KONICA MINOLTA

Version 5.6.4.0

Ultra

Administration Manual

500-000979A

Table of Contents

Revision History

Revision	Date	Reason for Change
A	08/30/2025	New manual for Ultra software version 5.6.4.0

KONICA MINOLTA

Distributed by:

Konica Minolta Healthcare Americas, Inc.
2217 US Highway 70 East
Garner, NC 27529
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Introduction

Ultra software is designed as an exam-based modality image acquisition tool. Ultra software and its accompanying Universal Acquisition Interface (UAI) were developed to be acquisition device independent. Basic Features of the software include Modality Worklist Management (MWM)/ Modality Worklist (MWL) support, DICOM Send, CD Burn, DICOM Print, and Exam Procedure Mapping.

Ultra software is designed to increase patient throughput while minimizing data input errors. Ultra is made up of multiple components that increase efficiency while minimizing errors. The main components of Ultra are the Worklist, Acquisition Screen and Configuration Utility. These components combine to create a stable, powerful, and customizable image capturing system.

The intuitive graphical user interface is designed to improve radiology, technologist accuracy, and image quality. Worklist and Acquisitions screens were developed to enable site specific customizations to seamlessly integrate into existing practice workflows.

Note: Ultra software can be run on a PC using either administrator or non-administrator privileges.

Overview

Before using the Ultra system, please review the following:

- Advisory Symbols
- Software Hardware Specifications
- Ultra Button Glossary

Advisory Symbols

DANGER!	
	Danger text advises of conditions or situations that may cause serious personal injury or death if proper precautions are not exercised.

WARNING!	
	Warning text advises of conditions or situations that may cause serious personal injury or catastrophic damage to equipment or data if proper precautions are not exercised.

CAUTION!	
	Caution text advises of conditions or situations that may cause personal injury or damage to equipment if proper precautions are not exercised.

Note: Notes alert readers to pertinent facts and conditions. Notes represent information that is important to know but does not necessarily relate to possible injury or damage to equipment.

Example: Examples illustrate information to further elaborate on how to perform a particular procedure, routine, or function.

Software Hardware Specifications

Minimum Hardware and Specifications Table	
Hardware	**Specifications**
PC with Windows 10 OS	8GB RAM
DR Panel	(wired - any type)
X-Ray Generator	Minimum 20 kW

Installing the Software

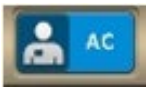
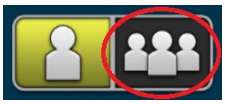
For information on installation of software, please contact:

Konica Minolta Healthcare Americas, Inc.

2217 US Highway 70 East
Garner, NC 27529
1-800-366-5343

Ultra Button Glossary

The following buttons are displayed at various times when using Ultra software.

Button	Button Name	Button Description
	**Technologist/Initials**	Displays the initials of the selected technologist of record for the exam
	**Groups**	Displays multiple Technologists so that each acting Technologist can be selected individually
	**Home**	Clears all search filters and returns the display to the default unfiltered view
	**Refresh**	Refreshes the Worklist
	**Options**	Launches the Options menu to configure settings for Ultra and attached devices. A password is required.

Button	Button Name	Button Description
	**Exit**	Logs off the Ultra software
	**New**	Starts the **Add a New Patient Exam** process by opening fields to enter a new Worklist entry for a new patient exam. **Note:** If an input error occurs in patient information, image, or patient procedure, it can cause a misdiagnosis due to incorrect information.
	**Emergency**	Lets users complete a patient exam without entering any patient information. Generic info will populate the fields. **Note**: These fields must be filled in with correct patient information before sending the completed emergency exam to a PACS server.
	**Query**	Completes a MWL Query for any configured modality worklist provider and populates the Worklist with any resulting patient exams.
	**More**	Launches the More options menu so users can copy the study to a CD/DVD, save the study to external HDD, or print the study to a DICOM printer. (Completed tab only.)
	**Acquire**	Launches the Acquisition screen and populates the appropriate acquire fields with the selected exam information.
	**Ion Chamber**	Indicates that the exposure mode is phototimed
	**Grid In/Grid Out**	Select the appropriate icon depending upon whether to include grid suppression filtering
	**Accept Image**	Accepts the selected image

Button	Button Name	Button Description
	**Reject Image**	Rejects the selected image
	**DR Panel Battery Indicator**	Displays the charge level of the DR Panel battery. (Wireless DR panels only)
	**DR Panel Battery Dead**	Displays when a wireless DR panel battery is fully discharged or when the panel is turned off. (Wireless DR panels only)
	**Reprocess**	Initiates a reprocess request.
	**Window/Leveling**	Enables users to manually enter the window level for an exposure
	**Pan**	Enables the user to pan the image within the image view area
	**Zoom**	Allows image zooming using the mouse
	**View/Edit ROI**	Enables the user to edit the region of interest
	**Annotations**	Provides the ability to annotate an image
	**Rotate Annotation**	Rotates the image annotation 90 degrees clockwise
	**Reset**	Removes all applied post-processing to an image and resets it to its original raw image state
	**Auto Window/Leveling**	Automatically inputs the approximate optimal window level for the exposure

Button	Button Name	Button Description
	**Invert Image**	Inverts the current image
	**Rotate Image**	Rotates the image 90 degrees in the specified direction
	**Flip Image**	Flips the image either vertically or horizontally
	**Free Rotate Image**	Rotates the image slightly using the mouse
	**Crop Image**	Crops the current image
	**Positioning Guide**	Opens the Positioning and X-Ray Technique Guide
	**Combine Images**	Combines many images into a single image
	**Stitching**	Manually stitches multiple images into one image
	**Show Client Viewer Button**	Launches the current study in the Client Viewer
	**Questionable Status**	Indicates a decision to accept or reject an image is required
	**Missing Image**	Indicates that an image is missing for a selected exam
	**Measurement Tool**	Provides easy access to Length and Angle measurement annotations
	**Alternate Grid Suppression**	Enables users to apply a secondary filter to suppress gridlines if configuration allows

Button	Button Name	Button Description
	**Reset Image**	Resets the current image
	**Image Overlap**	Increases or decreases the current overlap number
	**Merge Images**	Merges images into a single image
	**Trim Image**	Generates a new image sequence using only the currently selected portion of the frame sequence
	**Trim Subimage**	Generates a new image instance of the currently displayed frame sequence

Ultra Configuration Options

Click the **Options** button to open the Configurations window.

The following tabs are displayed:

- Subject Tree
- Procedure Templates
- Remote Console
- Device Configurations
- Program Settings
- DICOM Settings
- Tools & Annotations
- Post Processing
- User Interface
- Developer

  Note: The Developer tab is displayed only after double-clicking the Konica Minolta logo in the bottom-left corner of the Options window

Subject Tree

The Subject Tree tab is the first tab displayed in the Configurations window. The Subject Tree is a horizontal hierarchy chart of body parts and their components. The chart is broken down into the following levels:

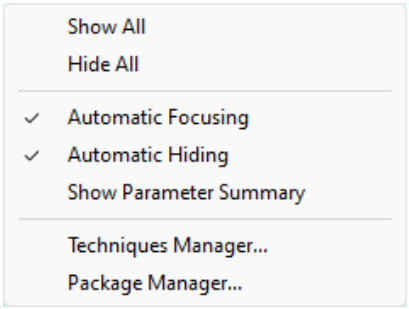
Global> Family> Region> Part> View

Body Part Package Hierarchy Overview

- **Global** – Root of the Package, Auto-Shutter parameters, Exposure Index parameters, and Grid Suppression parameters are set in this stage.
- **Family** – Human, or for a veterinary practice, Exotic, Equine, Feline, and Canine.
- **Region** – Breaks the body into regions, usually Skull, Upper Extremities, Chest, Abdomen, Spine, and Lower Extremities. The Auto-Shutter, Contrast Modifier, Edge Strength Modifier, and Unsharp Mask Strength parameters are available at this level.
- **Part** – Specific body parts that would fall under a region. (For example, Upper Extremities-Hand)
- **View** – Body Positions (PA, AP, LAT, etc.)

Subject Tree Options

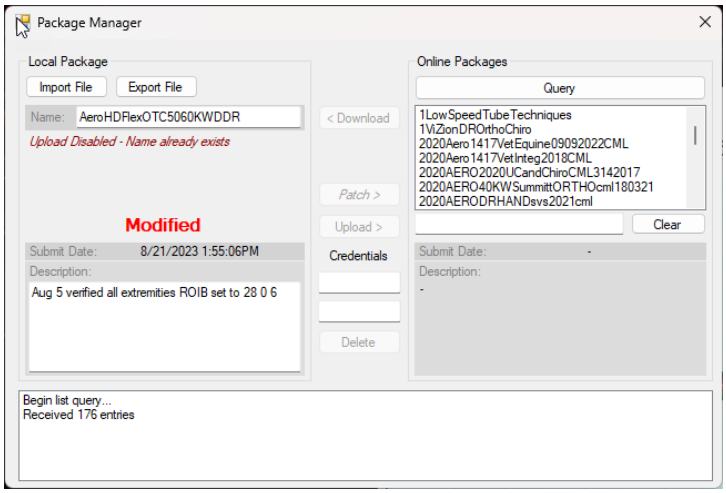
Right-click in the space around the subject tree to open the following menu:



- **Show All** – Expands all the branches of the hierarchy chart.
- **Hide All** – Retracts all the branches of the hierarchy chart back to root.
- **Automatic Focusing** – Centers the focus of the visible hierarchy chart on the most recently opened area.
- **Automatic Hiding** – When changing from one selection to another on the same level of the hierarchy chart, this option automatically reduces the previous branch.
- **Show Parameter Summary** – Provides a quick view of the Enhancement Filter, Exposure Index, Grid Suppression, and Auto W/L Parameters, their filters, and the level that they are inherited from. Hover over a branch to view the summary.
- **Techniques Manager** – There are two options to manage techniques.
  - **Import File** – Imports a previously saved copy of techniques.
  - **Export File** – Copies and exports the current techniques settings for backup or later import. The techniques file is exported in .xml format.

  The most common location for export is `c:\opal\cfg`
- **Package Manager** – Manages the import or export of service packages based on your equipment type. Service packages contain parameters for techniques, filters, grid suppression, stitching, window/leveling, etc.

Package Manager Settings



Note: Some of these functions are available only for administrative users.

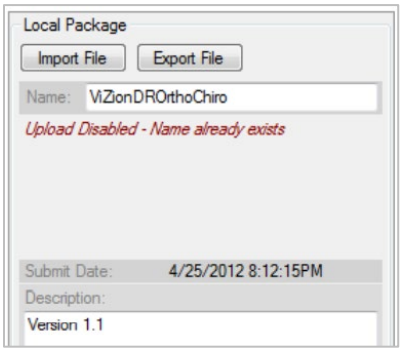
- **Download** – Downloads the package or package components to the system.
- **Patch** – Upload changes to the current package with the same name.
- **Upload** – Copies the current package to the KMMI FTP site.

  Note: You must enter credentials to upload a package.
- **Credentials** – Username and password are required to remove or upload a package to or from the KMMI FTP.
- **Delete** – Removes a package from the KMMI FTP.

  Note: You must enter credentials to delete a package.

Local Package Area

Displays the name and details of the current package installed on the local system.



Note: Package names may contain only alpha numeric characters. Spaces or special characters are not permitted.

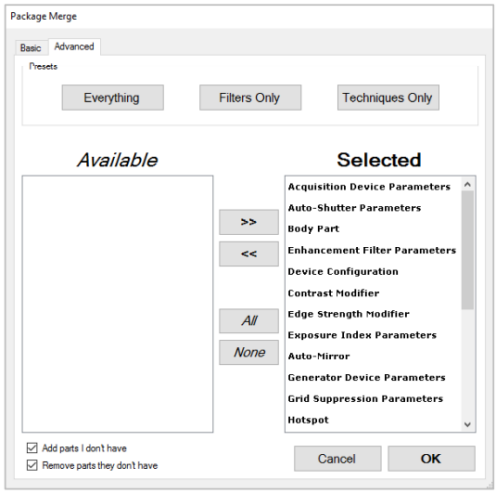
Online Packages Area

The Online Packages section lists all available packages found while querying the FTP.

1. Select a package to download.
2. Click **Download** in the center to open the Package Merge window.
    - Basic Configuration
        - **New Install** – Completely replaces the body parts hierarchy and parameter files.
        - **Upgrade** – Updates parameter filter files only. (AutoShutter, Enhancement Filter, Contrast Modifier, Edge Strength Modifier, Exposure Index, Grid Suppression, Unsharp Mask Strength, and Auto W/L parameters)
        - **Cancel** – Exits package download.
    - Advanced Configuration

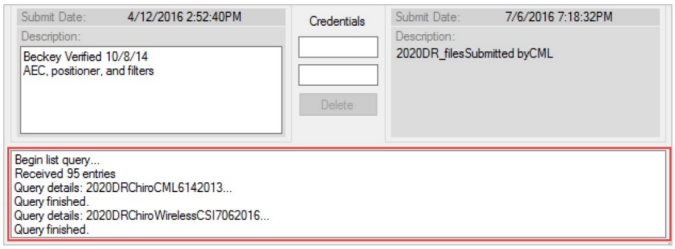
      Using the advanced configuration to customize what components are downloaded to the system.

        - Presets
            - Everything – Same as New Install.
            - Filters Only – Same as Upgrade.
            - Techniques Only – Generator device parameters. (kVp, mAs, ms, BUT)
        - **Available** – Shows what components are available for selection.
        - **Selected** – Shows the components that have been selected.



Query Window

Displays the active communication between the UAI and the KMMI FTP server as it is being polled for available body part packages.



Managing the Body Part Package Hierarchy

Right-click one of the parts within any one of the levels of the hierarchy tree to show available options to configure each level. Options differ for each level.

Branch Level Options

The following menu options are used to create or modify items on the branch level of the hierarchy.

- **Insert New <*part*>** – Creates a new family, region, part, or view.
- **Cut <*part*>** – Cuts the selected family, region, part, or view. Right-click to move and paste the item.
- **Copy <*part*>** – Copies the selected family, region, part, or view. Right-click to paste the item.
- **Delete <*part*>** – Removes the selected item from the hierarchy.
- **Create APRS** – Creates Anatomical Programmed Radiography Settings (APRS). See Changing the Default Techniques for configuration instructions.
- **Properties** – Additional properties for the selected family, region, part, or view. Refer to the following section for more information on part properties

The following two options apply to the entire hierarchy.

- **Show All** – Expands all branches of the hierarchy chart.
- **Hide All** – Retracts all branches of the hierarchy chart back to root.

Branch Level Properties

Attributes

Right-click on each attribute to modify the values. After changing any of these parameters, always click **Confirm**, then **Apply** in the Options menu. This ensures that any changes made are saved correctly.

ViZion DR+ Attributes

If you use an iRay panel, any View Properties that are specified on this tab are applied.

AeroDR – Attributes

If you use an AeroDR panel, View Properties that are specified on this tab are applied.

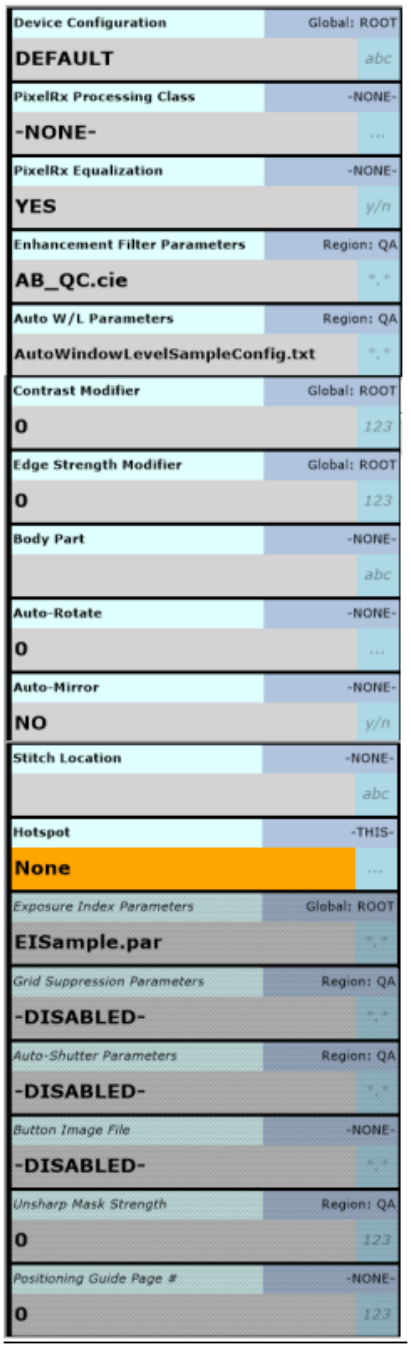
CS7 Specific Processing Parameters

- **Allow Pixel RX:** Select **Yes** to enable the Pixel RX processing Class and Pixel RX Equalization. If this parameter is not enabled, all Pixel RX processing is disabled for the selected, view, body part, region, Family, or globally.
- **Pixel RX Processing Class:** Click this drop-down menu to select different filters, generated and/or pre-configured by the Konica Minolta Applications team. After a filter is created, it is stored in the correct directory and is available for use. These filters affect image quality and are used for improving the look and feel of an image by the Apps team.
- **Pixel RX Equalization:** CS7 Processing parameter that equalizes pixel values in an image.

Processing Parameters

- **Exposure Index Parameters** – Anatomy segmentation parameter file used to calculate exposure index. This option uses the Exposure index formula to determine the exposure received on the panel. currently, there is only one option for exposure index, therefore, the default is **EISample.Par**.
- **Auto-Shutter Parameters** – Auto-Shutter Parameter file. Auto-shutter defines the region of an image for final review. When applying processing, the shutter file in use determines what area of the image was collimated in order to apply the shutter to the collimated area automatically. The Auto-Shutter identifies hard lines in the image and then shutters to that area.
- **Auto W/L Parameters** – Auto W/L parameter file. Auto window level is part of the image processing chain, adjusting the window level of an image automatically. Each window level file is used differently depending on the type of X-ray performed. For example, the window level file used for spines is different than the window level file used for a hand shot.
- **Enhancement Filter Parameters** – Enhancement parameter file algorithm. The enhanced filter improves attributes for each image. Attributes of the image that are improved are the contrast, brightness, and bone detail.
- **Contrast Modifier** – Automatic contrast adjustment for enhancement. A positive integer applies more contrast to the image. A negative integer applies less contrast. Specify the value as an integer.

  To apply - default 0.0, range -1.0 to 1.0.



- **Edge Strength Modifier** – This value enhances the edges of bone and anatomy, bringing a lot more detail to the image edges. A positive value applies more edge strength and negative value applies less. (Configurable)

  To apply - default 0.0, range -1.0 to 4.0.

Additional Image Processing Properties

- **Auto-Rotate** – If the default orientation for an image is incorrect, it can be adjusted using this parameter. Options to rotate the image include 90,180, and 270 degrees.
- **Auto-Mirror** – Mirroring an image flips the image horizontally.
- **Limit Shutters to 4 Points** – All images processed with Regius auto-shuttering have no more than four shutter points after processing is complete.
- **Device Configuration** – This configuration specifies the default workstation that is used for the selected subject. (For example, default, table, or Outbucky) This configuration is case sensitive and must match the workstations configured in the device manager.
- **Grid Suppression Parameters** – This file is used to suppress the gridlines in an image. This is only necessary for sites that use a grid. Alternate Grid suppression files are available depending on the type of grid in use.
- **Body Part** – Value assigned to DICOM tag 0018, 0015 (Body Part Examined).
- **Unsharp Mask Strength** – Additional un-sharp masking.

  To apply - default 0.0 (off), range 0.0 to 1.0.

Additional Parameters

The following parameters are unrelated to image processing.

- **Positioning Guide Page #** – This option references the page numbers in the Positioning Guide PDF associated with any specific view. This is used to display a guide for each view in relation to the positioning guide.
- **Hotspot** – This is a SYFM tablet interface function. The Hotspot represents the portion of the anatomical figure used to designate Regions associated with a view.

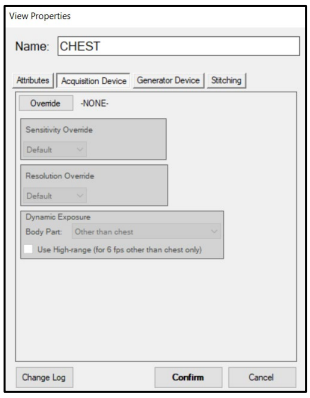
- **Button Image File** – These options are primarily used with an installed veterinary package. Instead of displaying the default text on the body part buttons, you can replace the text with a visual representation that references the animal species for different regions.

Acquisition Device

If you are using a dual panel configuration, the Acquisition Device tab is removed.

- **Override** – Allows adjustment of device-specific parameters, per body part.
- **Clear Button** – Changes settings to Default settings for the selected hierarchy level. Use Read-Out Delay – Applicable to ViZion DR+ (iRay panels). You must configure the Read-Out Delay setting for X-ray Synchronization.

iRay Panel



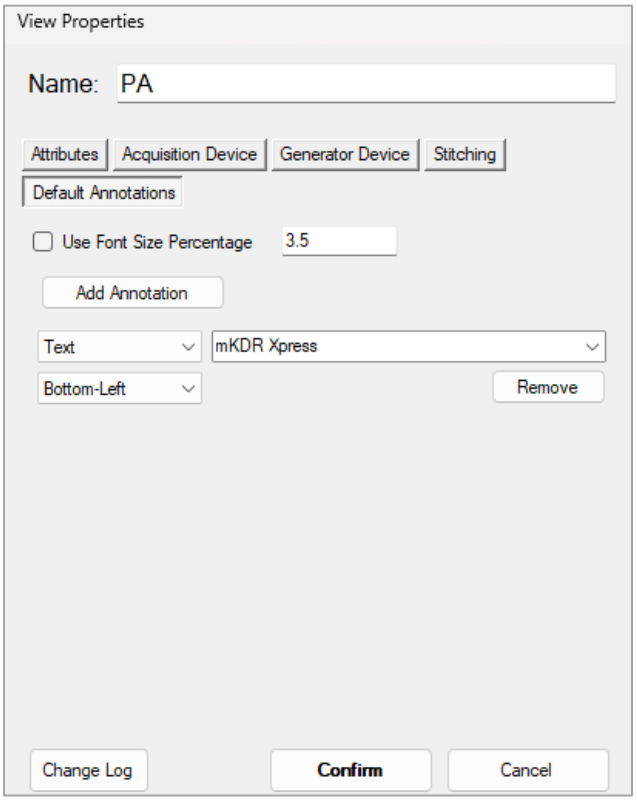
AeroDR Panel

Generator Device

- **Override** – Allows adjustment of device-specific parameters, per body part.
- **Clear Button** – Changes settings to Default for the selected hierarchy level.
- **APR** – Launches the default technique window (see Changing the Default Techniques on the next page)

Default Annotations

A new Default Annotations tab has been added to the View Properties box for all Subject Tree items. Any annotations you set up here will be automatically applied to the image when it is obtained in Ultra (both a live image and an archived image).



Adding a new Default Annotation

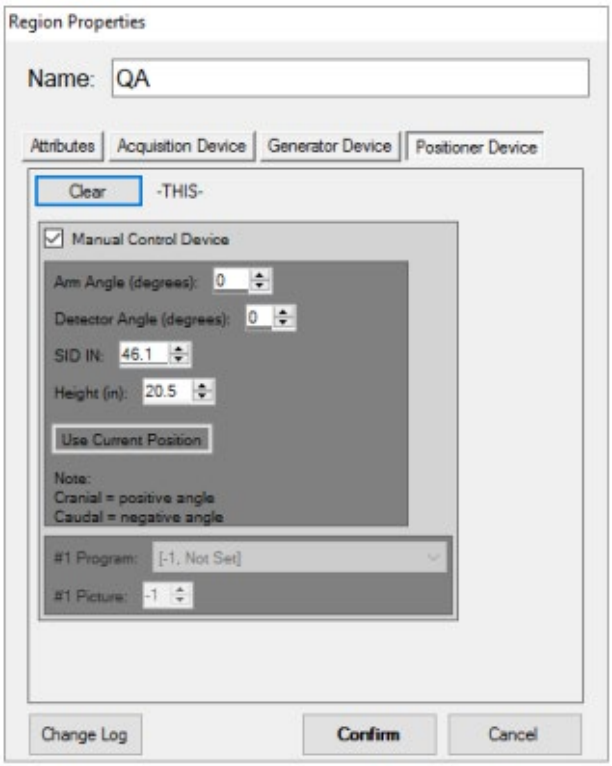
To create a new default annotation, complete the following steps:

1. Click the **Add Annotation** button to insert a set of four elements:
2. Click the text drop-down list and select Text, Initials, or Time Stamp
    - If you selected Text, click in the text field to the right of the drop-down and type free text for the new annotation, or you can select from a list of custom annotations (by default this field reads TEXT).
3. Click the position drop-down list and select where on the image you want the annotation to be displayed (top-left, top-right, etc.)
4. Click **Confirm** to save your annotation.
    - Click **Cancel** to close the View Properties box without saving your annotation.
    - Click the **Remove** button next to an annotation to delete it.

Note: Each time you click the **Add Annotation** button in the View Properties box, it inserts a new set of elements for you to enter a new annotation. You can add up to 7 annotations.

Positioner Device

These options are associated with the SYFM positioner and the Sedecal U-arm Positioner. This feature changes the position of the U-arm to the associated settings selected at the subject tree level item using the **MOVE** button on the U-arm remote.



- **Manual Control Device** –Manually configures and specifies the exact location that the positioner moves to for the selected view.
- **Arm Angle** – Changes the starting position setting angle of the arm. Range is from -30 to 120 degrees.
- **Detector Angle** –Changes the starting position setting for the panel. Range is from -45 to 45 degrees.
- **SID** – Configures the Source to Image Distance. Range is 0 inches to 100 inches.
- **Height** – Changes the starting height from the floor. Range is 0 inches to 110 inches.

  Note: For manual, select Manual Control Device and then change for each body size as desired.
- **Use Current Position** – Sets the above settings to wherever the positioner is currently sitting.

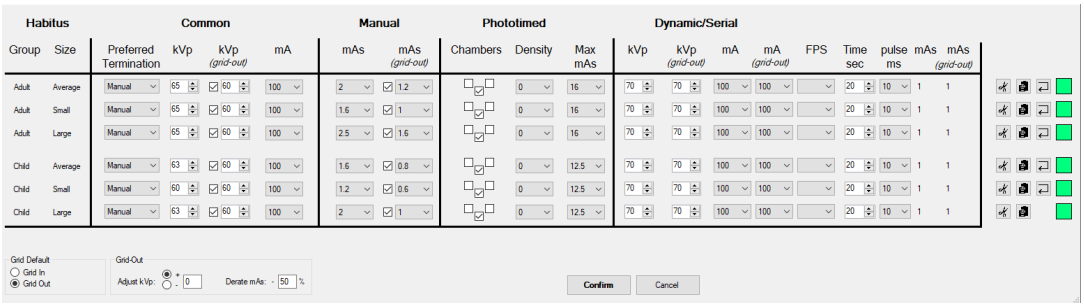
Changing the Default Techniques

1. Click **Options**, then the Subject Tree tab.
2. Right-click the applicable view and select **Edit APRs**.
3. Configure the following settings for each of the 6 habitus settings.
   a. In the Common column, under Preferred Termination, select **Manual** or **Phototimed** as the default technique setting.
   b. Select the **kVp** and **mA** for each body habitus.

      Note: kVp and mA stations remain the same for manual and phototimed techniques.

c. In the Manual column, select the **mAs** for each body habitus.

d. In the Phototimed column, select the Chambers, Density Setting and the Maximum mAs allowed.



e. In the Dynamic/Serial column, select the kVp, mA, FPS, Time and Pulse settings.

4. In the lower-left corner, specify the Grid Default for the body part, **Grid In** or **Grid Out**.

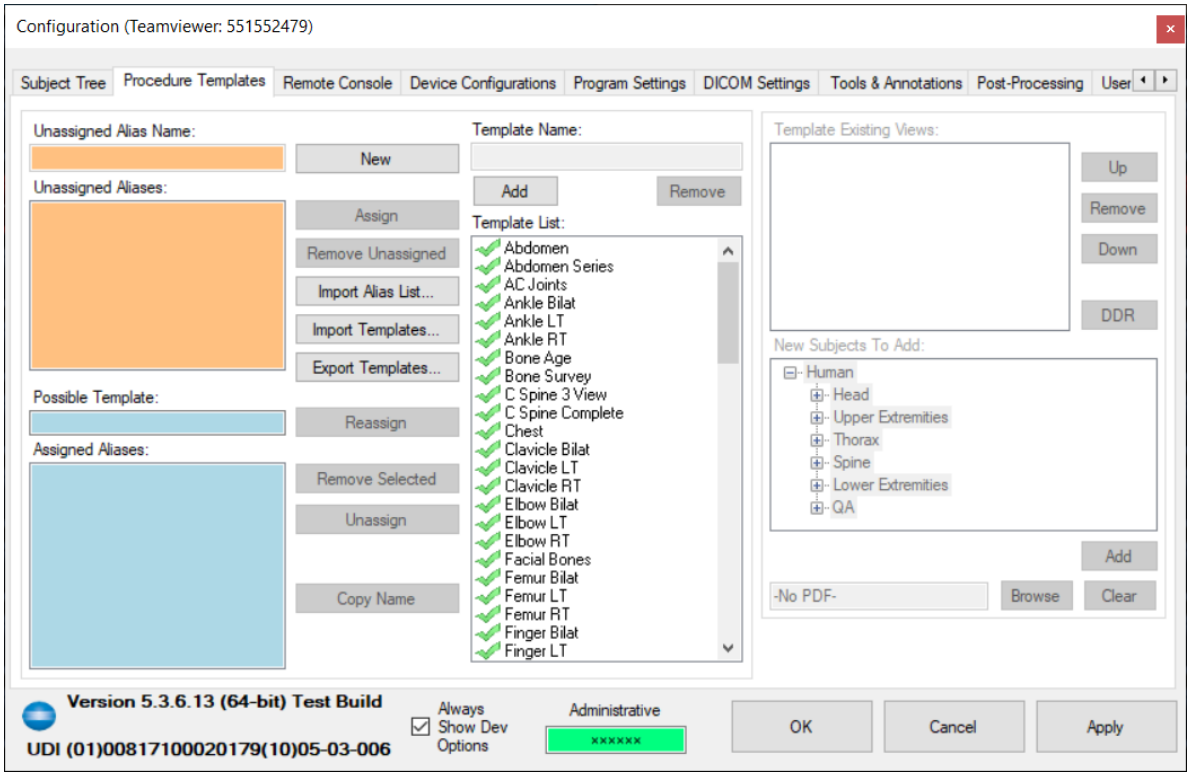
   Note: When you manually deselect the grid icon when acquiring an image, the kVp and Derate mAs are adjusted as specified in the Grid Out settings.

5. (Optional) Specify Grid Out settings. This setting is initially configured by KMMI. Contact support if this setting needs to be modified.

6. Click **Confirm** to apply changes.

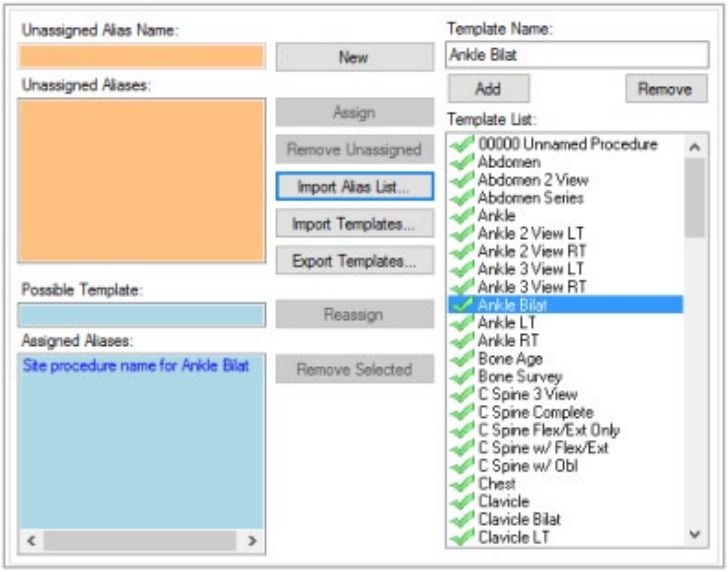
7. Click **OK**.

Procedure Templates



Assigning Site Procedure Codes to KMMI Templates

1. Click **New**. The text, “#NewAlias#”, populates the **Unassigned Alias Name** field.
2. Press the **Backspace** key on the keyboard to delete the placeholder text, then type the name of the site procedure code.
3. Select a KMMI template in the Template List.

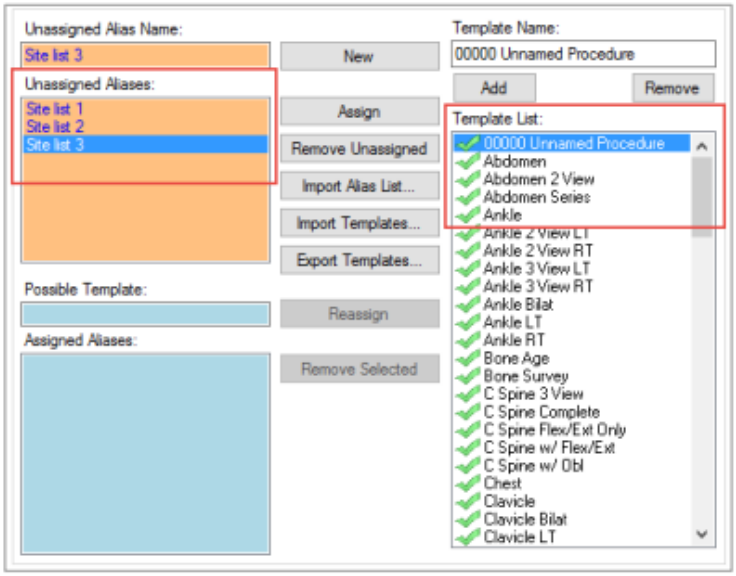


4. Click **Assign**. The site procedure code is now associated with a KMMI template and is added to the Assigned Aliases list.
5. After all site procedure codes have been assigned to a KMMI template, click **Apply**.

Importing Site Procedure Codes

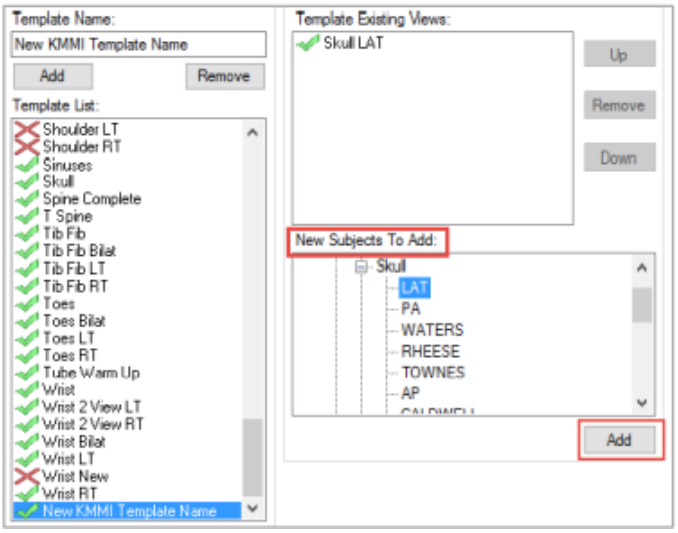
Sites that use an EMR system can import a list of the EMR procedures to assist with assigning procedure codes to KMMI templates. Create a text file that contains a list of procedure names from the EMR and import that file to populate the Unassigned Aliases list.

1. Click Import Alias List.
2. Select the file and click **Open**. The Unassigned Aliases list is populated with the imported list of procedures.
3. Assign each Unassigned Alias to a KMMI template.
   a. Select a site procedure code from the Unassigned Aliases list.
   b. Select a KMMI template from the Template List.
   c. Click **Assign**.
   d. Repeat these steps for all unassigned aliases.
   e. After all site procedure codes have been assigned to a KMMI template, click **Apply**.



Creating a New KMMI Procedure Template

1. In the Template Name section, click **Add**. “00000 Unnamed Procedure” populates in the **Template Name** field.
2. Type the new Template Name. This creates a new template that is added to the template list.
3. Select the new template and then click on a view in the New Subjects To Add list to add a view to the procedure.
4. Click **Add** to add the view to the procedure template. The new view is added to the Template Existing Views list.
5. Click **OK**. The new template is displayed along with all previously entered procedures and views.



Importing and Exporting Procedure Templates

Procedure templates used by another location or provided by the Applications Trainer can be imported to save time. Likewise, procedure templates can be exported for use by other locations to implement uniform templates across all sites. Use the **Import Templates** or **Export Templates** buttons as necessary.

Reassigning a Site Procedure Template to a New KMMI Template

1. Select a site procedure from the **Assigned Aliases** list.
2. Select the new KMMI template from the **Template** list.
3. Click **Reassign**.

Adding a View to a KMMI Procedure Template

1. Select a site procedure from the **Assigned Aliases** list.
2. Select the new view in the **New Subjects to Add** list.
3. Click **Add**. The new view is added to the **Template Existing Views** list.

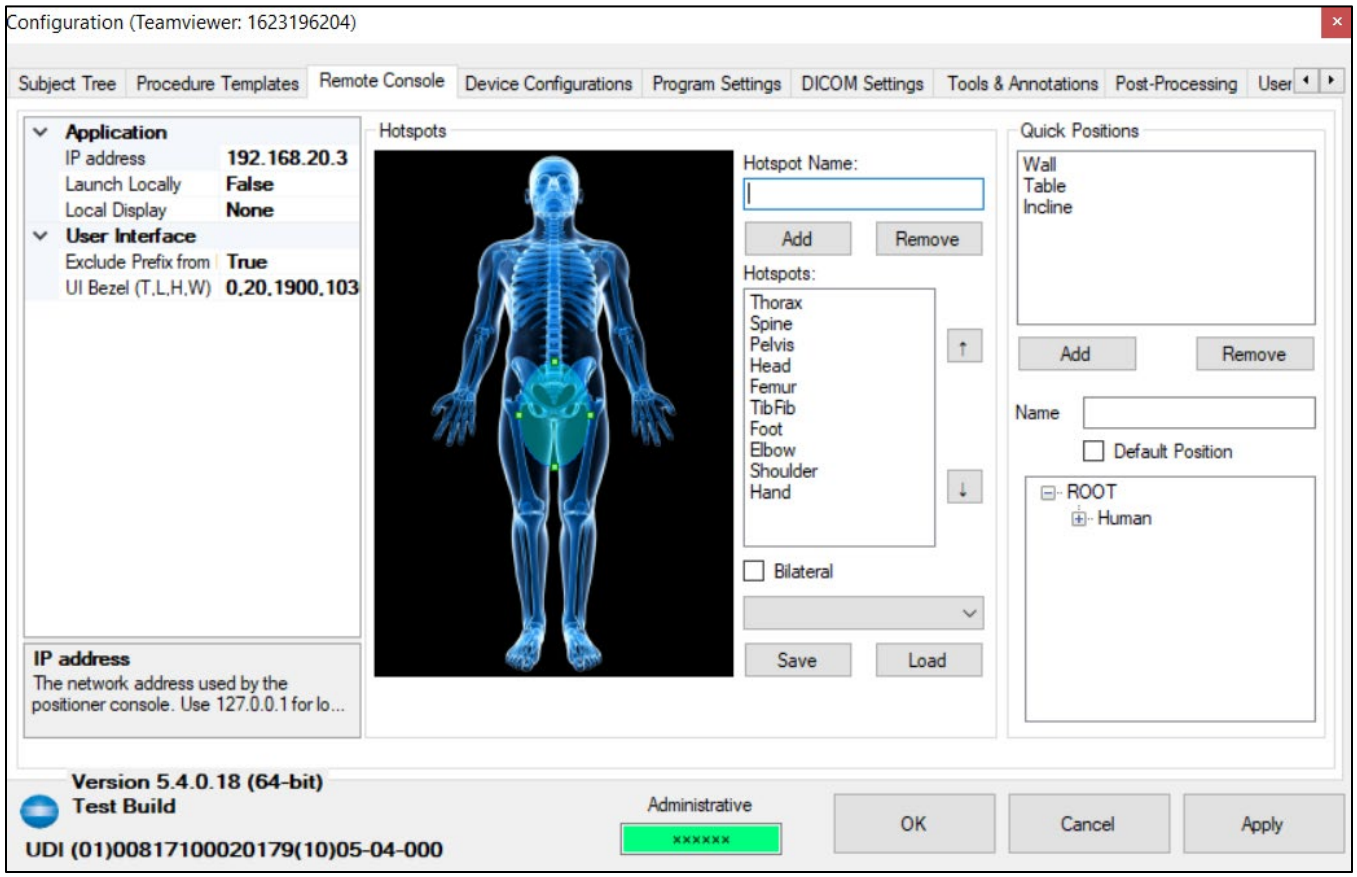
Removing a View from a KMMI Procedure Template

1. Select a site procedure from the **Template Existing Views** list.
2. Click **Remove**.

   Note: You can change the order of the views to the order you want to acquire the image.

Remote Console

This tab enables the communication for the SYFM tablet or second-monitor interface.



The configurable settings are as follows:

- **IP Address** - Determines the IP Address for running the positioner console. The default IP address for the tablet interface is 192.168.20.3, while the second monitor should be 127.0.0.1.
- **Launch Locally** - Configures the use of either tablet or second monitor. If **Launch Locally** is set to True, the second monitor is in use and the Positioner Console will be launched from the main PC. If set to False, the tablet is in use and the Positioner Console will be launched from the remote tablet.
- **Local Display** - Configures the display connected to the main PC that should be used to display the Positioner Console. If the tablet is in use, this value should remain as **None**.

- **UI Bezel** - Configures the coordinates (separated by commas) for the Positioner Console when displayed on a second monitor. The first two integers represent the top left (x,y) coordinates of the Positioner Console program. The third integer represents the height of the Positioner Console program (in pixels), and the fourth integer represents the width.
- **Hotspots** - The anatomical figure on the left represents the ability to select views, body parts or regions of the corresponding physical anatomy. Using this model, we can create hotspots or touch points that reference the subject tree properties, allowing the selection of views via the tablet interface. Refer to the following section for information on hotspot configuration.
- **Quick Positions** - Quick Positions let users establish and define positions that are used often.

Creating a Hotspot

1. In the Hotspots section, click **Add**.
2. In the Hotspot Name field, replace the default name (New Hotspot 1) with the name for the hotspot.
3. Click and drag the circular area to highlight the portion of the anatomy that defines the hotspot. Click the handles to adjust the size of the highlighted area.
4. Check the **Bilateral** box if the portion of anatomy is considered bilateral.

   Note: Bilateral refers to body parts that are the same on opposite sides. (For example, Left or Right Knees, Left or Right Hands.) This ensures that opposite sides of the anatomy, Right or Left, automatically have a hot spot attached.
5. Click the drop-down arrow and select the region of the body this is attached to. (For example, Hand AP is attached to the Hand Hotspot.)
6. Click **Apply** to save the new hotspot to the list.
   - **Save** and **Load** provide the ability to import and export the configured hotspots, making transfer from one system to the next simple.

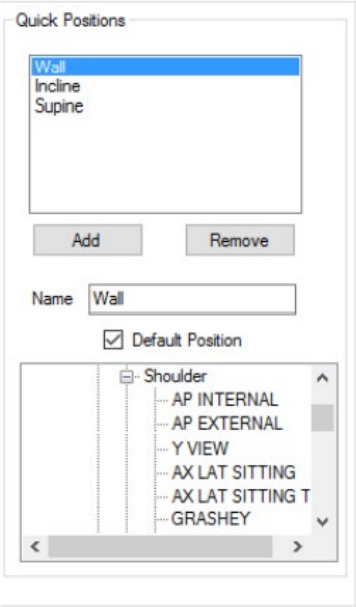
     Note: This applies only to the hotspots and not the quick positions.
     - **Save:** After clicking **Save**, choose the directory that you would like to export all of the created Hotspots to.
     - **Load:** After clicking **Load**, navigate to a directory and import preconfigured Hotspots.

- **Hotspot Priority:** If there are one or more hotspots that overlap, the order that they appear in this list determines which one to open when selecting overlapping hotspots. The first hotspot in the list has the highest priority. Use the **Up** and **Down** arrows next to the Hotspots list to adjust the priority.

Configuring a Quick Position

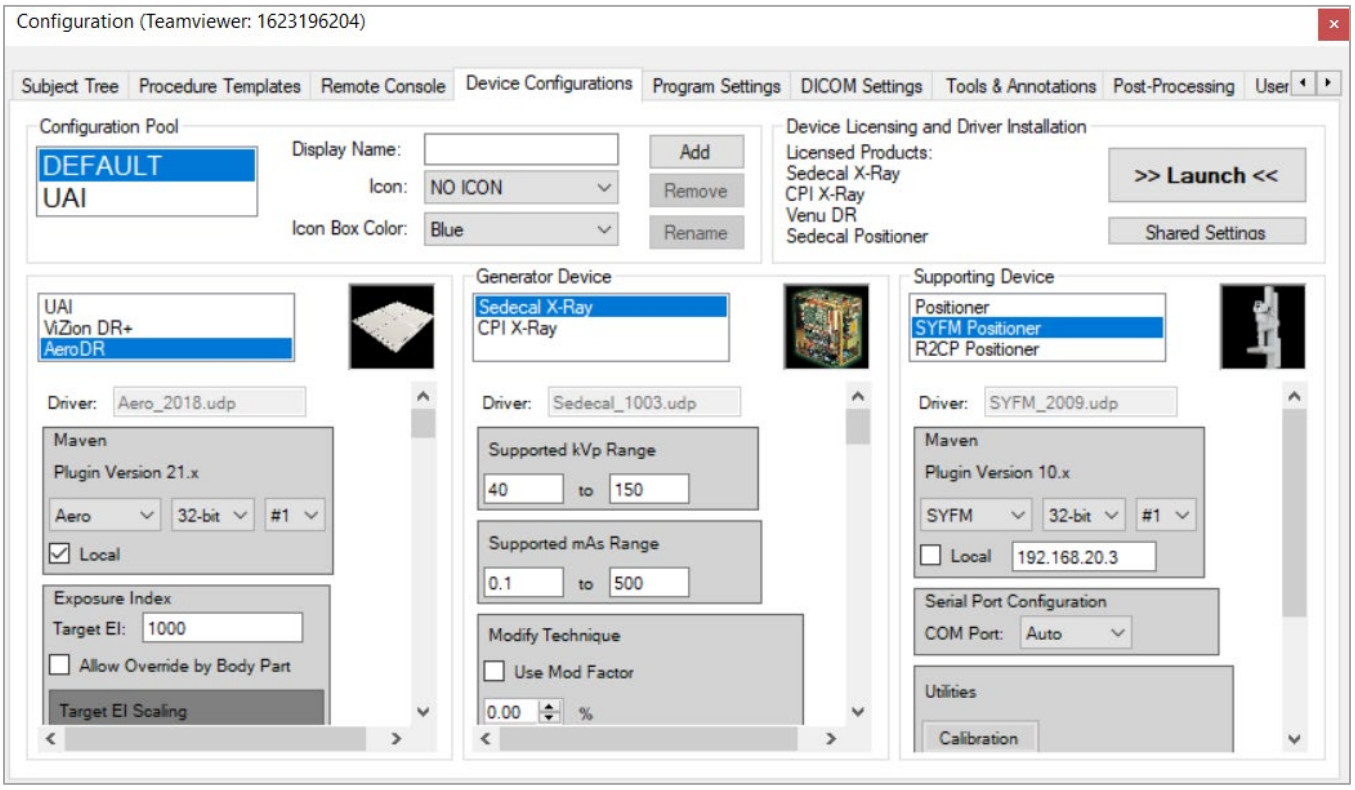
Quick positions are common positions that are determined on a site-by-site basis. No more than three quick positions are recommended to be enabled (Default) because of limited space on the positioner tablet interface.

1. Under Quick Positions, click **Add**.
2. In the Name field, replace the default name (newPosition) with a name for the quick position. (In this screen image, Wall, Incline, and Supine were added)
3. Check the **Default Position** box if this is the default position. As mentioned previously, you can display only three positions. Checking this box determines which quick positions are going to be displayed on the PRC tablet.
4. Select the view or position that corresponds with the quick position that you have added. In this example, Shoulder is the quick position that is moving.
5. Any number of quick positions can be configured, however, only three can be selected by default.



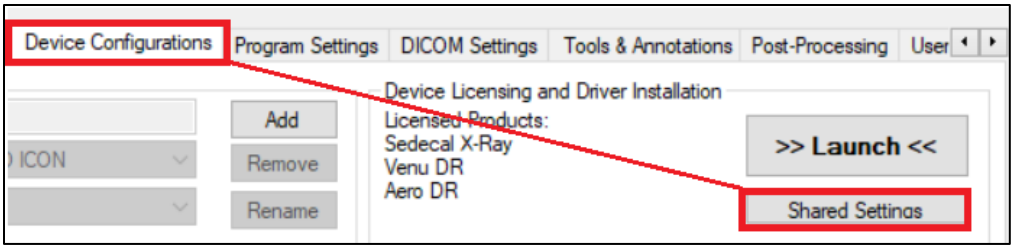
Device Configurations

The Device Configurations section contains DR Panel operational settings, installation wizards, calibration utilities, as well as manufacturer diagnostic and configuration software utilities. Steps to configure devices are listed in the Appendix.



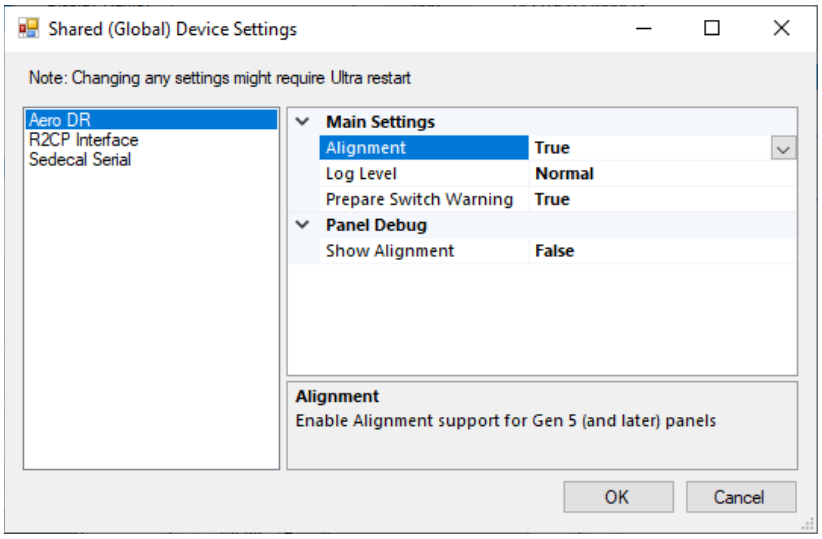
Click **DEFAULT** to open the panel **Options** screen.

Click **Shared Settings** to open the **Aero DR** or **R2CP Interface** settings.



The **Shared (Global) Device Settings** screen is displayed.

Aero DR



Main Settings

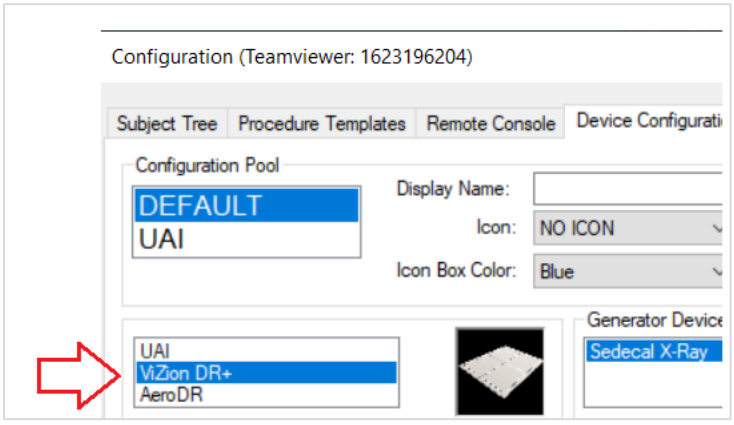
- **Alignment** - Enables or disables alignment support for Gen 5 (and later) panels.
  - **False** (default)**:** Disables alignment support for Gen 5 (and later) panels.
  - **True**: Enables alignment support for Gen 5 (and later) panels.
- **Log Level** - Determines the Aero SDK logging level.

  Note: Do not use Detail or Debug during clinical use. as it might cause frames to be missed.
  - **None**: No information is logged.
  - **Normal** (default)**:** Basic information is logged.
  - **Detail**: Detailed information is logged.
  - **Debug**: Debug information is logged.

Panel Debug

- **Show Alignment** - Displays alignment angles on the panel status screen.
  - **False** (default)**:** The alignment angles are not displayed.
  - **True**: The panel alignment values are displayed on the AeroDR panel status on the Acquisition screen (for debugging purposes.

ViZion DR+

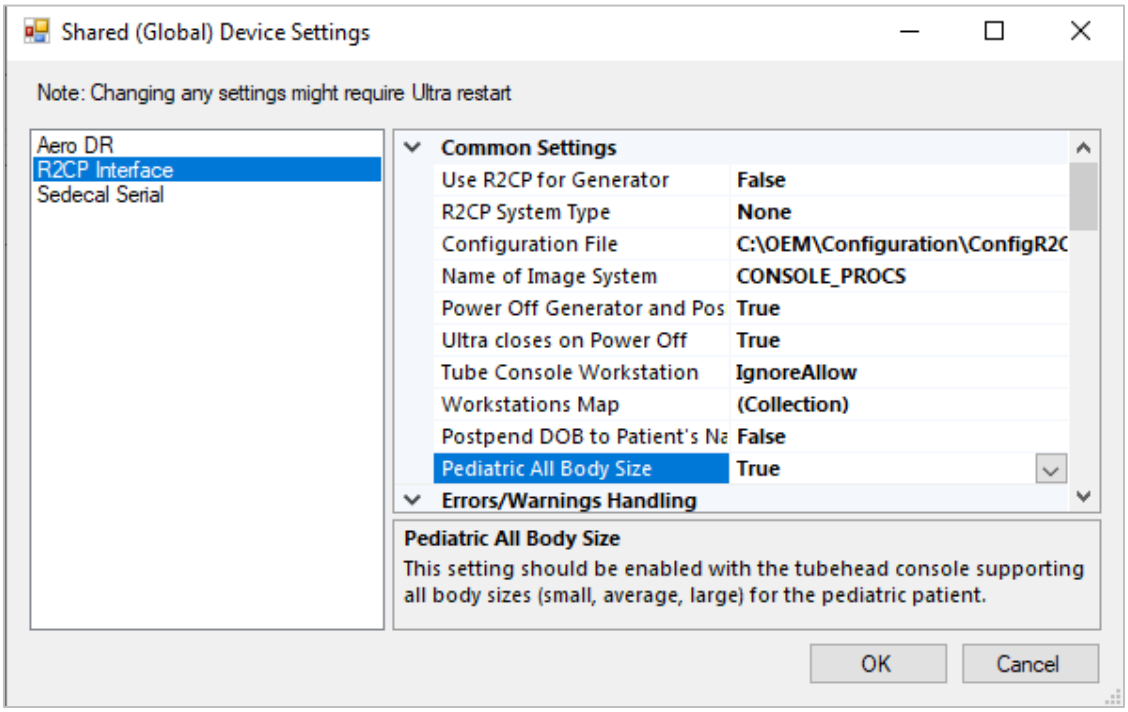


- **Enforce Direct Grid-Tile Suppression**

  Provides certain 1748V users (who may be working under extreme conditions that use further shortened SID and large tube angulations) with an independent tile suppression capability that does not rely on mask (WMA ref mask).

  - When **Flare DR WMA Treatment** is disabled, **Enforce Direct Grid-Tile Suppression** is disabled automatically and grayed out.
  - When **Flare DR WMA Treatment** is enabled, **Enforce Direct Grid-Tile Suppression** is no longer grayed out, and can be enabled or disabled by the user, with the following occurring depending on the selection:
    - **Disabled** (default): When an image is returned from the panel then input into FlareDR's WMA Treatment, a dynamic check within the FlareDR library will take place for either mask-based WMA or no-mask Direct Tile-Only suppression.
    - **Enabled**: When an image is returned from the panel then input into FlareDR's WMA Treatment, a dynamic check within the FlareDR library will **not** take place. Only the **no-mask Direct Tile-Only suppression** algorithm will be used.

R2CP Interface



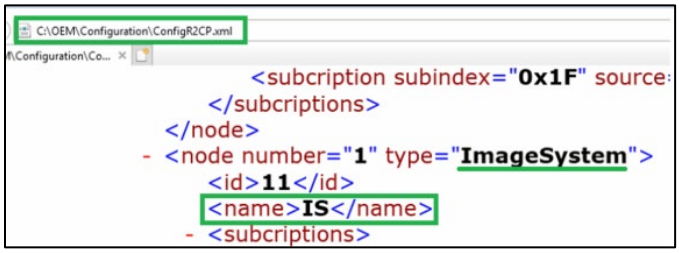
Common Settings

- **Use R2CP for Generator** - Update this value to enable or disable R2CP.
  - **False** (default): The generator will use serial communication.
  - **True**: The generator will use R2CP to communicate with all components of the Phoenix system. When set to **True**, all settings in **Shared Settings> R2CP Interface** are now applicable.
- **R2CP System Type**
  - None (default)
  - OTC
  - Xpress

- **Name of Image System** - Update to **IS** when Use R2CP for Generator is set to **True**.

  This specifies the node name designated for Ultra to act as the Image System for the R2CP Hub. This setting is applicable only when Use R2CP for Generator is **True**. The configured value can be confirmed at `C:\OEM\Configuration\ConfigR2CP.xml`.

  - **Default Value**: CONSOLE_PROCS
  - **Desired Value**: IS



- **Power Off Generator and Positioner on Close** - This setting determines whether the generator and positioner powers off automatically when closing Ultra.
  - **True** (default)**:** Upon logging out of Ultra, the positioner and generator will power off.
  - **False:** Upon logging out of Ultra, the positioner and generator will **not** power off.
- **Tube Console Workstation** - This setting defines how Ultra responds to changes in workstations using the Tube Console. The Workstations icon in the top right of the Tube Console specifies which workstation is being used. Upon selecting it, the workstation can be changed.
  - **IgnoreAllow** (default): This allows the user to change the Workstation on the Tube Console, but it will not change the selected workstation on the Acquisition screen in Ultra. The following message will appear in `C:\Opal\log\R2CP_<date>.log`

```
WorkstationChangeRequestSETMessage. WorkstationNumber: 2
Workstation change request: 2 - Allowed
```

  - **IgnoreForbid**: Prevents the user from changing the Workstation via the Tube Console. If the user attempts to change the workstation, the workstation on the tube console will not change and the following message will appear in `C:\Opal\log\R2CP_<date>.log`. The user can still change workstations in Ultra.

```
WorkstationChangeRequestSETMessage. WorkstationNumber: 1
Workstation change request: 1 - Ignored
```

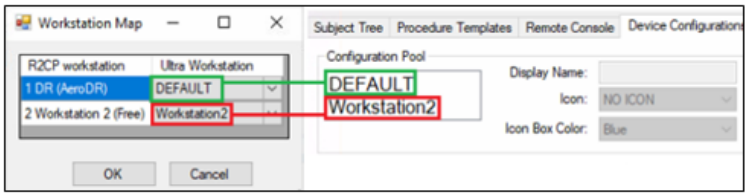
- **AsConfig**: This value must be selected for **Shared Settings> R2CP Interface> Workstations Map** to be applicable. When changing the workstation in the Tube Console, Ultra automatically selects the workstation on the Acquisition screen that is mapped to the selected Tube Console workstation. Similarly, if the user selects a different workstation in the Acquisition screen, the Tube Console automatically selects the mapped workstation. The following message will appear in `C:\Opal\log\R2CP_<date>.log`.


```
Ultra config changed: DEFAULT maps to R2CP: 1
Ultra config changed: Workstation2 maps to R2CP: 2
```

- **Workstation Map**

  Note: This value is applicable only when **Shared Settings> R2CP Interface> Tube Console Workstation** is set to **AsConfig**.

  To update the mapped values, click the ellipses next to (Collection). From there, the user can map the Workstations in Ultra (**Options> Device Configurations**) to the R2CP Workstations using the drop-down menus. The R2CP workstations can be identified at **Sedecal Service Tool> System Configuration> Workstations**.



- **Strict Handswitch Release** – When set to True, this feature prevents Ultra from starting an exposure sequence if the system is not ready.
  - **True** (default): If you depress the handswitch when the generator status reads "Waiting to Release Handswitch", the exposure sequence will not start until the system is ready.
  - **False**: When you depress the prep button on the handswitch, an exposure sequence will start.

- **Pediatric All Body Size** – Lets you select Small, Medium, or Large pediatric habitus on the Tube console.
    - **True** (default): If you press the Small or Large pediatric habitus buttons on the Tube console, Ultra automatically selects the same habitus on the Acquisition screen, and the configured technique synchronizes with the SYFM generator.
    - **False**: If you press the Small or Large Pediatric habitus buttons on the Tube console, Ultra will **not** automatically select the same habitus on the Acquisition screen.

Errors/Warnings Handling

- **Door Open Messages** – This setting lists the Message IDs of any expected Door Open messages that are presented to the user. These values are separated by commas. When the configured message ID is encountered, it is added to `C:\OEM\AppData\system_messages.sqlite`

  Default Value: **101006**

- **AEC Errors** – This setting lists the message IDs of any expected Automatic Exposure Control (AEC) errors. These values are separated by commas. When the configured message ID is encountered, it is added to `C:\OEM\AppData\system_messages.sqlite`

  Default Value: **<blank>**

- **Auto Clear Errors** – R2CP error message IDs that the user would like to clear automatically. Multiple error IDs can be configured, with a space separating each.

- **Display and Hide Timeout**– This setting determines how long any informative popups/warning messages from the R2CP Generator remain on the Acquisition screen before they are automatically closed. This value has units of seconds.

  Default Value: **5**

- **Show Positioner Exposure Inhibit Message** – This setting determines how messages that originate from the positioner, which inhibit the X-ray, are displayed in the Generator Status dialog box on the Acquisition screen.
    - **False** (default): Messages created by the generator, which inhibit exposure, are displayed in the Generator Status box.
    - **True**: Messages that inhibit exposure, which may or may not have been created by the generator, are displayed in the Generator Status box.

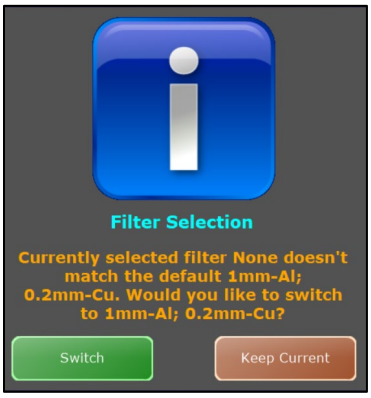
- **Use Message Popup** – This setting determines if messages that originate from systems other than the generator, that inhibit the X-ray, are displayed in the R2CP Message List
  - **False** (default): Ultra does not display the R2CP Message List popup box.
  - **True**: Ultra does display the R2CP Message List popup box.

Filter Settings

The mKDR Xpress Tube Console application enables the user to select an Aluminum/Copper tube head filter to use during the exposure sequence.

Because this filtering directly impacts image quality, Ultra provides settings to help mitigate the scenario where users acquire images with an unexpected tube head filter.

- **Switch on Exam Start** - Establishes the default filter type and supports the following values:
  - **SilentMode** (default): Changes the current filter selection on the Tube Console to the **Default Type** when the Acquisition screen is launched. The user is **not** notified if the filter was changed.
  - **Nothing**: No change to the current filter selection on the Tube Console when the Acquisition screen is launched, regardless of the currently selected filter.
  - **PromptUser**: If the current filter selection does not match the **Default Type** when the Acquisition screen is launched, the user is prompted with a Filter Selection popup with the following buttons:
    - **Keep Current** - Does **not** change the filter selection.
    - **Switch** - Changes the filter to the specified Default Type.



- **Filter Change During Exam Action -** Supports the following values:
  - **SameAsSwitchOnExamStart** (default): If the user changes the filter on the Tube Console while the Acquisition screen is open, Ultra will use the value configured for Switch On Exam Start to determine whether to change the filter to the Default Type.
  - **SilentMode**: If the user changes the filter on the Tube Console while the Acquisition screen is open, Ultra will automatically change the current filter selection on the tube console to the Default Type. The user will **not** be notified if the filter was changed.
  - **Nothing**: If the user changes the filter on the Tube Console while the Acquisition screen is open, Ultra will **not** change the current filter selection on the Tube Console, regardless of the currently selected filter.
  - **PromptUser**: If the user changes the filter on the Tube Console while the Acquisition screen is open and the filter selected does not match the Default Type, the user will be prompted via a Filter Selection popup with the following buttons:
    - **Keep Current** - Does **not** change the filter selection.
    - **Switch** -Changes the filter to the specified **Default Type**.
- **Default Type** - Establishes the default filter type and supports the following values:
  - **NoFilter** (default): The default filter is no filter.
  - **Alum2mm**: The default filter is the 2mm Aluminum filter.
  - **Alum1mm_2Cu**: The default filter is the 1mm Aluminum, 0.2 mm Copper filter.
  - **Alum1mm_1Cu**: The default filter is the 1mm Aluminum, 0.1mm Copper filter.

Generator-Specific Settings

- **APR Console in Use** - Specifies whether the Tube Console software provided by Sedecal is in use to change APR values. It does not inhibit the use of the Tube Console.
  - **True** (default): The Tube Console software provided by Sedecal is in use and changing APRs on the Tube Console is honored in Ultra.
  - **False**: The Tube Console software provided by Sedecal is not in use.
- **Wait Filament Preheat** - Specifies the display behavior while the filament is preheating.
  - **True**: After depressing the prep switch, the white **Ready for Exposure** banner is displayed in the image area only when the tube is in the Tube Ready state.
  - **False** (default): After pressing the prep switch, the white **Ready for Exposure** banner is displayed in the image area, both when the tube is In Preparation and Tube Ready states.

- **Hide Peds Grid Popup checkbox** – (for Image Gently licensees only) Provides the option to display or hide the Pediatric Grid Removal popup.
    - **Checked**: The Pediatric Grid Removal popup is displayed when launching a pediatric exam.
    - **Unchecked** (default): The Pediatric Grid Removal popup is **not** displayed when launching a pediatric exam.

Image Preview

- **Use Image Preview** - This setting determines what type of image preview will be displayed on the Tube Console if one is desired. When you select an image in the Acquisition screen, the following will be displayed on the Tube Console based on the configuration:
    - **UltraNative** (default): When an image is selected in Ultra, the image will be displayed on the Tube Console. The user can pan the image by dragging the image using one finger, or they can zoom in/out by pinching the screen with two fingers.

      Note: The following values are applicable only when **Shared Settings> R2CP Interface> Use Image Preview** is set to **UltraNative**.

        - **Top Left Ultra Image Preview**: This coordinate value dictates the top-left corner of the Ultra Native image preview on the Tube Console. Separate each value with a comma to match the format **x, y**.

          Default Value: **0, 0**
        - **Bottom Right Ultra Image Preview**: This coordinate value dictates the bottom-right corner of the Ultra Native image preview on the Tube Console. Separate each value with a comma to match the format **x, y**.

          Default Value: **1024, 768**
        - **Preview Display Button Position**: After selecting the **minus** button on the image preview on the Tube Console, the Sedecal Console is displayed, but a small Preview Display icon will remain on the screen. After clicking the icon, the image preview will be brought back into focus.

          This coordinate value dictates the top-left corner of the Preview Display icon on the Tube Console. Do not use parenthesis, and separate each value with a comma to match the format **x, y**.

          Default Value: **660, 40**

- **Preview Display Button Height**: After selecting the **minus** button on the image preview on the tube console, the Sedecal Console is displayed, but a small Preview Display icon will remain on the screen. After clicking the icon, Ultra's image preview will be brought back into focus.

  This single value dictates the height of the Preview Display icon on the Tube Console.

  Default Value: **65**

- **Rotated-Prv Button Position**: On the mKDR Xpress, if the clockwise or counterclockwise rotation is applied to the Ultra Image Preview, this position value is used to position the **Show Image Preview** button.

  Default Value: **660, 40**

- **Rotated-Prv Button Height**: On the mKDR Xpress, if the clockwise or counterclockwise rotation is applied to the Ultra Image Preview, this height value is used to position the **Show Image Preview** button.

  Default Value: **65**

- **R2CPPreview** - The image will be displayed on the Tube Console application provided by Sedecal but Zoom and Pan are not supported. The user will be able to see the patient's name and other Tube Console icons. Selecting the image will close the preview.

  - **Refresh Timeout Ms**:

    Note: This value is applicable only when **Shared Settings> R2CP Interface> Use Image Preview** is set to **R2CPPreview**.

    This value refers to how frequently the R2CP image preview on the Tube Console is updated when the user applies post-processing techniques to the image in the Acquisition screen (Zoom, Pan, Annotations, Window level, etc.). The smaller the value, the more frequently the Tube Console image preview is updated.

    This value does not apply when selecting a different image. In that scenario, the Tube Console is always updated immediately.

    Default Value (milliseconds): **500**

- **Off**: An image preview will not be displayed on the Tube Console when an image is selected in the Acquisition screen.

- **Shared File Name**:

  Note: This value is applicable only when **Shared Settings> R2CP Interface> Use Image Preview** is set to **R2CPPreview**.

  This value refers to the local directory and file name for the image file used as a preview to display on the Tube Console. When an image is selected in Ultra, the file name configured here will be updated to be a **.jpg** of the currently selected file. Then, the Tube Console will display this image.

  Default Value: **C:\OEM\Images\preview.jpg**

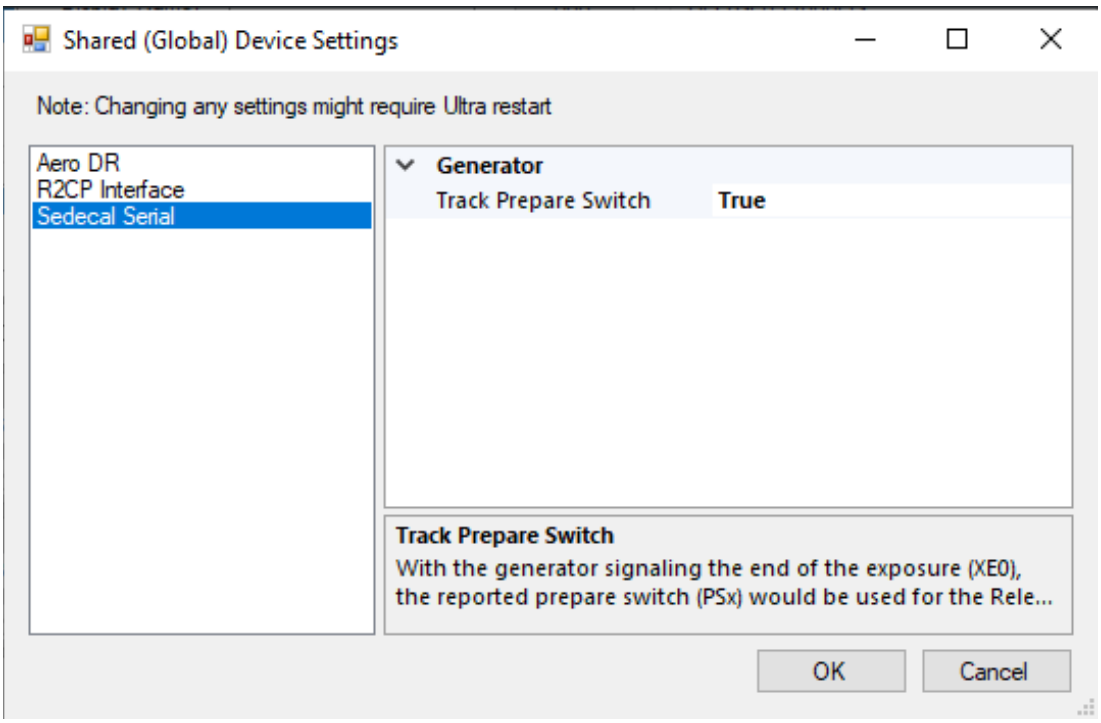
- **Virtual ID**: This value refers to the Desktop ID of the Tube Console, which is one of the nodes that communicates with the R2CP Smart Hub. This value should not be changed to conflict with other Node IDs, which can all be found at `C:\OEM\Configuration\ConfigR2CP.xml`.

  Default Value: **5**

Positioner - Stitching

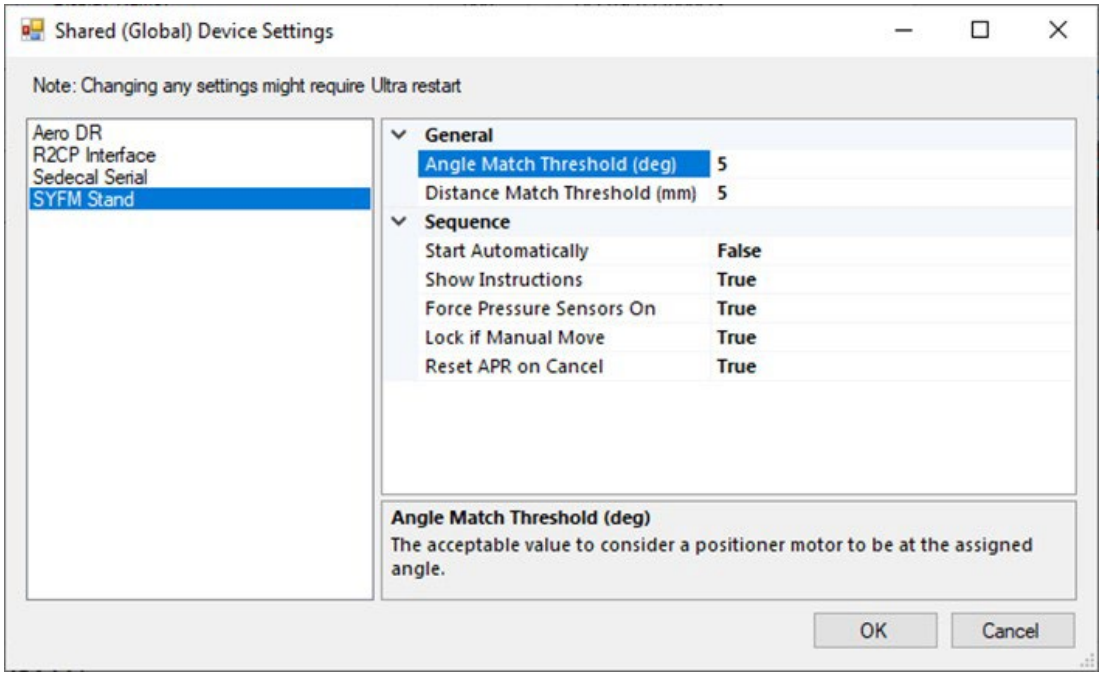
- **Wallstand Start by Rotate** - This setting gives you the option to set the tube head Start and End positions either by rotating the tube head or by moving it vertically.
  - **True** (default): Enables the **Alpha Axis** button on the tube console's Start and End point selection screen. The user can rotate the tube head only in the alpha axis.
  - **False:** Enables the **Vertical Axis** button on the tube console's Start and End point selection screen. The user can move the tube head only in the vertical axis.
- **Fair Vertical** - This setting indicates if the current R2CP firmware supports vertical tube head stitching movement.
  - **False** (default):
  - **True:**

Sedecal Serial



- **Track Prep Switch**:
  - **True**: Tracks the status of the prep switch before attempting a subsequent exposure.
  - **False**: Does not track the status of the prep switch before attempting a subsequent exposure.

SYFM Stand



General

- **Angle Match Threshold (deg)** – Determines how close the reported angle needs to be to the desired angle to be considered at the assigned angle.

  Default Value: **5**

- **Distance Match Threshold (mm)** – Determines how close the reported position needs to be to the desired position to be considered at the assigned position.

  Default Value: **5**

Sequence

- **Start Automatically** – Determines when a sequence starts.
  - **False** (default): The user must press the **Auto Stitching** button on the remote to start the sequence.
  - **True**: The sequence starts automatically based on the sequence view without pressing the **Auto-Stitching** button.

- **Show Instructions** – Elect whether to show sequence instructions on the Acquisition screen.
  - **True** (default): Show sequence instructions. (Refer to Sequence Notifications.)
  - **False**: Do not show sequence instructions.
- **Force Pressure Sensors On:** - Determines when pressure sensors are enabled.
  - **True** (default): When a sequence starts, pressure sensors are enabled regardless of the View settings. When the sequence ends, the sensors return to their value in View settings.
  - **False**: Pressure sensors are enabled or disabled according to the View settings.
- **Lock if Manual Move**
  - **True** (default): The stand is locked when the user presses the arrow buttons to manually move the stand. Press **Unlock** to move the stand after the sequence is cancelled.
  - **False**: Stand is not locked after movement is stopped.
- **Reset APR on Cancel**
  - **True** (default): If a sequence is cancelled, the APR resets to the stand's current position.
  - **False**: If a sequence is cancelled, the APR is not changed, and the user can press **Move** to move the stand.

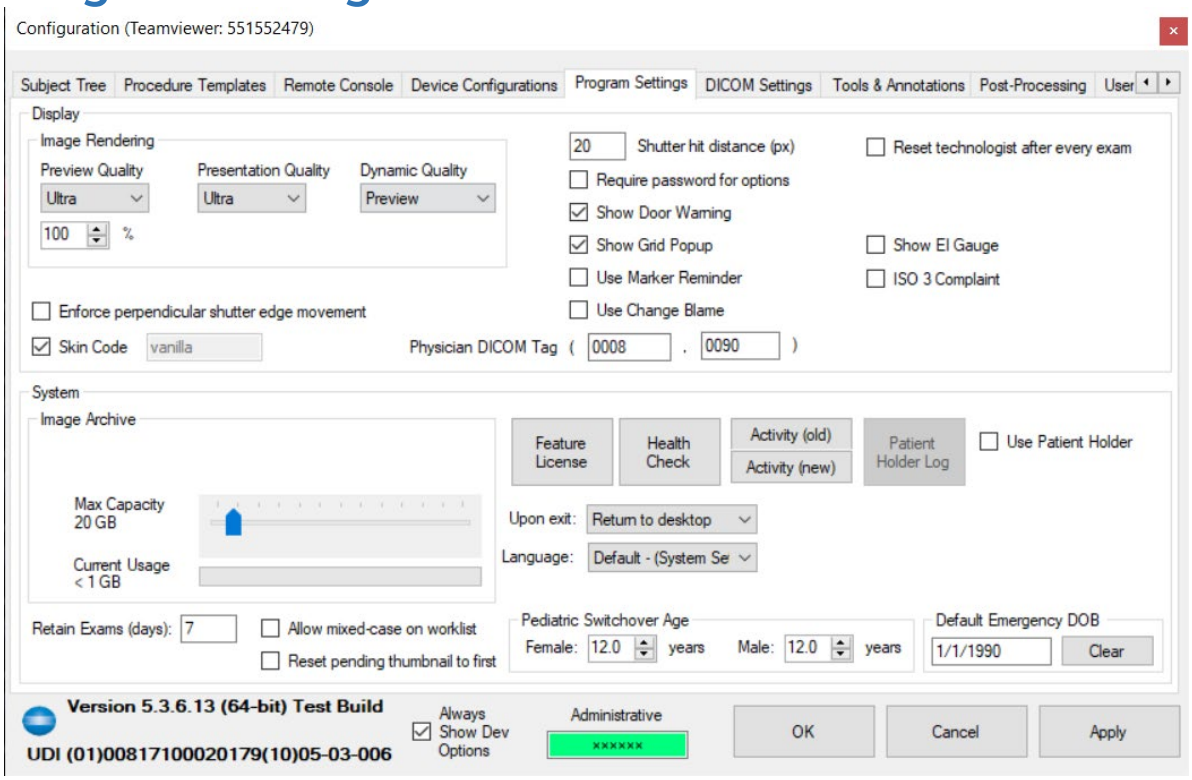
Sequence Notifications

Action	Notification
Sequence is cancelled	"The Sequence has been cancelled."
Sequence is completed	"The Sequence has been finished successfully."
Sequence is in progress	"The Sequence is currently active. Keep Move button pressed until the final step is reached."
If Start Automatically is set to False	"The sequence is available, press Auto Stitching button to start the sequence."
Pressure sensor is triggered	Warning pop-up

Device Configuration Appendices

- **AeroDR Panel** – See Appendix A – AeroDR
- **Supporting Devices** – See Appendix B– Supporting Devices

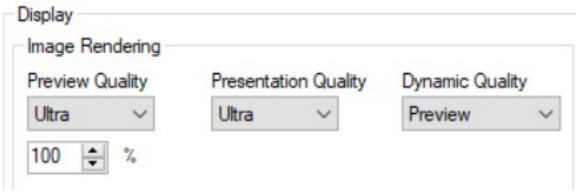
Program Settings



Display Options

Image Rendering

Traditional

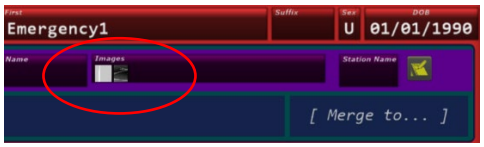


- **Tool Quality** – Provides the option to choose the preview image quality while Pan, Zoom, and Window level are applied.
  - Adjust the slide bar to change image quality. Default is 45%
  - Higher percentages use more system resources and may slow down process time.

- **Enforce perpendicular shutter edge movement** – Instead of moving the shutter at different angles, this setting forces it to move as a box, using 90-degree angles.
- **Skin Code** – Display a custom skin or logo. Check this box and type one of the following codes to enable.
  - **Vanilla** = KMMI default
  - **Cashew** = 2020 Imaging
  - **Farad** = SourceRay
  - **Spanner** = DICOM Solution
  - **Etch** = Gateway
  - **Photon** = Pinnacle
- **Shutter hit distance (px)** – Manages the distance between the cursor and the shutter box before the shutter line is activated.
- **Reset technologist after every exam** – When the exam is completed, the selected technologist is deselected. You must select a new technician each time when starting a new exam.
- **Require password for options** – Prohibits unauthorized access to make changes to the application. To unlock the options section, enter the password **Adc4me** in the popup Authorization Required window.
- **Show Door Warning** – When integrated with a generator, this feature warns you when the X-ray room door is open.
- **Show Grid Popup** – When an exam is opened for the first time, a pop-up opens providing the option to apply a grid.
- **Use Marker Reminder** – Displays a reminder to ensure that lead markers are in place. This reminder is displayed when you access the Acquisition screen.
- **Use Change Blame** – Requires the user to document their name when making changes to the service package. The date and time are also documented.
- **Physician DICOM Tag** – Specifies the DICOM tag that is used to record the physician's name.

System Options

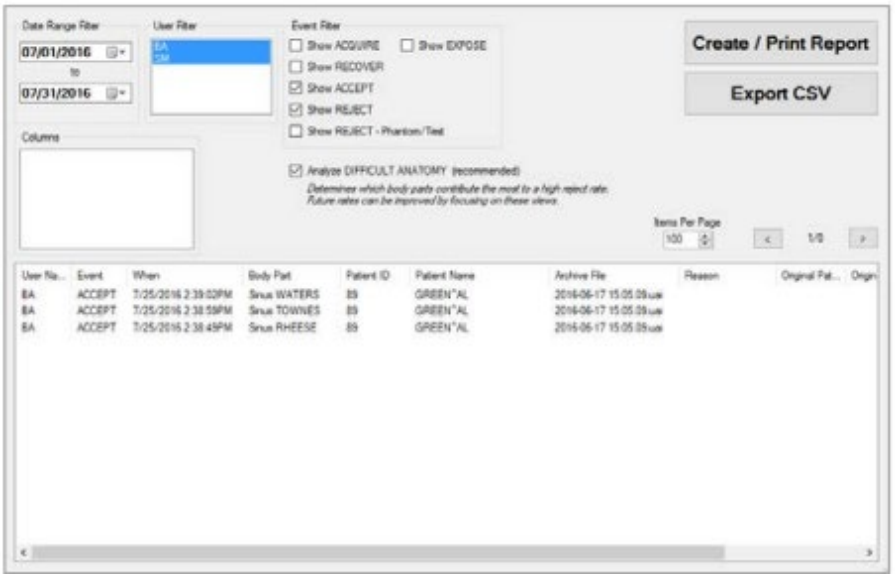
- **Image Archive** – Specifies the amount of memory space allocated to raw image archiving on the hard drive. Each raw image averages 19 MB.
    - Minimum Storage – 1 GB
    - Maximum Storage – 100 GB
- **Retain Exams (days)** – Specifies the number of days to keep an exam in the Completed or history tabs.
- **Allow mixed-case on Worklist** – Allows the user to enter patient information using mixed-case. If this option is not enabled, patient data entered defaults to all capital letters. Any exams that were previously entered with mixed case are not changed when this option is disabled.
- **Reset pending thumbnail to first** – While images are sent to PACS, the progress is displayed next to the SEND Destination icon. When this option is enabled, the image being sent is displayed on the left. Otherwise, the images remain in the same order and do not move as progress is updated.



Upon Exit – Provides a list of available actions upon exit. Drop-down box options are: Return to desktop, Log off user, and Shutdown.

- **Language** – Default = Uses your system settings. Available options - English, Portuguese, Spanish, Chinese, Russian, Turkish, and French.
- **Pediatric Switchover Age** – Specifies the age when males and females switch from children to adults.
- **Feature License** – Applies a license for specific features such as Image Gently.
- **Health Check** – Performs a validation of the service package to ensure that there are no missing views or files.
- **Activity Log** – Generates an Activity Log (Accept/Reject Analysis Reports) that measures rejection and repeat rates. You can use Reject Analysis as a quality indicator to develop training programs to assist in reduced patient exposure.

In the **Program Settings** tab, click the **Activity Log** to open the Activity screen. You can customize the Activity screen by date range, user, and event.



- **Items Per Page:** Allows 1–250 display items per page.
- **Create/Print Report**: Generates a print preview of the Accept/Reject Analysis Report and opens the printer dialogue box.
- **Export CSV**: Saves an Accept/Reject Analysis report to an MS Excel file.
- **Use Patient Holder**: Displays the Patient Holder option in the Technologist selection pop-up screen. A patient holder in an X-ray environment is someone, usually a designated family member or guardian who assists patients that cannot maintain the physical or mental demands of being stationary during an exposure.

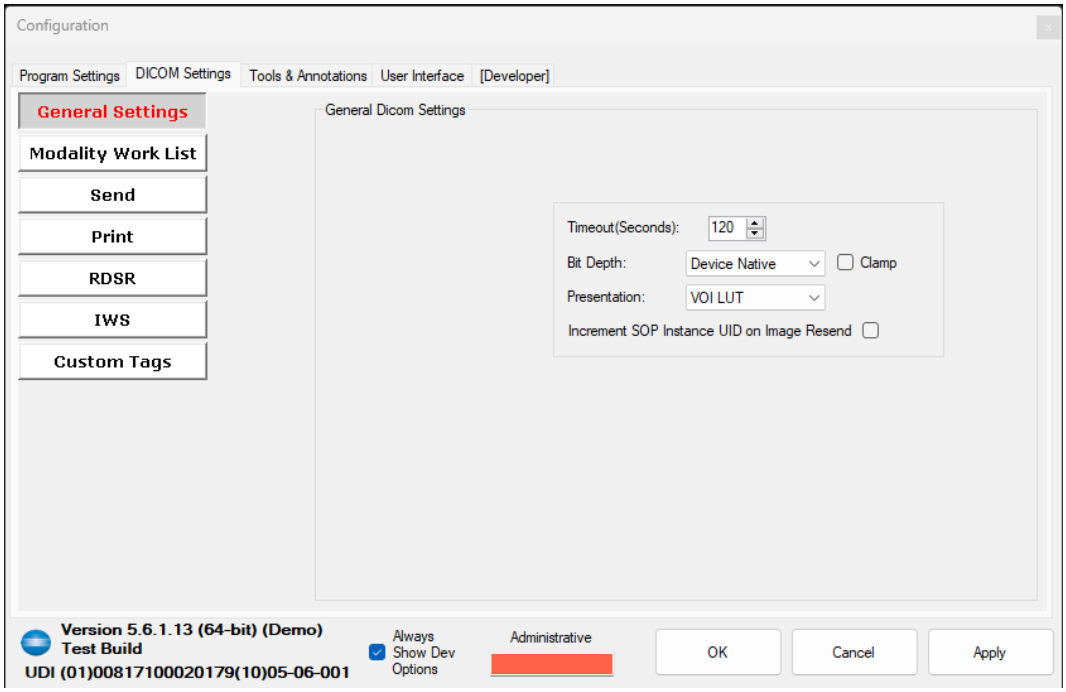
  1. From the Worklist after your patient is selected, click the **Technologist** button
  2. Click **Patient Holder**, and type in the name of the patient holder. The patient holder is now displayed as a technologist selection.
  3. To select both, click the **multiple technologist** button to allow for more than one selection at a time.
  4. After selecting a technologist, proceed to the Acquisition screen with your usual process.

- **Patient Holder Log**: Displays patient holders for a given date range.

  After selecting patient holder log, selecting a date range to display all the exposed patient holders in that time frame. You can also export all data into an Excel spreadsheet or .CSV file.

DICOM Settings

General DICOM Settings

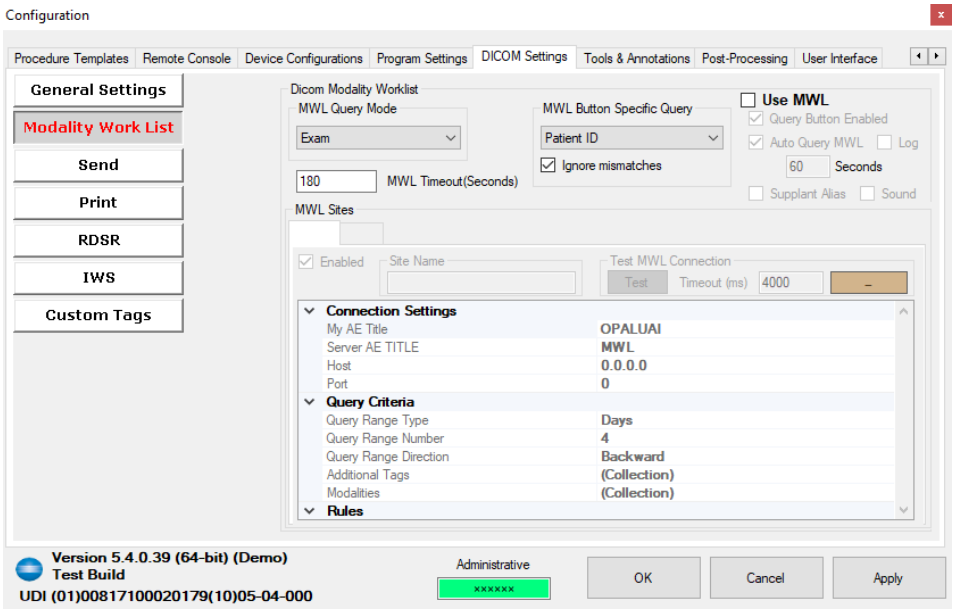


- **Timeout (seconds):** Setting for timeout when sending images.
- **Bit Depth:** Used by PACS to handle different bit depths. Bit depth options are 10, 12, 14, and 16 bits.
- **Presentation:** (Applicable to the Aero panel only). Specifies which logarithm to use for Gamma Shifting.
  - **VOI LUT:** Provides the best picture but is not supported by all PACS.
  - **Burn In:** Accepted by all PACS but does not have a very dynamic dialog.
- **Increment SOP Instance UID on Image Resend**: Check this box to increment the SOP Instance UID DICOM tag when resending images to PACS.

Modality Worklist

Configuring Modality Worklists

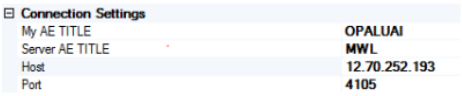
1. Click the **Options** button, then the **DICOM Settings** tab.
2. Click the **Modality Worklist** button.
3. Check the **Use MWL** box to use a Modality Worklist.



4. Configure the following general settings. The settings listed in the following steps apply to all configured worklists and individual site worklists.
   - **MWL Query Mode**: Select Exam to query by exam or Patient to query by patient.
     - **Patient Mode**: Queries the MWL for patient specific information.
     - **Exam Mode**: Queries the MWL for type of exam to be performed. (For example, Chest, Abdomen, Spine.)
   - **MWL Timeout (seconds)**: Specifies how long to continue querying when there is no response.
   - **MWL Button Specific Query**: Specifies the criteria to query when you click the **Query** button. You must check the **Query Button Enabled** box to enable this functionality.
   - **Ignore Mismatches**: When checked, the search function ignores any patient information that does not exactly match the search criteria.

- **Use MWL**: Select to enable Modality Worklists.
  - **Query Button Enabled**: Displays the **Query** button on the Modality Worklist. The **Query** button is used to refresh the worklist. After enabling or disabling this option, you must restart the application to apply changes.
  - **Auto Query MWL**: Automatically refreshes the worklist when you launch or exit the Acquisition screen.
  - **Supplant Alias**: Replaces the alias template name with the KMMI template name when images are sent to PACS.

5. Configure specific MWL Site settings:
   - **Site Connection Settings**



     - **My AE Title**: The name of your system.
     - **Server AE Title**: The name of the server that hosts your Modality Worklist.
     - **Host**: The IP of the server you are querying.
     - **Port**: The port the server is listening on.
   - **MWL Site Query Criteria**

     - **Query Range Type**: Choose hours, days, weeks, months, and years from the drop-down menu.
     - **Query Range Number**: Specifies the number of days, weeks, months, or years to query. In the previous image, the query is looking for a range of 4 days.
     - **Query Range Direction**: Specifies whether you want to query forward or backward for the number of days, weeks, months, or years selected.
     - **Additional Tags**: Specifies which DICOM tags are created and added to a study.
     - **Modalities**: Specifies the type of modality to query.
     - **Use Tech Name for Sch. Perf. Physician's Name**: Includes the Tech name in an MWL query.

- **MWL Site Rules**
  - **Allow Invalid UID:** Select True or False. True will allow Invalid UID; False will not allow Invalid UID.

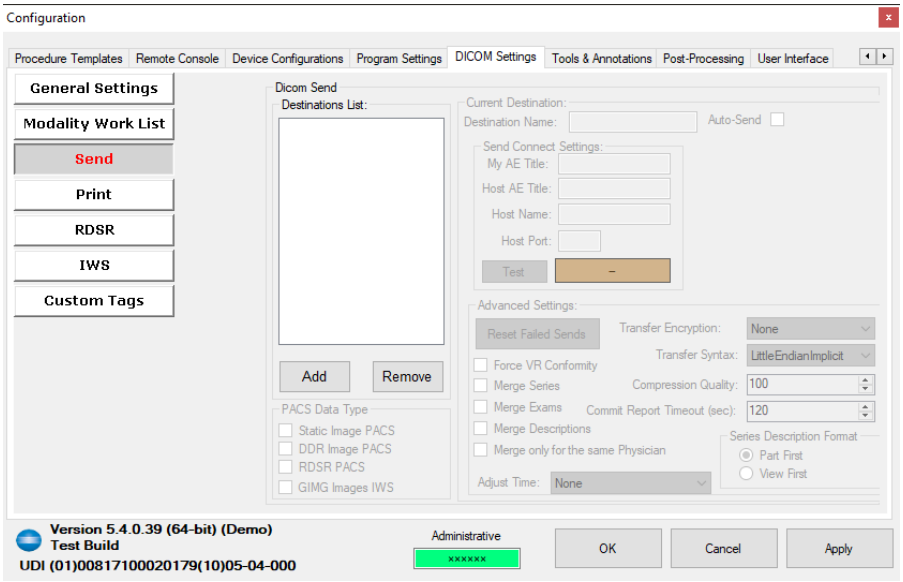
6. Click the **Test** button under Test MWL Connection. If it returns GOOD, the connection settings you entered are valid.

Multiple Modality Worklist (MWL)

You can pull from more than one Modality Worklist. When studies are pulled from multiple worklists, they are displayed from top to bottom in the order that they are configured in the MWL settings. All other worklist functionality remains the same.

1. To enable additional worklists, click the blank tab under MWL Sites.
2. Repeat steps 5 and 6 in Configuring Modality Worklists.

DICOM Send

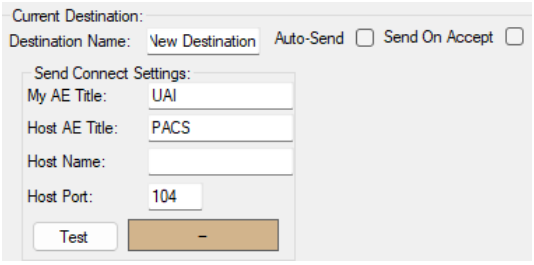


The Destinations list displays all available send destinations. Click **Add** to add a new destination. Click **Remove** to remove a destination.

Adding a Destination

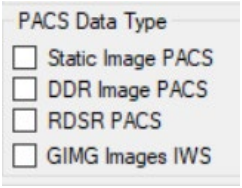
1. On the **DICOM Settings> Send** screen, click **Add** and enter the required information for the PACS destination server.

- **Destination Name:** The name that is listed when sending.
- **Auto-Send**: Check this box to automatically send accepted images to the destination after exiting the exam.
- **Send On Accept:** Check this box to enable a feature that allows you to send individual images upon acceptance without the need to exit the exam. (Refer to (Send on Accept on page 79.)
- **My AE Title:** The name of the acquire machine.
- **Host AE Title:** The name of the receiving server.
- **Host Name:** The receiving IP Address.
- **Host Port:** The receiving Port.
- **TEST Button:** Tests that the configured destination can be reached.



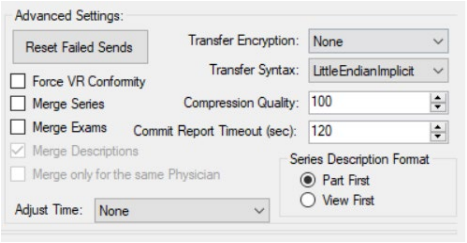
2. In the **PACS Data Type** area, check the boxes of the data types to send to the PACS destination:

   Note: Enable only **GIMG Images IWS** if the destination server is an IWS server.



3. Click **OK** on the Options screen to save the configuration changes.

Advanced Settings



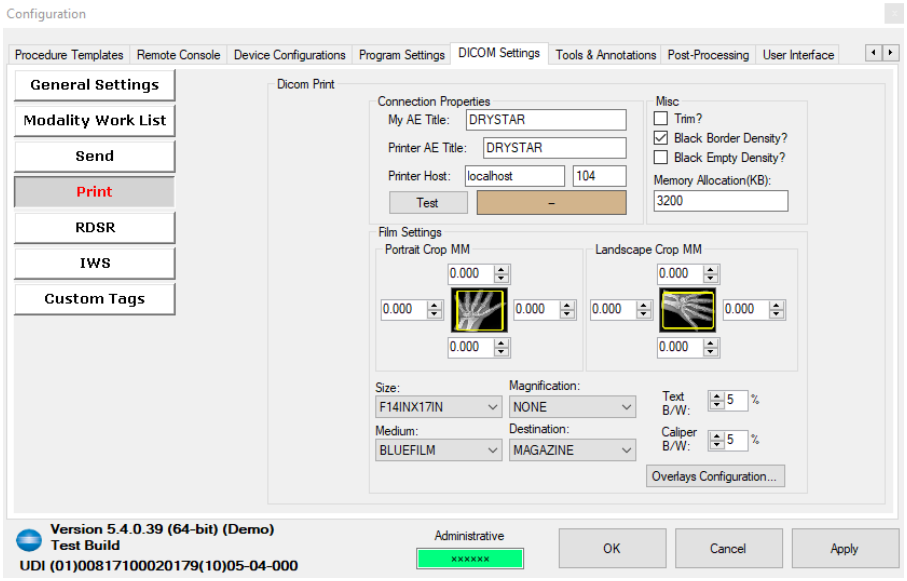
- **Reset Failed Sends** – Automatically resends any exams that failed to send to PACS.
- **Transfer Encryption** –Select None for DICOM Send or select OPAL Send.

- **Transfer Syntax**–
  - LittleEndianImplicit
  - LittleEndianExplicit
  - Jpeglossless
  - Jpeg2000lossless
  - Jpegextended
  - Jpeg2000Lossy
- **Compression Quality** – Compresses the image file to a smaller size for faster transfer to PACS. Range is 0 - 100.

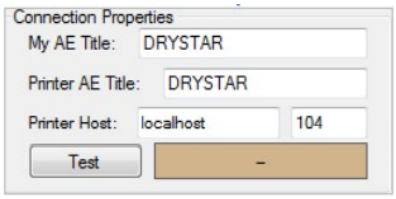
  Default value: **100 (no compression)**
- **Commit Report Timeout Seconds** – Specifies how long to wait before Ultra stops attempting to send the study to PAC and the send failure is logged. Range is 120-900 seconds (2-15 minutes).

  Default value: **120 seconds**
- **Merge Series** – Merges the series and view multiple images at once, instead of individually viewing images in a series.
- **Merge Exams** – Sends multiple exams for one patient using the same study UID instead of sending each exam individually.
- **Series Description Format** – Specifies the format for the DICOM Tag **Series Description**
  - **Part First**: Displays the series description as Body part and then View (CHEST PA)
  - **View First**: Displays the series description as View and then Body Part (PA Chest)

DICOM Print

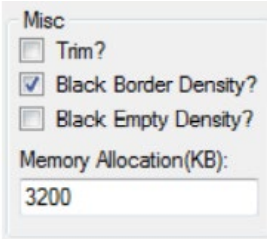


Connection Properties



- **My AE Title** – Name of the system.
- **Printer AE Title** – Name of the printer.
- **Printer Host** – IP and Port of the printer
- **Test Button** – Verifies that the IP and Port are good.

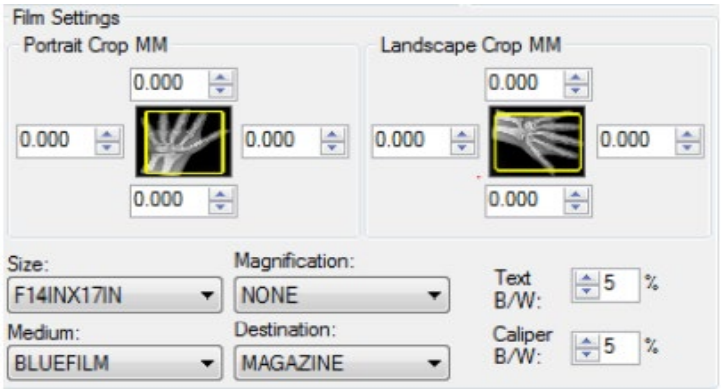
Misc



- **Trim?** – Print to the edge.

- **Black Border Density?** – Add a black border around the image.
- **Black Empty Density?** – Clear black border.
- **Memory Allocation (KB)** – Most printers are going to be 3200. Some can handle 6400.

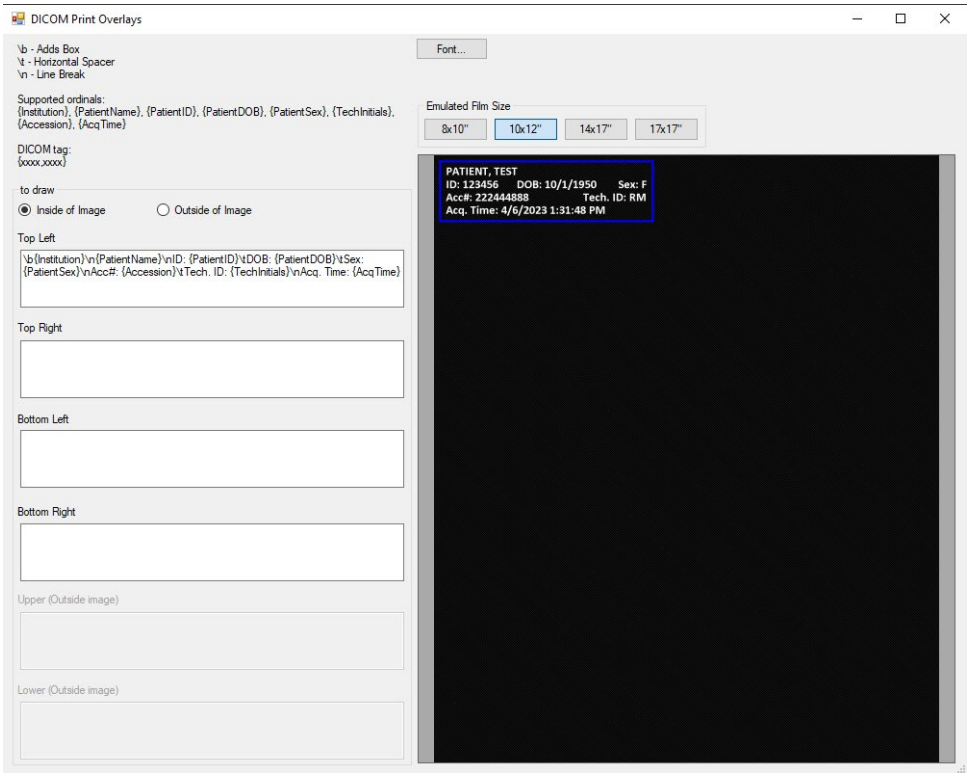
Film Settings



- **Portrait Crop MM** – Crops the image by the specified millimeters for portrait layout.
- **Landscape Crop MM** – Crops the image by the specified millimeters for landscape layout.
- **Size** – Provides a drop-down menu of multiple options.
- **Magnification** – Provides a drop-down menu of multiple options.
- **Medium** – Provides a drop-down menu of multiple options.
- **Destination** – Either **Magazine** or **Processor**. Selection depends on the type of DICOM Printer that is configured.

Overlays Configuration

This setting determines where the Image Information Stamp is located on an image and what information is contained in the stamp. A coding key is contained on the interface.

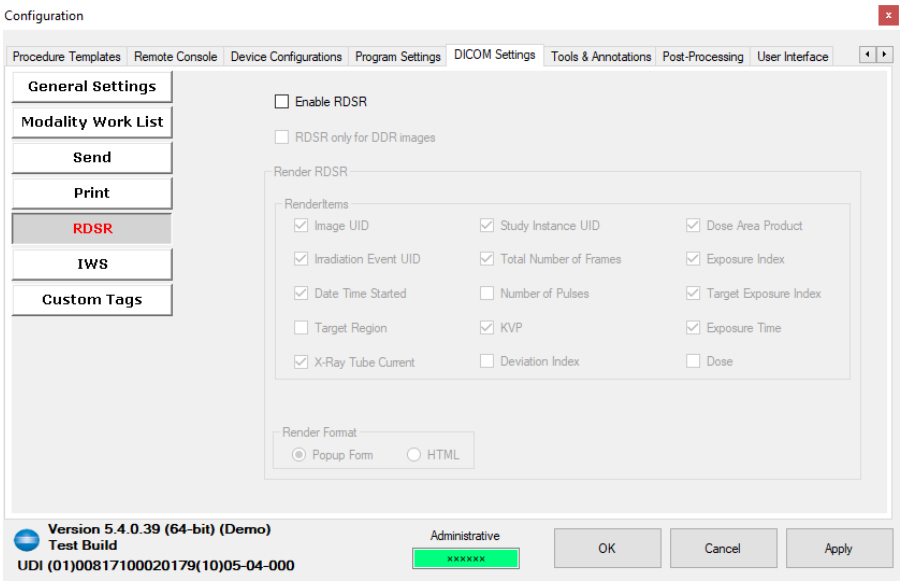


- **Emulated Film Size** – Choose between 8 x 10”, 10 x 12”, 14 x 17”, 17 x 17”.
- **To draw** – Choose between Inside of Image or Outside of Image.
  - **Inside of Image** has the following options:
    - **Top Left** (default)
    - **Top Right**
    - **Bottom Left**
    - **Bottom Right**
  - **Outside of Image** has the following options:
    - **Upper** (Outside Image)
    - **Lower** (Outside image)

RDSR

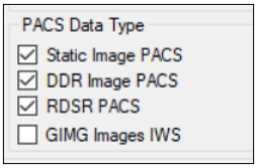
RDSR stands for **Radiation Dose Structured Reporting** and is used to send additional data regarding the dose used to acquire an X-ray image. The RDSR dataset is sent to a PACS destination (**Options> DICOM Settings> Send**) configured for RDSR.

In addition, a popup or HTML file with information pertaining to specific dose information can be generated on a per-image basis. When an image is selected in the Acquisition screen and the user renders RDSR for that image, a file is displayed with Irradiation Event data.



- **Enable RDSR** – When enabled, PACS destinations configured at **Options> DICOM Settings> Send** will have the option to also receive RDSR datasets for all accepted images. The user will also be able to render RDSR popups/HTML files on a per-image basis, if desired.
    - **RDSR only for DDR images**: (available only when **Enable RDSR** is selected) When enabled, sending a single accepted DDR image series sends two DICOM files to PACS: a Digital X-ray Storage for Presentation file and an X-ray Radiation Dose Structured Reporting (RDSR) file. If one static image is sent, only the Digital X-ray Storage for Presentation file for that image is sent to PACS.

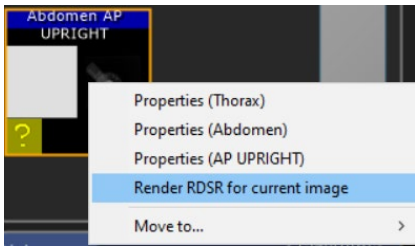
      Note: When selected and sending exams to a send destination configured at **Options> DICOM Settings> Send** that is configured having selected **Static Image PACS**, **DDR Image PACS** and **RDSR PACS**, only the dynamic images have an associated RDSR dataset sent to the PACS.

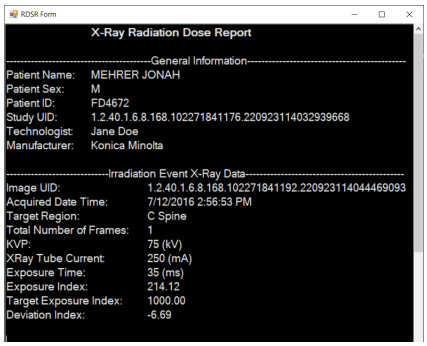
- **Render RDSR Items** – When **Enable RDSR** is enabled, the user can specify what irradiation event data is displayed in the rendered popup/HTML file:
    - **Image UID**: The Image UID for the current image.
    - **Study Instance UID**: The Study Instance UID for the current image.

- **Dose Area Product:** The calculated Dose Area Product (in Gy*m^2).
- **Irradiation Event UID**: The unique UID associated with the current image's irradiation event.
- **Total Number of Frames**: The number of frames for the current image. DDR series will have a number greater than one.
- **Exposure Index**: The calculated exposure index.
- **Date Time Started**: The date and time of the irradiation event associated with the current image.
- **Number of Pulses**: The total number of pulses used for the irradiation event.
- **Target Exposure Index**: The target exposure index for the body part and panel used when acquiring the current image.
- **Target Region**: The target body part imaged.
- **KVP**: The peak voltage (in kV) used for the irradiation event.
- **Exposure Time**: The total exposure time (in ms) for the irradiation event.
- **X-Ray Tube Current**: The current (in mA) used for the irradiation event.
- **Deviation Index**: The calculated deviation index of the acquired image based on the target and actual exposure index.
- **Dose**: The total dose used (in Gy) for the irradiation event.

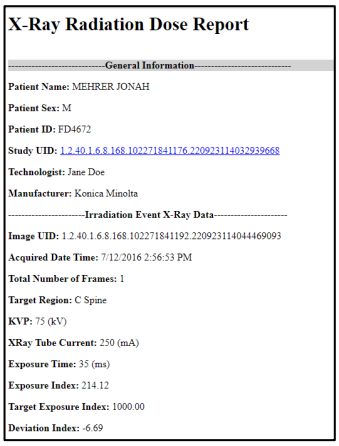
- **Render Format** – When the user right-clicks an image in the Acquisition screen and selects **Render RDSR for Current Image**:



- **Popup Form**: A popup is automatically displayed with the configured Render Items. This popup will not be saved.



- **HTML**: An HTML file (saved at `C:\Opal\examinfo\<studyUID>\`**`RDSR.html`**) automatically opens using the PC's default web browser



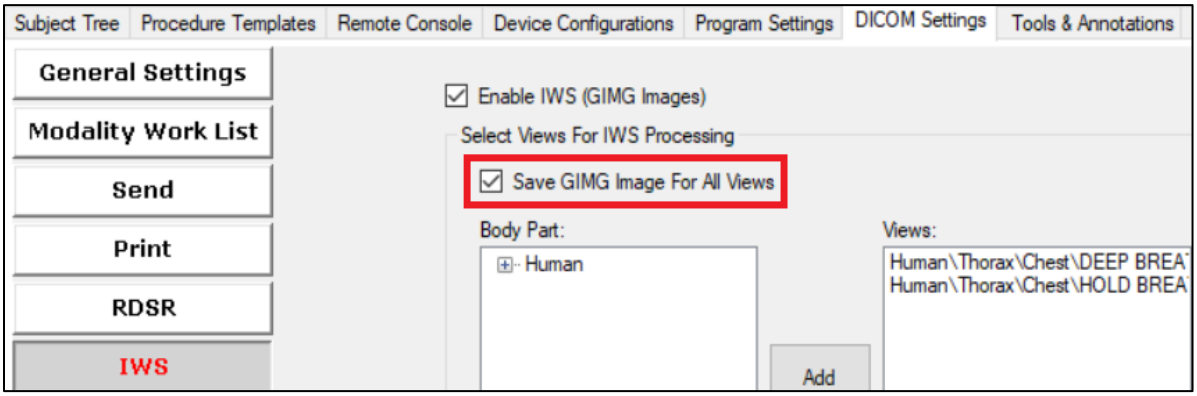
IWS

The Intelligent Workstation (IWS) software is a destination server that enables Ultra to process, save, and send GIMG images. More formally known as DI-X1, an IWS server analyzes and processes static images for bone suppression and DDR images for respiratory and cardiac analysis.

Images acquired in Ultra from configured views will be sent to the IWS server for analysis. There are two types of image data Ultra can obtain:

- **GIMG** – Image data with basic corrections and grid removal
- **CIMG** – Image data with basic corrections, grid removal, noise reduction, and logarithmic conversion

Traditional PACS destinations accept the CIMG image data, but IWS servers accept GIMG data to allow for its own processing. Images acquired in Ultra that meet the criteria for sending to IWS will have GIMG image data temporarily stored and sent to IWS.



Note: IWS also accepts static images for bone suppression as well as DDR images.

1. To enable IWS, check the **Enable IWS (GIMG Images)** box.
2. Navigate through the **Body Part** list in the **Select Views for IWS Processing** area and select the view of interest.
3. To save GIMG image files for all DDR images acquired, regardless of their view, check **Save GIMG Image for All Views**.

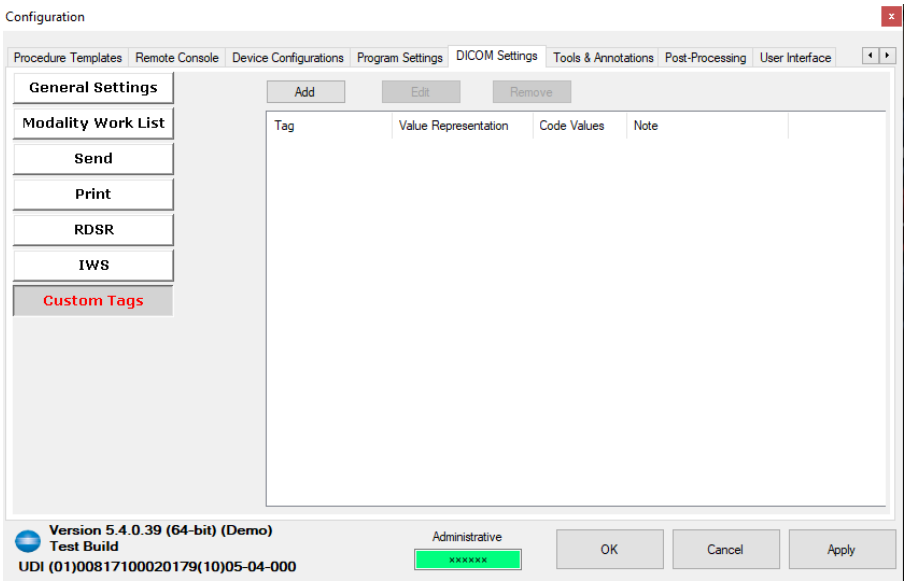
   Note: This prevents the need to re-expose the patient if the wrong view was initially selected. The technologist simply needs to remap the view for the acquired DDR image and send it to IWS.

   Note: GIMG images will not be saved for static images.
4. Click **Add** to confirm the selection of the view. The view is added to the **Views** pane on the right.
5. Click **OK** on the Options window to save the configuration changes.

GIGM DICOM Burn Functionality

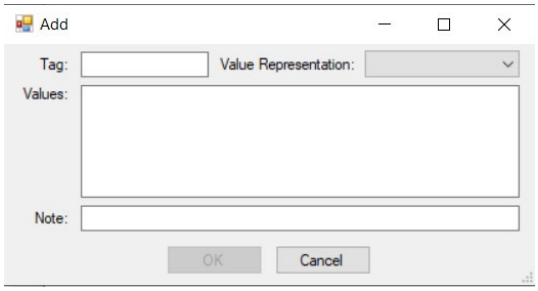
To burn both the original 12-bit image and the GIMG (IWS) image to a USB for a Completed study, check the box GIMG (IWS) in the **More> USB** pop-up window.

Custom Tags

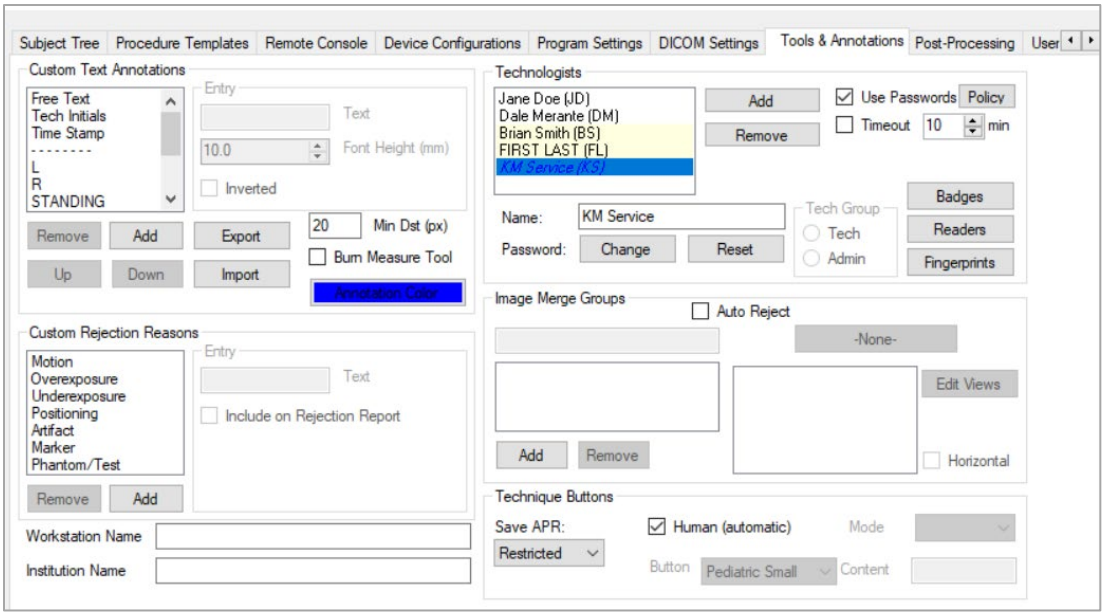


Click the **Add** button to add custom tags.

The following window opens.



Tools and Annotations



- **Custom Text Annotations** – Allows you to add or remove different custom text annotations for future use. The font size can be individually adjusted for each entry. Check the **Inverted** box to invert the color of the text annotations to transparent letters/blue background. When unchecked (by default), text appears as blue letters/transparent background when annotated onto an image.

  Additionally, you can customize any of the following default text annotations:

  - **Free Text**
  - **Tech Initials**
  - **Time Stamp**

- **Burn Measure Tool** – Designates that all measurement annotations will be burnt into the image and retained when the image is sent to PACS.

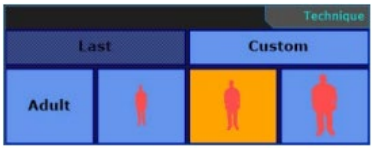
- **Custom Rejection Reasons** – In addition to the predefined rejection reasons, you can create a custom rejection reason when you reject an image in an exam. You can also select which rejection reasons to include in a Rejection Report.

  - **Create a Custom Rejection Reason**

    1. Click **Add**.
    2. Enter text when the default text, New Customer Reason, populates the **Entry** field.

- **Delete a Custom Rejection Reason**
  1. Select a Rejection Reason.
  2. Click **Remove**.
- **Exclude a Rejection Reason from a Rejection Report**
  1. Select a Rejection Reason.
  2. Uncheck the **Include on Rejection Report** box.

- **Institution Name** – This information is used in the DICOM tags.
- **Workstation Name** –This information is used when configuring the emergency patient name template.
- **Technologists** – List of registered technologists. Temporary technologists are temporary users that are registered and available for the duration of the session. The temporary user remains available until you exit Ultra.
  - **Badges** – Configures RFID badges that are associated with technologist users in Ultra. When the user scans their configured badge, they will be logged into Ultra.
  - **Readers** – Configures RFID readers that can be used to scan technologist badges.
  - **Fingerprints** – Configures user fingerprints that are associated with technologist users in Ultra.
- **Image Merge Groups** – Combines 1–4 images into one image within a study. (Refer to the following section, Image Merge Groups for more information.)
- **Technique Buttons** – Modifies the presentation of the habitus buttons. Uncheck Human (automatic) for veterinary use.

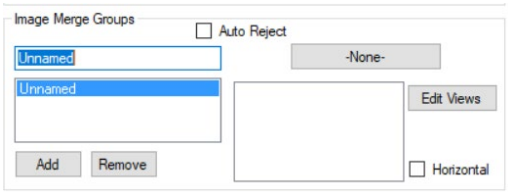


  - **Human (automatic)**: Buttons include a graphical body representation.
  - **Mode**: Icon or text buttons.
  - **Button/Content**: Text to display on each habitus icon.

Image Merge Groups

Image Merge Groups are defined groups designed to automatically combine 1–4 images into one image in a study.

Note: Image Merge and Stitching are different features. Image Merge places multiple images side-by-side either vertically or horizontally. Stitching joins multiple images together to form one unified image.

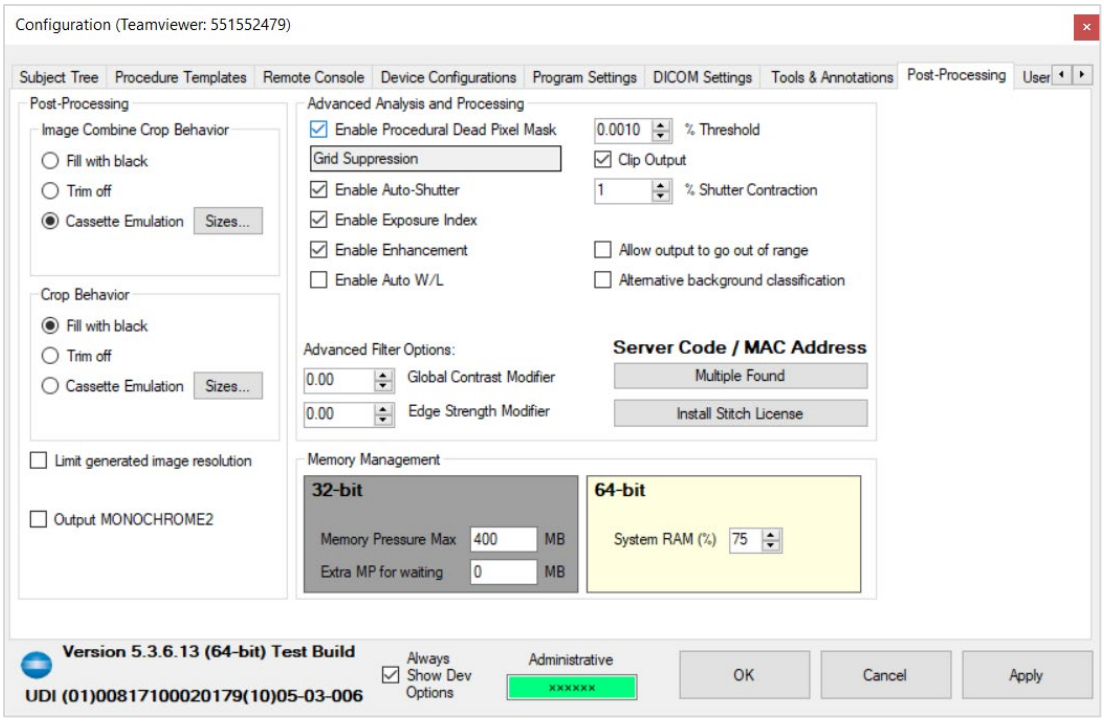


Note: Image merging is automatically aborted whenever the view is changed or when the current stitching has no images acquired.

Creating Image Merge Groups

1. To create an Image Merge group, click the **Tools and Annotations** tab in the Configuration window.
2. In the Image Merge Groups section, click the Unnamed group from the list, and type a new name for the group.
3. Click **Add**.
4. (Optional) Check the **Auto Reject** box to reject all original individual views used to create the grouped image and accept only the new merged view.
5. (Optional) Check the **Horizontal** box if you want images to be aligned horizontally (landscape) instead of vertically.
6. When all merge groups have been created, click **Apply** and then **OK**.

Post-Processing



Crop Behavior

Note: Settings described in this section apply to both Image Combine Crop Behavior and Crop Behavior.

Crop behavior specifies whether to preserve the entire image dimensions but black-out area outside the shutter (**Fill with Black**) or crop the image to fit the shutter (**Trim Off**).

This is based on doctor preference: If **Fill with Black** is used on a tightly cropped finger, the physician may wonder why there is a mostly black screen with a miniature finger in the middle. Alternatively, if **Trim Off** is used on a tightly cropped finger, the PACS viewer magnifies the finger to fill the whole screen; however, many doctors do not prefer this method.

- **Cassette Emulation** – *Feature not available.*
- **Limit generated image resolution** – Limits image resolution to the bitrate of the image.

Output MONOCHROME2

Most acquisition devices acquire natively in MONOCHROME1 format (low pixel = low dose, high pixel = high dose). If drawn directly on the screen, the X-ray appears inverted. Most PACS viewers, including Opal, automatically compensate for this by implicitly inverting MONOCHROME1 images. However, some PACS viewers always display the data as provided with no option to implicitly invert. For these systems, the UAI can pre-invert the actual data and export a MONOCHROME2 image.

- **Memory Pressure Max** – Future Product Feature
- **Extra MP for Waiting** – Allows extra time to free up memory. The default is 0. Any number can be used, and it applies it to increase the MB size of memory pressure.

Advanced Analysis and Processing

- **Enable Procedural Dead Pixel Mask – Threshold** – This percentage is multiplied by the number of pixels in the image to determine the upper-limit threshold to a despeckling algorithm used to mask Dead or Unstable pixels, which otherwise may interfere with subsequent post-processing and histogram analysis. For example, with a threshold of 0.001% on a 9-megapixel image, 9000 highest-value pixels will be included in the dead pixel analysis. Usually, this value can be left at the default (thousandths of a percent), but generally should never exceed 0.01%.

  Note: It is good practice to enable this functionality for Samsung panels. This function is not applicable for iRay and Thales panels.

- **Grid Suppression** – Displays the grid suppression file assigned at the root level of the subject tree.
  - **Grid Suppression**: **Clip Output**

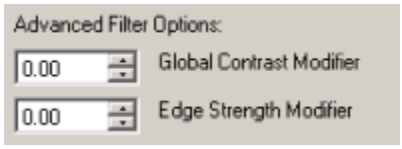
    This ensures that the output from Grid Suppression algorithm's interpolation does not push pixel values beyond the original bit-depth of the panel. This can occasionally occur on high-dose images. Some PACS viewers display these overflowed values as white specks in the background. Checking this box ensures that black background pixels remain black.

- **Enable Auto-Shutter** – Crops all white area outside the collimated area of exposure. If needed, adjust it at each corner, or any of the borders can be grabbed/moved by pressing and holding down the left mouse button.
  - **Shutter Contraction**: After the auto-shutter is detected, the size of the shutter is reduced by the specified percentage. If 0%, the shutter size is not adjusted. This can be used to shrink the shutter so that the gradient edge of collimation is not visible. To enable it, a value of 3% or 4% is typical.

- **Exposure Index** – This shows the exposure index gauge and an indicator where the exposure falls within that gauge.

  Note: It is good practice to enable this functionality for Samsung and iRay panels. Not applicable for Thales panels.

- **Enable Enhancement** – This enables the post-processing enhancement of an image.
- **Auto W/L** – This enables an automatic window leveling of the image to give the best contrast. If you want the image to be lighter or darker, adjust it manually after the image completes its processing.
- **Server Code/MAC Address** – This section is used by the KMMI service team to perform licensing.
- **Advanced Filter Options** – The following options are additional modifiers that are applied to the enhancement stage of **all** images.

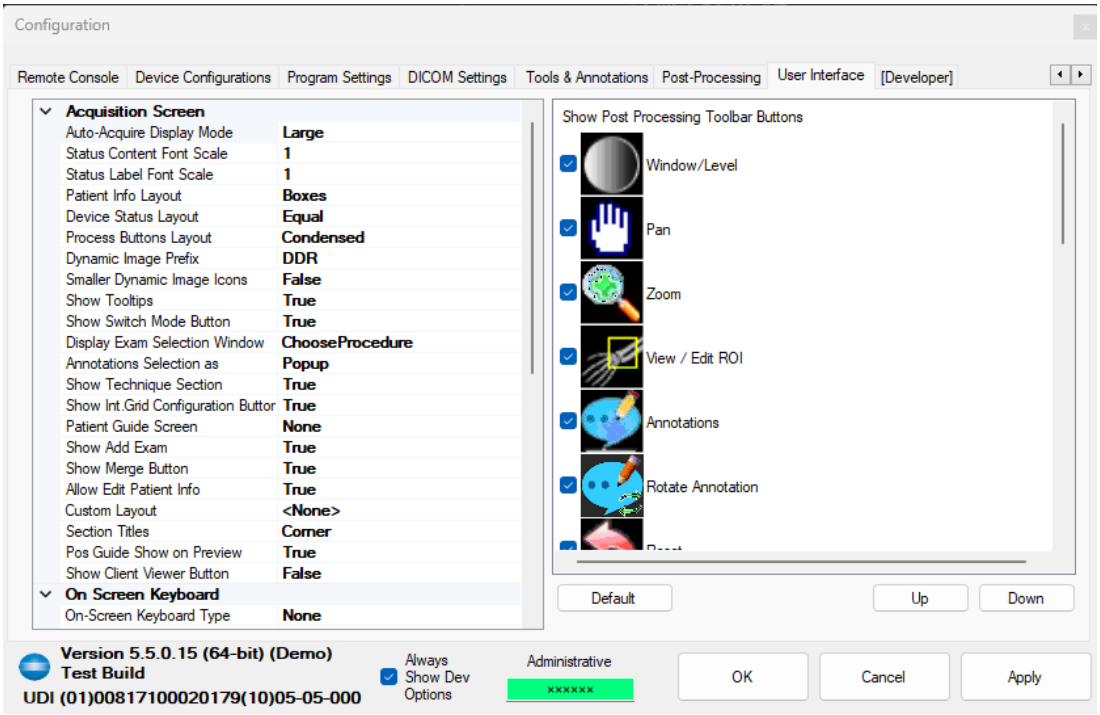


  - **Global Contrast Modifier** and **Global Edge Strength Modifier**

    A value of 0.00 for both applies no additional adjustment to what is defined in the enhancement parameter file attached to each body part.

    Unless **all** images need contrast or sharpening adjustment, it is generally preferred to use a practice specific filter set (e.g., Radiologist filter package, Chiro filter package), and make contrast/edge adjustments to only the individual body parts that require it.

User Interface



Acquisition Screen

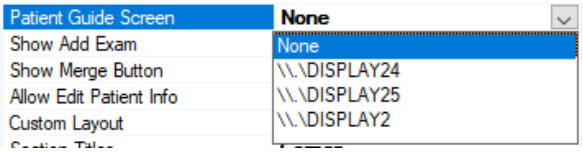
- **Status Content Font Scale** – Changes the font size for the device statuses (panel, generator, positioner) and the current patient's information (name, Patient ID, DOB). The default value is **1** but it can be changed to any positive value up to one decimal place (i.e., **1.4** or **0.8**).
- **Status Label Font Scale** – Changes the font size for the headers of the device statuses and patient information. The default value is **1** but it can be changed to any positive value up to one decimal place (i.e., **1.4** or **0.8**).
- **Patient Info Layout** – Changes the layout style of the patient information (name, Patient ID, DOB) in the Acquisition screen. The options are as follows:
  - **Boxes** (default): All patient information is side-by-side, each confined to its own box.
  - **Lines**: All patient information is in one box with the text justified on the left.
  - **LinesCenter**: All patient information is in one box with the text centered.
  - **LinesCenterWithSex:** Patient sex is listed in the lower-left corner of the box.

- **Device Status Layout** – Changes the layout style for the device status boxes and the patient information. The options are as follows:
  - **Equal** (default): All device status boxes and patient information are separated by equal amounts.
  - **Condensed**: All device status boxes and patient information are condensed to cover the entire screen width leaving minimal space between boxes.
- **Process Buttons Layout** – Changes the layout style for post processing buttons. The options are as follows:
  - **Fixed** (default): The space between the **Reprocess** button and post processing toolbar buttons is farther apart.
  - **Condensed:** The space between the **Reprocess** button and post processing toolbar buttons is closer together.
- **Dynamic Image Prefix** – Configures the desired prefix for dynamic imaging. The default value is **DDR**, which stands for Dynamic Digital Radiography.
- **Show Tooltips** –Configures the use of tooltips for the icons in the Acquisition screen. The default value is **True**, which displays the tooltips if the user hovers the mouse over a button. Changing the value to **False** will not display tooltips.
- **Annotation Selection As** – Configures the layout style of the annotations window, which can be invoked by pressing the **Annotations** button. The options are as follows:
  - **Popup** (default): The annotations window is displayed in the center of the screen and will contain two columns of annotations. The window will automatically close after the user selects an annotation or after they click the **Close** button
  - **Toolbar**: The annotations window is displayed on the left side of the Acquisition screen and will contain one column of annotations. The window can be closed only by clicking the **Annotations** button again.
  - **Toolbar Stay Open**: If the user exits the Acquisition screen while the Annotations toolbar is open, the toolbar will be open when launching the next exam.
- **Show Technique Section** – Configures the display of the Technique buttons, which allows the user to change the current technique depending on the Adult/Peds size. When set to **True** (default), this will be displayed on the Acquisition screen. Changing this setting to **False** will hide these buttons.

- **Show Int. Grid Configuration Button** – Configures the display of the Intelligent Grid (IG) configuration button on the Acquisition screen when an image is selected that is configured for Intelligent Grid processing. The default value is **True**, which allows the display and use of the button. Changing this setting to **False** hides the button and prevents the user from making changes to the IG processing parameters outside of the configured defaults values.

- **Patient Guide Screen** – The Patient Guide provides written instructions for patients on how to position themselves for various X-ray exams. This guide is particularly useful when the patient does not speak the same language as the technologist or doctor. The Patient Guide is available in English, Spanish, Greek, and Polish.

  This setting configures if, or where, the Patient Guide opens. The options are as follows:



  - **None** (default): The Patient Guide does not open.
  - **\\ \Display<XX>**: The Patient Guide opens on the selected display.

    Note: Typically, the display listed second is the desired monitor for patient display.

- **Smaller Dynamic Image Icons** – During DDR image acquisition, two countdown timers are displayed in the Acquisition screen within the image area:

  - **Preparation Countdown Timer**: Counts down the remaining time the panel needs to prepare for the upcoming exposure.
  - **Exposure Countdown Timer**: Counts down the amount of time remaining during the exposure that the technologist can continue to expose the patient.

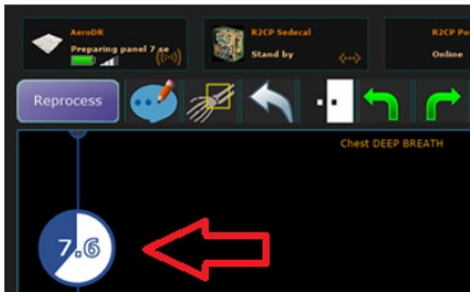
    Note: This setting impacts the size of the DDR countdown timers only when an image is currently displayed.

    Configures the size of the DDR countdown timers and supports the following values:

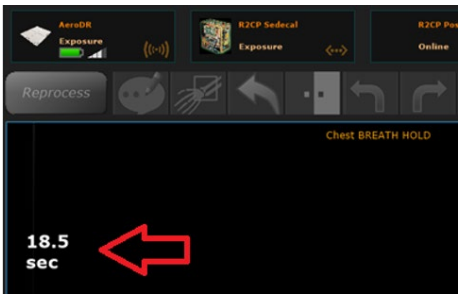
    - **False** (default): When the DDR countdown timers are active in the Acquisition screen, they will take up a large portion of the image area, regardless of whether an image is currently being displayed.
    - **True**: When the DDR countdown timers are active, if an image is currently displayed in the Acquisition screen, the countdown timer will be shrunk and moved to the top left of the image area. If no image is currently displayed, the countdown timer will continue to take up a large portion of the image area.

When the countdown timers are displayed in the top left corner of the image area, they will appear as shown below:

DDR Preparation Countdown Timer



DDR Exposure Countdown Timer



- **Pos Guide Show on Preview** – Displays the Positioning Guide in the image area of the Acquisition screen during an exam.
  - **False** (default): The Positioning Guide image is not displayed on the Acquisitions screen.
  - **True**: The Positioning Guide image is displayed on the Acquisitions screen.

  Note: Positioning Guide image files are named according to page number. If an image for a view does not have a page number, the image area will be blank regardless of the Pos Guide Show on Preview setting.

- **Show Client Viewer Button** 

  To support the integration of Symmetry Sync™, a new toolbar button can be added to the Acquisition screen that will launch the current study in the Client Viewer.
  - **False** (default): The **Client Viewer** button will **not** be present in either the Acquisition screen or in the Worklist.
  - **True**: The Client Viewer button will appear in the Acquisition screen and in the Worklist, next to the **Notes** button. Click this button to view the acquired images.

    If the current exam has no images, the **Client Viewer** button will be grayed out.

- **Display Exam Date Time** – You can elect to display and sort by the exam date and time in the exam header on the Acquisition screen.
  - **None** (default): the date and time is not displayed in the exam header.
  - **Scheduled**: The scheduled procedure step start date and time is displayed for each exam beneath the exam Procedure name and Accession number.

  - **Acq Only**: The image acquisition date and time is displayed for each exam beneath the exam Procedure name and Accession number.
  - **Acq and Scheduled**: The image acquisition date and time and exam date and time are displayed for each exam beneath the exam Procedure name and Accession number.

- **Default Transform Tool** – You can select None as your default transform tool.
  - **WL**: When clicking/dragging the image area of the Acquisition screen while an image is displayed, the image will be window leveled.
  - **None**: When clicking/dragging the image area of the Acquisition screen while an image is displayed, no changes to the image will be made.

- **Icons with Labels** – This setting gives you the option to display text labels on the Post Processing toolbar buttons in the Acquisition Screen. This helps explain the function of each button.
  - **False** (default): Toolbar buttons have images and no text labels.
  - **True**: Toolbar buttons have both images and text labels.

- **Annotations Buttons Fixed Width** - Configures the number of columns in the Annotations window.
  - **False** (default): The Annotations window has two columns.
  - **True**: The Annotations window has one column.

On Screen Keyboard

These settings are predominantly configured on mobile units that do not have a physical keyboard.

- **On-Screen Keyboard Type** – Configures the on-screen keyboard type if one is desired. The options are as follows:
  - **None** (default): An on-screen keyboard is not displayed
  - **TabTip.exe**: The TabTip on-screen keyboard is used
  - **TabTip Click**
  - **Osk.exe**: the Osk.exe on-screen keyboard located at `C:\Windows\System32` is used

- **Automatically Show for Text Fields** – Configures the behavior of the configured on-screen keyboard when a text field is made active by the user.
  - **False** (default): When a text field is selected, the on-screen keyboard is not displayed.

- **True**: Invokes the on-screen keyboard when a new text field is made active.

- **Show Keyboard Button** – Configures the display of the Keyboard button at the top-right of the Worklist.
  - **False (default)**: Does not display the Keyboard button.
  - **True**: Displays the Keyboard button, and when clicked, invokes the configured on-screen keyboard.

- **TabTip Force Kill and Relaunch** – Improves the functionality of the onscreen keyboard by automatically restarting the keyboard when invoked.
  - **False** (default): If the Keyboard Type is set to TabTip.exe, Ultra will not attempt to close and relaunch the TabTip.exe application.
  - **True**: If the Keyboard Type is set to TabTip.exe, and Ultra or the user invokes the onscreen keyboard, Ultra will attempt to close and relaunch the TabTip.exe application.

PRC

- **Display Preview Image on PRC** – Configures the display on a PRC tablet.
  - **True** (default): Displays an image preview on a PRC tablet.
  - **False**: Does not display the image preview on a PRC tablet.

Send on Accept

These options work only in conjunction with the **Send on Accept** checkbox under **Options> DICOM Settings> Send**.

- **Confirm Popup** – Only if the **Send on Accept** box is checked under **DICOM Settings> Send**, this gives you the option to open a confirmation popup opens so you can accept the image immediately. (Refer to Adding a Destination on page 57.)
  - **False** (default): The confirmation popup does **not** open upon acquire.
  - **True**: The confirmation popup opens upon acquire.

- **Change Mind Timeout** – Only if the **Send on Accept** box is checked under **DICOM Settings> Send**, and the Confirm Popup setting is **True**, type the number of seconds from 0 – 9 to allow a user to recall an image that was previously accepted in the confirmation popup.

Web Application

- **Display Label** – Configures the label of an additional button at the top right of the Worklist. Any value (both numbers and letters) can be entered.
- **Link/Address** – If a Display Label is configured, use this field to type the URL or local directory that the button will launch when clicked.
- **Display Label 2** - Configures the use of an additional button displayed on the Worklist (similar in functionality to Display Label)
- **Link/Address 2** – If **Display Label 2** is configured, use this field to type the URL or local directory to launch.

Worklist

- **Expand Labels for Empty Fields** – Configures the font size of any empty patient or exam fields.
  - **False** (default): Does not increase the size of the labels
  - **True**: Increases the labels size
- **Show TeamViewer Button** – Configures the presence of the TeamViewer button at the top-right of the Worklist.
  - **True** (default): The TeamViewer button is visible in the Worklist, and when clicked, invokes the TeamViewer application
  - **False**: Hides the Show Team Viewer button
- **Screen Saver Wait Minutes (0 for Never)** – Configures the amount of idle time (in minutes) required to display the Konica Minolta screen saver. Any integer can be used for this setting. Setting this value to **zero** (default) will never display the screen saver.
- **Screen Saver Button Visible** – Configures the presence of the Screen Saver button in the worklist, which is to the left of the date/time and resembles a lock. Click this button to invoke the Konica Minolta screen saver.
  - **True** (default): Displays the Screen Save button
  - **False**: Hides the Screen Saver button

- **Display Procedure Alias Names** – Configures whether procedure aliases configured at **Options> Procedure Templates** should be displayed in the Choose a Procedure list.
  - **False** (default): The alias name is not displayed
  - **True**: The alias name is displayed
- **Worklist Sort Column** – Configures the patient or exam criteria used for sorting the exams present in the Worklist. The options are as follows:
  - Last Name (default)
  - First Name
  - Accession Number
  - Scheduled Date
  - Opened Date
- **Worklist Sort Order** – Configures the order in which the exams in the Worklist will be displayed based on the configured Sort column. The options are as follows:
  - Ascending (default)
  - Descending
- **Completed Sort Column** – Configures the patient or exam criteria used for sorting the exams present in the completed Worklist. The options are as follows:
  - Opened Date (default)
  - Last Name
  - First Name
  - Accession Number
  - Scheduled Date
  - Completed Date
- **Completed Sort Order** – Configures the order in which the exams on the Completed tab will be displayed based on the configured Sort column. The options are as follows:
  - Descending (default)
  - Ascending

- **Bar Code Auto Start Acquisition Screen** – Configures the launch of the Acquisition screen and patient exam from a barcode.
  - **True** (default): If the user scans a barcode while the Ultra worklist is open and the search bar is active, the scanned value is entered in the search bar. If a single patient/exam entry is returned, the Acquisition screen for the patient and their exam(s) is launched. (This will occur on both the Worklist and Completed tabs.)
  - **False**: If the user scans a barcode while the Ultra worklist is displayed, the Acquisition screen does not automatically launch for any patient.
- **Exam Date Sort Order** – Configures the order in which multiple exams are displayed on both the Worklist and the Completed tab. The Scheduled Procedure Step Start Date and Time DICOM tags are used for configuring the order. If the Scheduled Procedure Step Start Date and Time DICOM tags are either empty or not present, the date and time received from RIS are used.
  - **Ascending** (default): The oldest exam is listed at the top and the newest exam is listed at the bottom.
  - **Descending**: The newest exam is listed at the top and the oldest exam is listed at the bottom.
- **Show More Button** – Displays or hides the More button on the Worklist.
  - **True** (default): The More button is present.
  - **False**: On both the Completed Tab and the Worklist, the More button is hidden.
- **WiFi Status** – Displays the status of the Wi-Fi signal in the Worklist toolbar, using curved signal bars to indicate the signal strength.
  - **Hide** (default): Hides the Wi-Fi icon
  - **IconOnly**: Displays a Wi-Fi icon with no text label
  - **IconLabel**: Display a Wi-Fi icon with a text label and percentage of remaining strength
- **Use Error Icon for Query Button** – Displays a gear icon on the Query button if any MWL source fails after an auto query or manual query.
  - **False** (default): If an MWL source fails after an auto or manual query, no error is displayed on the Query button.
  - **True**: If an MWL source fails after an auto or manual query, a gear icon is displayed on the Query button in the Worklist

- **Highlight Completed Tab on Error** – Outlines the Completed tab in red and displays a gear icon if an error or failure occurs when sending images to PACS.
  - **False** (default): If an error/failure occurs while sending images to PACs, there are no changes to the Completed tab.
  - **True**: If an error/failure occurs while sending images to PACs, a gear error icon is displayed on the Completed tab, and the tab is outlined in red.

    Note: If the setting **Options> Developer> Restricted User Interface> Restrict Red UI Usage** is set to True, then the Completed tab is outlined in blue instead of red.

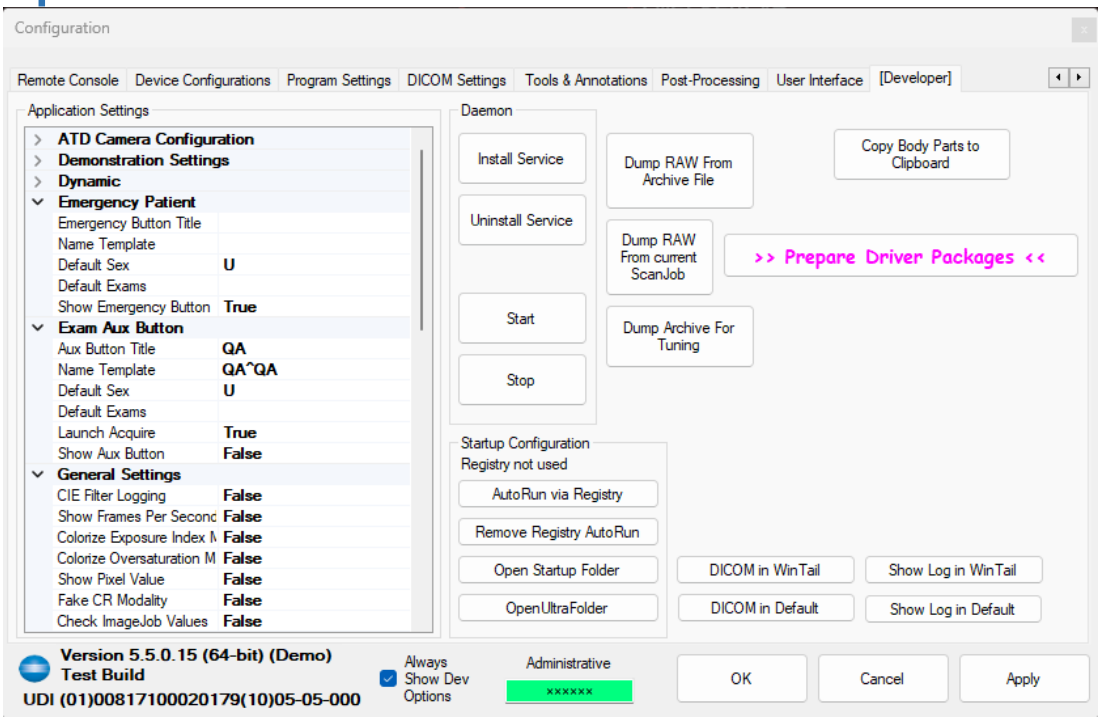
Show Post Processing Toolbar Buttons

Different post processing icons can be enabled and disabled by checking their associated boxes. When enabled, they are displayed on the Acquisition screen.

To change the display order of the post processing icons in the Acquisition screen, check the icon of interest. Then, click the **Up** and **Down** buttons to shift the order of the currently selected icon.

To reset all post processing icons to their default configuration and position, click the **Default** button.

Developer



Demonstration Settings

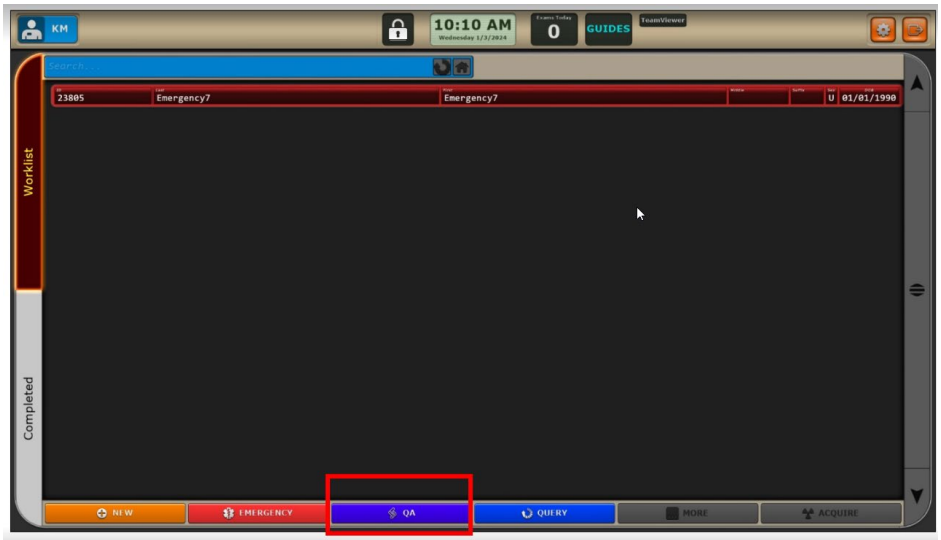
Enables Ultra to support a demonstration of the actual Ultra processes, such as the DICOM Send process to a configured PACS system or a panel alignment.

- **Allow DICOM Send**
  - **True**: Enables simulation of DICOM Send procedure while in Demonstration mode.
  - **False**: Simulation of the DICOM Send procedure is not enabled.
- **Demo Real Aero Alignment**

  Note: A GIF or Gen5 AeroDR panel that has been calibrated and configured for panel alignment is required for this feature to work.
  - **True**: Enables panels that have been calibrated and configured for panel alignment to display true angulation values on the tube console when the panel is in the Ready state on the Acquisition screen.
  - **False:** Panel alignment demonstration is not enabled.

Emergency Patient

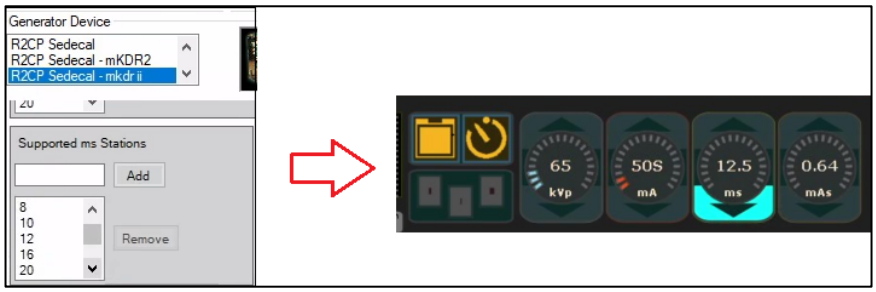
This setting enables Ultra to support a QA button that performs an assessment of panels. This button appears on the Worklist next to the Emergency button.



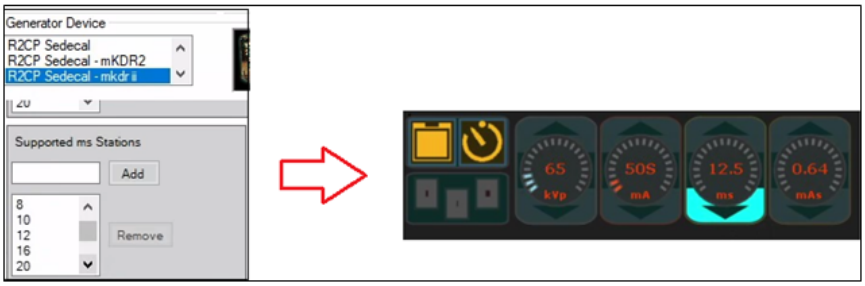
- **Aux Button Title** – default value is QA
- **Name Template** – default value is QA^QA
- **Default Sex** – a drop-down menu with the following options:
  - M
  - F
  - O
  - U (default)
- **Default Exams** – text field (default empty)
- **Launch Acquire**
  - **True:** Automatically launches the Acquisition screen when the Aux button is clicked
  - **False:** Does not automatically launch the Acquisition screen
- **Show Aux Button**
  - **True:** Displays the Aux button in the Worklist, to the right of the Emergency button
  - **False:** Does not display the Aux button

Generator Settings

- **Picky for Fraction of MSb** – Enables Ultra to synchronize with a generator despite a minor difference in the millisecond value. The options are as follows:
  - **False** (default): If the APR for a view requests a millisecond value with an identical integer to a millisecond workstation supported by the generator, but the decimal value differs, Ultra will instead request the millisecond workstation supported by the generator to allow for technique synchronization.



  - **True**: If the APR for a view requests a millisecond value with an identical integer to a millisecond workstation supported by the generator, but the decimal value differs, Ultra will not request the millisecond workstation supported by the generator. The technique will not synchronize with the generator unless the user manually changes the millisecond value on the Acquisition screen.



iRay Settings

- **FlareDR Pre-Processing Logging** – Allows configurable settings to enable advanced logging, which can be turned on temporarily by an FSE or support team member to collect logs for R&D review.
  - The **Options> [Developer]> iRay Settings> FlareDR Pre-Processing Logging** setting supports the following values:
    - **Off** (default): No FlareDR library logging will be made.

- **Function Time**: The logging values for Pre-Processing function timing will be placed in C:\Opal\data\flareDR in the file **KMHAPreProcessingLibrary.log**.
- **Critical Function**: The logging values for Pre-Processing Critical Functions and their parameter inputs will be placed in C:\Opal\data\flareDR in the file **KMHAPreProcessingLibrary.log**.

○ The **Options> [Developer]> iRay Settings> FlareDR Post-Processing Logging** setting supports the following values:

- **Off** (default): No FlareDR library logging will be made.
- **Function Time**: The logging values for Pre-Processing function timing will be placed in C:\Opal\data\flareDR in the file **KMHAPostProcessingLibrary.log**.
- **Critical Function**: The logging values for Pre-Processing Critical Functions and their parameter inputs will be placed in C:\Opal\data\flareDR in the file **KMHAPostProcessingLibrary.log**.

- **FlareDR Reverb Killer** – Additional image processing steps have been added in the FlareDR library to be completed when an image is returned from the Venu1748 panel.

○ The **Options> [Developer]> iRay Settings> FlareDR Reverb Killer** setting supports the following values:

- **True** (default): During Venu1748 image processing, Ultra should call the Reverb Killer function to apply to the image.
- **False**: During Venu1748 image processing, Ultra should **not** call the Reverb Killer function to apply to the image.

○ During image processing of Venu1748 images, complete the following steps in this order (with the **FlareDR Reverb Killer** being performed only if the respective setting is **True**):

- **RAW IMAGE ACQUIRED** → FlareDR Rim Treatment → Cedera Grid Suppression → FlareDR WMA → *FlareDR Reverb Killer* → Cropping → Cedera Auto-Shuttering → Cedera Post-Processing Enhancement → Automatic Image Transformation (per View) → **FINAL IMAGE DISPLAYED**
- The steps FlareDR Rim Treatment → Cedera Grid Suppression → FlareDR WMA → *FlareDR Reverb Killer* should occur only if the image comes from the Venu1748V panel.

○ The check within Ultra to confirm if FreeSync trigger mode is enabled for the panel before applying AED line suppression should be removed. AED Line suppression should work for all trigger modes that support AED (excluding **Prep** and **Soft** trigger mode).

General Settings

- **Store Data in Exam Info Backup** – This new setting allows a system to configure the behavior of the examinfo_backup folder so that post-processing data isn't stored twice, if desired.
    - **True** (default): After data in C:\Opal\examinfo exceeds the age specified in **Options> Program Settings> Retain Exams (days)**, the data should be moved to C:\Opal\examinfo_backup.
    - **False**: After data in C:\Opal\examinfo exceeds the age specified in **Options> Program Settings> Retain Exams (days),** the data should not move to C:\Opal\examinfo_backup and should simply be deleted.

Appendix A – AeroDR

1. Click **Options**, then the **Device Configurations** tab.
2. Click **Launch**.
3. Verify that the **Aero_1008** driver is installed and is listed in the Driver Packs list.
4. Exit the Device Manager screen.
5. Click **DEFAULT**.
6. Select **AeroDR**.
7. Set the following Maven settings:
   - **Model:** Select one of the following options:
     - Aero – Aero LT and HQ Panels
     - Aero KDR – Aero KDR Panel
   - **Processor:** Select 32-bit.

     32-bit is the default for all Aero Panels; SDK's and Drivers do not support 64-bit processing.
   - **Panel ID:** Select #1.

     #1 is the default for all Aero Panels. #2 is used for the second panel in a dual setup.
   - **Local:** Future Product Feature

     Selected (default)
8. Set **Target EI** to 1000.

   This setting applies to site specific and panel specific customization for Exposure Index. This setting does not change the amount of dosage delivered, only the range that is displayed in the Configure Exposure Index. Default value is 1000.
9. Set all **Edge Crop** settings to the default value, 0.

   When altered, these settings crop a one for one pixel value from the outer most edge edited.
10. **AEC Display** (Future Product Feature)
11. (Optional) Configure **Global Orientation** settings to add additional rotation to each view.

    For example, if a view is configured with 90-degree rotation enabled and you select 90 degrees as the Global Orientation, the final rotation of the image is 180 degrees.

- Rotation: Specifies the rotation degree. Values are 0, 90, 180, and 270.
- Flip Horizontal: Flips all images along the horizontal axis. As a result, rights look like lefts and lefts look like rights. Flip Horizontal is deselected by default.

12. Configure **Device Identity** settings:
    a. Manually type in the panel serial number.
    b. If a cradle is installed, check the **Cradle** box and enter the serial number.
    c. If an XIF cable is installed, check the **Cable** box and enter the serial number.
    d. If using Gen5 dynamic imaging (or later), check the **Wifi Sync** box to enable AeroDR Gen5 dynamic imaging.
13. Select a method for **X-ray Synchronization**.
    - AeroSync: Panel passively triggers by detecting kVp at the AED sensor in the panel and creates exposure windows up to 800 ms.
      - **Exposure Time**: Gen 2 and lower AeroDR panels only support an integration time of 1.0.
    - Integrated:
      - **XG-IFBox ID:** This is the ID of the XG-IFBox that the panel is integrated through. The options are 1, 2, or 3; with the default being 1.
      - **Exposure Time (secs):** default is 1.0, with available options of 1.0, 2.0, 3.5, 4.3, 7.0 and 10.6 secs.
14. Set the following **Connectivity** settings.
    - Local IP: 192.168.20.100; Port: 50003
    - Wired IP: 192.168.20.201; Port: 50002
    - Wireless IP: 192.168.20.211; Port: 60002
    - SSID: KMMG_AeroDR_1
    - PassPhrase: 165gf1JSsw90Gt4F9ODu96XztI89u93ftEfrzXwe19
    - XG-IFBox IP: 192.168.20.221; Port: 64000
15. Select **Manage Automatically** if applicable.

    This option enables the Device Identity and the Connectivity sections above to automatically populate and configure the registration of the AeroDR panel.

If deselected, you must manually register the panel and any other serialized hardware directly associated with the AeroDR panel (for example, the AeroDR Cradle or the XIF Cable) in the AeroDR software. You can find the software in the following locations:

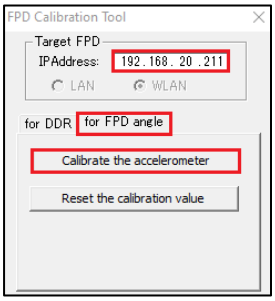
- AeroKDR Panel: C:\opal\plugins32\AeroKDR\AeroSdkSettingTool.exe
- AeroLT or AeroHQ: C:\opal\plugins32\Aero\AeroSdkSettingTool.exe

Note: Refer to the AeroDR Manual Registration Guide for detailed instructions to manually register AeroDR panels.

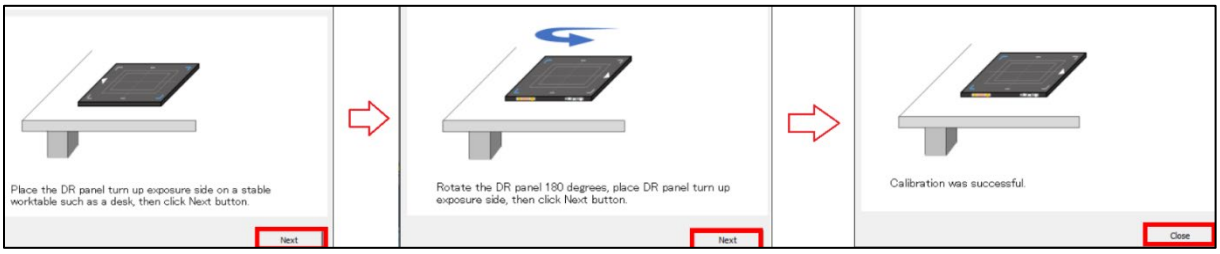
16. Click **Apply**.
17. Click **OK** to exit.

Calibrating an AeroDR Panel for Panel Alignment

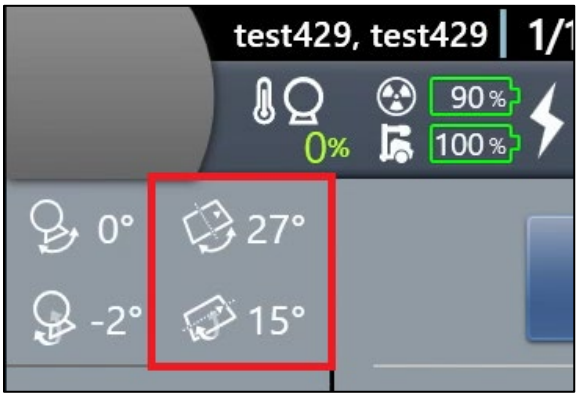
1. Close Ultra and navigate to `C:\Opal\plugins32\Aero\Calibration Tool For Movie\bin` and open **FPD_Calibration_Tool.exe**



2. Enter the wireless IP address of the panel of interest.
3. Click the For FPD Angle tab and click **Calibrate the Accelerometer**.
4. Follow the instructions on the pop-up windows:



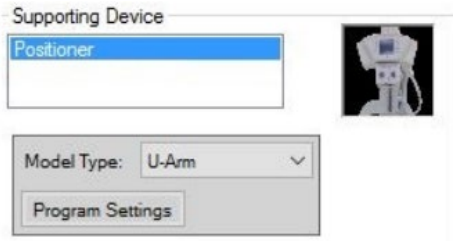
5. After calibration is successful, launch the Ultra Acquisition screen and wait for the panel to enter the **Ready** state. Tilting the panel will display angulation values on the Tube Console.



Appendix B– Supporting Devices

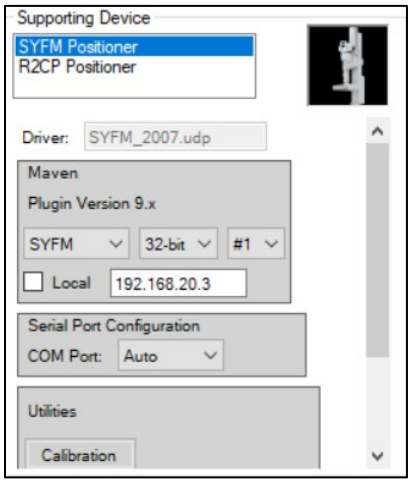
Sedecal Positioner

1. Click **Options**, then the **Device Configurations** tab.
2. Click **DEFAULT**.
3. In the Supporting Device section, select Positioner.
4. Select **U-Arm** or **Nova** for the **Model Type**.
5. Click Program Settings.
   a. Click **Import** and select a CSV file to import.
   b. Click **Save** .
6. Click **Apply**.
7. Click **OK** to exit.



SYFM Positioner

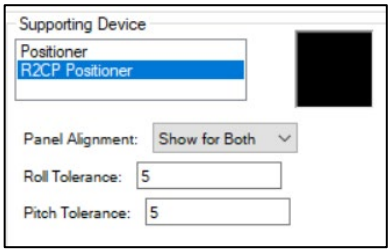
1. In Ultra, click **Options**, then the **Device Configurations** tab.
2. Click **DEFAULT**.
3. In the Supporting Device section, select SYFM Positioner.
4. Configure Maven settings.
   - Model: SYFM
   - Processor: 32-bit
   - Stand ID: #1
   - Local: Deselected (default); Future Product Feature
   - IP Address: 192.168.20.3 (default)
5. Adjust the Serial Port Configuration. Auto is default. Manually select COM Port used for stand.



6. Click **Calibration** to start the calibration wizard on the SYFM 4000 tablet.
7. Click **Sequence Manager**.

R2CP Positioner

1. In Ultra, click **Options**, then the **Device Configurations** tab.
2. Click **DEFAULT**.
3. In the Supporting Device section, select R2CP Positioner.



4. To configure the display of panel angulation values on the tube console, select one of the following Panel Alignment settings:
   - **Show for Both** (default): Displays panel alignment information on the tube console, both when serial and static imaging is active.
   - **Show for Dynamic**: Displays panel alignment information on the tube console only when serial imaging is active.
   - **Show for Static**: Displays panel alignment information on the tube console only when static imaging is active.
   - **Never Show**: The panel alignment information is never displayed on the tube console.
5. To configure a value for **Roll Tolerance**, enter any positive integer into the respective text field.
6. To configure a value for **Pitch Tolerance**, enter any positive integer into the respective text field.