

ACCU-GOLD T3

USER GUIDE



Simply Powerful

The Radcal Accu-Gold T3 is a portable x-ray measurement system designed to provide accurate and reliable dose measurements in real time. It combines standalone operation with software capabilities that support data analysis, configuration, and reporting.

At the core of the T3 system is the use of profiles. Profiles define the measurement process, including trigger parameters, filtration requirements, timing characteristics, and measurement structure (such as scout pulses and end-of-exposure conditions). Integrated calibrations within the profiles eliminate the need for separate calibration files and allow for measurement techniques tailored to specific applications.

The T3 supports a range of sensors and configurations, enabling it to be used across multiple radiographic and dosimetry applications. Measurements are captured, stored, and made available for review directly on the device or through external software.

For T3 Pro models, wireless connectivity enables communication with AG3 software, allowing remote operation and data access from a connected computer.

This guide describes the features and operation of the Accu-Gold T3 system and provides instructions for setup, measurement, and data management.

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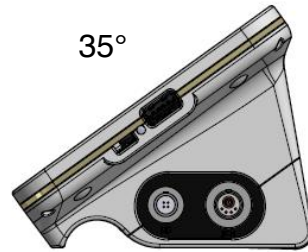
System overview

Accu-Gold T3 has features to increase your productivity such as: quick setup, ease of use, automatic settings and multiple-parameter data capture, unique remote operation, easy data analysis, and instant data recall. With an Auxiliary sensor input and customizable software, you have the capability to expand to meet future needs.

The Accu-Gold T3 provides the ability to save all of your measurements. The Accu-Gold T3 system consists of a built-in digitizer module whose function is to transform the analog signals generated by a host of sensors into calibrated digital signals. The T3 is available in different models that are suited for specific applications, the differences being which sensors can be used.

System Configuration Options and Capabilities						
Model Number	Accu-Gold T3 AGT3-AG	Accu-Gold T3 Pro AGT3-P-AG	Rapid-Gold T3 AGT3-RG	Rapid-Gold T3 Pro AGT3-P-RG	Accu-Dose T3 AGT3-AD	Accu-Dose T3 Pro AGT3-P-AD
Standalone Operation	X	X	X	X	X	X
AG3 USB Connection		X		X		X
AG3 Wireless Connection		X		X		X
Sensor Options						
AGMS-D+ AGMS-M+ AGMS-DM+	X	X	X	X		
Ion Chambers	X	X			X	X
Dose Diode	X	X	X	X	X	X
mAs Sensor	X	X	X	X		
Light Sensor	X	X				

The T3 will auto-switch between two different viewing angles



Touch screen



MS (Multisensor),
AUX (Auxiliary),
mAs (mAs sensor)
connectors

Press ON
Press OFF



USB Flash drive
connector (used for
measurement export
and firmware or profile
updates)

Power and Status
LED (see legend
on unit for meaning
of colors). See
[chart](#) for additional
details.

Charging and
USB Mode
connector

IC (Ion Chamber),
DD (Dose Diode)
connectors

Caution: All connectors are push-pull – do not twist

Setting up the Hardware

1. Connect the sensor(s) to the T3.
2. Position the sensor to make a measurement.
NOTE: Position the sensor before starting the T3; moving the sensor or cable while it is measuring may trigger a false measurement.
3. Place the sensor in the path of the X-ray beam.
NOTE: Make sure the temperature of the ion chamber (if used) has stabilized* before making a measurement.
4. Quick Start is enabled by default and will choose a profile automatically.
Turn on the T3. The unit will automatically go into measure mode.
5. The firmware begins to initialize the hardware as indicated by the status at the bottom of the screen. If an ion chamber is connected, the bias supply needs to start and stabilize.
6. As soon as the “READY” message is displayed at the bottom of the screen, you can make a measurement.
7. Activate the X-ray machine to capture the exposure data.
8. The T3 automatically saves and displays the data for the measurement when the exposure is complete.
9. At any time you can review outputs of the current measurement or previous measurements. Make additional exposures as necessary.
NOTE: All measurements are automatic (except for Manual Trigger Mode) until you press the **Pause** button.
10. If you need to reposition the sensor(s), click the **Pause** button to temporarily take the sensor offline and prevent any inadvertent null exposures from being added to your measurements.
11. Click the **Play** button when you are ready to make your next measurement.

Measurements Using Solid State Mammographic Sensors

If using the multisensor for mammography, go to Manual Mode to choose the appropriate Anode-Filter (see [Manual Mode](#)). Radcal sensor calibrations assume that a 2.2 mm polycarbonate paddle, or the simulated paddle supplied with the multisensor (Model 8154), is placed on top of the sensor.

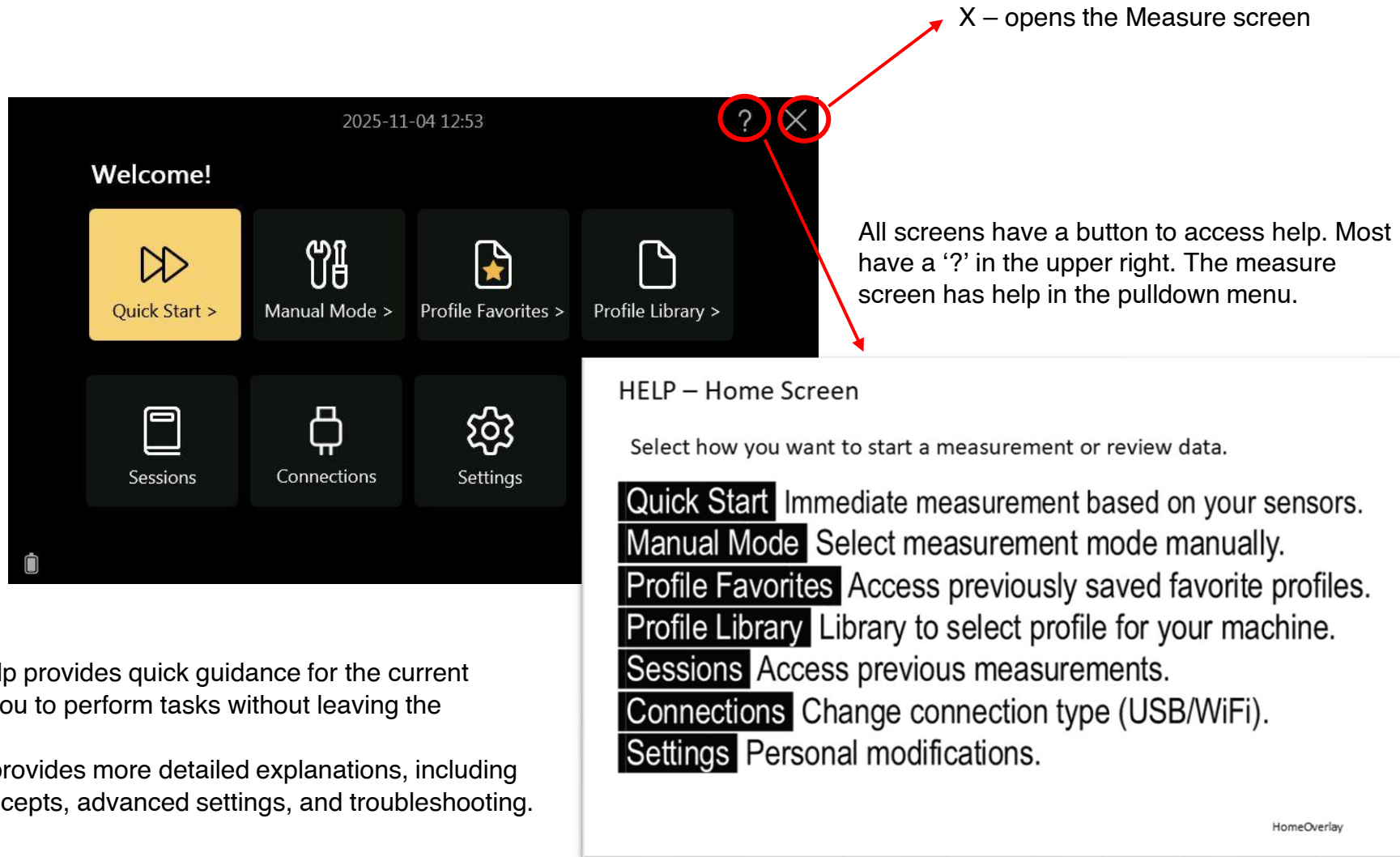
Making a Measurement with multiple sensors connected

The Accu-Gold T3 allows you to connect up to five sensors simultaneously (depending on model – see System Configuration Options and Capabilities) and collect data from all of the connected sensors.

*For changing environments, allow 10 minutes for every 10 C difference for the sensor/electronics to equilibrate.



Using the Interface and Help System



The screenshot shows a dark-themed user interface. At the top, the date and time '2025-11-04 12:53' are displayed. Below this is a 'Welcome!' header. The main area contains eight large, rounded rectangular buttons arranged in two rows. The first row includes 'Quick Start >' (highlighted in yellow), 'Manual Mode >', 'Profile Favorites >', and 'Profile Library >'. The second row includes 'Sessions', 'Connections', and 'Settings'. In the top right corner of the interface, there are two small, circular icons: a question mark '?' and an 'X'. Red circles highlight these icons. A red arrow points from the 'X' icon to the text 'X – opens the Measure screen'. Another red arrow points from the '?' icon to a help overlay window. The help overlay window is titled 'HELP – Home Screen' and contains a list of instructions for each button. The text 'All screens have a button to access help. Most have a ‘?’ in the upper right. The measure screen has help in the pulldown menu.' is positioned to the right of the icons.

2025-11-04 12:53

Welcome!

Quick Start > Manual Mode > Profile Favorites > Profile Library >

Sessions Connections Settings

X – opens the Measure screen

All screens have a button to access help. Most have a ‘?’ in the upper right. The measure screen has help in the pulldown menu.

HELP – Home Screen

Select how you want to start a measurement or review data.

Quick Start Immediate measurement based on your sensors.
Manual Mode Select measurement mode manually.
Profile Favorites Access previously saved favorite profiles.
Profile Library Library to select profile for your machine.
Sessions Access previous measurements.
Connections Change connection type (USB/WiFi).
Settings Personal modifications.

HomeOverlay

The on-screen help provides quick guidance for the current screen, allowing you to perform tasks without leaving the workflow.

This User Guide provides more detailed explanations, including measurement concepts, advanced settings, and troubleshooting.

Quick Start

Plug in your sensors, start the T3 - you are ready to make measurements ...

Session title

Takes you to the Home screen

Session

AGMS Ave. kV

n.a. kV

AGMS Dose

n.a. Gy

Duration

n.a. s

AGMS Rate

n.a. Gy/s

AGMS HVL

n.a. mm-Al HVL

AGMS Filt.

n.a. mm

No Wave for Exposure

Play

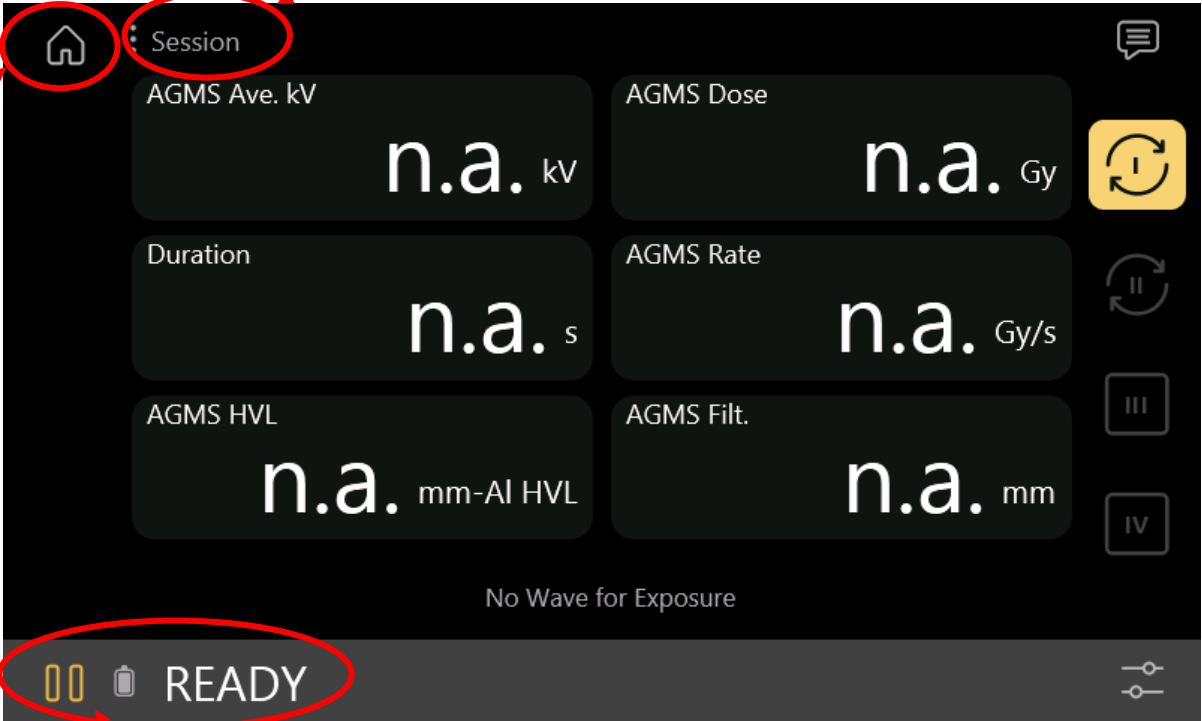
Pause

Touch play when the sensors are in place.

Touch Pause before moving sensors or cables.

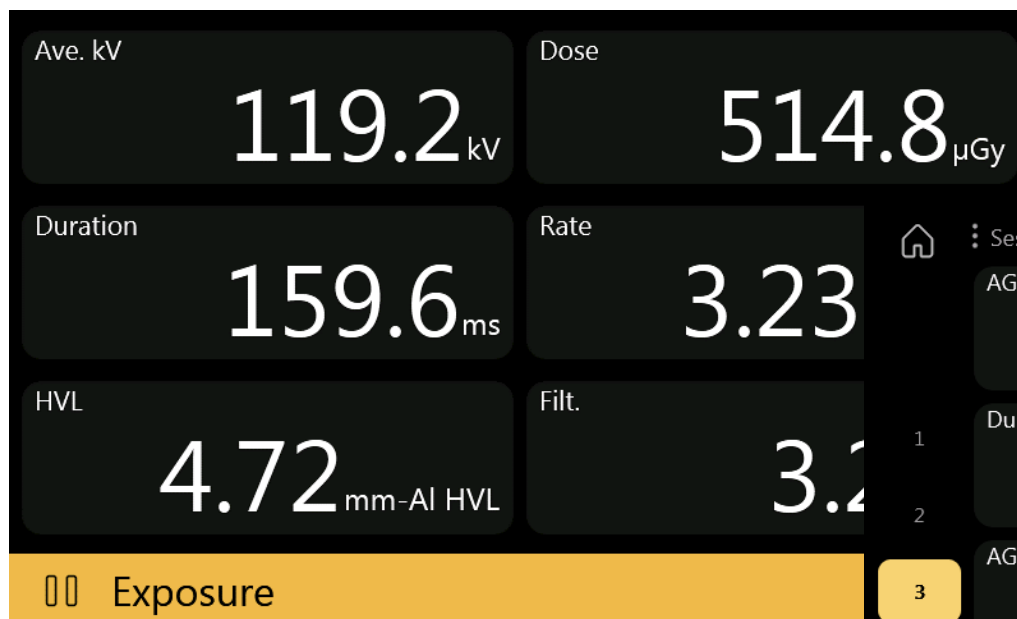
Press Pause or Play

Indicates system is Ready to make a measurement.

The image shows a screenshot of a mobile application interface for a measurement device. The interface has a dark background with white text. At the top, there is a 'Session' title bar. Below it, there are six large rectangular boxes arranged in a 3x2 grid, each displaying a measurement value and its unit. The values are all 'n.a.' (Not Available). The measurements are: AGMS Ave. kV, AGMS Dose, Duration, AGMS Rate, AGMS HVL, and AGMS Filt. To the right of these boxes are four circular icons: a yellow play button, a yellow pause button, a yellow stop button, and a yellow reset button. At the bottom of the screen, there is a status bar with a battery icon, a signal strength icon, and the word 'READY' in large white letters. The status bar is highlighted with a red circle. Red arrows point from text labels to various parts of the interface: 'Session title' points to the title bar; 'Takes you to the Home screen' points to a home icon in the top left; 'Session' points to the title bar; 'Play' and 'Pause' point to the play and pause icons respectively; 'Touch play when the sensors are in place.' points to the play icon; 'Touch Pause before moving sensors or cables.' points to the pause icon; 'Press Pause or Play' points to the play and pause icons; and 'Indicates system is Ready to make a measurement.' points to the 'READY' text in the status bar.

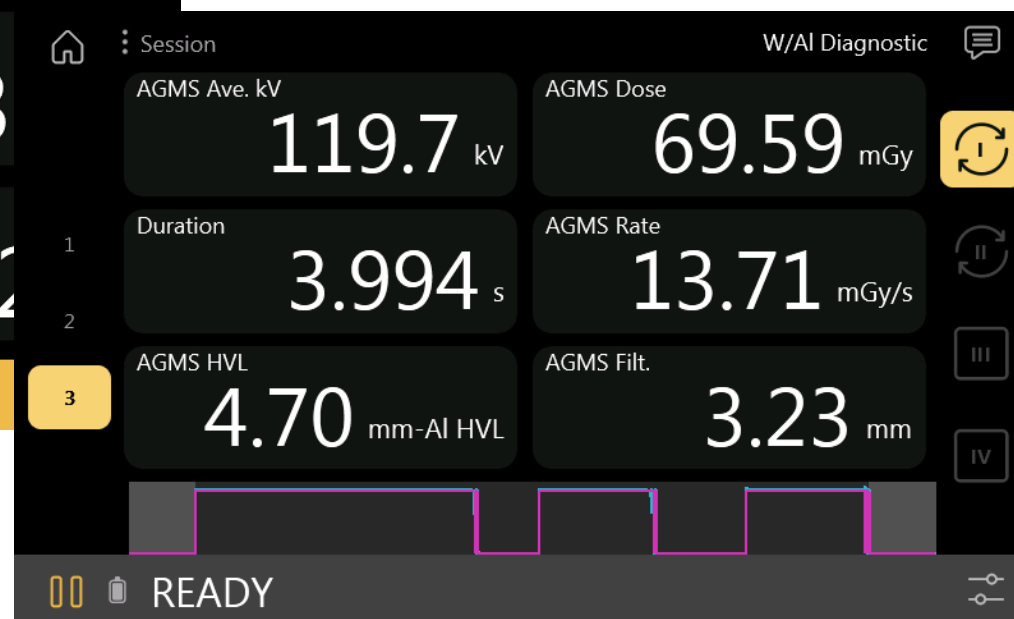
Make your first measurement...

Data shown is the real-time data as the exposure is happening



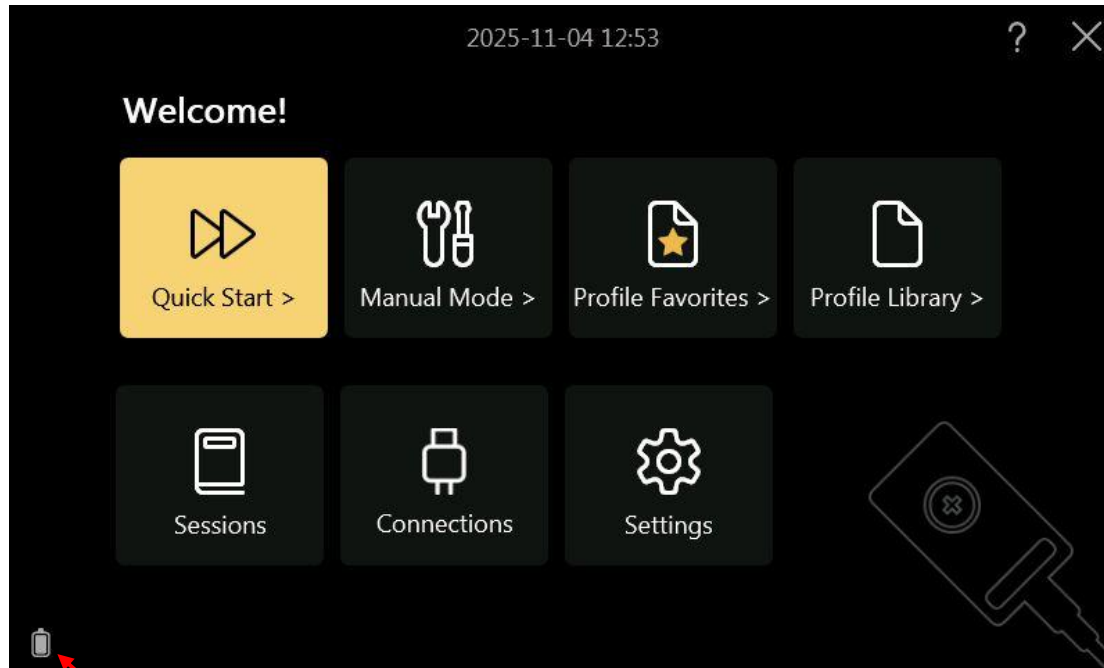
Measurement has been triggered

After the exposure the values are updated with the post-exposure results and the waveform is displayed.



For additional guidance on any screen, tap the “?” icon to view on-screen help.

The Main Menu



Battery
charge
level



Level



Charging



Error

If you attach the sensor before you start, the software will go straight to measuring* (see previous page). Otherwise, click on **Quick Start**** to start.

*This can be overridden in the Settings menu: "[Auto-Start Measurement](#)"

If the choices made by Quick Start are not appropriate*** for the measurements you are making, choose **Manual Mode** in order to select which sensors you are using, or select a profile from the Profile Library.

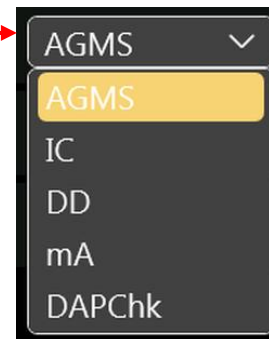
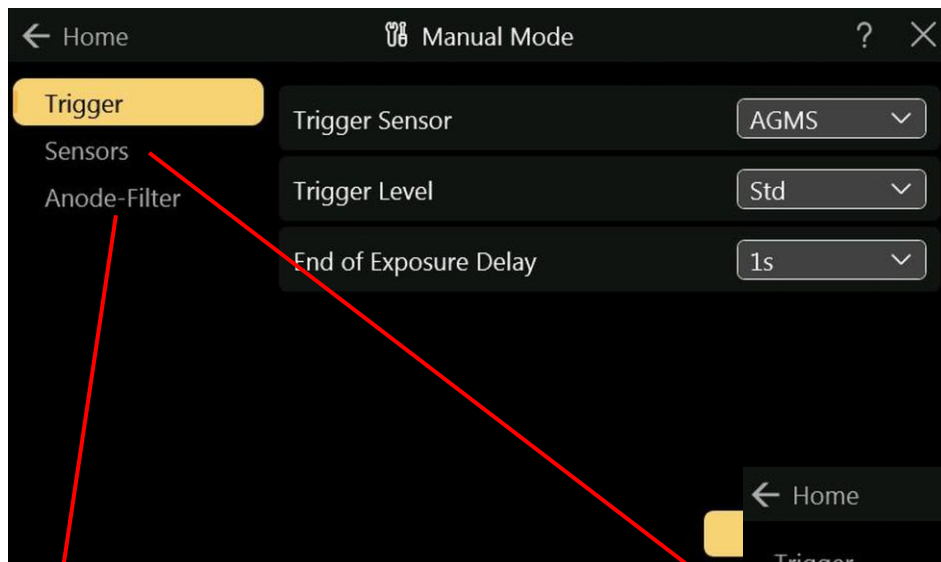
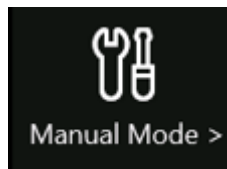
If you are continuing a previous session, choose **Sessions**.

**NOTE: Quick Start opens the closest profile appropriate for your sensors choosing a profile from Manual Mode. If a special profile is needed, select the Profile Favorites or Library.

*** NOTE: Quick Start will look to see what sensors are attached and will automatically choose the appropriate profile. When using the DM sensor, it will choose the W-AI diagnostic calibration as the default. If you are making Mammo measurements, you will have to choose the appropriate A-F manually.

The Manual Mode

Manual Mode lets you explicitly control trigger, sensor, and measurement conditions.



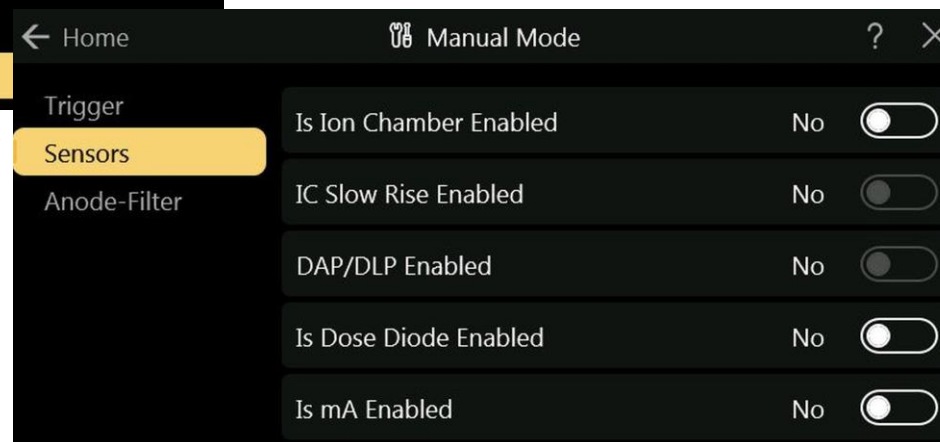
Choose the sensor to use for triggering the measurement

NOTE: The built-in Accu-Gold Digitizer Module (AGDM) allows you to simultaneously collect data from multiple sensors.

Connecting a sensor makes it available to the system, but it must also be enabled in the measurement setup to be used for data collection.

If the sensor is not enabled, it can be connected but will be ignored.

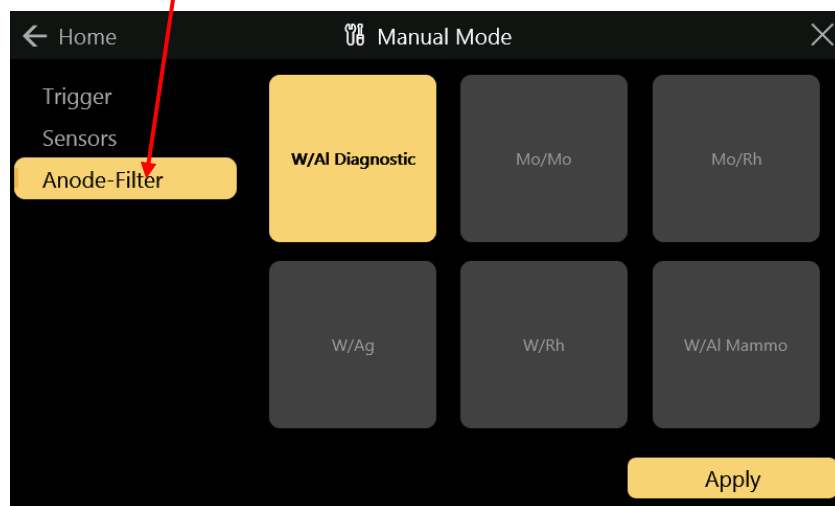
Before making an exposure, choose the Anode/Filter combination that matches the machine being measured.



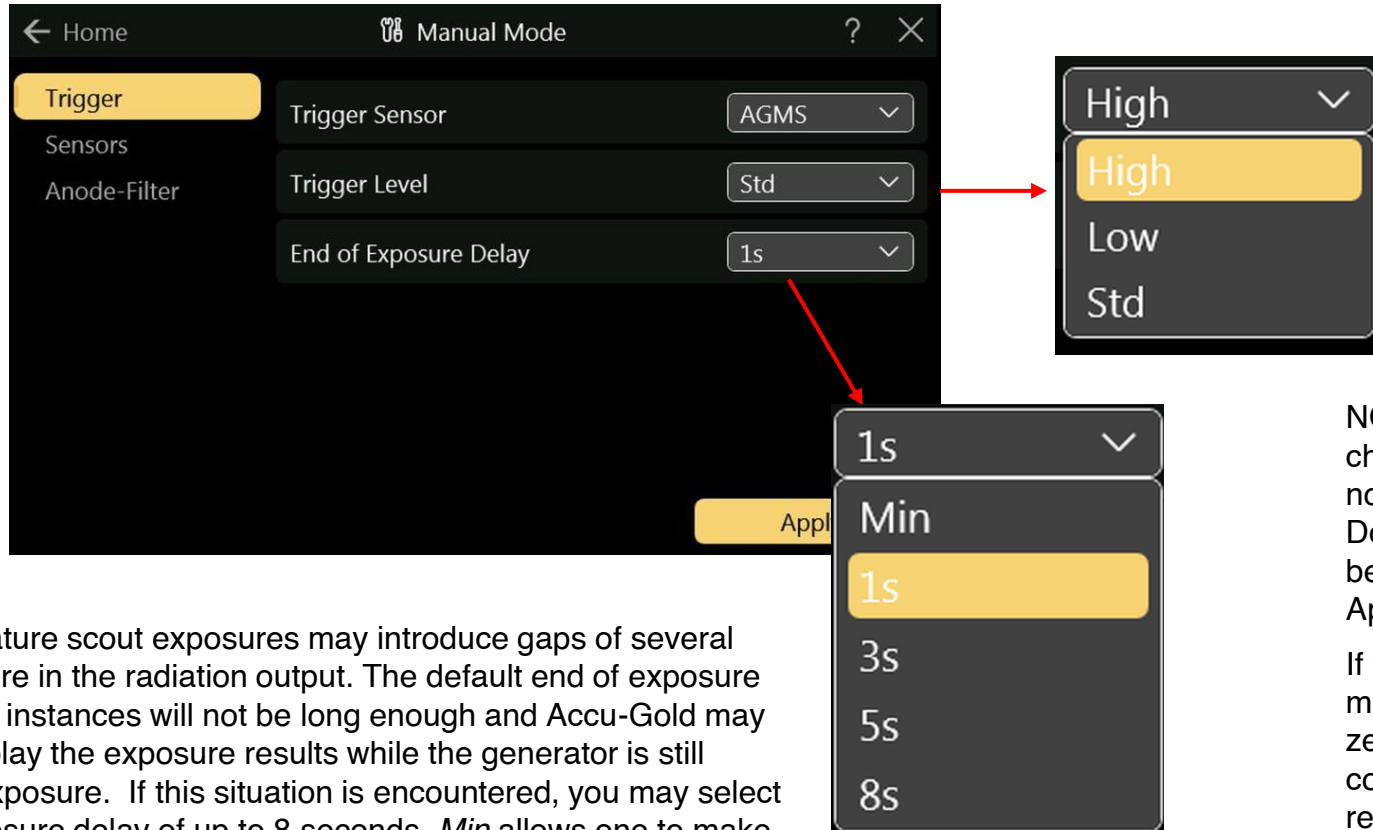
If using an ion chamber:

IC Slow Rise Enabled This is useful to trigger longer exposures when an ion chamber signal is very low and/or the signal is noisy. Dose accuracy is unaffected.

DAP/DLP Enabled If the ion chamber is a DAP chamber to be used in DAP mode or a CT chamber in DLP mode, enable it.



The Manual Mode (cont)



High – Select if Std causes false triggering.

Low - Select if Std is not low enough. Low may allow smaller signals to be captured, but may also result in false triggers.

Std - Std trigger sensitivity is recommended.

Many x-ray feature scout exposures may introduce gaps of several seconds or more in the radiation output. The default end of exposure timing in some instances will not be long enough and Accu-Gold may attempt to display the exposure results while the generator is still finishing the exposure. If this situation is encountered, you may select an end of exposure delay of up to 8 seconds. Min allows one to make successive measurements quickly. In between measurements, zeroing is skipped and therefore use Min with large signals only where zeroing in between measurements is not important – use with “High Trigger Level”.

Set the delay longer than any signal gaps (A). If the signal repeats automatically, keep it shorter than the interlude (B).

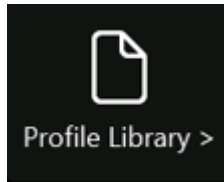


NOTE: If noise or false triggers prevent reliable ion chamber measurements and grounding the system has not improved the experience, connect a Multisensor or Dose Diode and locate it somewhere in the radiation beam so that it can serve as a trigger source. (refer to Application Note [AN1007](https://radcal.com/download-application-notes/)* for more information)

If you have a strong, noise free signal, selecting High will minimize the time the system measures a background zero in between measurements allowing you to make continuous measurements rapidly. A new zero will be recalculated every 5 minutes.

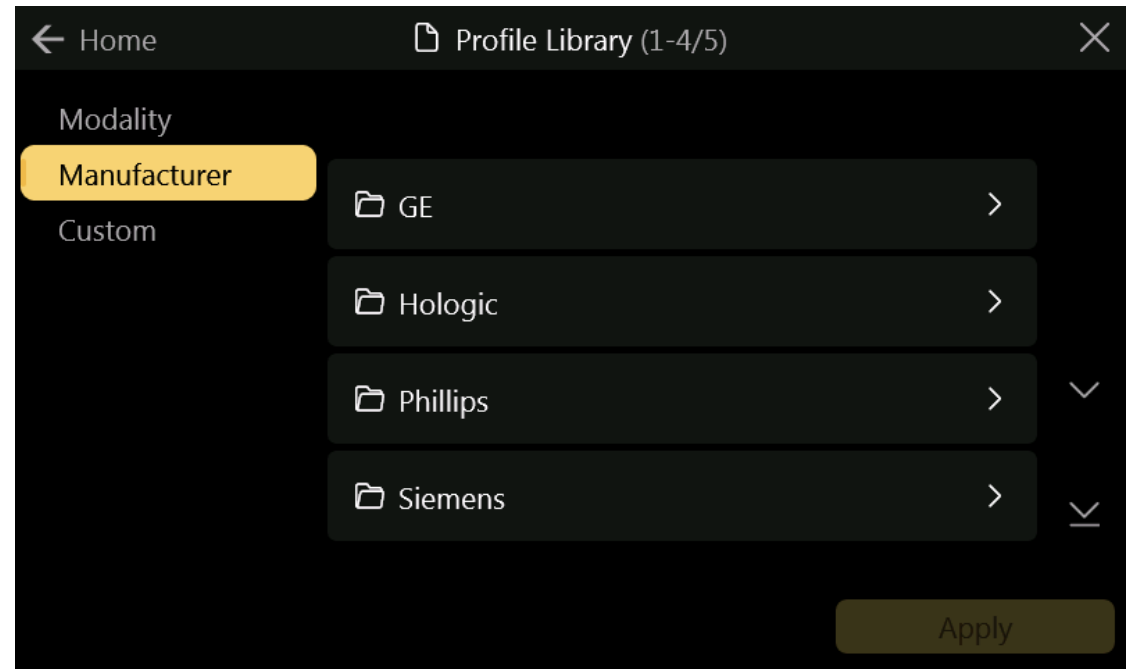
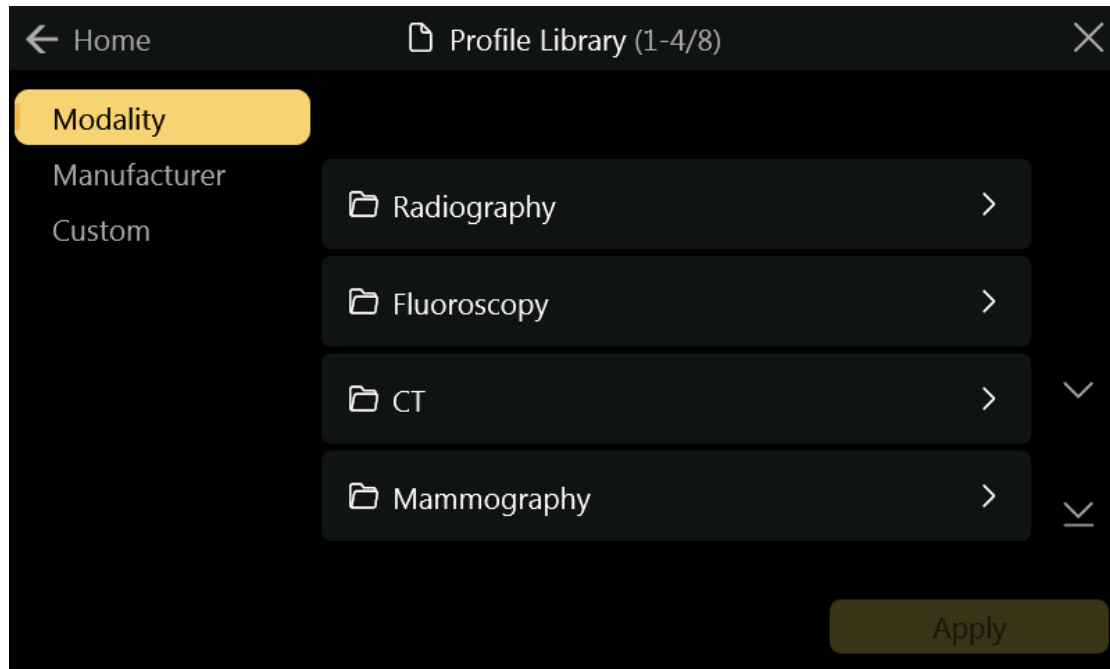
*<https://radcal.com/download-application-notes/>

The Profile Library

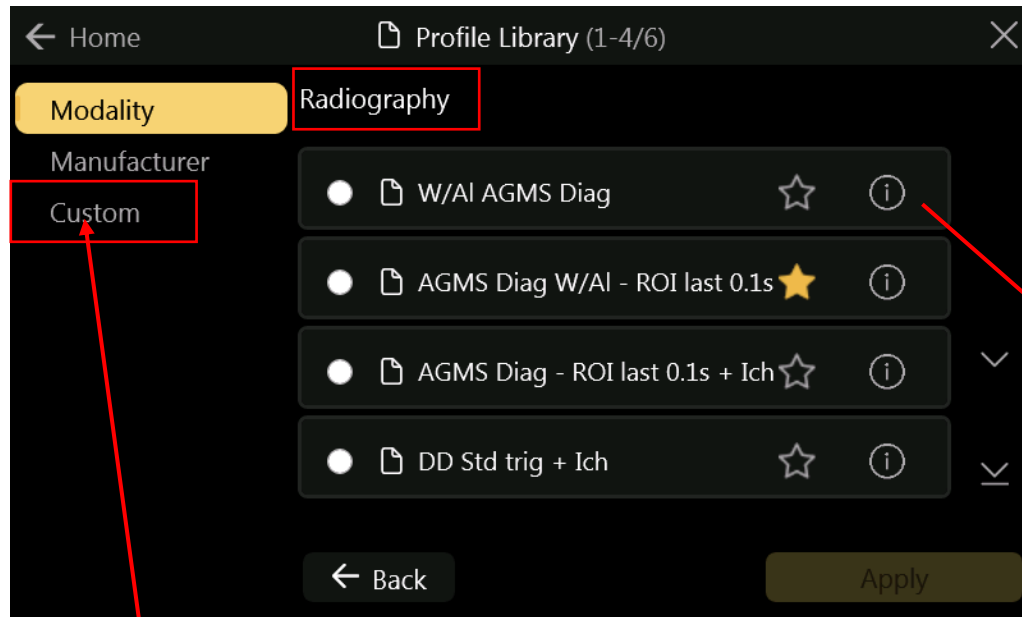


When you don't get the desired result using Manual Mode, a suitable profile might be available based on Modality or Manufacturer.

Profiles determine how measurements are executed based on the selected configuration.



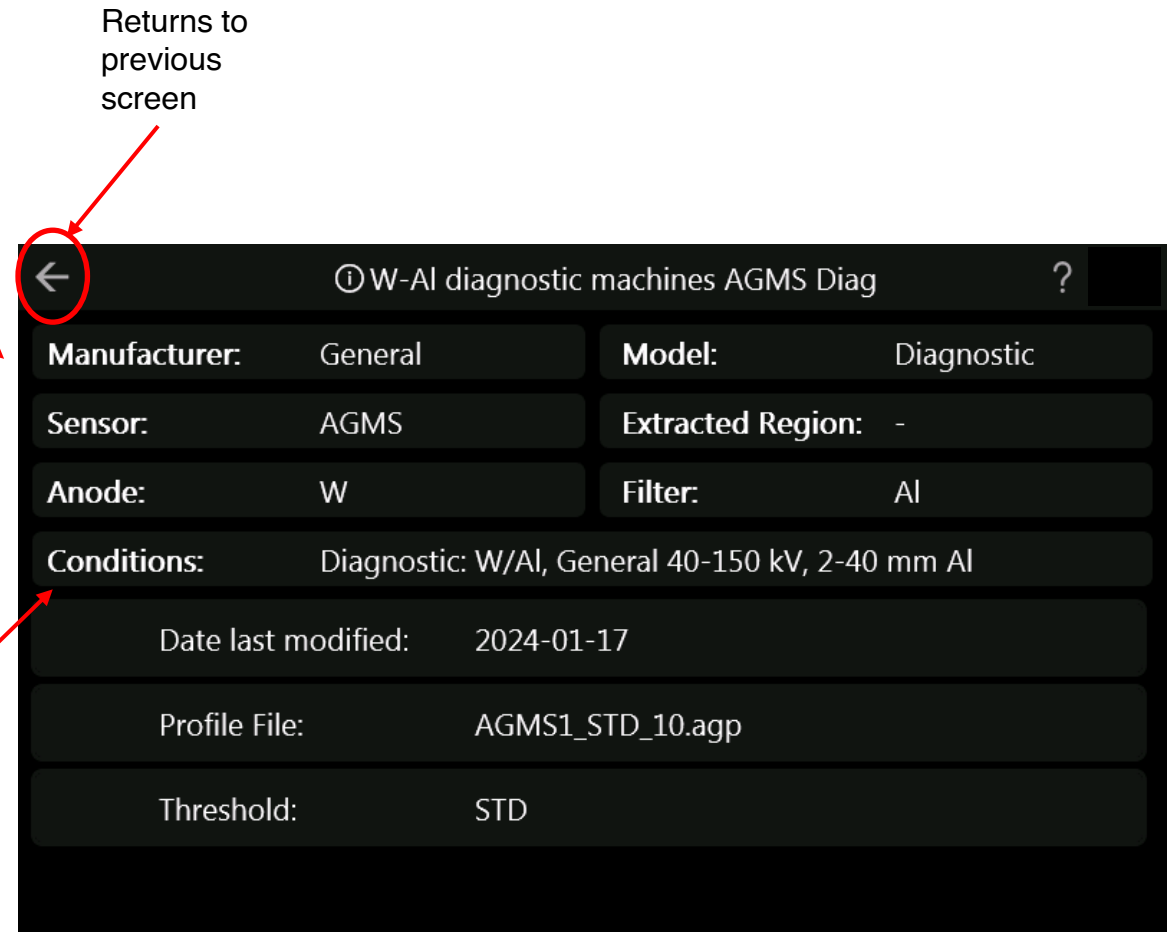
The Profile Library (cont)



Profile selection

Use this if a custom profile has been supplied to you.

Describes the suggested usage conditions for the profile

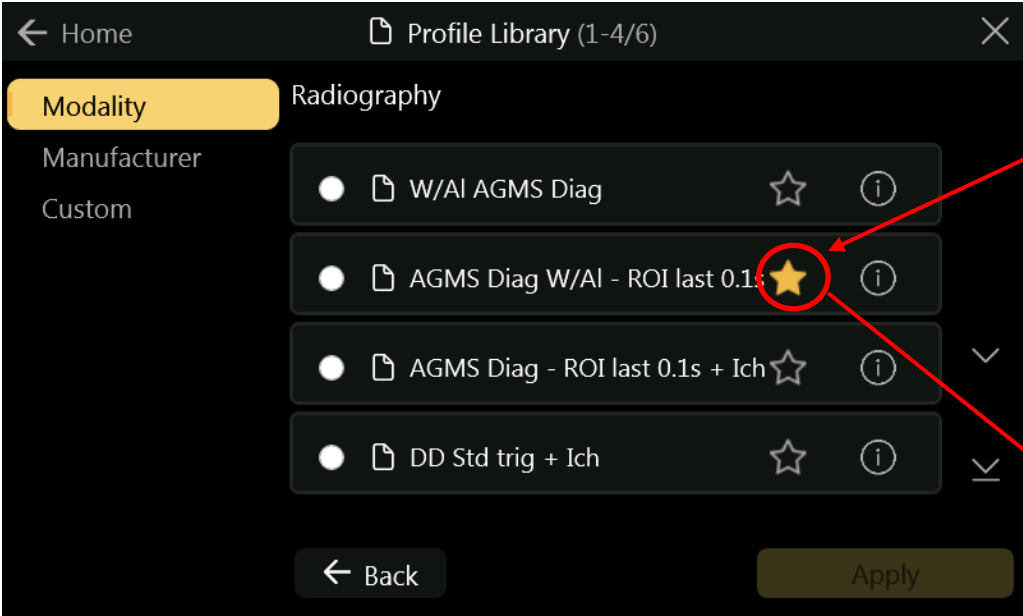


Returns to previous screen

Profile information

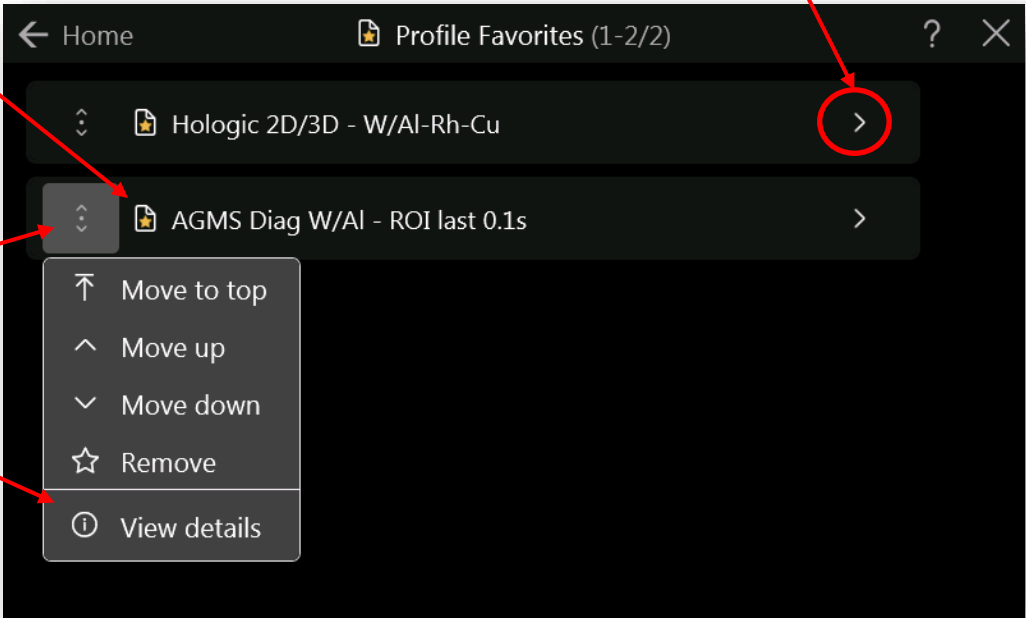
Profile Favorites

These are shortcuts to the profiles that are called Profile Favorites. Saving a profile as a Favorite lets you open a profile quickly without having to scroll thru the library.



At the Profile Library, find the profile of interest. Touching the star adds it to the Profile Favorites menu:

When ready to use it.



This lets you rearrange the order of the favorites or remove them.

View details will show the parameter information of that profile.

The Measure Screen

The Measure Screen provides real-time measurement data and access to session controls.

After you have chosen the profile to use, press Play.
The system then is **waiting for a trigger...**

Use the Play button to initialize a measurement and begin capturing data. When the system indicates it is ready, make the exposure. Use Pause when repositioning sensors to prevent unintended measurements.

Play



Pause

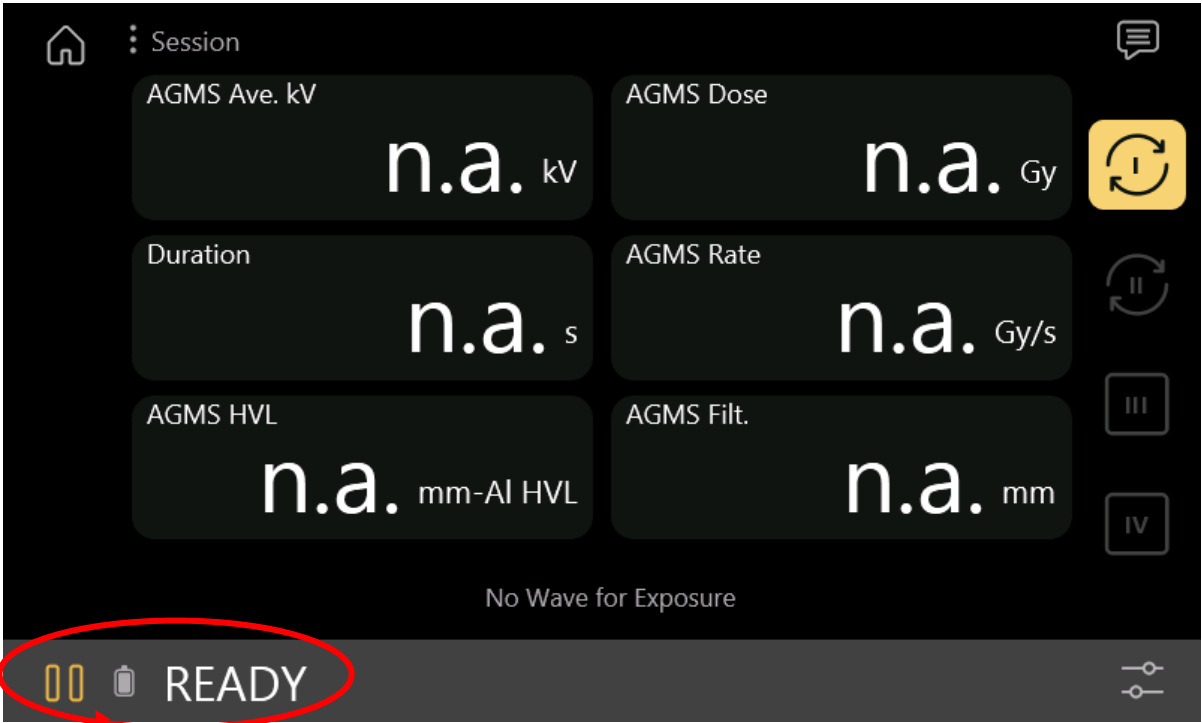


Use **Play** to start a measurement when the system is ready.

Use **Pause** when repositioning sensors to prevent unintended measurements.

Press Pause or Play

After pressing Play, this indicates the system is Ready to make a measurement.



The four icons on the right side of the screen (I–IV) allow you to switch between different data views. Screens III and IV can be customized to display preferred values.

NOTE: The Measure Screen always shows the previous measurement. For instance – you just made a measurement with the AGMS. You change to an ion chamber and press Play. The screen will show the results of the AGMS measurement and indicate Ready for the ion chamber.

The Measure Screen (cont)

Opens mini-menu

This will open the [Sessions](#) management screen.

A new session is started automatically. Use this if you want to start a new one.

Sensors

Timestamp

2024-07-19 16:09

Mode

Auto

Calibration

W/AI Diagnostic

Profile file

agms1_std_10.agp

Sensors

MS 43.0001

Information about the sensors and what measurement configuration is being used.

?

This deletes the current measurement permanently.

Are you sure?

Yes

Cancel

Deletes the current measurement only

Session

Open Sessions

+ Start New Session

Rename Session

Sensors

Delete Measurement

8 kV

29.37 mGy

22.51 mGy/s

4.73 mm-AI HVL

3.32 mm

READY

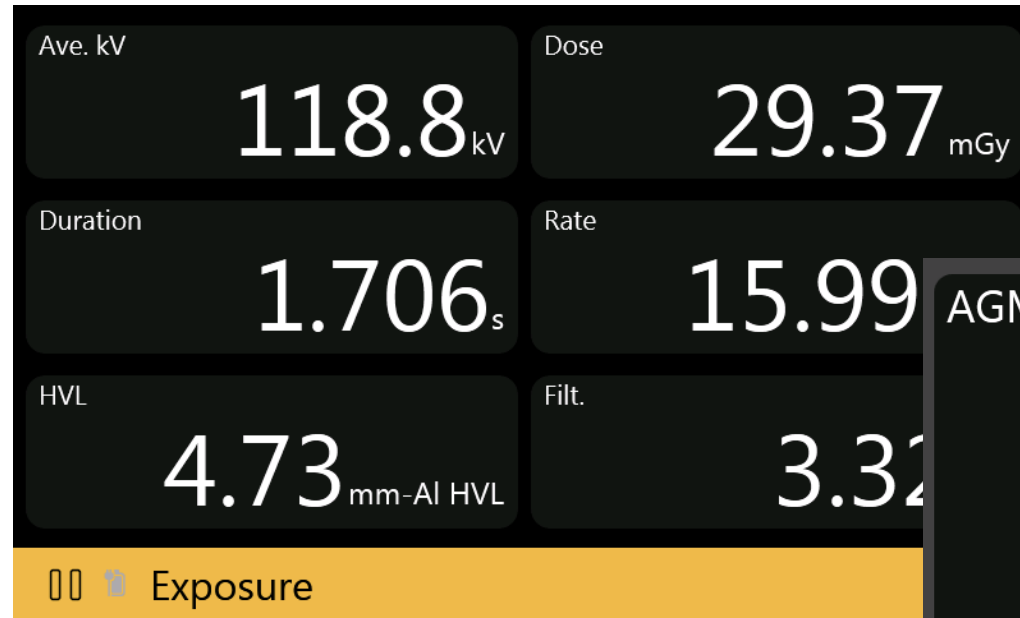
Allows you to name the current session

Returns to Profile Selection screen or where you were last

The Measure Screen (cont)

Start the exposure to trigger the measurement ...

While making the measurement, the screen will expand* to make it easier to see the data from a distance. The screen will revert back to the original size after 5 seconds.



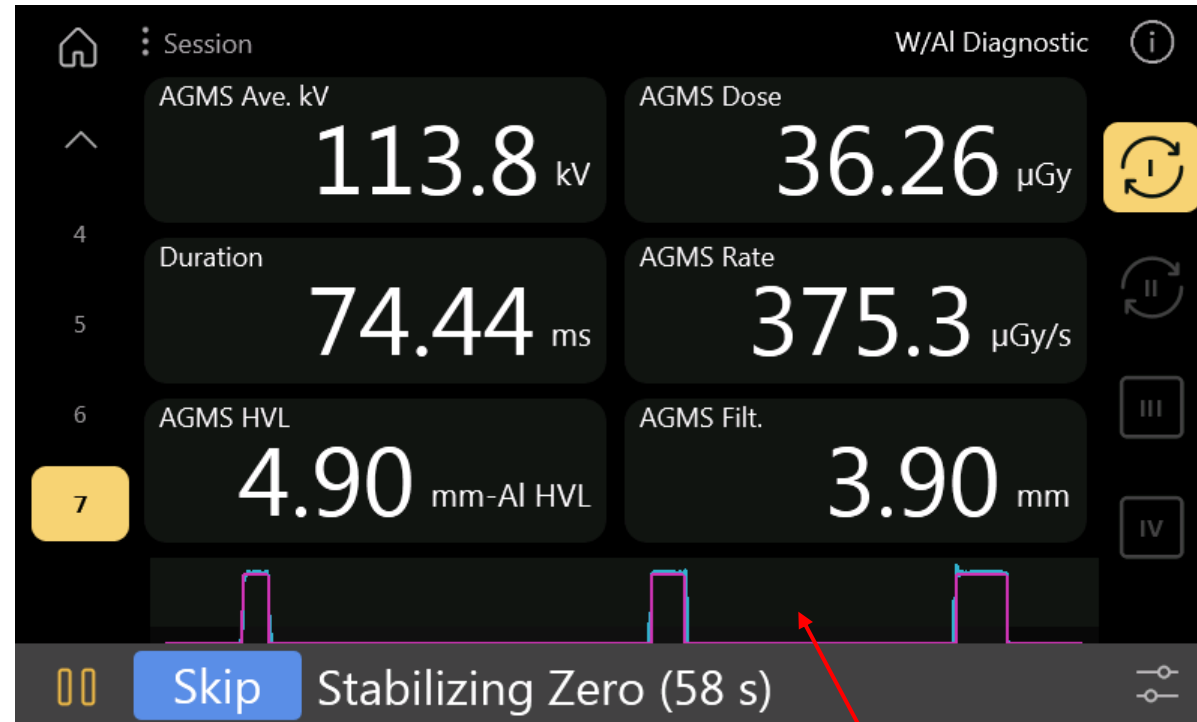
As the sensors react to an exposure, the screen expands and a wide yellow band indicator can be seen across the room.

Touching a cell will zoom that one cell out to the size of the screen in order to see the values even further across a room. Touch again to go back to regular size. Measurements can be made while the cell is expanded.



*This can be changed in the Settings menu: "[Automatic Fullscreen on Trigger](#)"

The Measure Screen (cont)



If an ion chamber is used, on the first measurement it will require that you wait 60 seconds while the bias supply stabilizes. Touching "Skip" terminates the recommended stabilizing time.

Touch the waveform anywhere to expand it (see next page)

The Measure Screen (cont)

Touching the small waveform on the Measure Screen will fill the screen with the waveform in order to see more detail. Touch the 'X' to return.

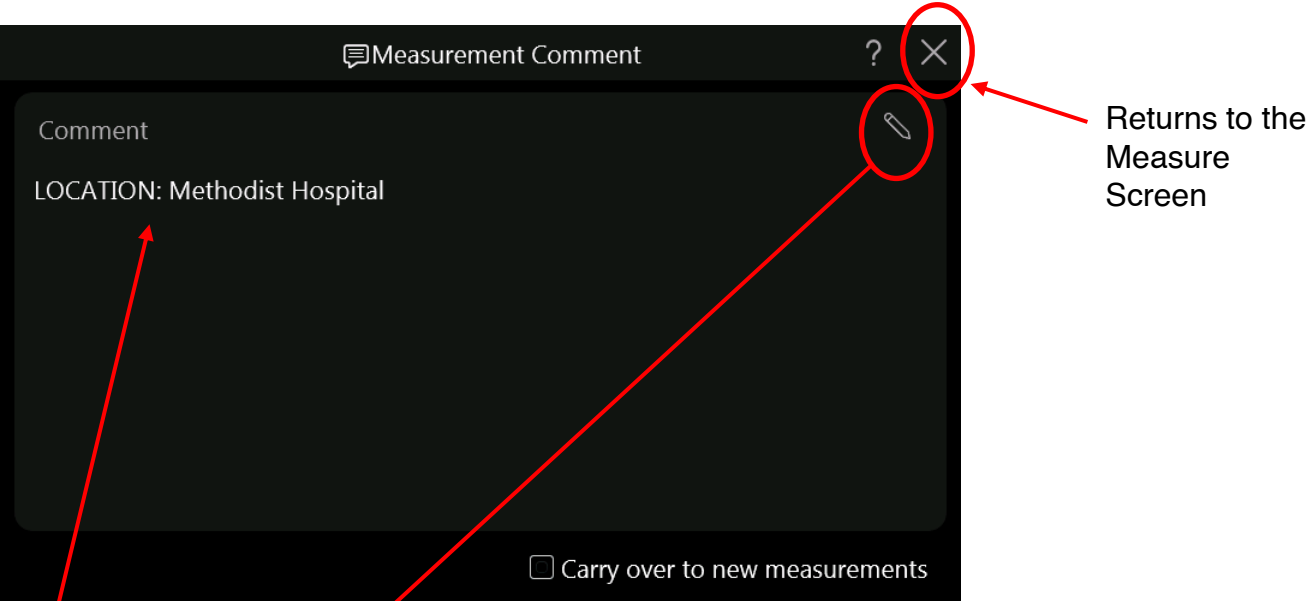
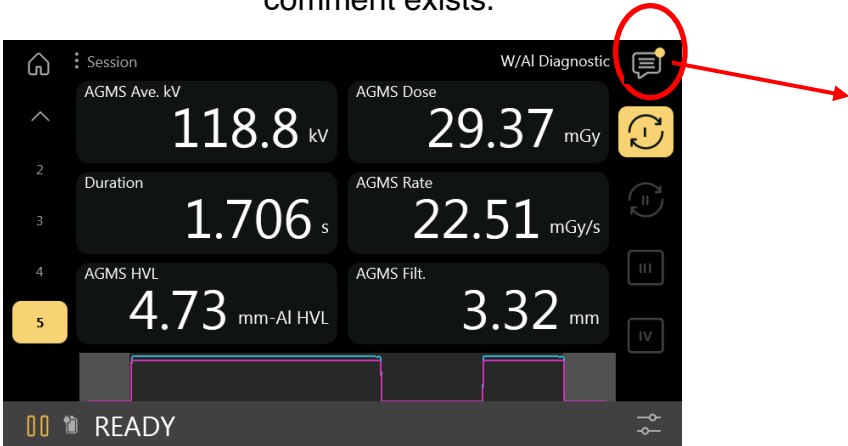


Returns to the Measure Screen

NOTE: For long measurements, only the most recent portion of the waveform may be displayed. When the system indicates "Extended Measurement Mode, the Wave View will show the last 300 seconds of the measurement. Some measurements (such as combo exposures) may include highlighted regions indicating how the total dose is calculated.

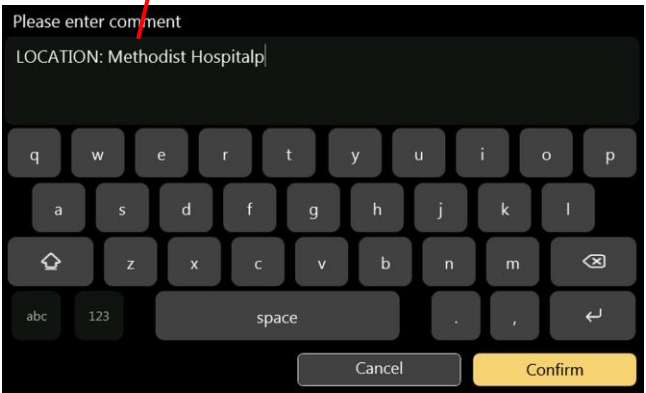
The Measure Screen (cont)

Touch the comment icon to open the Details View. NOTE: the yellow dot indicates that a comment exists.



Touch the pencil and you can add comments to the measurement using the built-in keyboard.

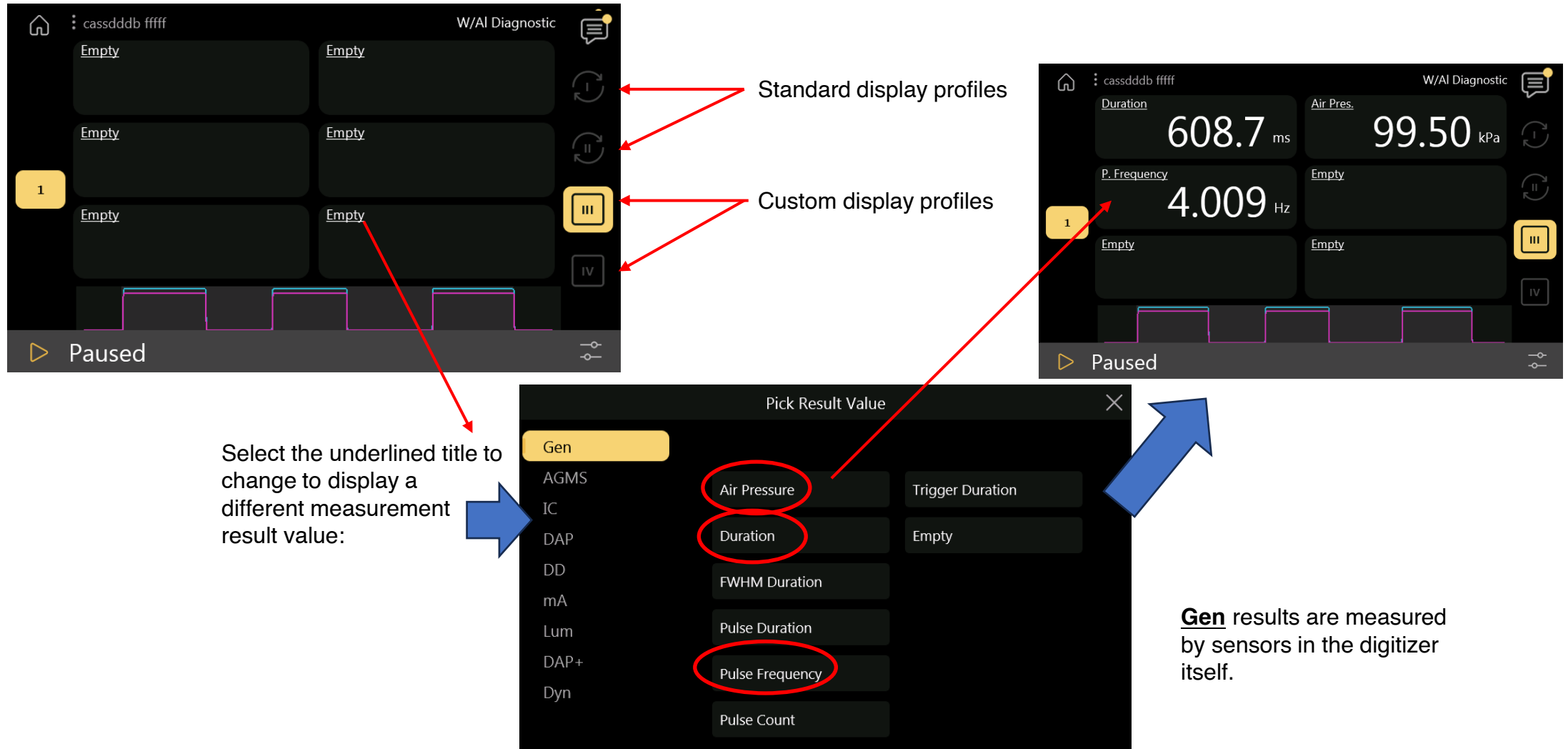
Checking the box will copy the Comment to the next measurement.



Confirm or Cancel to return.

Customizing the Screen

The screen can be customized to display different result values. There are two Standard display profile pages and two Custom pages that can be modified. The Standard pages will update based on the sensors being measured. The Custom pages will always show the values you have chosen.



Customizing the Screen (cont)

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Air Pressure

Trigger Duration

Duration

Empty

FWHM Duration

Pulse Duration

Pulse Frequency

Pulse Count

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

kVp

Average kV

Peak Average Rate

Biased Average kV

Dose

Dose / mAs

Dose / Pulse

Filtration

HVL

Overall Dose Rate

PPV

Pulse Count

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Pulse Duration

Pulse Frequency

Rate

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Peak Average Rate

Rate

Dose Ratio IC / AGMS

Temperature

Dose

Dose / mAs

Dose / Pulse

Overall Dose Rate

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Peak Average Rate

Temperature

Dose Area Product / mAs

Dose Area Product

Dose Area Product / Pulse

Dose Area Product Rate

Overall Dose Area Product

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Peak Average Rate

Temperature

Dose Length Product

Dose Length Product / mAs

Dose Length Product / Puls

Dose Length Product Rate

Overall Dose Length Produ

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Peak Average Rate

Overall Dose Rate

Dose Ratio DD / IC

Rate

Dose Ratio DD / AGMS

Dose

Dose / mAs

Dose / Pulse

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Charge

Charge / Pulse

Current

Overall Current

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Illuminance

Luminance

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

Dose Area Product

Dose Area Product / Pulse

Dose Area Product Rate

Overall Dose Area Product

Temperature

Pick Result Value

Gen

AGMS

IC

DAP

DLP

DD

mA

Lum

DAP+

Dyn

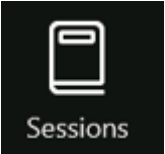
kV

PPV

kVs

The default kV measurement is Average kV. See [AN1016](#) for more information on the different types.

Sessions

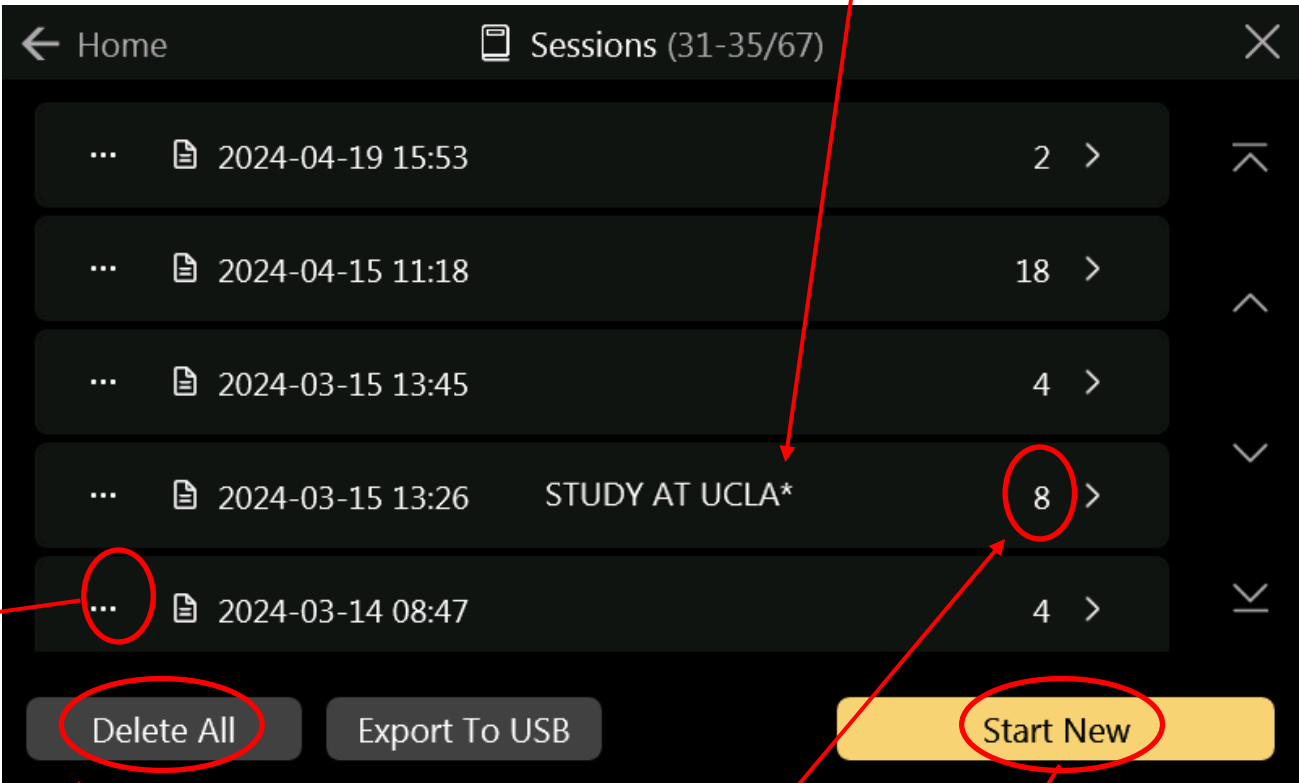


Data on the T3 is segregated into sessions. Every time the T3 is turned on, a new session is automatically created and automatically saved when turned off. Use “Start New” to create additional session groups without turning off the unit.

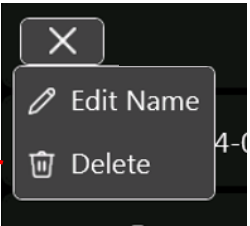
Adding data to a previous session is possible by touching the ‘>’ symbol.

Sessions can be titled to identify the locale where the data were taken.

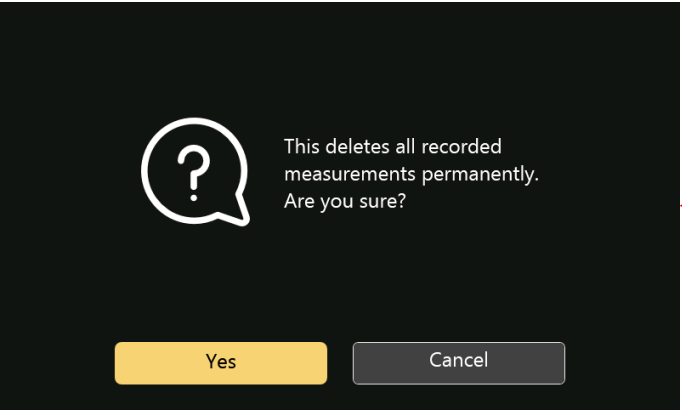
The data can be exported to a flash drive to share the data or create additional reports.



Touch the three dots to bring up this menu:



This will delete only the one session.



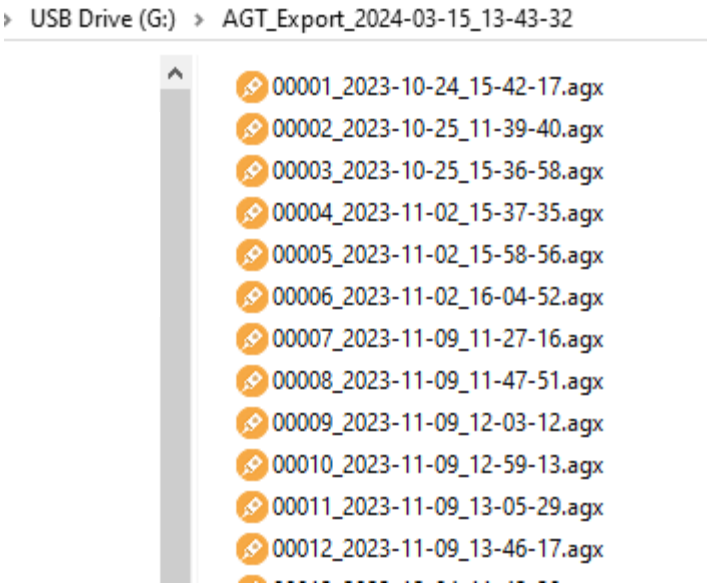
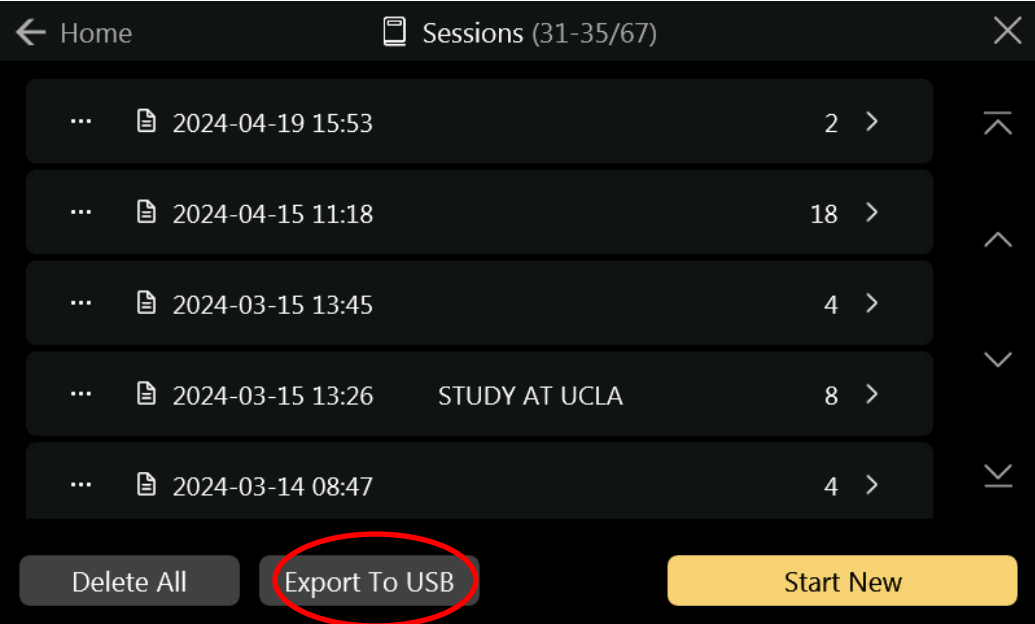
This will delete all data on the T3.

NOTE: only values will be exported, wave data will not.

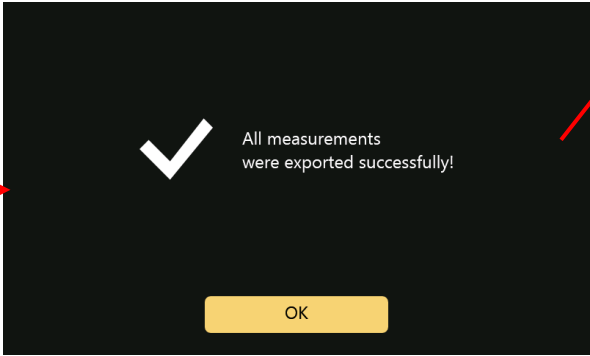
Number of measurements in the session

This will start a new session without turning off the unit.

Sessions - Exporting

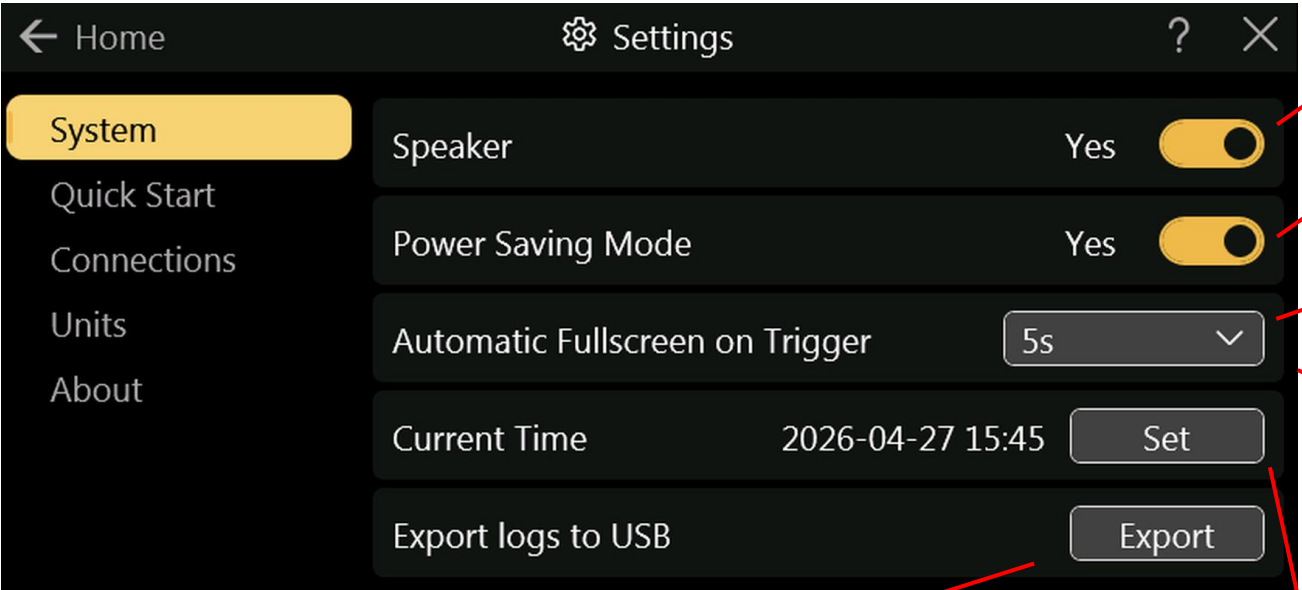
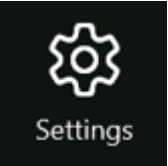


Insert a USB flash drive into the unit first. All of the T3 data will be exported. The exported sessions are compatible with AG3 (install AG3 first). NOTE: do not use a USB flash drive that was used for a firmware upgrade.



The flash drive will contain .agx files that correspond to the session files from the T3. Measurement data can be viewed using AG3 and then exported to Excel if desired. (NOTE: Wave data will not be available)

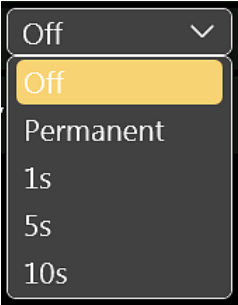
The Settings Menu - System



Turns on/off the sounds generated during measurements

The unit will dim the display after 30 seconds and power off after 30 minutes of no activity unless turned off here.

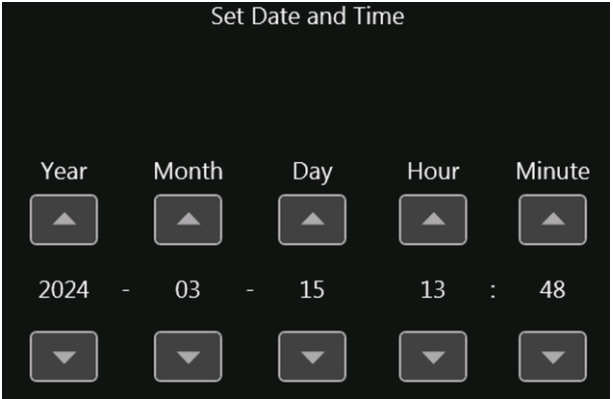
When making a measurement, the Measure Screen will automatically expand to full screen making the measurement values bigger. After approximately 5 seconds, it will go back to normal size. You can also choose the length of time it waits or turn off this feature:



Trouble-shootings logs can be exported to a flash drive when required so that service personnel can diagnose a problem.

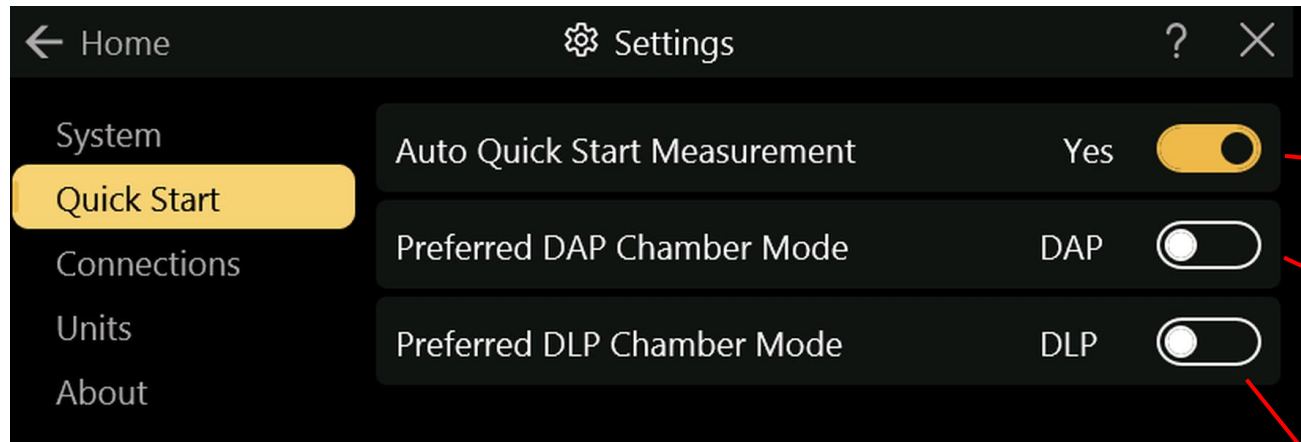
Measurements and sessions include time information. If the time needs to be set, touch Set

Touch up or down arrows to set the time. When done, select the Back arrow to continue.



Permanent will leave it expanded until you manually restore it by tapping the screen.

The Settings Menu – Quick Start



The unit will go into Quick Start when turned on unless turned off here.

When using a 10X6-60DAP chamber, it can optionally display dose instead. This check-box will let you choose the default behavior if you are not using a profile. The choice is to use it as a DAP chamber or a Dose chamber.
NOTE: the DAP chamber can be used for dose but additional uncertainties apply (see spec sheet).

Select the default behavior of the 10X6-3CT chamber. The measurement units can be DLP or Dose.

The Settings Menu – Connections – WiFi Access Point

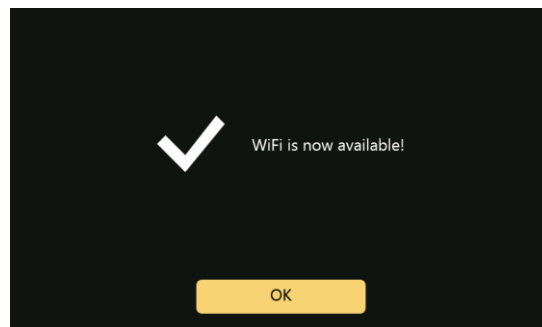
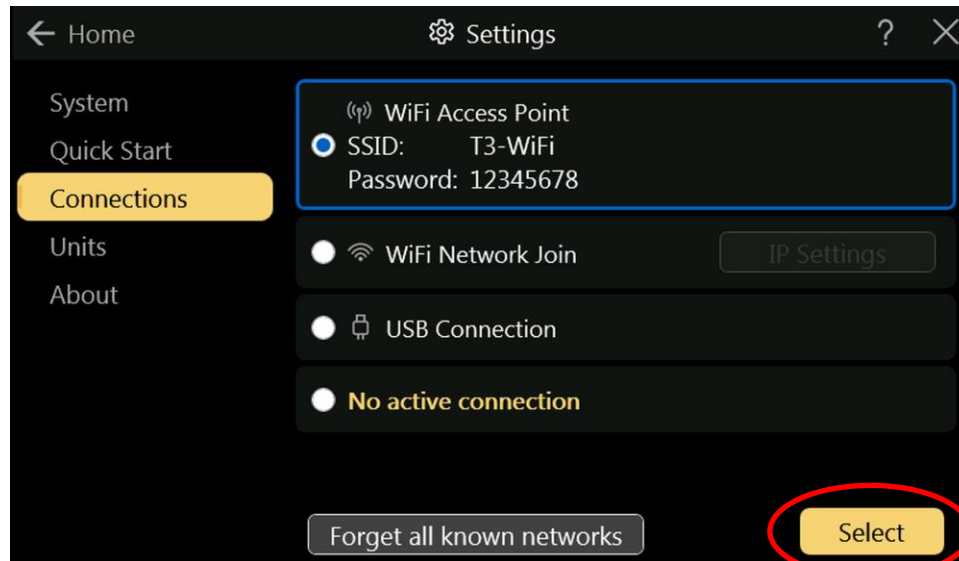
The T3 Pro can work in sync with AG3 wirelessly using a Wi-Fi connection.

This can be done one of two ways –

1. **WiFi Access Point** (the T3 and AG3 create their own network) or
2. WiFi Network Join (the T3 and AG3 communicate on an existing network)

The T3 needs to be setup first before AG3.

Select WiFi Access Point and enter the password: 12345678



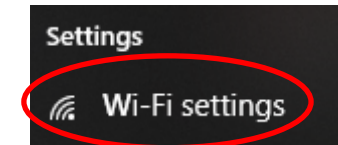
In Windows -

You will need to tell your PC how to connect to the T3:

Press the Windows key and start to type 'WiFi settings'.



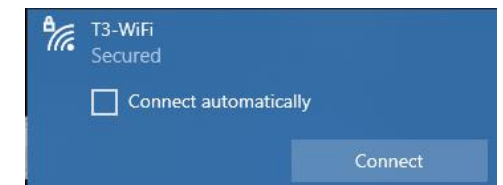
Then select 'WiFi settings'.



Make sure Wi-Fi is 'On' on your computer then select 'Show available networks'



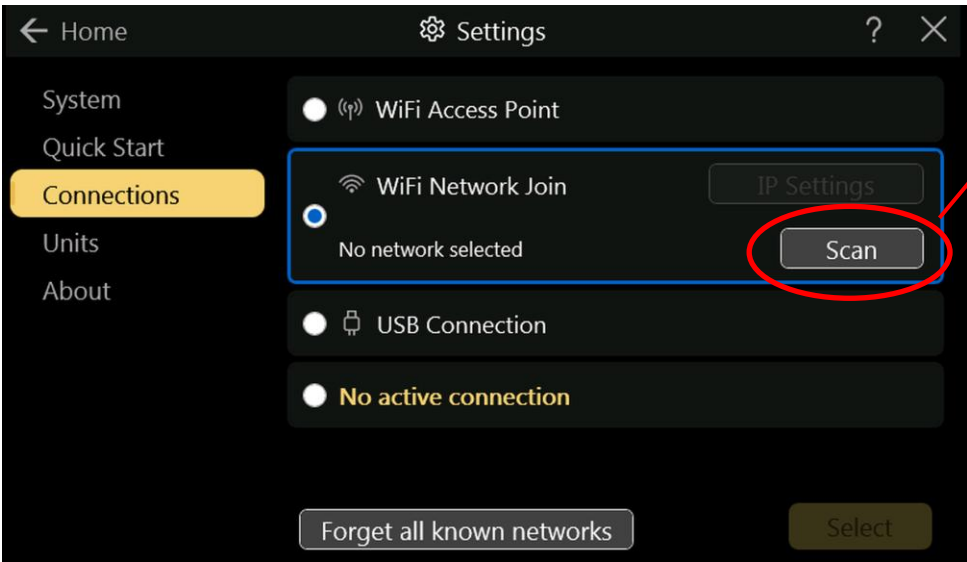
You will see 'T3_56-xxxx' with the serial number of your unit in the list. Click 'Connect' and enter 12345678 as the password.



Now open AG3 and select WiFi Sync, then Connect.

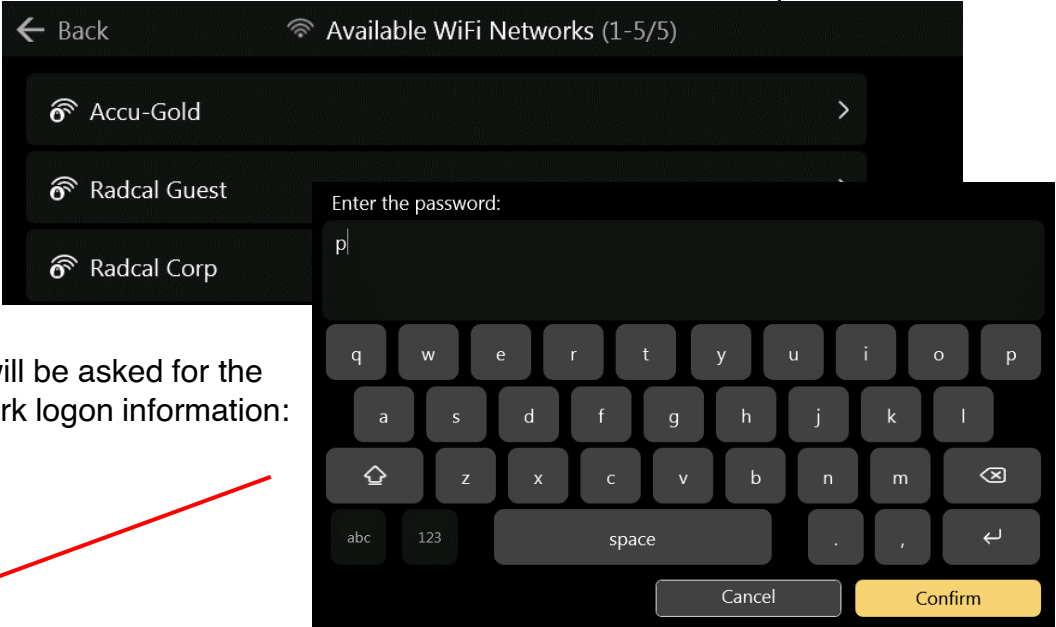


The Settings Menu – Connections – WiFi Network Join



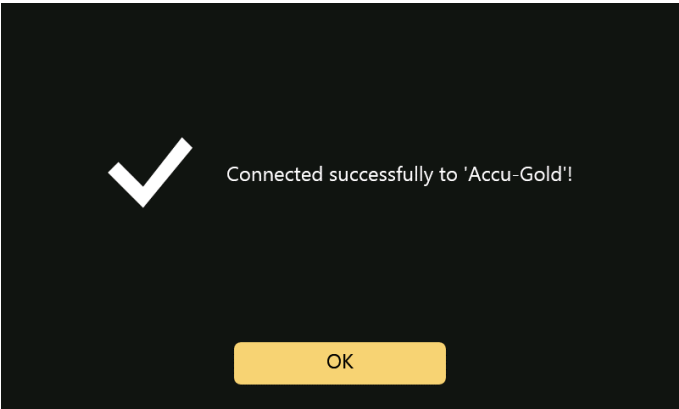
Scanning for available WiFi networks...

The available networks will be shown. Select the one you want



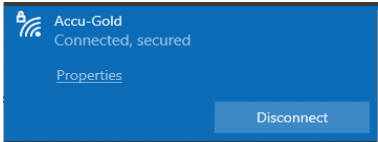
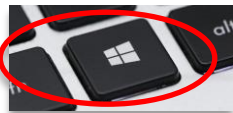
You will be asked for the network logon information:

When the connection is made to the WiFi network:



AG3: In Windows*

Use the Windows network settings to choose the same network to join.

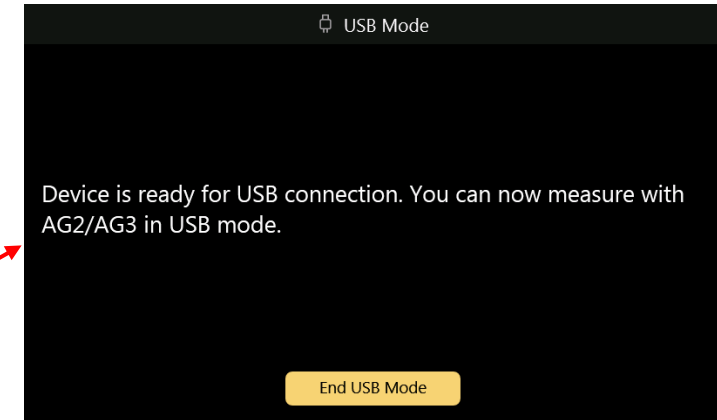
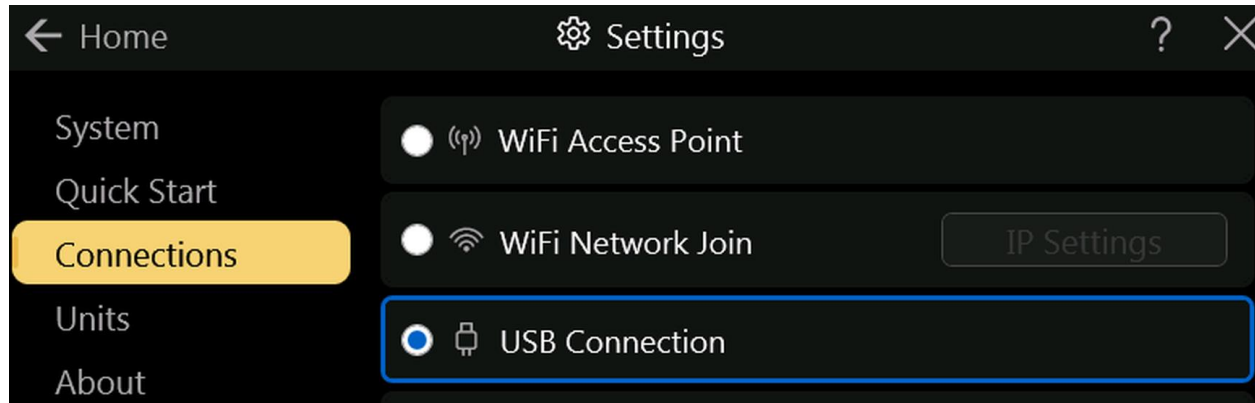


Now open AG3 and select WiFi Sync, then Connect.



The Settings Menu – Connections – USB Mode

The T3 Pro version can work in sync with AG3 also by using a USB cable, thru a USB connection.

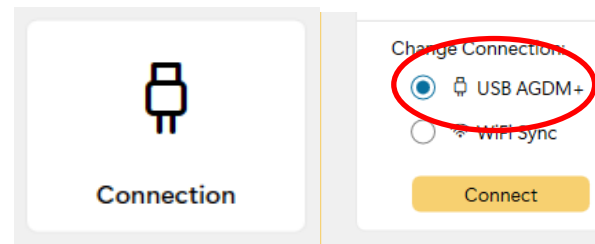


Connect your computer USB connection to the T3 USB using a USB cable with a 'micro-USB' connector.



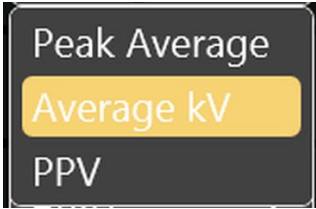
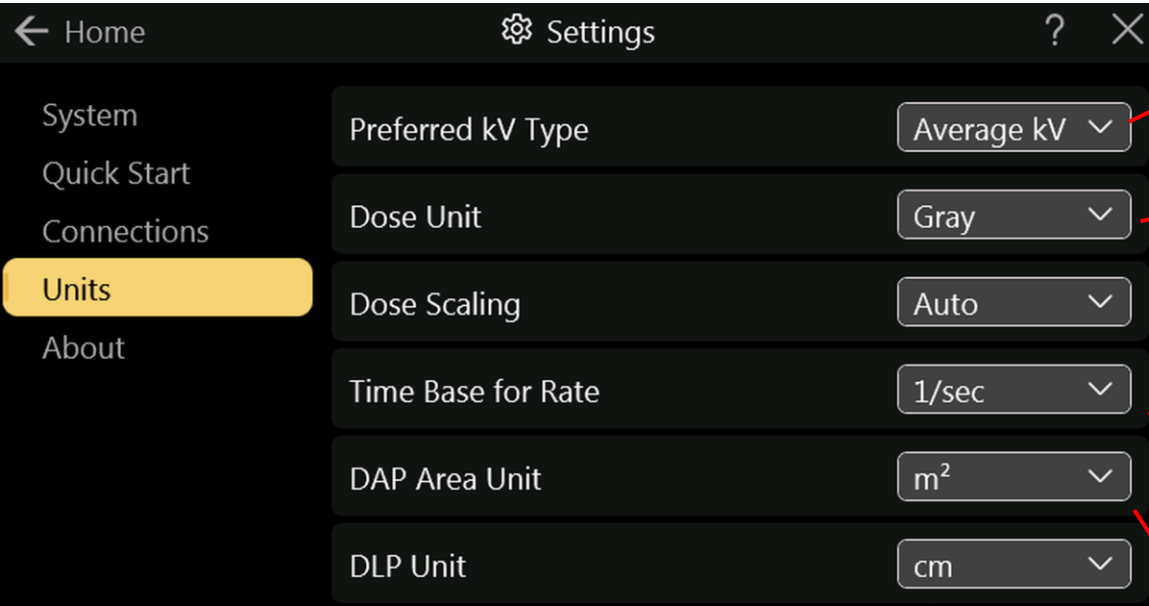
A Male to Micro B Male shielded with ferrites.

In AG3, choose Connection then "USB AGDM+"

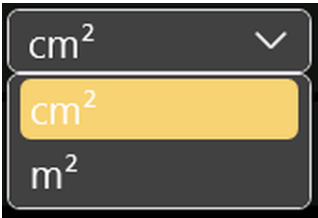
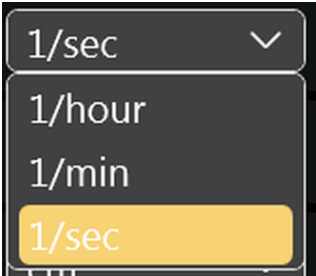
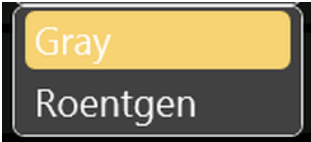


See [AG3 manual](#) for more information

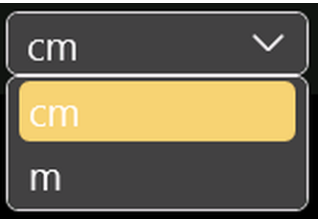
The Settings Menu – Units



The default kV measurement type. See [AN1016](#) for more information on the different types.

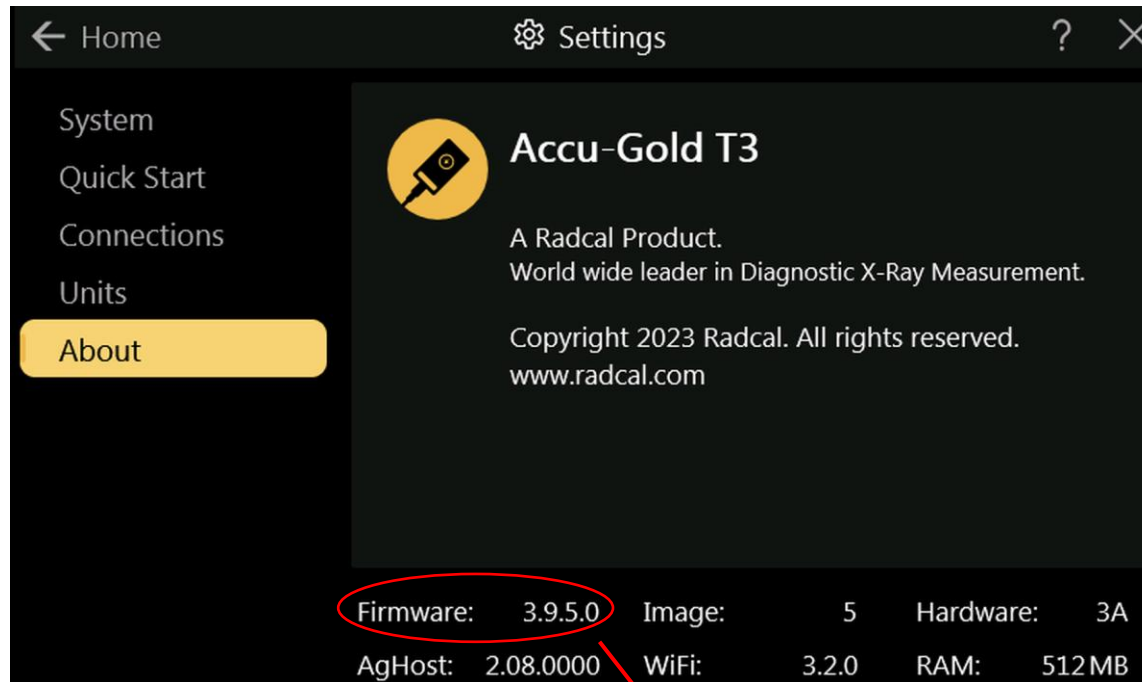


Dose Area Product (DAPCHK or 10X6-60DAP) measurements can be displayed in cm or m units of area



Dose Length Product (CTDI chamber) measurements can be displayed in cm or m units

The Settings Menu – About



Firmware Version – when an update is available compare this number against the version listed on the update page:

<https://radcal.com/download-accu-gold-software/>

Custom Profiles

Profiles allow one to make highly technical measurements without the hassle of setting up the parameters each time. They tell the computer the calibration file to use, the timing required, the sensors to use and so on. They allow you to set a region of interest (ROI) which gives you details on certain areas of the measurement.

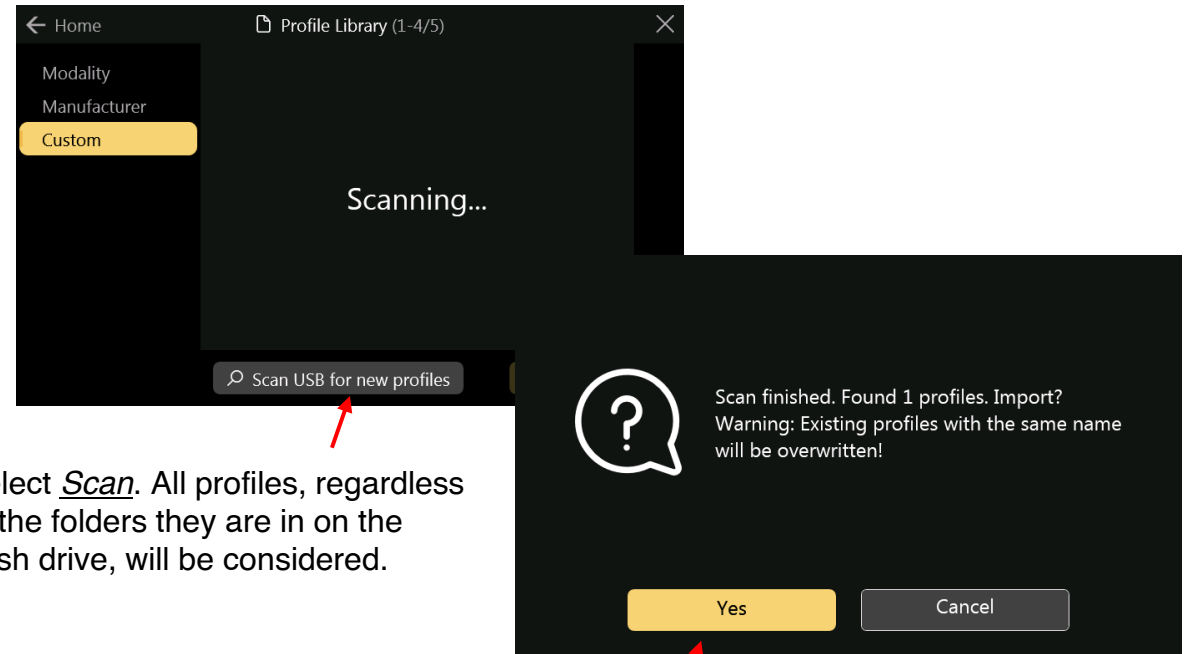
Combo-mode profiles allow you to quickly make the multiple measurements with a single exposure of the x-ray machine when the x-ray machine is changing anode-filters internally. This makes it possible to save precious time and hassle and gets you in and out in a hurry.

So what happens when there is no profile for what you need? Contact Radcal to discuss your needs and we will assess your situation. We will make a profile that is suited for your specific needs. If this is a general need, we will incorporate the profile in our profile library and release it in the next version of the software.

If it is a general profile that is added to the profile library, update the software and find it there. If it is a custom profile, the profile we send you will need to be loaded onto the T3 to be used.

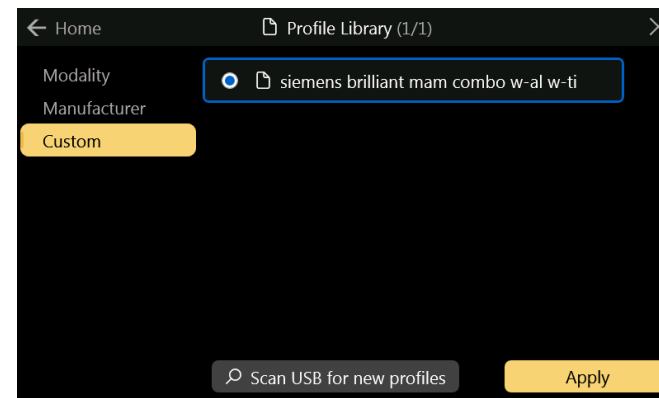
To import the custom profile, load it on a removable USB drive (flash drive) and plug it into the T3. Select Profile Library from the Home menu, then select Custom.

Make note of the filename. You will find that profile here under Custom when needed.



Select Scan. All profiles, regardless of the folders they are in on the flash drive, will be considered.

Select Yes



Select the profile and then select Apply

Differences between T3 and AG3

T3 is a portable/wireless version of AG3 with a few exceptions. As T3 development continues, future releases will provide enhancements to minimize them. The major differences are:

- With AG3, it is possible to reanalyze a session recorded recently. Since the T3 does not yet save raw data, it does not have the ability to reanalyze.
- T3 limits the maximum amount of wave data that can be captured in a single exposure. When this limit is reached, the measurement continues but the wave data is lost. We expect that this limitation can be eliminated in a future release.

LED Color code

The label on the back of the unit summarizes the meaning of the different colors for the LED that is next to the USB connector. This table details the other possible combinations and their meaning.

LED Color	Meaning
GRN steady	Power On
GRN/RED blinking	Low Battery
YEL/GRN blinking	Charging OK
YEL/RED blinking	Charging/Power Low
YEL steady	Battery Charged
BLU steady	Error (Fuel Gauge)
RED steady	Error (Battery)
WHT steady	Saving Data

Specifications

Specifications

[Ion Chambers](#)

[10X6-6](#)

[10X6-6M](#)

[10X6-10](#)

[10X6-60](#)

[10X6-60DAP](#)

[10X6-3CT](#)

[10X6-180](#)

[10X6-1800](#)

[10X6-0.18](#)

[10X6-0.6](#)

[10X6-0.6CT](#)

[10X6-500](#)

Solid State Multisensors

[Specifications](#)

[Dimensions](#)

[Solid State Dose Sensor](#)

[Current Sensors](#)

[Light Sensor](#)

[DAP Calibration Sensors](#)

[Making Low Level Measurements Using Ion Chambers](#)

When making low dose measurements using an ion chamber (in the range of 10 times the minimum rated range), it is important to eliminate all sources of noise including noise induced by changing temperatures of the surroundings and the electronics. Position the ion chamber. Set the threshold to low and wait 3 minutes. Do not touch the cable or digitizer. For changing environments, allow 10 minutes for every 10 C difference for the sensor/electronics to equilibrate. Grounding the system to eliminate interference may be warranted.

Automatic temperature and pressure compensation for the unsealed ion chambers is provided. Temperature-compensation accuracy is equivalent to 0.5°C (0.2%) between 15 and 35°C. Temperature is measured at the ion chamber connector. NOTE: The T3 generates some heat so if the ion chamber is directly connected, additional uncertainty applies. Pressure-compensation accuracy is equivalent to 0.5kPa between 60 and 105 kPa. Pressure is measured in the digitizer module.

Declaration of Conformity

See <https://radcal.com/downloads-conformity/>

Accu-Gold T3 Specifications –

Display Specifications

Resolution: 800 x 480

Touch Type: Capacitive Touchscreen

Type: LCD TFT TN equipped with chemically tempered float glass, pencil hardness 7H, LED backlighting

Orientation: 35° or 60°. Display automatically flips based on unit orientation.

Environmental Specifications

Operating temperature: 15 °C to 35 °C

Pressure: 60 to 105 kPa

Humidity: Up to 80% RH or 20 g/m³

Storage: Temperature 0 °C to +60 °C

USB ports

Flash drive: Standard USB A 2.0

Charger/USB mode(T3 Pro): Standard USB B 2.0 micro

Wireless Communication Specifications (T3 Pro)

Network Standard Support: IEEE 802.11b/g/n

Frequency band: 2.400 - 2.472 Ghz, channels 1-11

Antenna power: <10 mW/MHz

Connectivity: Access Point mode

Wireless Security: WPA2 secure encryption

Networking Protocol: TCP

Regulatory Approvals: EU (ETSI), FCC, IC (Industry Canada), China (CMITT), KC (Korea), Japan (MIC)

Caution

Do not dispose of product in heat, fire or water. Misuse, dropping, or excessive force may cause product damage.
(Recycling manual available on request)

Power Specifications

Battery: 5.5 Ah Li-Poly (single-cell) – not user serviceable

Battery Life: > 8 Hours under normal usage

Charging Time: <5.5 Hours (maximum to fully recharge)

Charger: Radcal part number PRS/PSA10F-050 (5V, 2.0A)

Input: 90 to 264 VAC, 47 to 63 Hz

AC power supply blades (international kit) PRS/PSA10F-Q (D)

Compliance (see <https://radcal.com/downloads-conformity/> for Declaration or Conformity)

The Accu-Gold T3 Basic and Pro models conform to ISO/IEC/UKCA requirements: Electromagnetic Compatibility Regulations, Electrical Equipment (Safety) Regulations, the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations.

Performance: IEC 61674, IEC 61676

Environmental Directives:

1. Radcal meets the requirements of the 2002/06/EC (WEEE) Directive, category 9, and has implemented full compliance. (Manuals are available on request.)
2. Radcal meets the requirements of the 2015/863/EU (RoHS3) Directive.
3. The Accu-Gold/Rapid-Gold/Accu-Dose+ comply with China RoHS marking and EFUP pursuant to clause 6.2 of SJT/11364:2006 for Electronic Information Products.
4. Radcal meets the requirements of the EC1907/2006 (REACH) Directive

T3 Wireless Radio Regulatory Information

Wireless Radio Information –
WiFi Module ESP32-C3-WROOM-02
Espressif Systems
Operating at 2.4GHz

FCC:
Contains FCC ID: 2AC7Z-ESP32C3WROOM
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

EU (ETSI):
This device is intended for home and office use in all EU countries and other countries following the EU directive 2014/53/EU.

China PRC (CMIIT)
The equipment contains the RF modules of which Type Approval code is CMIIT ID: 2021DP3225

Industry Canada Statement:
Contains: IC: 21098-ESPC3WROOM
This device complies with RSS-210 of the Industry Canada Rules.

Japan (MIC)
Contains: Telec Construction Certification Number 201-220555
This equipment contains specified radio equipment that has been certified to the Technical Regulation Conformity Certification under the Radio Law.

Korea (KC)
R-C-es5-ESP32C3WROOM02

Warranty for the Accu-Gold Measurement System

Radcal warrants that, in the event that any defects in material or workmanship should develop within one year of the date of shipment, the company assumes full responsibility for servicing equipment of its manufacture without charge upon return of the equipment to Radcal, with shipping costs prepaid by the customer. Costs to return-ship to customer by ground transportation will be paid by Radcal if the repairs are warranty-applicable. This warranty excludes batteries. Radcal shall not be held liable for damages or delays caused by defects beyond making repairs or furnishing replacement parts, nor shall Radcal be liable for any defective material replaced without Radcal's consent during the period of this warranty. Radcal reserves the right to perform warranty services at its own factory.

Non-Warranty Repairs

The calibration of this instrument was correct within specified limits when the instrument left our factory. Radcal cannot be responsible for injury or damage resulting from improper use or calibration errors which develop subsequent to our shipment of the instrument. If Radcal determines that a fault has been caused by misuse, abnormal operating conditions, or repairs by unauthorized personnel during the warranty period, repairs and shipping costs will be billed at normal rates. If the equipment is found to be in proper working condition, Radcal will return-ship the equipment at customer expense.

Software Limitations

- Maximum disk / flash space reserved for raw data recordings
 - AG3: **512MB** (*oldest ones will be deleted when reaching limit*)
 - T3: **128MB** (*space is reserved, but raw data saving is not implemented yet*)
- Maximum measurement length, due to configuration measurement profiles:
 - AG3: **2.45 days**
 - T3: **2.45 days**
- Maximum measurement length **with wave data**:
 - AG3: **300s** (Caution: This will probably be changed to a lower value because of RAM issues on less capable systems)
 - T3: **120s** (Wave is only rendered in a lower resolution for preview.) The number of sensors does not impose restrictions.
- Maximum measurement count per session:
 - AG3: **On less capable systems, max 20 exposures per session. (Subject to change in the future) - there is no enforced limit**
 - T3: **Unlimited - but 300 measurements per session are displayed**
- Maximum session count:
 - AG3: **Depending on disk space** (ca. 150KB/Session/Measurement)
 - T3: **last 75 sessions displayable**
- T3:
 - No raw data recording.
 - No reanalyze of measurements.
 - No export of single sessions (all sessions can be exported)
 - No import of sessions



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Customer Support:



Radcal Part # MNL/AGT3
4094518 Rev: B1
Firmware V3.9.0 & on
Printed: Sept 2026