evaluation program.

Select Sample and Measurement...



2.7. I have multiple GOBJ contour files, but the evaluation program was not using them for analysis.

Cause: The analysis program can ONLY recognize the GOBJ contour files of the default filename (e.g.:D0016730.GOBJ). If you save GOBJ contour as a customized name (e.g.:D0016730_trabecular.GOBJ), the evaluation program can't recognize and use them for analysis.

Solution: You may save your GOBJ contour as a customized name (e.g.:D0016730_cortical.GOBJ) for future reference, but please make sure to save the GOBJ contour as the default filename (e.g.:D0016730.GOBJ) before you click "Start Evaluation".

2.8. Why do I see the tilde sign "~" and the exclamation mark "!" in my analysis result TXT?

Cause: The tilde sign "~" means: The result is approximate for a certain reason.

The exclamation mark "!" means: Be careful, the result might be wrong. (mostly due to low scan resolution).

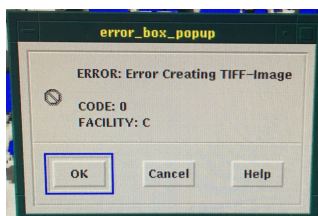
Solution: You may consider to increase your scan resolution in future.

3. μCT 3D Rendering (Command: uct_3d)



We strongly recommend you review the "[Video tutorial for 3D display of microCT images](https://www.med.upenn.edu/orl/uct/resources.html)" listed on our website.
<https://www.med.upenn.edu/orl/uct/resources.html>

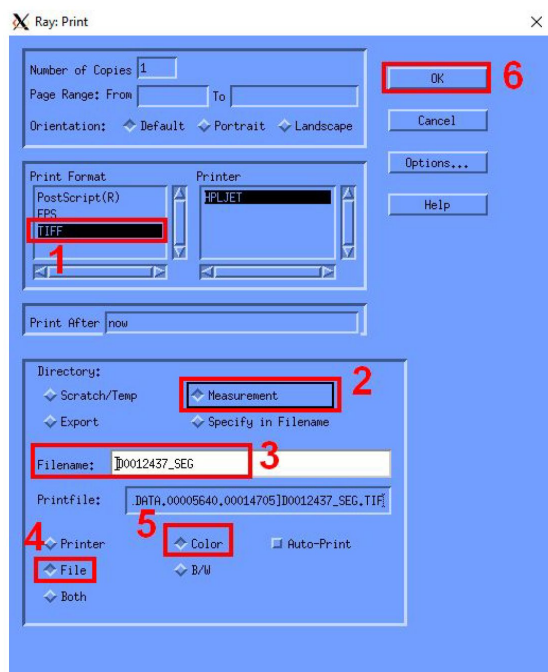
3.1. "Error Creating TIFF-Image"



Cause: The filename may have some special characters, like () [] / \.

Solution: The simplest solution is to use screenshot software on Windows/Mac.

If you want to use μCT 3D to save images: ONLY use numbers, letters, hyphen, underscore for "Filename".
DO NOT exceed 12 characters! Avoid using special characters, including () [] / \



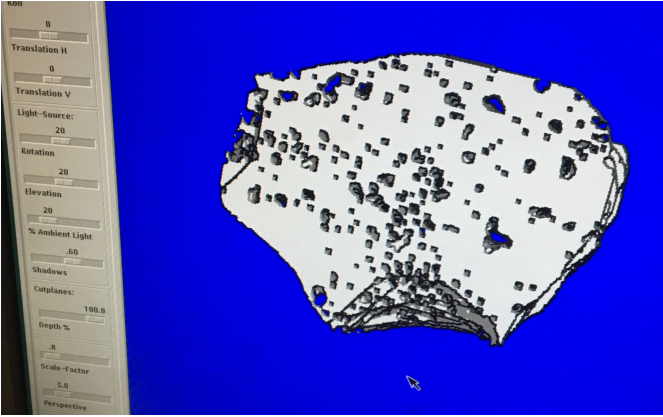
3.2. Why is it so difficult to rotate the 3D view to my desired orientation?

Solution: Please refer to “[Video tutorial for 3D display of microCT images](#)”: “[Step 3: 3D display](#)”

Tip 1: Try to use the arrow keys $\uparrow \downarrow \rightarrow \leftarrow$ (on keyboard) on the parameter bars to control the 3D orientation.

Tip 2: You can click the “Stop” button to stop the rendering anytime.

3.3. Why do my 3D images look like stacked layers?



Cause: After you draw contours in the uct_evaluation program, you may have forgotten to click “morph”.

Solution: Click the “morph” button in the uct_evaluation program to re-generate the _SEG.AIM file.