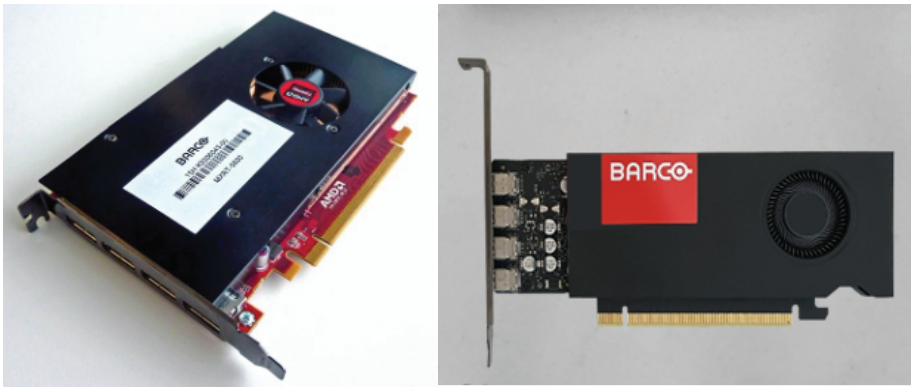
Display Controller and Intuitive Workflow Tools



User Guide

Windows 10 and Windows 11

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Table of contents

1 Welcome!

1.1 About the product

Overview

Thank you for choosing this Barco Display Controller!

Barco’s state-of-the-art Display Controllers deliver the performance, quality and stability required for today’s advanced medical imaging applications. The powerful boards ensure ultra-fast and smooth image loading, and graphics processing of images in every resolution. Use the instructions in this guide to install your Barco Display Controller.

The Barco Software Package includes the driver for the Barco Display Controller and the Barco Intuitive Workflow Tools. The instructions in this guide show how to download and install the Barco Software Package and how to use the Intuitive Workflow Tools.

1.2 What's in the box

Contents

Your Barco Display Controller comes with:

- This Barco Display Controller User Guide
- 1 extender bracket is included with the MXRT-7600 & MXRT-8700.
- 1 low-profile bracket is included with the low profile models.
- Up to four mini-DisplayPort-to-DisplayPort adapters are included with the models that have mini-DP connectors.

You may wish to keep your original packaging. It is designed for this Display Controller and is the ideal protection during transport and storage.

Display Controller installation

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2.1 Which Display Controller?

Display Controller range

Your Barco medical display is compatible with a large range of Barco Display Controller boards. Depending on the order details, the display can be delivered with or without a Display Controller.

If you are installing a Barco Display Controller, please follow the installation instructions in this section.

Barco displays are compatible with many non-Barco display controllers. If you are installing a non-Barco display controller, please consult its corresponding documentation.

2.2 Installing a Barco Display Controller

Guidance

This chapter will guide you through the physical installation of a Barco Display Controller for your display system.

WARNING: Installation should only be performed by trained technical personnel.

WARNING: Wear a grounded, protective ESD strap when handling or during installation of the Display Controller. Electrostatic charges can damage the Display Controller.

Overview

Prior to installing the Barco Display Controller(s) for your Barco Display System in your workstation, please take a few minutes to familiarize yourself with the Display Controller(s) and the PCIe slots.

Which PCIe slot to use

Each Barco Display Controller model should be deployed in a high-performance Gen3/4 slot. Typically, the longer the slot, the faster images will be rendered.The image below shows a PCIe X16 slot.

Image 2–1 PCIe X16 slot

2.3 Installation procedure

If you are using a motherboard containing an on-board graphics solution and do not intend to use it as part of a multiple-display setup, disable it either in the computer's System Set-up utility (BIOS) or the Windows device manager.

CAUTION: To avoid mechanical stress, handle the board with 2 hands on both sides and be mindful to not use any components as a handle.

How to install

The following instructions will take you step by step through installation the Barco Display Controller(s) for your Barco Display System.

1. If you are not going to use your old Display Controller, uninstall its drivers and software.
2. Turn off the computer, display(s), and other peripheral devices.
3. Unplug the computer's power cord and disconnect all cables from the back of your computer.

Warning: Wait approximately 20 seconds after unplugging the power cord before disconnecting a peripheral or removing a component from the motherboard to avoid possible damage to the motherboard.

4. Remove the computer cover. If necessary, consult your computer's manual for instructions.
5. If necessary, unscrew or unfasten and remove any existing display controller(s) from your computer.
6. Locate the appropriate slot and, if necessary, remove the metal back-plate cover(s).
7. Align the Barco Display Controller(s) for your Barco Display System with the slot(s) and press it(them) in firmly until the card(s) is(are) fully seated.

   Caution: Install with care and don't push with excessive power.

8. Connect the power cable, available from the workstation vendor, to the 6-pin power connection on the Display Controller. Make sure the cables are not interfering with anything inside the computer (for example, a cooling fan).

   Tip: This step only applies to the MXRT-7600 & MXRT-8700.

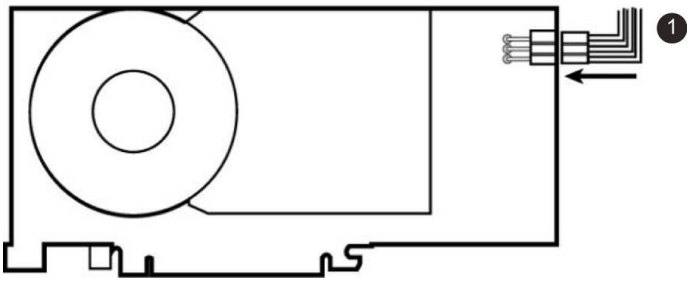

Image 2–2 Power connection for the MXRT-7600 & MXRT-8700 controllers

9. Screw in or firmly fasten the Display Controller. Replace and secure the computer cover.

2.4 Connecting your Barco Displays

For a detailed description of the display installation and signal connection, please refer to the Display User Guide.

IO-Panel for the Barco MXRT-2600

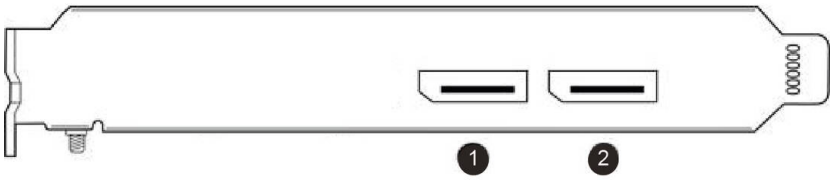

Image 2–3 MXRT-2600

1. DisplayPort #1
2. DisplayPort #2

IO-Panel for the Barco MXRT-5600, MXRT-6700 & MXRT-7600

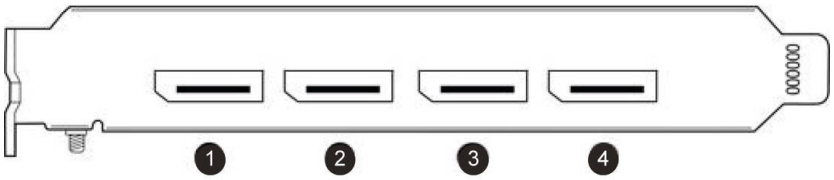

Image 2–4 MXRT-5600, MXRT-6700, MXRT-7500 & MXRT-7600

1. DisplayPort #1
2. DisplayPort #2
3. DisplayPort #3
4. DisplayPort #4

IO-Panel for the Barco MXRT-2700 & MXRT-4700

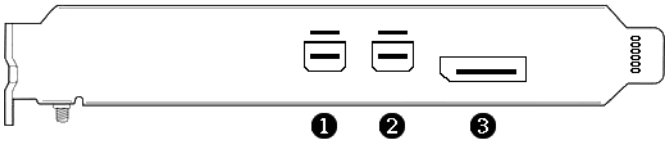

Image 2–5 MXRT-2700 & MXRT-4700

1. Mini DisplayPort #1
2. Mini DisplayPort #2
3. DisplayPort #1

IO-Panel for the Barco MXRT-8700

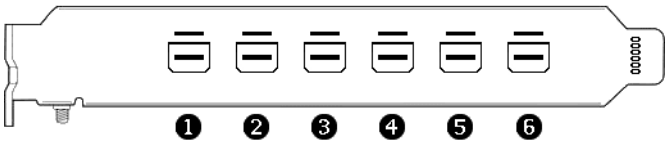

Image 2–6 MXRT-8700

1. Mini DisplayPort #1
2. Mini DisplayPort #2
3. Mini DisplayPort #3
4. Mini DisplayPort #4
5. Mini DisplayPort #5
6. Mini DisplayPort #6

A Coronis OneLook is driven with two physical DisplayPort connections of a MXRT-8700 controller, but internally it requires four DisplayPort video pipelines to achieve the full refresh rate. As such only two other displays can be driven by the same MXRT-8700 display controller.

IO-Panel for the Barco MXRV-3100 & MXRV-7100

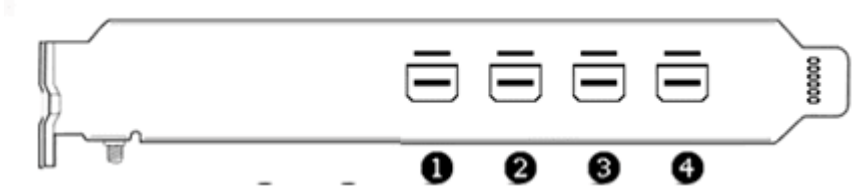

Image 2–7

1. Mini DisplayPort #1

2. Mini DisplayPort #2
3. Mini DisplayPort #3
4. Mini DisplayPort #4

2.5 Dongles

About

Barco dongles are designed to allow Barco Display Controllers with a DisplayPort connector to a display with only a DVI input. All current Barco displays support direct DisplayPort connection.

If video cable conversion is not required, you may bypass this section.

Barco dongles are available for purchase independently.

2.5.1 Passive Single-Link Dongle

About

The passive Single-Link Dongle converts DisplayPort input signals to single-link DVI output signals. It is compatible with all Barco grayscale displays and up to 2MP color models. For color displays of 3MP and greater resolutions, the Dual-Link Dongle is necessary.

Image 2–8 Single-Link dongle

1. To display Single-Link DVI cable
2. To DisplayPort connector on Barco Display Controller

2.5.2 Active Single-Link Dongle

About

Barco Display Controllers are not compatible with third-party active single-link dongles. Please use Barco passive Single-Link dongles.

2.5.3 Active Dual-Link Dongle

About

The active Dual-Link Dongle converts DisplayPort input signals to dual-link DVI output signals. Unlike the passive Single-Link dongle, the Dual-Link dongle allows higher resolutions (greater than 1920x1200) on color displays.

When using QAWeb software for calibration and quality assurance of a display connected through a Dual-Link dongle, a USB cable must also be connected to the display.

Image 2–9 Dual-Link dongle

1. To computer's USB port
2. To display via DVI Dual-Link cable
3. To DisplayPort connector on Barco Display Controller

2.6 Shipping the Barco Display Controller

About

After the installation and validation of software components, Barco recommends removing the display controllers from the workstation and returning them to their original packaging prior to shipment.

Barco does not recommend shipping display controllers installed in the workstation.

If it is necessary to ship a controller installed in a workstation, the MXRT-7600 and MXRT-8700 have an extender bracket that may help to protect against shock and vibration. Assemble the extender bracket as shown below. Refer to the workstation user documentation on proper installation to its card guide.

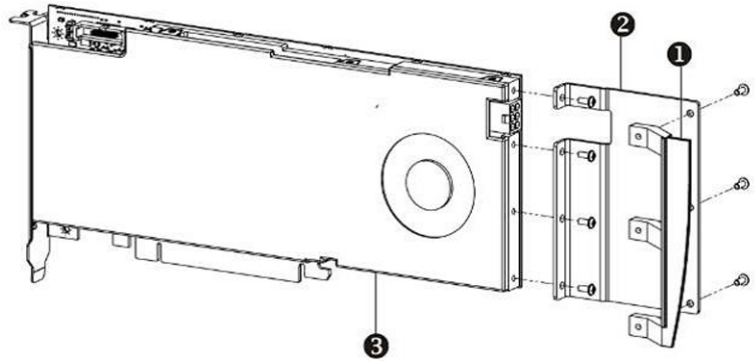

Image 2–10 MXRT-7600 Extender Bracket

1. Bracket
2. Extender
3. MXRT-7600

Driver and software installation

3

3.1 Introduction

About

This chapter will guide you through the installation of the drivers, software and documentation associated with your Barco Display System or Barco Display Controller(s).

Prerequisites

Before starting the installation of the Barco drivers, software and documentation following prerequisites must be adhered:

- Your operating system must be installed and running Windows 10 (64-bit) or Windows 11 (64-bit).
- You must be logged on as a user with local administrator privileges.
- You should enable windows user account control (UAC), as it will help to enforce that the software package is digitally signed by a trusted publisher.
- All Barco displays must be connected to the appropriate Display Controller(s) in your system.

For optimal system performance, Barco recommends installing no more than two drivers on a system at one time. If the configuration will require three drivers, the Barco Driver Installer will alert the user to replace one board to eliminate one of the drivers.

- When there is a non-Barco board in the system, you must first install the driver for the non-Barco display controller before installing the Barco driver.

After each driver installation, you should reboot the system before proceeding with the installation of another driver.

You will need to install the Barco Display Controller system drivers and software in the following cases:

- After you have installed the Barco Display Controller(s) for your Barco Display System in your system for the first time.
- After you have reinstalled or upgraded your operating system.
- When upgrading to a newer version of Barco software, manual uninstallation of the prior version is not necessary. The Barco Product Installation Wizard will detect any prior installations and start any necessary uninstallation process automatically.

The installation dialog will display in English if your operating system's language is not supported.

3.2 Installation procedure

Installation procedure

1. Start your system.

   If you have a fresh OS installation or uninstalled an existing driver, the OS may automatically install an inbox driver from the Windows driver store for the Barco Display Controller(s). If this occurs, the OS prompts you to restart your computer, click **Yes** to allow the automatic driver installation to complete and reboot the system.

2. Download the installer from the Barco public site for your controller, such as *https://www.barco.com/en/product/mxrt-6700*. Decompress the zip file and launch the self extracting executable to start the installation process.

3. The first page of the installation wizard is the license agreement. You must accept the license agreement to proceed.

4. The second page of the installation wizard will show you the display controller driver and software components that will be installed. To accept the installation of default software components, click **Next**. To custom select software components, click on specific software components to unselect them.

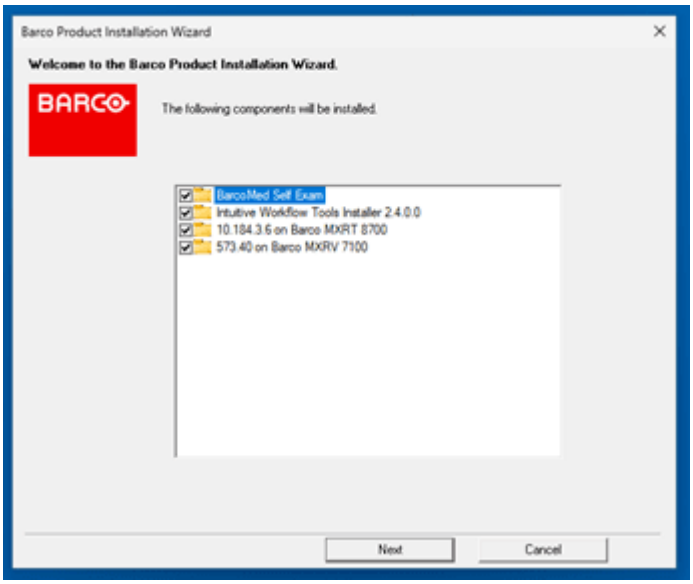

Image 3–1

- **MXRT and MXRV Drivers:** Barco MXRV Display Controller drivers will also support modern NVIDIA display controllers
- **Intuitive Workflow Tools:** software components for supporting Intuitive Workflow Tools
- **BarcoMed Self Exam:** Barco diagnostic tool

5. The third page of the installation wizard will prompt you to select usage intent. The default settings for some of the **Intuitive Workflow Tools** will be optimized for the selected usage. Details of those changes are displayed in the *Setting Details* window.

   Select from the available usage environments and click **Next**.

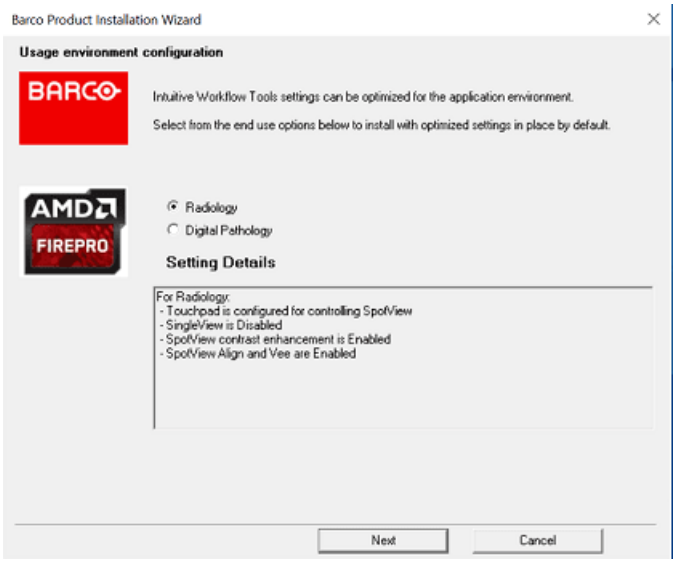

Image 3–2 Usage environment configuration

6. If a previous installation of an MXRT/MXRV driver exists, the installation wizard will detect it and guide you through the uninstallation process if necessary.
7. During installation, the desktop may flash, and the *Installation Wizard* window may appear on different displays. This is expected behavior.
8. When the installation of all components has completed, the system must reboot to complete the changes, and an automatic reboot window will be displayed.

3.3 Silent installation

Installation procedure

Navigate to the Barco installation folder and execute the command `master_setup.exe -silent`.

This can be done from the command shell, from the Run command, or from a command shortcut. The setup program will automatically install the drivers for any MXRT/MXRV boards that are present and the BarcoMed Self Exam program.

Configure silent installation options

You can modify the setup. ini file at the Barco root folder to customize certain silent install behavior. The configurable options are listed in the [Custom] section of the setup.ini file.

Reboot

- Locate the **[Custom]** section of setup.ini.
- If set to Yes (default), the installer will prompt the user or launch a timer to reboot following software installation. If No, the prompt/timer is not shown.

3.4 Installation options

Configure installation options

You can modify the setup.ini file at the Barco root folder to change the default setting of MXRT/MXRV driver after either installation or silent installation.

Install driver in 24-bit

- Locate the **[MXRT_WDDM]** section of setup.ini
- Remove **-30bit** command line parameter from both **Install** and **SilentInstall** lines

Install driver with Coronis Fusion displays in SingleView mode (note: This configuration option is only available with IWT v2.3.x)

- Locate the **[MXRT_WDDM]** section of setup.ini
- Add **-singleview** command line parameter to the end of both **Install** and **SilentInstall** lines
- Modify the default.ini file, found in:
  `Barco_MXRT_Driver_SoftwarePackage_xxxx\Setup_Barco_Productivity_Tools.x.x.x\`
  Change `DisplayPartitioner\singleviewDefaultEnabled` to **true**.

Install driver with VirtualView enabled (note: This feature is only available with IWT v2.3.x)

- Locate the **[MXRT_WDDM]** section of setup.ini
- Add **-virtualview** parameter to both **Install** and **SilentInstall** lines
- Modify the default.ini file, found in:
  `Barco_MXRT_Driver_SoftwarePackage_xxxx\Setup_Barco_Productivity_Tools.x.x.x\`
  Change `VirtualView\FeatureEnabled` to **true**.

Install IWT while specifying Pathology usage intent

- Locate the **[Setup_Barco_Productivity_Tools.x.x.x]** section of setup.ini
- There is an entry by default indicating: `Profile = radiology.ini`
  Change it to: `Profile = pathology.ini`

3.5 After installation

Installation verification

To verify that the driver was installed, go to the **Windows Control Panel**, select **System**, select **Device Manager**, then select **Display Adapters**. Verify that Barco Display Controllers are properly identified, as shown below:

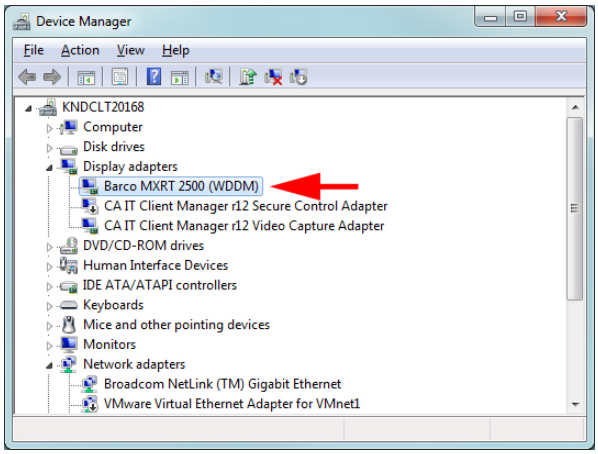

Image 3–3 Verifying driver installation

Automatic display configuration

Once the drivers, software and documentation have been installed and the system has been rebooted, the computer should automatically detect your Barco displays and attach them to the desktop with the correct resolution. If the computer fails to detect your Barco displays or fails to attach them to the desktop correctly, please use the **Windows Screen Resolution** to set the correct resolution.

Software Upgrade

When performing a software upgrade, the **Barco System Settings Control Panel** default profile will be applied. Any user profile that was saved on the system previously is still available and can be selected through the Barco System Settings Control Panel.

3.6 Uninstallation

Uninstalling the drivers and software

To uninstall the Barco drivers, software or documentation for your Barco Display System, use **Windows Apps & features**. This can be found in **Windows Settings** under **Apps**.

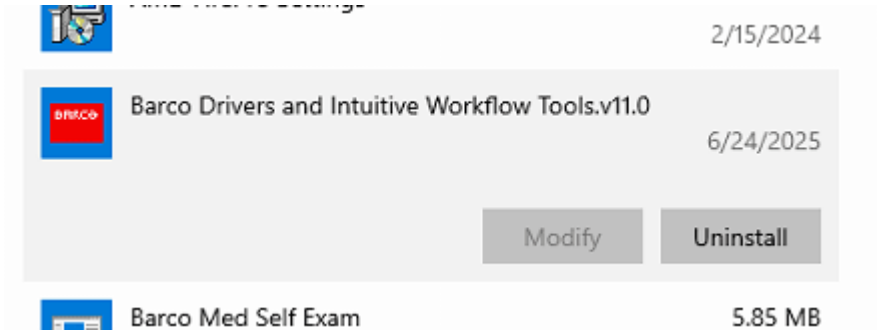

Image 3–4

Barco System Cleaner

The Barco System Cleaner is a tool that will remove all Barco software components from your workstation. This includes the display driver, the accompanying software for supporting Intuitive Workflow features, BMSE, and QAWeb calibration software. The application can be found at **C:\Program Files\Barco**.

The Barco System Cleaner will remove all Barco components from your system. It is recommended to only use the System Cleaner under direction of Barco Customer Support.

Configuring Barco displays in Windows

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4.1 Display resolution

Changing resolutions

1. Click on the **Configure Displays** button on the Barco System Settings Control Panel, right click on the desktop and select **Display settings** to launch Windows Display control panel.
2. Select the target display, then navigate to the Display Resolution drop down box to select the desired resolution for the currently selected display

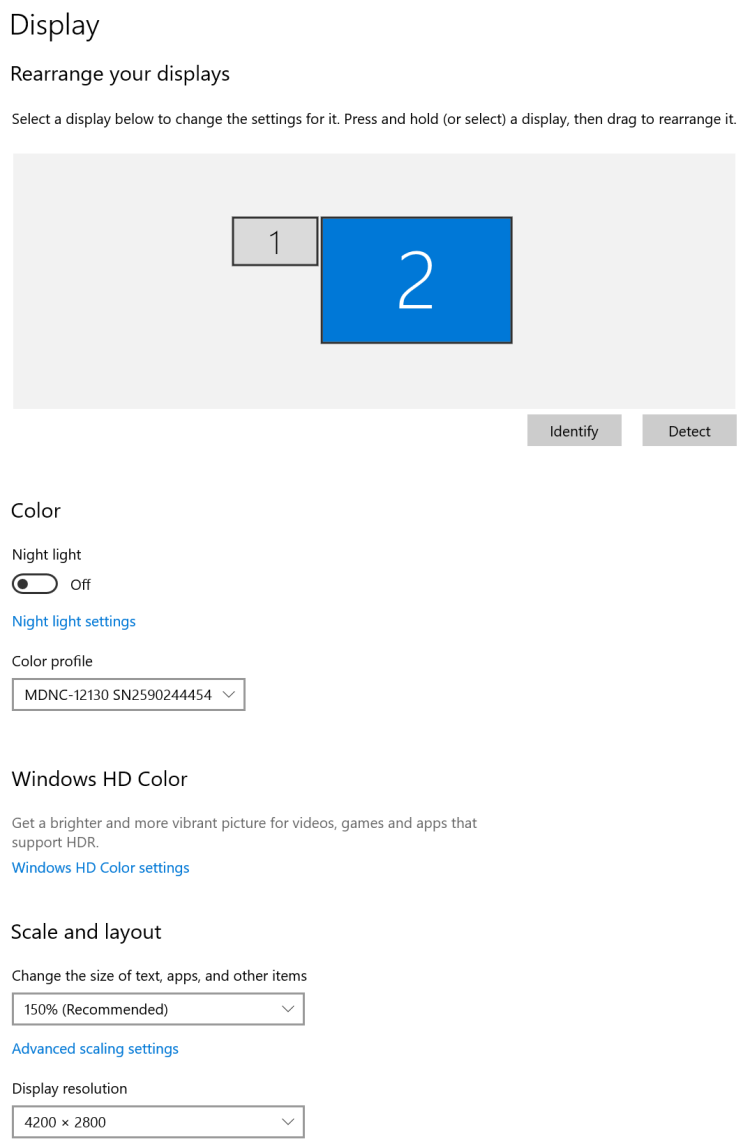


Image 4–1

4.2 Software rotation

Configuring screen orientation

Software rotation is only necessary for displays that do not support hardware rotation.

1. Right click on the Desktop and select **Display Settings**.
2. Select a Display.
3. In the **Display Orientation** drop down list, these options are available:
   - **Landscape**
   - **Portrait**

- **Landscape (flipped)**
- **Portrait (flipped)**

4. Select the desired setting.

4.3 Night light

Disabling Night light

Windows 10 provides a feature to shift the white point of light throughout the day. This is not recommended for diagnostic workstations. It should be disabled by default. if Night light is enabled, follow these steps to disable it:

1. Right click on the Desktop and select **Display settings** in the context menu.
2. Under **Night light**, turn the feature to **Off**.

Driver and Intuitive Workflow Tools

5

5.1 Version information of the Intuitive Workflow Tools

5.1.1 Diagnostic version and Core version

The following Intuitive Workflow Tools, described further in this user guide, are classified as medical devices and are only available in the Diagnostic version of the Intuitive Workflow tools.

- Application appearance Manager
- SpotView
- I-Luminate
- Filmclip
- Plugin

This Diagnostic version is available in selected countries, depending on the status of the medical device registration.

In countries where the diagnostic version is not available due to pending registration, the Core version can be used. The Core version does not include the above-mentioned tools.

To find your version of the Intuitive Workflow Tools

1. From the Barco System Settings Control Panel, click the gear symbol (⚙)
2. Click About Intuitive Workflow Tools

5.1.2 Feature matrix

IWT 2.3.x (Diag) and 1.4.x (Core) are now in sustaining mode. Barco SW Pkg 2025.2

IWT 2.4.x (Diag) and 1.5.x (Core) are based on new software architecture.

The latest software package is ‘Barco Drivers and IntuitiveWorkFlowTools v11.0’.

This user guide applies to both.

	IWT 2.4.x (Diag)	IWT 1.5.x (Core)	IWT 2.3.x (Diag)	IWT 1.4.x (Core)
AAM	X		X	
CCV			X	X
Smart Cursor	X	X	X	X
Film Clip	X		X	
I-Luminate	X		X	
Focal Path	X	X	X	X
Find Cursor	X	X	X	X
MDC			X	X
Virtual View			X	X
Dim View	X	X	X	X
Reading Environment			X	X
Soft Glow	X	X	X	X
Spot View	X		X	
Touchpad	X	X	X	X
Plugins	X	X	X	X

The earlier QA software is End-Of-Life (EOL) and is not compatible with the IWT versions 2.4 and higher

	IWT 2.4.x (Diag)	IWT 1.5.x (Core)	IWT 2.3.x (Diag)	IWT 1.4.x (Core)
MediCal QAWeb 1.x			X	X
QAWeb Enterprise 2.x	X	X	X	X

5.2 Barco System Settings Control Panel

5.2.1 Description

Overview

The Barco System Settings Control Panel provides a centralized configuration interface for users to personalize their Barco Display System environment.

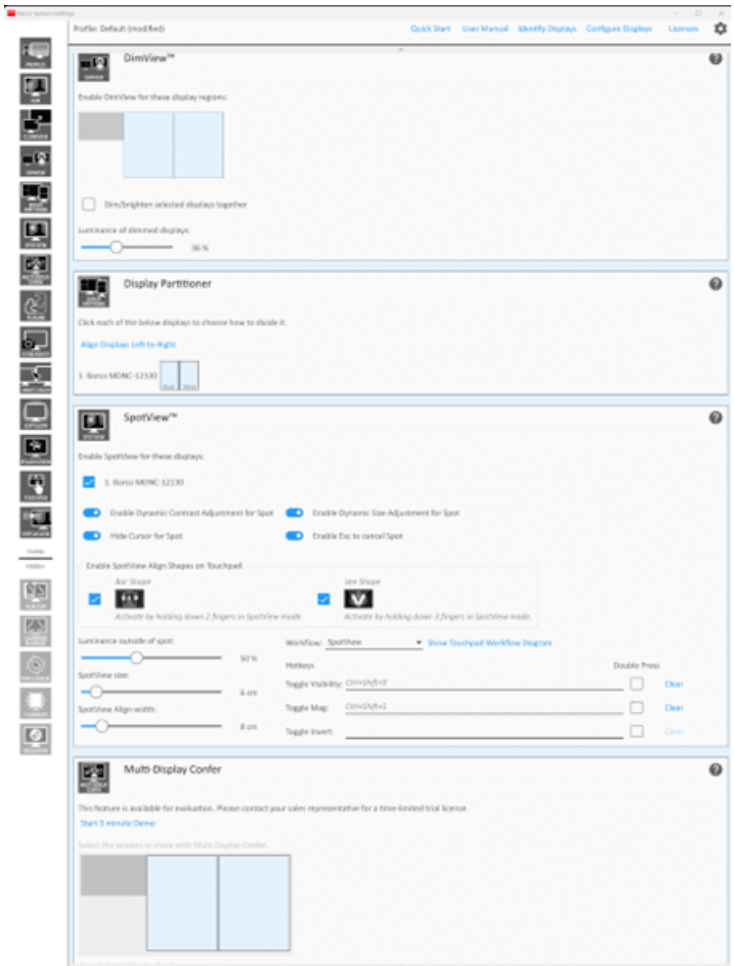


Image 5–1

5.2.2 Operation

Accessing the Barco System Settings Control Panel

- Right click on the desktop and select **Barco System Settings** if you are using Windows10, or
- Right click on the desktop and select or
- Click on the Barco icon in the System Tray, or
- Press the hotkey **Control+ALT+O**

Layout of the Barco System Settings Control Panel

The Barco System Settings Control Panel consists of 3 sections: the Control Bar at the top, the Navigation pane on the left, and the configuration tiles on the right. The Control Bar shows the current active profile and provides 4 additional buttons.

- **Open User Manual:** This opens a PDF version of this user guide if a PDF viewer is installed in the system.
- **Identify Displays:** Some settings in the Barco System Settings Control Panel require selection of individual displays. Press this button to see which display corresponds to which configuration numbers.

> The identification numbers used by the Barco System Settings Control Panel do not reflect the display ID number assigned by Windows as shown in the Windows Screen Resolution configuration page.

- **Configure Displays:** This opens the Windows Screen Resolution Control Panel to allow changes to the location and resolution of displays in the Windows desktop.
- : Clicking the gear symbol opens the Control Panel Settings Box and allows the user to change settings and view information of the Barco System Settings Control Panel.
  - Hotkey to Show This Control Panel: Click Clear to remove the hotkey. Click on the hotkey box to enter a new one.
  - Show Navigation Bar Popups: This button can enable popups on the Navigation Pane, making the icons larger and more legible.
  - Windows Desktop Pixel Color Depth: By default, 10-bit grayscale and 30-bit color imaging is enabled. This setting is compatible with most PACS software. For specific legacy reason, it is possible to restrict dynamic range of grayscale to 8 bits and color to 24 bits.
  - About Intuitive Workflow Tools: Click here to bring up the About box showing the product label with the software version, build number and regulatory information of the Intuitive Workflow Tools.
  - Dark Mode: Switch the Barco System Settings control panel GUI into dark mode.
  - Enable MST: Enables MST support in the MXRT graphics driver. This requires a reboot.

Through the Navigation Pane, the user can get quick access to the configuration tile of a feature by clicking on its icon. The Navigation Pane also allows customization of the Barco System Settings Control Panel. Dragging icons in the Navigation Pane will change the order of the tiles, allowing commonly used tiles to appear at the top. In the middle of the Navigation Pane is the visibility line. The tile for any feature can be hidden by dragging its corresponding Navigation Pane icon below the visibility line, reducing control panel clutter. If the icons in the Navigation Pane appear too small, popups with larger icons can be enabled in the Control Panel Settings Box.

Each configuration tile contains controls for the given feature, and those controls are described later in this section. Each configuration tile contains a help icon , and clicking on it will bring the user to the relevant section of this user guide.

License

Some Intuitive Workflow Tools features require a software license. Click the Licenses shortcut in the Control Bar on top of the Barco System Settings control panel to view the licensing status of the workstation and to activate a license entitlement.

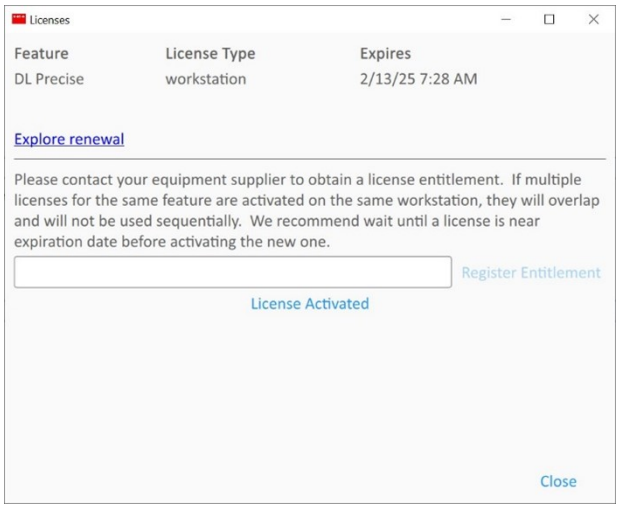


Image 5–2

- Existing licenses are listed by feature, license type and expiration date.
- To activate a license entitlement:
  - Copy and paste the entitilement ID into the text input field.
  - Click on Register Entitlement to activate the feature. You will first receive acknowledgement “Entitlement Registration Successful”. Once the license is fully activated, you will receive the indication “License Activated”. The list of registered features above will be automatically updated.

Possible Error Messages and trouble shooting tips

QAWebEnterprise 2.14 or above needs to be installed on the system to use the licensed software features.

- License registration requires QAWebEnterprise 2.14 or above to be installed. During installation, please configure Agent operating mode to “Online”, so that the workstation is connected to the QAWebEnterprise web portal. You can obtain the latest version of QAWebEnterprise from *https://qaweb.healthcare.barco.com/login*.

Entitlement already registered with another workstation.

- This message will occur if the entitlement is already associated with another workstation. If you need to move a license to an alternative workstation, please contact Barco Healthcare service at *https://www.barco.com/en/services/healthcare-services* .

Unable to connect to QAWeb Enterprise Server.

- Make sure you have QAWebEnterprise v2.14 or above installed on the workstation. You can obtain the latest version of QAWebEnterprise from*https://qaweb.healthcare.barco.com/login* .
- During installation, make sure QAWebEnterprise Agent is configured for online operating mode. Refer to user guide for instructions: *https://documentation-qaweb-agent.healthcare.barco.com/html/en/agent-installation.html#modifying-the-agent-configuration-after-installation*.

Unable to connect to QAWeb Enterprise Server because it is currently configured for Stand-alone mode.

- Verify current QAWebEnterprise installation is configured for online connection. Refer to QAWebEnterprise user guide for instructions: *https://documentation-qaweb-agent.healthcare.barco.com/html/en/agent-installation.html#modifying-the-agent-configuration-after-installation*.

DL Precise™ is a medical device and does not have regulatory clearance to be used in your region.

- This message will occur if DL Precise™ plugin has not received regulatory clearance to be used in the region your organization resides. Please contact Barco Healthcare service desktop at *https://www.barco.com/en/services/healthcare-services* to reset your entitlement or request a refund.

Profile management

The Profile Management title is an exception to the rules above; it cannot be reordered or hidden. Selected options in the Barco System Settings Control Panel can be saved in profiles, and those profiles are managed with this tile. The profiles are specific to the current user, and they will be automatically applied when the user logs into the system.

The profile can be exported to and imported from a remote disk, so it can be deployed to multiple systems.

- **Profile:** The current profile is selected with this drop-down menu. If the profile is edited, it will be marked here as “modified”.
- **Save:** This saves changes to the current profile. Changes to the Default profile cannot be saved.
- **Save as…:** This saves the current configuration setting as a profile with a new name. Provide a profile name in the popup dialog box.
- **Undo:** This reverts to the saved version of the current profile.
- **Import…:** This imports a profile from file and makes it available in the Profile list to be selected.
- **Export…:** This saves selected profiles on this system to a file. The selection is made from a dialog box.
- **Delete:** This removes the current profile from the profile list and restores the system to the Default profile.

To apply a profile system wide:

1. Export the profile, and name it Default.ini
2. Edit the new file:
   - Change line 3 from `names=<profileName>` to `names=Default`
   - Change line 5 from `[<profileName]` to `[Default]`
3. Replace the default profile in `C:\Program Files\Barco\ProductivityTools\Default.ini` with the new one.

5.2.3 Compatibility of the Intuitive Workflow Tools

About

The Intuitive Workflow Tools compatibility chart shows the Barco Displays and Barco Display Controllers which each of the Intuitive Workflow Tools is compatible with. Visit *display-models-compatible-with-the-intuitive-workflow-toolsdisplay-models-compatible-with-the-intuitive-workflow-tools* to determine which tools are compatible with your system configuration.

5.3 Application Appearance Manager

Application Appearance Manager is only available in the Diagnostic version of the Intuitive Workflow Tools. The feature is available with both IWT v2.3.x and v2.4.x.

5.3.1 Description

Overview

The high luminance of Barco diagnostic displays may not be necessary for some applications. The *Application Appearance Manager (AAM)* feature allows the user to set all windows of specific applications to a lower desired luminance, while retaining the full diagnostic luminance for all other applications.

For the SteadyColor™ display systems, including many Coronis and Nio models, *AAM* can also change the output color profile of specific applications to match the application expectations. For example, a web browser not used for displaying DICOM GSDF images could be set to an sRGB color space.

Image 5–3

5.3.2 Operation

Using Application Appearance Manager

Select each desired application executable to add it to the list of *AAM*-managed applications. Independently edit the luminance and color profile for each managed application.

Applications can be blocked from being managed by *AAM*. In the directory `C: \ProgramData \Barco \ProductivityTools`, open the `AAMBlackList.txt` file. Enter the name of the application executable, and after rebooting the system, the application will not appear in *AAM*. If the name of the executable is not known, launch the application, enable *AAM*, and note the name of the executable from the unmanaged list. To edit the file, launch the editor with the *Run As Administrator* option.

Applications can be blocked from color management while luminance management is still allowed. To do so, append an "*" to the end of the application name in `AAMBlackList.txt`

CAUTION: If you are using a web browser-based viewer for DICOM GSDF images, do not change the *AAM* setting for your web browser.

5.3.3 Configuration

Configuring color management

- **Enable:** This switch will enable or disable the *Application Appearance Manager*.
- **Manage Selected App Name:** Check the box of an application to control its appearance.
- **Luminance:** Change the luminance of the selected managed application with this slider. Although the slider will allow entry up to 1500 nit (cd/m2,), the maximum luminance is the calibration luminance of the display showing the application window. The minimum luminance is 250 nits.

  Click on the palette symbol to open controls for color management. It will be grayed out if no display supports color profile management.
- **Method:** Select Manual Setting to choose a pre-defined color mode. Select Input Device ICC Profile to specify an input ICC profile. Or select No Color Management to disable any color space transformation.

Configuring Manual Setting

- **Mode:** Select the color profile that matches the color profile of the controlled application. Select from sRGB, SteadyColor, and DICOM.
- **White Point Chromaticity:** Select the desired white point of a display for viewing the application. Select from D65, D75, Clearbase, and Bluebase.
- **Rendering Intent:** Two rendering intents are available for the sRGB color profile: Relative and Absolute. With Relative intent, out of gamut colors will be represented by the nearest color within the display's color range and other colors may shift to maintain visual differences. With Absolute intent, out of gamut colors will be represented by the nearest color, leaving other colors intact.
- **Apply:** Apply the currently shown color profile settings to that application's windows.

Configuring Input Device ICC Profile setting

- **Select Profile:** Browse to the desired input ICC profile. AAM will not save a copy of the profile but will retrieve it from the same location on the file system each time.
- **Rendering Intent:** Two rendering intents are available for the sRGB color profile: Relative and Absolute. With Relative intent, out of gamut colors will be represented by the nearest color within the display's color range and other colors may shift to maintain visual differences. With Absolute intent, out of gamut colors will be represented by the nearest color, leaving other colors intact.
- **Apply:** Apply the currently shown color profile settings to that application's windows.

5.4 Conference CloneView™

5.4.1 Description

Conference CloneView is available in IWT v2.3.x (Diag), v1.4.x (Core), v1.5.x (Core)

Overview

This feature allows the user to clone the images sent to one or more displays to other displays or projectors attached to the same Barco Display Controller. *Conference CloneView* supports zooming and panning on the cloned image(s) for ease of viewing.

Image 5–4

5.4.2 Operation

Using Conference CloneView

Create a new clone session and select up to 3 source displays and up to 3 target displays for the clone session. The cloned image can be scaled to fit the resolution of the target display. With a Barco Display Controller with 4 outputs, it is possible to have two independent cloning sessions.

When the cursor is over to the cloned image, it will change to the Barco cursor. The user can zoom in on the cloned image by rolling the mouse wheel and pan the image with the left mouse button.

When zoomed in, the cloned image may be bigger than the clone display and part of the image may be off screen. Click and drag the left mouse button and move the cursor to pan to the portion of the image that is off screen.

Right clicking on the cloned image will bring up the *Conference CloneView* context menu. The menu options are described below.

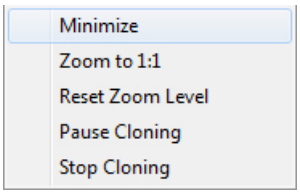


Image 5–5 Conference CloneView Context Menu

- **Minimize:** This minimizes the cloned image to show the desktop.
- **Zoom to 1:1:** Changes the scaling to 1 target pixel per source pixel. If the source resolution is larger than the target resolution, panning will be necessary to see the entire image. If the source resolution is smaller than the target resolution, black borders will show around the image. *"Stretch to fill"* has priority over this option.
- **Reset Zoom Level:** When *"Stretch to fill"* is selected in the Barco System Settings Control Panel, this will reset to the minimal zoom possible to make the stretched aspect ratio possible. When *"Stretch to fill"* is not selected, this option will reset the zoom to 1:1. When the image is already at the minimum zoom level, this option is grayed out.
- **Pause Cloning:** This suspends updates to the clone image; the source can continue to change while the target image remains static. Select it a second time to resume active cloning.
- **Stop Cloning:** Select this option to stop cloning on the current Display Controller. It has the same effect as clicking on the Stop Cloning button in the Barco System Settings Control Panel.

5.4.3 Configuration

Configuring Conference CloneView

- **Add clone configuration:** Click this button to define a new clone configuration.
- **Clone From** and **Clone To**: Click on one or more source displays in the **Clone From** list and one or more target displays from the **Clone To** list for the session. An active source cannot be used as a target, and an active target cannot be used as a source.
- **Stretch to fill:** If this is unchecked, the aspect ratio of the source displays will be preserved. If this is checked, the cloned image will be stretched to fill the target display(s) with the cloned image.
- **Start/Stop:** Clicking the **Start** button activates the clone session, and the button will change to **Stop**, which would end the session.

- **Remove this configuration:** Deletes this configuration.[1]
- **Apply to System:** Click this button to apply the currently specified conference cloneview configurations system wide. The conference cloneview configurations will be propagated to user's default Intuitive Workflow profile. Administrator's privilege is required.

5.5 DimView™

5.5.1 Description

DimView is available in IWT v2.3.x (Diag), v1.4.x (Core) and IWT v2.4.x (Diag), v1.5.x (Core)

Overview

The *DimView* feature reduces ambient light during diagnostic readings by dimming navigational displays when the cursor is moved off those displays. While the feature is typically used with navigational heads, it can be enabled on any display.

Image 5–6

5.5.2 Operation

Using DimView

DimView can be individually enabled on each display. All *DimView*-enabled displays can operate independently, or they can be configured to dim and brighten together.

5.5.3 Configuration

Configuring DimView

- **Enable DimView for these displays:** All displays that support *DimView* are listed in the configuration section. Click on the checkbox to enable the feature on that display.
- **Dim/brighten selected displays together:** When this box is checked, all *DimView*-enabled displays will brighten when the cursor is moved onto any one of those displays, and dim only when the cursor is off all of them.
- **Luminance of dimmed displays:** This slider bar sets the luminance while dimmed.

5.6 Film Clip

Film Clip is only available in the Diagnostic version of the Intuitive Workflow Tools.

5.6.1 Description

FilmClip is available in IWT v2.3.x (Diag) and IWT v2.4.x (Diag)

1. Beginning with IWT 2.3.0 release, conference CloneView can be enabled for displays attached to multiple display controllers. Configuration profiles from previous release will not be compatible and need to be reconfigured.

Overview

Film Clip allows the user to view a physical radiological film by using the I-Luminate™ feature of the display as a virtual light box.

Image 5–7

5.6.2 Operation

Using Film Clip

The size and location of the film clip light box are programmable. It has an automatic time-out with a programmable duration. An optional hotkey can quickly turn the light box on or off.

Supported film sizes for both MDMG-5221 and MDMC-12133 include the 18 cm x 24 cm and 24 cm x 30 cm; the MDMC-12133 also supports the larger 34 cm x 43 cm size.

5.6.3 Configuration

Configuring Film Clip

- **Enable Film Clip hotkey for these displays:** All displays that support *Film Clip* are listed in the configuration section. Click on the checkbox to launch the feature on that display with the hotkey.
- **Timeout:** The slider bar sets the time-out period for Film Clip mode.
- **Hotkey to enable Film Clip:** Click **Clear** to remove a hotkey. Click on the hotkey box to enter a new one.
- **Position:** This sets the location of the light box image on enabled displays.
- **Size:** This sets the size of the light box image to match the physical film dimensions.
- **Barco Touchpad:** Program a button on Barco Touchpad to toggle Film Clip using the drop-down box in the Touchpad section of the control panel.

5.7 FindCursor™

5.7.1 Description

FindCursor is available in IWT v2.3.x (Diag), v1.4.x (Core) and IWT v2.4.x (Diag), v1.5.x (Core)

Overview

The *FindCursor* feature provides a method to quickly locate the cursor on a system with multiple displays.

Image 5–8

Default behavior

FindCursor is enabled by default.

5.7.2 Operation

Using FindCursor

To quickly locate the cursor, hold down the hotkey (default: **Control +Shift +F**). The cursor location will be highlighted by a circle, which appears yellow on color displays and gray on grayscale displays.

5.7.3 Configuration

Configuring FindCursor

- **Enable/Disable:** Use the checkbox to enable or disable *FindCursor*.
- **Hotkey:** The currently selected hotkey is displayed in the edit box. To program a new hotkey, highlight the edit box, and input the new keystrokes. The change will take effect right away.
- **Barco Touchpad:** Program a button on Barco Touchpad to trigger FindCursor using the drop-down box in the Touchpad section of the control panel.

5.8 FocalPath

5.8.1 Description

FocalPath is available in IWT v2.3.x (Diag), v1.4.x (Core) and IWT v2.4.x (Diag), v1.5.x (Core)

Overview

FocalPath creates a static circular field of vision to aid in the reading of whole slide imaging.

Image 5–9

5.8.2 Operation

Using FocalPath

When enabled, a hotkey can toggle FocalPath between hidden and shown. The diameter of the region of interest and the level of dimming, outside that region, are configurable.

5.8.3 Configuration

Configuring FocalPath

- **Activate at login:** When enabled, *FocalPath* will show by default on each enabled display following logging into Windows.
- **Enable FocalPath for these displays:** Click on each checkbox to launch the feature on each supported display.
- **Diameter of spot:** This slider controls the diameter of *FocalPath*.
- **Luminance of dimmed displays:** This slider bar sets the luminance outside of the spot on *FocalPath*-enabled displays.
- **Hotkey to enable FocalPath:** Click **Clear** to remove a hotkey. Click on the hotkey box to enter a new one.
- **Barco Touchpad:** Program a button on Barco Touchpad to toggle FocalPath using the drop-down box in the Touchpad section of the control panel.

5.9 I-Luminate™

I-Luminate is only available in IWT v2.3.x (Diag) and IWT v2.4.x (Diag).

5.9.1 Description

Overview

This feature boosts the luminance of supported displays.

Image 5–10

5.9.2 Operation

Using I-Luminate

A hotkey will boost the luminance on all selected displays.

5.9.3 Configuration

Configuring I-Luminate

- **Enable I-Luminate for these displays:** All displays that support *I-Luminate* are listed in the configuration section. Click on the checkbox to enable the feature on that display.
- **Hotkey to enable I-Luminate:** Click **Clear** to remove a hotkey. Click on the hotkey box to enter a new one.
- **Timeout:** The slider bar sets the time-out period for the *I-Luminate* mode.
- **Barco Touchpad:** Program a button on Barco Touchpad to toggle I-Luminate using the drop-down box in the Touchpad section of the control panel.

5.10 Reading Environment

5.10.1 Description

Reading environment is available in IWT v2.3.x (Diag).

Overview

The reading environment settings for diagnostic displays allow the user to specify the color temperature and luminance of SteadyColor-calibrated displays. The reading environment for non-diagnostic displays allows the user to specify the maximum luminance on Barco clinical displays and third-party displays, however color temperature selection is not available.

Image 5–11

5.10.2 Operation

Using Reading Environment for SteadyColor Diagnostic Displays

The configuration of the Reading Environment is complimentary to the QAWeb settings. If the SteadyColor display is calibrated by the QAWeb 1.x Agent and the workstation is not connected to the QAWeb 1.x Server, all the controls in this section are available in the Barco System Settings Control Panel. If the workstation is connected to the QAWeb 1.x Server, use the server to set the reading environment. If the workstation has QAWebEnterprise installed, use the QAWebEnterprise server to set the reading environment.

Configure the white point chromaticity, ambient light, color calibration model, and calibrated luminance to user preference. After the settings have been changed, the QAWeb Agent will check if it has calibration files for the new settings. If it does, it will upload the calibration data to the display, which may take 20-60 seconds. If it does not have the calibration files, it will calibrate the display to create them, which may take up to 10 minutes.

When changes to the Reading Environment for Diagnostic Displays are made, the Barco System Settings Control Panel will indicate that changes are still in progress. Please let the system apply its changes before proceeding with readings.

Using Reading Environment for Non-Diagnostic Displays

Reading Environment can be individually enabled on each non-diagnostic display to reduce its luminance. Unlike *DimView*, the luminance of these displays will not change with cursor movement. The Reading Environment feature can be used in conjunction with *DimView*.

5.10.3 Configuration

Configuring Reading Environment for Diagnostic Displays

- **Use the settings QAWeb already has:** When selected, reading environment settings for diagnostic displays are disabled in the Barco System Settings Control Panel.
- **Suggest the following settings to QAWeb:** When selected, the reading environments are modifiable.
- **White point chromaticity:** This selects between clearbase, bluebase, and native white points.
- **Ambient light condition:** This selects the expected ambient light condition based on reading room class.
- **SteadyColor calibration:** This selects the color calibration model of the SteadyColor display.
- **Luminance of white:** This slider sets the calibration luminance of the display.

In installations with QAWeb, Ambient light condition, SteadyColor calibration, and Luminance of White do not appear in the Barco System Settings Control Panel. These can be configured in QAWeb with an appropriate image quality policy.

Configuring Reading Environment for Non-Diagnostic Displays

- **Select the displays:** All supported non-diagnostic displays are listed in the configuration section. Click on the checkbox to enable the feature on that display.
- **Display luminance:** This slider bar sets the luminance reduction for the selected displays.

5.11 Screen Capture

5.11.1 Description

Screen Capture is available in IWT v2.3.x (Diag), v1.4.x (Core) and IWT v2.4.x (Diag), v1.5.x (Core).

Overview

The *Screen Capture* feature captures the desktop into an image, including the Intuitive Workflow features, such as *SpotView*.

Image 5–12

5.11.2 Operation

Using Screen Capture

The screen capture is triggered through a hotkey and the completion of the capture is accompanied by a brief dimming of the display. The user can choose to capture the image of the display with the cursor to the clipboard. The user can also choose to capture an image of each display to a file in either PNG or PPM format.

5.11.3 Configuration

Configuring Screen Capture

- **Hotkey:** Click **Clear** to remove a hotkey. Click on the hotkey box to enter a new one.
- **Copy captured image to Windows clipboard:** Check this box to copy the image of the display with the cursor to the clipboard.
- **Output directory:** To save the capture images as files, enter a target location here. By default, the desktop folder is chosen.
- **File format:** Use these radio buttons to choose the file format as either PNG or PPM.
- **Barco Touchpad:** Program a button on Barco Touchpad to trigger Screen Capture using the drop-down box in the Touchpad section of the control panel.

5.12 SingleView™

5.12.1 Description

SingleView™ is available for IWT v2.4.x (Diag) v1.5.x(Core)

Overview

SingleView enables the use of a Coronis Fusion display as a single display in the Windows desktop and eliminates any tearing down the center.

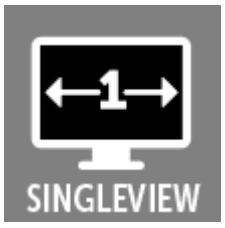


Image 5–13

5.12.2 Operation

Configuring SingleView

- Enable SingleView: This check box will toggle between SingleView and DualView
- Swap Left/Right: This can correct misaligned SingleView displays one at a time.
- Hotkeys: SingleView and DualView activations have individual hotkeys. Click Clear to remove a hotkey. Click on the hotkey box to enter a new one

5.13 Display Partitioner

5.13.1 Description

Display Partitioner is available for IWT v2.3.x(Diag), v1.4.x(Core)

Overview

Display Partitioner allows to configure how a physical display, connected to the MXRT/MXRV graphics controller, appears in the Windows desktop manager as either a single or dual display.

- A Barco Fusion display, when connected using dual display cables, will appear as two separate displays in Windows by default (when the software package is installed in radiology mode). Using Display Partitioner, this display can be reconfigured to appear as a single display, where the desktop spans the entire physical display (SingleView™).
- Displays without Fusion technology are always connected with a single display cable and appear as single display by default. Using Display Partitioner, such a single physical display can be reconfigured to appear as a dual display, where the Windows desktop is split in two halves.

This functionality is not compatible with QAWeb 1.x and will not be available when QAWeb 1.x is installed

5.13.2 Configuration

Configuring Display Partitioner

The user interface shows the desktop configuration for each connected display.

- To toggle between a single desktop and dual desktop appearance, click on a display to open the selection menu and choose either the single or dual desktop icon, and click Apply.
- **Fix Desktop Layout:** Click this to automatically align the displays on the desktop so that the physical displays are top aligned, with primary display on the far left.

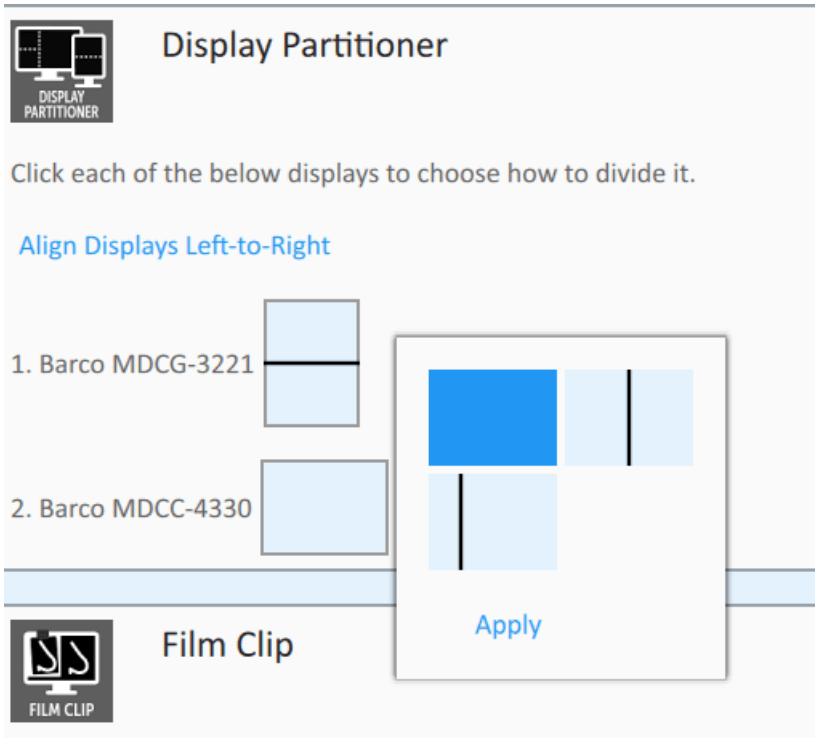


Image 5–14

5.14 SmartCursor™

5.14.1 Description

SmartCursor is available in IWT v2.3.x (Diag), v1.4.x (Core) and IWT v2.4.x (Diag), v1.5.x (Core).

Overview

The Barco *SmartCursor* feature prevents the cursor from becoming stuck on edges of adjacent displays of different sizes.

Image 5–15

5.14.2 Operation

Using SmartCursor

The *SmartCursor* operation is illustrated in Image 5–16.

Consider two points, A and B, on two displays of different sizes. Without *SmartCursor*, the cursor cannot move left from point A because it will be stuck on that edge. With *SmartCursor*, moving the cursor left from point A will move the cursor to point B. For symmetry, with *SmartCursor* moving to the right from point B, the cursor will appear back at point A.

Image 5–16 SmartCursor moving left from point A and right from point B.

5.14.3 Configuration

Configuring SmartCursor

Enable: Click on this checkbox to turn *SmartCursor* on or off.

WARNING: Windows 11 has built in “ease cursor movement between displays” functionality. When this functionality is enabled, cursor move to different locations when crossing display boundaries. If you prefer SmartCursor’s behavior over the OS’s behavior, please turn off the “ease cursor movement between displays” feature from system control panel under Display->Multiple Displays drop down

5.15 SoftGlow™

5.15.1 Description

SoftGlow is available in IWT v2.3.x (Diag), v1.4.x (Core) and IWT v2.4.x (Diag), v1.5.x (Core).

Overview

Certain Barco Coronis displays support *SoftGlow*. It consists of a task light, which sheds a light on the desktop, and a wall light, which together provide ambient lighting for the reading room to reduce eye fatigue. The brightness of each is configurable.

Image 5–17

5.15.2 Operation

Using SoftGlow

The task and wall lights will be set to the *SoftGlow* settings when the user has logged on to the Barco display system.

5.15.3 Configuration

Configuring SoftGlow

- **Task Light** and **Wall Light**: Use these sliders to set the brightness of the lights. Click and enter 0 to shut the light off.
- **Hotkey**: When configured, this hotkey will toggle the task lights on and off. The wall lights are only controlled by the slider.

5.16 SpotView™

SpotView is available in IWT v2.3.x (Diag) and IWT v2.4.x (Diag).

5.16.1 Description

Overview

The *SpotView* feature allows focused observation during readings by dimming images outside a region of interest and optionally enhancing the contrast in the region of interest.

The *SpotView Mag* feature offers 2x zoom within the *SpotView* region of interest. *SpotView Invert* inverts the pixels in the region of interest. *SpotView Align* creates a bar-shaped region of interest, which can be rotated as needed. *SpotView Align* has 2 modes of operation, a straight bar, or a V-shaped bar.

Image 5–18

5.16.2 Operation

Using SpotView

SpotView highlights a region of interest. The region of interest is selected using of the Barco Touchpad or by the mouse and a hotkey (default: **Control+Shift+X**). To control *SpotView* with the touchpad, hold and move one finger. The highlighted region of interest is always bound to displays that support *SpotView*.

To show *SpotView* when the Barco Touchpad is in *Mouse Emulation Mode*, hold one finger then tap a second.

The default diameter of the region of interest is controllable in the Barco System Settings Control Panel. If Dynamic Sizing is enabled, the diameter is also controllable with the scroll wheel when using the mouse, or with a pinch gesture when using the Barco touchpad. When *SpotView* is released, it returns to the default diameter on the next activation. [2]

To enhance viewing on Coronis and Mammography displays, the *SpotView* feature boosts the luminance of the display, if supported. The boost feature will turn off after one minute of continuous use. To further enhance viewing, the *SpotView* feature will optionally enhance the contrast of the region of interest. Contrast enhancement is not available with *SpotView Align*.

SpotView Mag highlights a region of interest, boosts luminance, and applies 2x zoom to the area. It is controlled through the Barco Touchpad or toggled on (or off) using a hotkey (default: **Control+Shift+S**). For the touchpad, while holding one finger to show *SpotView*, tap a second finger to toggle on (or off) *SpotView Mag*.

SpotView Invert inverts pixels in the region of interest. It is controlled through the Barco Touchpad or toggled on (or off) using a hotkey (default: **Control+Shift+A**). For the touchpad, while holding one finger to show *SpotView*, double tap a second finger to toggle on (or off) *SpotView Invert*. *SpotView Invert* can be used simultaneously with *SpotView Mag* with the Barco Touchpad or by a mouse and hotkey (default: **Control +Shift+A**).

When using the hotkey to turn on *SpotView*, the Spot will appear with the current cursor position being the center. When the Spot is moved onto a display that does not support the feature, it will not show the spot.

SpotView Align implements *SpotView* technology in different shapes to enable alternative uses. The two alternate shapes are a bar and a vee. They are only available through use of the Barco Touchpad, and both allow custom angles specified by the user.

Image 5–19

To enable the *SpotView Align* bar shape, first hold one finger on the touchpad to show *SpotView* then hold two fingers on it to show *SpotView Align*. Rotate two fingers for the desired angle and keep just one finger to lock the angle. The bar can be moved by dragging one finger. The angle of *SpotView Align* can be adjusted again by rotating two fingers on the touchpad. While holding one finger to show *SpotView Align*, tap or double-tap a second finger to toggle on (or off) *SpotView Mag* or *SpotView Invert*.

Image 5–20

To enable the *SpotView Align* vee shape, first enable the bar shape, then hold three fingers to show the mirror-image vee shape. Rotating two fingers will rotate the right bar, and the left image will follow. While holding one finger to show *SpotView Align*, tap or double-tap a second finger to toggle on (or off) *SpotView Mag* or *SpotView Invert*.

2. When using the mouse, clicking on the scroll wheel will toggle between controlling the Dynamic Sizing of the spot and scrolling in the Windows application.

5.16.3 Configuration

Configuring SpotView

- **Enable SpotView for these displays:** All displays that support *SpotView* are listed in the configuration section. Click on the checkbox to enable the feature on that display.
- **Enable Dynamic Contrast Enhancement:** Click on this checkbox to turn on the contrast enhancement feature. This is only available for the standard *SpotView* circle shape.
- **Enable Dynamic Size Adjustment for spot:** Click on this checkbox to allow the *SpotView* diameter to change with the scroll wheel or keypad pinch.
- **Hide cursor for spot:** Enabling this feature shows the cursor when controlled by a mouse. The touchpad behavior is unaffected.
- **Enable Esc to cancel spot:** allow using keyboard escape key to disable SpotView.
- **Bar:** Check this box to enable the *SpotView Align* bar shape by holding down two fingers on the touchpad.
- **Vee:** Check this box to enable the *SpotView Align* vee shape by holding down three fingers on the touchpad.
- **Luminance outside of spot:** This slider bar sets the luminance on *SpotView* enabled displays outside of the spot.
- **SpotView size, SpotView Mag size, and SpotView Align Width:** These sliders control the diameter of their spots and the width of the *SpotView Align* bar.
  Note: These sizes are described in centimeters. The apparent size will vary due to parallax, rounding of the display size, and the shaded penumbra of the spot. It is not intended to be used alone to make exact measurements of body parts.
- **Detector PIxel Size:** Specify the detector pixel size to be used for measurement calculation when DLPrecise outline is activated. Available range is 43 to 200 µm.

Barco Touchpad: Program a button on Barco Touchpad to toggle SpotView Mag or SpotView Invert using the drop down box in the Touchpad section of the control panel.

Configuring SpotView and DL Precise™ Plugin Workflows

- Choose the desired workflow from the drop-down menu. The workflow defines the default mode. The selected workflow will apply to both keyboards, pre-programmed keyboard like devices, and the Barco touchpad.
- Click on the “Show Touchpad Workflow Diagram” to see detailed illustration of the available workflows
- Select the desired keyboard hotkey to toggle each feature on (or off). Modifiers such as Ctrl or Shift can be specified. Double click can be applied to single modifiers or the action key in a hotkey combination.[3]
- **SpotView Workflows**
  When there isn’t an active DL Precise plugin, The following workflows are available

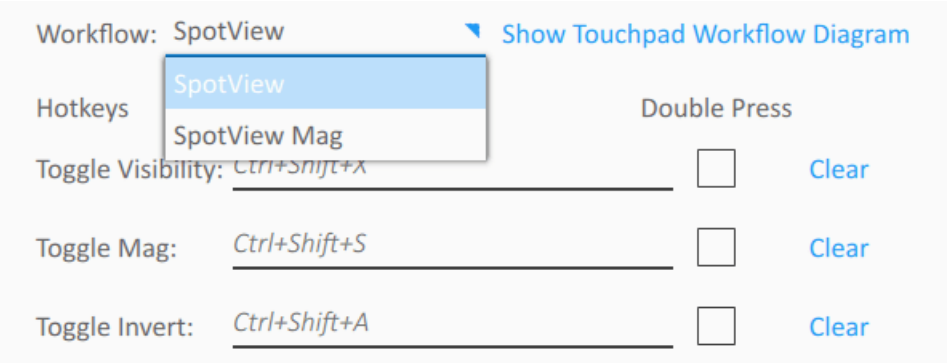


Image 5–21

The Toggle Visibilty hotkey combination activates SpotView region of interest. Depending on the four workflows chosen, the default state differs.

SpotView workflow: enter in SpotView mode, toggle 2x magnification and SpotView invert using hotkey.

3. you can only specify hotkey for the current workflow.

SpotView Mag workflow: enter in SpotView 2x magnification mode, toggle SpotView and SpotView invert using hotkey.

DLPrecise Workflows: When DL Precise plugin has been activated, additional four workflows become available.

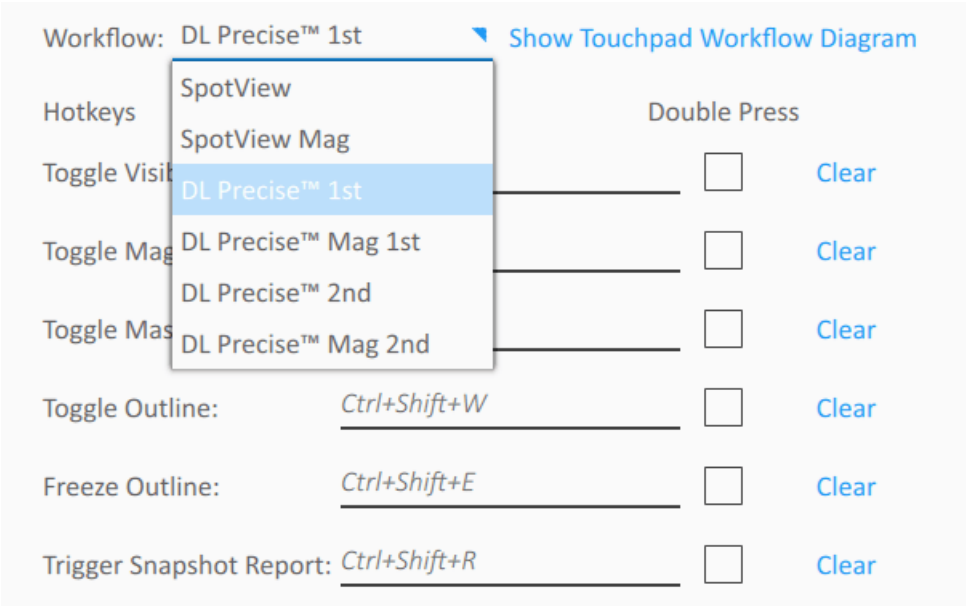


Image 5–22

Toggle Visibilty: This hotkey combination activates SpotView region of interest. Depending on the four workflows chosen, the default state differs.

DL Precise™ 1st workflow: enter in DL Precise™ Mass View mode, toggle 2x magnification, regular SpotView and DL Precise™ Outline mode using hotkey.

DL Precise™ Mag 1st workflow: enter in DL Precise™ mass view with 2x magnification mode, toggle regular DL Precise™ Mass View mode, regular SpotView mode and DL Precise™ outline mode using hotkey.

DL Precise™ 2nd workflow: enter in SpotView mode, toggle DL Precise™ Mass View mode, 2x magnification and DL Precise™ outline mode using hotkey.

DL Precise™ 2nd Mag workflow: enter in SpotView 2x magnification mode, toggle DL Precise™ Mass View, outline and regular SpotView using hotkey.

Freeze Outline: This hotkey combination takes affect when DL Precise outline mode is activated. It will keep the current outline in place, and release the input device to look for new region of interest. Note: A maximum of six outlines can be preserved.

Trigger Snapshot Report: This hotkey will trigger the existing DL Precise outlines, and corresponding measurements to be sent to the clipboard and also a file located in the folder specified by the Output directory in DL Precise Plugin section. Below is a sample image.

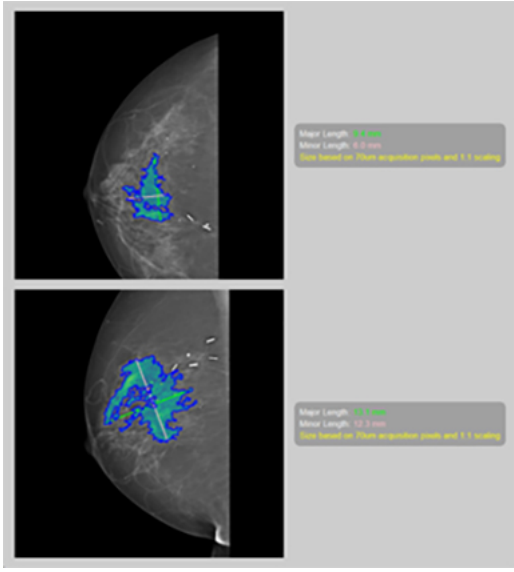


Image 5–23

5.17 Multi-Display Confer

5.17.1 Description

Multi-Display Confer is available in IWT v2.3.x (Diag) and v1.4.x (Core).

Image 5–24

When sharing screen content using conferencing software, such as MS Teams or Zoom, normally only a single screen or window can be shared, and the shared content would not include the graphics processing performed by features such as SpotView.

Using the Multi-Display Confer feature, user can choose to share multiple screen's content during a video conference, and the content will include the graphical processing outcome from features such as SpotView.

Demo Mode

This feature is available with a valid software license. You can experiment with the feature temporarily by enabling demo mode.

To enable demo mode click on *Start ten minute Demo*.

Demo mode will expire after ten minutes and the feature will automatically terminate.

To enable Multi-Display Confer

1. Select the screens that the user would like to share in a conference.
2. Click on See Preview to see the content to be shared. Resize the window to see more details.
3. Click Enable Multi-Display Confer.

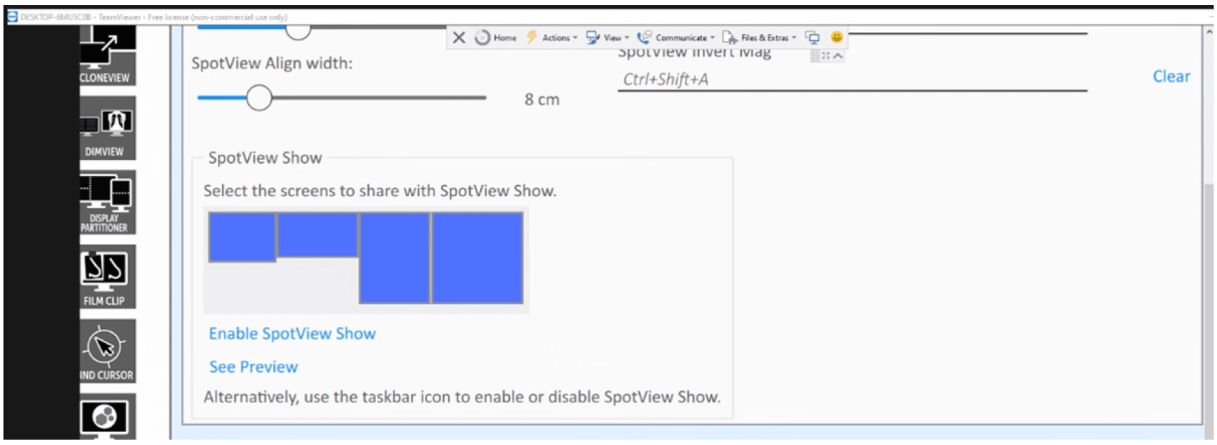


Image 5–25

4. Multi-Display Confer can also be enabled/disabled using the taskbar icon.

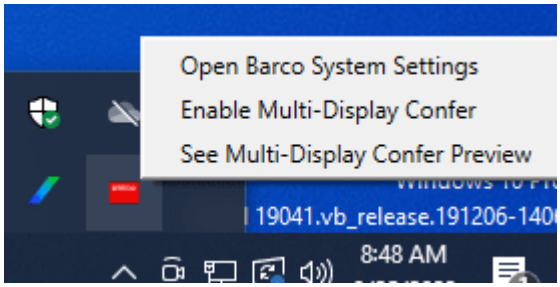


Image 5–26

5. Multi-Display Confer virtual window can be shared as a screen or window within conferencing software. Below is an example of what the virtual window looks like in MS Teams. ‘Screen 5’ is the Barco virtual display.

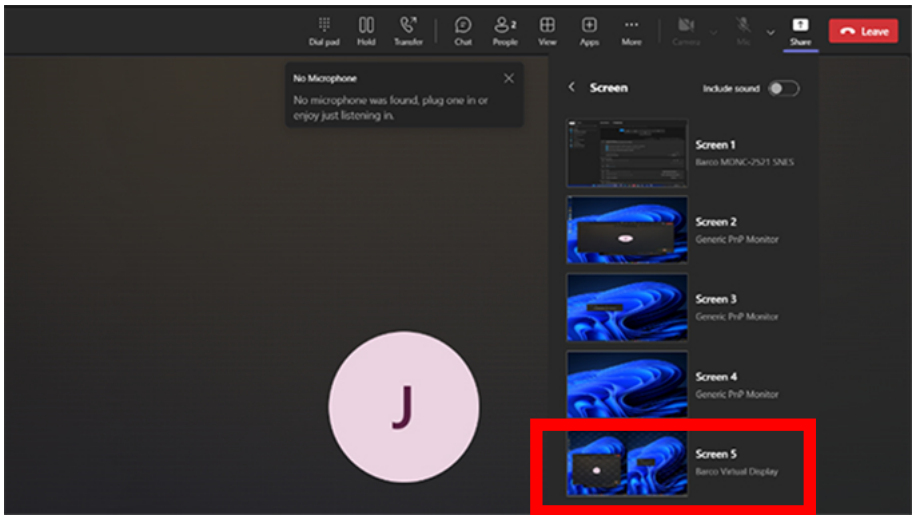


Image 5–27

The image below shows sharing the window. The last screen in the list is the Multi Display Confer window.

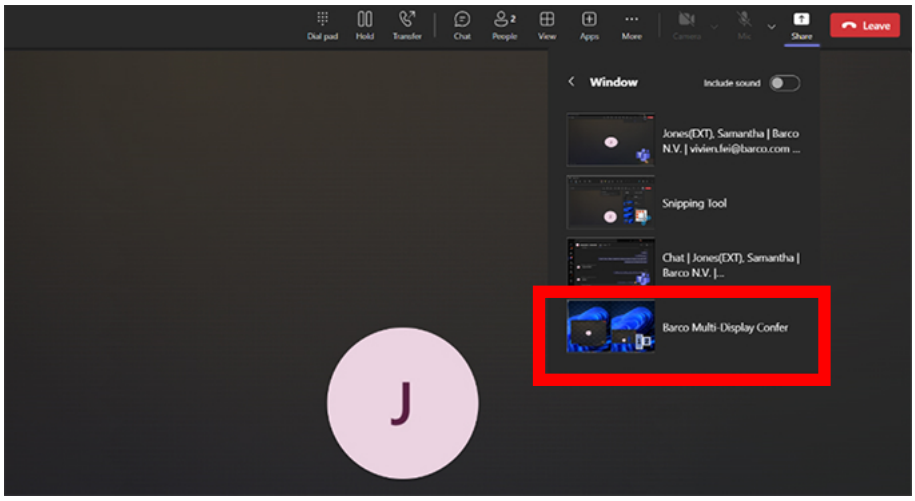


Image 5–28

Multi-Display Confer will remain enabled until it is deactivated manually, or until the user logs off the Windows session.

VirtualView and Multi-Display Confer cannot be active simultaneously:

- When VirtualView is enabled, the Multi-Display Confer functionality cannot be activated..
- When Multi-Display Confer is enabled, VirtualView cannot be activated.

5.18 Plugin

5.18.1 Description

Plugin is available in IWT v2.3.x (Diag), v1.4.x (Core) and IWT v2.4.x (Diag), v1.5.x (Core).

Overview

These are 3rd party software add-ons that are installed and integrated with Intuitive Workflow Tools software suite to provide enriched feature set.

DL Precise ™ Plugin

Check website *https://www. deeplookmedical. com/dl-precise/* for description of the algorithm provided by DeepLook.

Currently, the following functionalities are integrated alongside SpotView.

Mass View – Multiple Candidate Segmentations Simultaneously

Mass View mode is characterized by a colorized set of shapes inside a region of interest. In this mode, candidate segmentations are represented by colored shapes. Each color represents a different potential segmentation of the anatomy in the region of interest. Colors are arbitrarily assigned to differentiate the candidates. As such, red should not be interpreted as more intense than orange, for instance.

Outline View – One Candidate Segmentation at a Time

Outline View is characterized by a thin line around the outside of one candidate segmentation of anatomy. The user interface controls which of several candidates are displayed. DL Precise may offer up to twelve alternates that the user may consider.

LD/SD – RECIST Compliant Measurement

DL Precise automatically finds the longest dimension of a candidate segmentation and marks it as Longest Diameter in the plane of measurement to be recorded. It subsequently identifies the longest dimension of the candidate segmentation along a dimension perpendicular to the LD. This is identified as the Short axis Dimension. These two measurements are consistent with the RECIST guideline *https://recist.eortc.org/recist-*

1-1-2/ for lesion measurements. Changing the candidate segmentation (see Outline View) will cause a recalculation of the LD and SD.

DL Precise ™ Plugin is only available in the Diagnostic version of the Intuitive Workflow Tools.

Demo mode

This feature is available with a valid software license. You can experiment with the feature temporarily by enabling demo mode. To enable demo mode

Click on *Start five-minute Demo*

Demo mode will expire after five minutes, and the feature will automatically terminate.

Operation

See “Configuration”, page 43 for details on interacting with the plugin using a keyboard .

See“Touchpad Gesture Control”, page 48 for details on interacting with the plugin using a keyboard.

Configuration

Output directory: To save the capture images as files, enter a target location here. By default, the desktop folder is chosen.

5.19 Touchpad Gesture Control

5.19.1 Description

Touchpad is available in IWT v2.3.x (Diag), v1.4.x (Core) and IWT v2.4.x (Diag), v1.5.x (Core)

Overview

Use the *Touchpad Gesture Control* interface to customize the touchpad for the way you like to work. In addition to controlling *SpotView*, the Barco Touchpad can control the cursor. This allows the user to control PACS and other applications with multi-touch gestures and touchpad buttons. Each gesture can be programmed to send keystroke shortcuts, as if those keys were pressed on the keyboard. These keystroke shortcuts can be used by the active application in Windows. The gesture can send a single keystroke or send the keystroke continuously until the gesture ceases.

Image 5–29

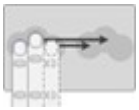
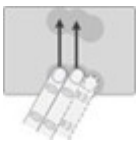
5.19.2 Operation

Overview

The touchpad has 5 customizable input gestures (one finger, two fingers, three fingers, pinch in, pinch out) and up to 6 customizable buttons (depending on touchpad model). Each of the gestures and buttons can be set to emulate a specific operation or hot key combination by selecting either the *Cursor Mode* icon or the *Keyboard Emulation Mode* icon.

Using the Barco Touchpad Gesture Recognition

The Barco Touchpad recognizes 10 two- and three-finger gestures: Two- and Three-finger Swipe Left, Two- and Three-finger Swipe Right, Two- and Three-finger Swipe Up, Two- and Three-finger Swipe Down, Two-finger Pinch In, and Two-finger Pinch Out. These are shown in the table below.

Swipe Left		Swipe Right	
Swipe Up		Swipe Down	
Pinch In		Pinch Out	

Multi-finger Gestures

By emulating the mouse buttons and mouse wheel, the multi-gesture keys can be set to perform various operations. These operations can optimize the workflow of diagnostic imaging applications by reducing the number of clicks and hot key combinations required. Double-click, Control, Shift, Alt, and Windows key modifiers can be selected with each gesture to match application-specific operations. As an example, in some PACS applications, using the Control key together with the mouse wheel will increase the distance of panning, or speed of scrolling.

In the *Keyboard Emulation* mode, customized hot key combinations can be programmed for directional finger movements. Each gesture will register a single hot key signal emission; when a repeated gesture emission is needed, enable the Continuous function and adjust the slider to set the rate at which hot keys will be emitted.

Pinch Gestures

As opposed to multi-finger gestures, which allow directional movement, the pinch gestures enable singular customizable actions. These inputs all share the same ten actions, and just as the multi-finger gestures, can be used with the Double-click, Control, Shift, Alt, and Windows key modifiers.

Buttons

The touch pad buttons can be programmed to directly trigger/toggle IWT actions, or send keyboard hot key combinations or emulate mouse buttons and mouse wheels. A single button press will register a single hot key signal or mouse command, while by pressing and holding the button, repeated gestures will be emitted.

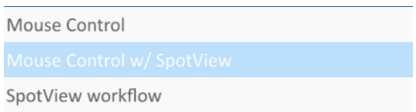
5.19.3 Configuration

Configuring the Barco Touchpad

From the Barco System Settings Control Panel, navigate to the Touchpad Gesture Control section to associate the Barco Touchpad gestures with desired behavior

Input Modes

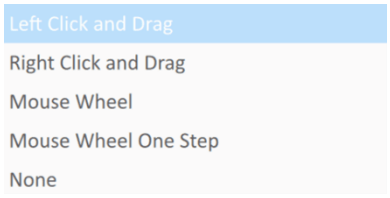
- Use the drop-down menu to select the touchpad's input modes.



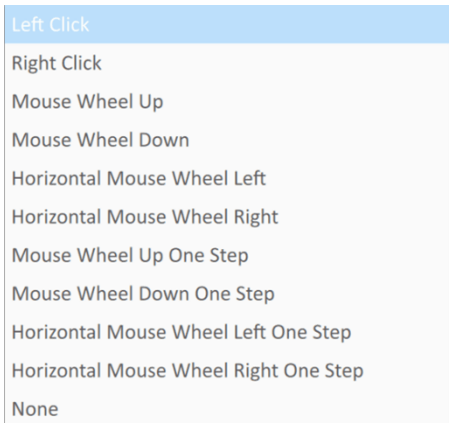
Mouse Control Mode, touchpad behaves similarly to a generic touchpad. Program multi-finger gestures to mimic mouse cursor control, or emulate keyboard inputs.

	• **Gesture:** Selects the function to be customized. • **Action Command:** Defines the action/command for the selected gesture. • **Action Modifiers:** Allows for additional modification of the action using the Double-click, Control, Alt, Shift, and Windows keys.
	• **Action Command:** Lets the user set the hot key combination for the action/command of the selected gesture. • **Clear:** Click the Clear button to remove the hot key for a given gesture or button. • **Continuous:** This checkbox enables customizable continuous shortcut emission, and the slider can be used to control frequency

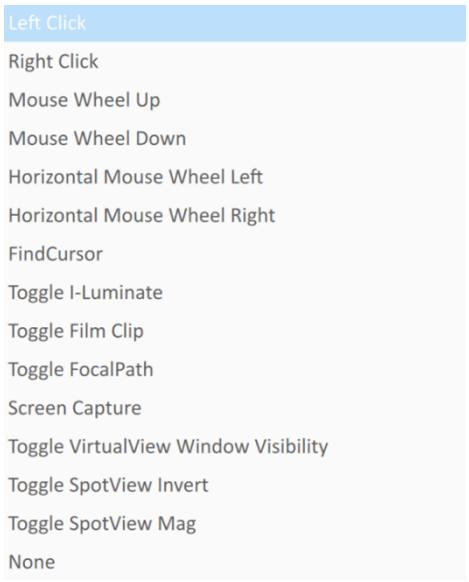
Two Fingers or Three Fingers gesture options



Pinch in or pinch out gesture options



Program buttons options from the drop-down box, to mimic mouse cursor control, or trigger Intuitive Workflow features directly



Mouse Control with SpotView mode

The touchpad behaves similarly to a generic touchpad. Program touchpad gestures to mimic mouse control from the corresponding drop-down box as shown above.

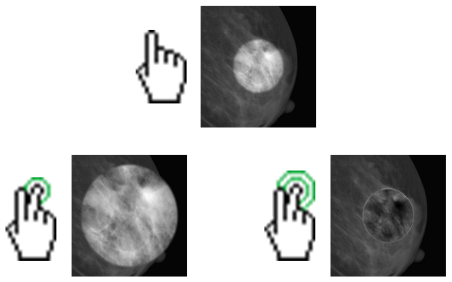
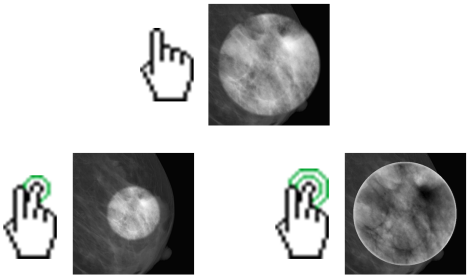
Switch into SpotView workflow with these gestures:

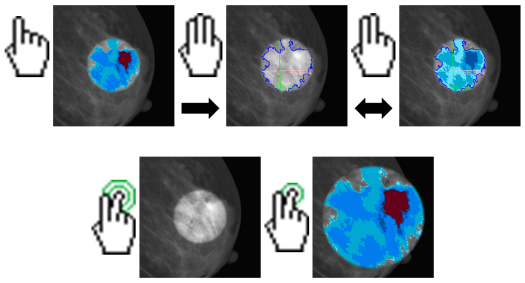
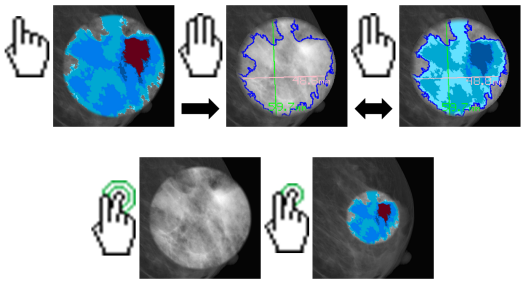
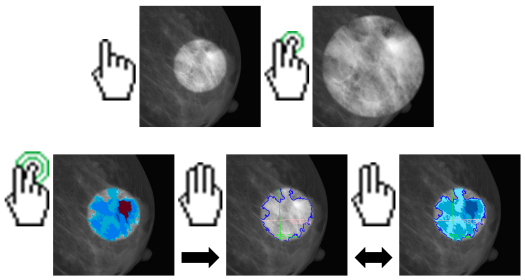
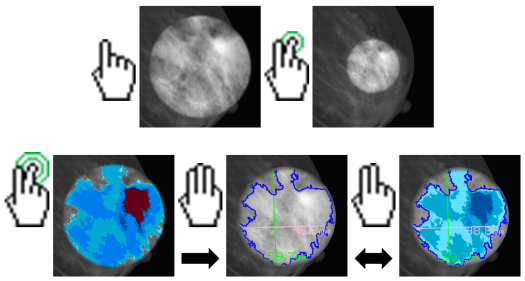
- One finger down, 2nd finger tap to enable SpotView.
- While in SpotView mode, 2nd finger tap to toggle 2x magnification.
- While in SpotView mode, 2nd finger double tap to toggle SpotView invert.
- Lift fingers off touchpad to exit SpotView mode

SpotView and DL Precise™ workflow and Pre-Programmed buttons

The selection of the workflow needs to be done in the SpotView section.

The corresponding touchpad gesture flows are shown in the diagram below:

Spotview Workflow: • One finger down triggers SpotView. • 2nd fingers tap toggles SpotView Mag. • 2nd finger double tap toggles SpotView Invert.	
SpotView Mag Workflow: • One finger down triggers SpotView Mag. • 2nd fingers tap toggles SpotView. • 2nd finger double tap toggles SpotView Invert.	

DL Precise™ 1st • One finger down triggers DL Precise™ Mass View. • While in Mass View mode, three fingers down and hold to switch into DL Precise™ outline mode. • Lifting one finger to show composition of outline and Mass View. • 2nd finger tap toggles 2x magnification. • 2nd finger double tap toggles SpotView Button1 (leftmost): Toggle SpotView mag Button2: Freeze Outline Button3: Trigger Snapshot Report	
DL Precise™ Mag 1st • One finger down triggers DL Precise™ Mass View with 2x magnification. • Three fingers down and hold to switch into DL Precise™ outline mode with 2x magnification. • Lifting one finger to show composition of outline and Mass View with 2x magnification. • 2nd fingers tap toggles 2x magnification. • 2nd finger double tap toggles SpotView with 2x magnification. Button1 (leftmost): Toggle SpotView mag Button2: Freeze Outline Button3: Trigger Snapshot Report	
DL Precise™ 2nd • One finger down triggers SpotView. • 2nd fingers tap toggles 2x magnification. • 2nd finger double tap toggles DL Precise™ Mass View. • While in DL Precise™ Mass View mode, three fingers down and hold to switch into DL Precise™ outline mode. • Lifting one finger to show composition of outline and Mass View. Button1 (leftmost): Toggle SpotView mag Button2: Freeze Outline Button3: Trigger Snapshot Report	
DL Precise™ Mag 2nd • One finger down triggers SpotView with 2x magnification • 2nd fingers tap toggles 2x magnification. • 2nd finger double tap toggles DL Precise™ Mass View with 2x magnification. • While in DL Precise™ Mass View mode, three fingers down and hold to switch into DL Precise™ outline mode. • Lifting one finger to show composition of outline and Mass View with 2x magnification. Button1 (leftmost): Toggle SpotView mag Button2: Freeze Outline Button3: Trigger Snapshot Report	

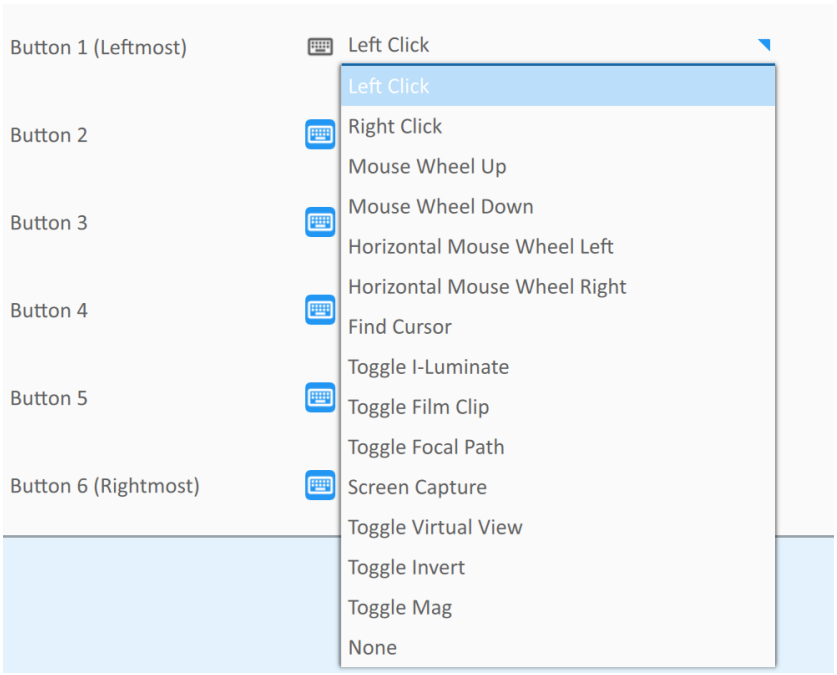


Image 5–30

5.20 VirtualView™

5.20.1 Description

VirtualView is available in IWT v2.3.x (Diag) and v1.4.x (Core).

Overview

VirtualView gives the user additional real estate on the screen by creating a virtual display in Windows without the need for an additional physical display on the desk. A virtual display is created for the user to use as a navigational head, or for other software, such as dictation. The user can set the location of the virtual display, and when the cursor moves into that virtual area, or hotkey is triggered, the virtual display appears on the Windows desktop.

Image 5–31

VirtualView and *Multi-Display Confer* cannot be active simultaneously.

- When *VirtualView* is enabled, *Multi-Display Confer* functionality is not available.
- When *Multi-Display Confer* is enabled, *VirtualView* cannot be activated.

5.20.2 Operation

Using VirtualView

VirtualView creates a virtual display within the Windows desktop. In the Windows control panel, it appears as a normal display with a display number, and its resolution and location can be changed similarly to a physical display.

By moving the cursor to the virtual display location on the desktop, the virtual display appears on a physical display. *VirtualView* can also be activated and hidden by a hotkey (default: **Control +Shift +V**). It can be stretched to make the contents larger or shrunk to make the window take up less desktop space. Windows and applications can be dragged and dropped onto the virtual display, and they will show only when *VirtualView* is showing.

To promote usability with PACS applications, *VirtualView* has a visibility setting. In the Diagnostic visibility mode (default), it will appear on the top of all other windows, and in the administrative visibility mode, it may be hidden by other windows, including the PACS software.

The virtual display window has **Minimize**, **Maximize, Restore**, and **Close** buttons.

- Clicking the **Minimize** button hides *VirtualView* and creates an icon on the Task Bar, and clicking on the icon will restore it to its previous size and location.
- Clicking the **Maximize** button resizes *VirtualView* to the largest size possible on that physical display while maintaining aspect ratio, and that button will change to **Restore**.
- Clicking on the **Restore** button returns the maximized window to its previous size and location.
- Clicking the **Close** button does not terminate the *VirtualView* feature. It hides the window, and when shown again, it will appear in the default location and size.

5.20.3 Configuration

Configuring VirtualView through Barco System Settings Control Panel

- **Connect:** *VirtualView* is disabled by default. Click on this checkbox to connect a *VirtualView* display to the desktop.
  Once *VirtualView* has been connected to the desktop through the Barco System Settings Control Panel, the *VirtualView* display will show up in the Windows Display Control Panel as Barco Virtual display and can be controlled as a regular display on the desktop.
- **Reset window size:** This resets the virtual display window to 1-to-1 scaling.
- **Configure Visibility:** Selects between Diagnostic and Administrative visibility modes.
- **Configure Hotkey:** Specify a hotkey to show/hide virtual display window.
- **Barco Touchpad:** Program a button on Barco Touchpad to show/hide VirtualView window using the drop-down box in the Touchpad section of the control panel.

Configuring VirtualView through Windows Display Control Panel

The Windows Display Control Panel can be opened through the Barco System Settings Control Panel. Or, from the **Control Panel**, select **Display**, and select **Screen Resolution**. Or click on the desktop a select **Screen Resolution**.

The Barco virtual display resolution and location on the Windows desktop can also be changed in the control panel in the same method as normal displays. *VirtualView* supports a large range of portrait and landscape resolutions.

Important information

6

6.1 Safety information

General recommendations

Read the safety and operating instructions before operating the device.

Retain safety and operating instructions for future reference.

Adhere to all warnings on the device and in the operating instructions manual.

Follow all instructions for operation and use.

Electrical shock or fire hazard

To prevent electric shock or fire hazard, do not remove cover.

No serviceable parts inside. Refer servicing to qualified personnel.

Do not expose this apparatus to rain or moisture.

Cleaning instructions

Clean the display in a dust free environment. Excessive dust can severely damage the functioning of the display.

Modifications to the unit

Do not modify this equipment without authorization of the manufacturer.

Type of protection (Electrical)

Device with external power supply: Class I equipment.

Degree of safety (flammable anesthetic mixture)

Equipment not suitable for use in a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

6.2 Cybersecurity

Security objectives

The Intuitive Workflow Tools are intended to be used as accessories for image enhancement in diagnostic displays. Therefore, ensuring the availability of digital images has been identified as the primary security objective of this product.

Nevertheless, the availability, integrity, and confidentiality of information processed by the Intuitive Workflow Tools relies on the non-mandatory security recommendations described below.

The lack of storage or processing of patient or personal information, combined with the limited (network) connectivity, results in the Intuitive Workflow Tools entailing a low cybersecurity risk profile.

Security recommendations

The security measures listed below should be considered as a non-exhaustive list of possible security controls for the operating environment. The operating environment must not hinder the application of security measures on the product or force the device to operate in a lower security setting.

The operator shall maintain the necessary state-of-the-art policies, processes, standards and other security controls to incorporate, support and protect the product. This shall include the application of risk management (e.g. by implementing relevant standards). The operating environment should provide physical security via security measures such as:

- Regulated and authenticated physical access enforced via suitable technical measures (e.g. badges)
- Physical security policy defining roles and access rights, including for physical access to the product
- Use of segregated, secure areas with appropriate access controls

The operating environment should include appropriate security controls such as:

- User access management (credentials for accessing software applications or devices, user access policy, etc.)
- Antivirus / anti-malware software
- Firewall
- Application whitelisting / system hardening
- Exclusive use of genuine software and ban of all illegitimate software and applications
- Session management measures (e.g. session time-outs)

The operating environment should provide control and security of network traffic via appropriate measures, such as:

- Network segmentation & network access control
- Traffic filtering
- Encrypted communication

Specifically for workstations connected to the product, appropriate security measures include:

- Operating system hardening and application whitelisting
- Use of strong passwords
- Install only software necessary for the intended use of the operating environment

To ensure that the security posture of the operating environment and of the product itself remain at a suitable level, appropriate provisions regarding patch management should be in place, such as:

- The operating environment should support patching without compromising interoperability/compatibility
- The operator should have appropriate patch management processes to ensure that security patches for the product are deployed in a timely manner
- The operator should have appropriate patch management processes to ensure that the operating environment (e.g. operating systems, applications) is up to date in terms of security

6.3 Environmental information

Disposal Information

Waste Electrical and Electronic Equipment (WEEE)

This symbol on the product indicates that, under the European Directive 2012/19/EU governing waste from electrical and electronic equipment, this product must not be disposed of with other municipal waste. Please dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

For more information about recycling of this product, please contact your local city office or your municipal waste disposal service. For details, please visit the Barco website at: https://www.barco.com/about/sustainability/waste-of-electronic-equipment-customers

Turkey RoHS compliance

Türkiye Cumhuriyeti: AEEE Yönetmeliğine Uygundur.

[Republic of Turkey: In conformity with the WEEE Regulation]

中国大陆 RoHS

Chinese Mainland RoHS

根据中国大陆《电器电子产品有害物质限制使用管理办法》（也称为中国大陆RoHS），以下部分列出了Barco产品中可能包含的有毒和/或有害物质的名称和含量。中国大陆RoHS指令包含在中国信息产业部MCV标准：“电子信息产品中有毒物质的限量要求”中。

According to the “Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products” (Also called RoHS of Chinese Mainland), the table below lists the names and contents of toxic and/or hazardous substances that Barco’s product may contain. The RoHS of Chinese Mainland is included in the MCV standard of the Ministry of Information Industry of China, in the section “Limit Requirements of toxic substances in Electronic Information Products”.

零件项目(名称) Component name	有毒有害物质或元素 Hazardous substances and elements					
	铅 Pb	汞 Hg	镉 Cd	六价铬 Cr6+	多溴联苯 PBB	多溴二苯醚 PBDE
印制电路配件 Printed Circuit Assemblies	x	o	o	o	o	o
本表格依据SJ/T 11364的规定编制 This table is prepared in accordance with the provisions of SJ/T 11364. o: 表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下. o: Indicates that this toxic or hazardous substance contained in all the homogeneous materials for this part is below the limit requirement in GB/T 26572. x: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 标准规定的限量要求. x: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in GB/T 26572.						

在中国大陆销售的相应电子信息产品（EIP）都必须遵照中国大陆《电子电气产品有害物质限制使用标识要求》标准贴上环保使用期限（EFUP）标签。Barco产品所采用的EFUP标签（请参阅实例，徽标内部的编号使用于指定产品）基于中国大陆的《电子信息产品环保使用期限通则》标准。

All Electronic Information Products (EIP) that are sold within Chinese Mainland must comply with the “Marking for the restriction of the use of hazardous substances in electrical and electronic product” of Chinese Mainland, marked with the Environmentally Friendly Use Period (EFUP) logo. The number inside the EFUP logo that Barco uses (please refer to the photo) is based on the “General guidelines of environment-friendly use period of electronic information products” of Chinese Mainland.

台灣 RoHS

Taiwan RoHS

限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名称：视频显示卡 . 型号（型式）： 102-c58708-01; MXRT-5600; MXRT-7600 Equipment name. Type designation (Type)						
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr^{+6})	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
风扇散热器 Fansink	-	○	○	○	○	○
电路板 Circuit Board	-	○	○	○	○	○
托架 Bracket	○	○	○	○	○	○

拧 Screw	○	○	○	○	○	○

備考1.〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值

Note 1：“Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition

備考2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值

Note 2：“○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3.〝 - 〞係指該項限用物質為排除項目

Note 3：The “−” indicates that the restricted substance corresponds to the exemption

6.4 Regulatory compliance information

6.4.1 Display Controllers

Notice to the user and/or patient

Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.

Manufacturing country

The manufacturing country of the product is indicated on the product label (**“Made in …”**).

Importers contact information

To find your local importer, contact one of Barco’s regional offices via the contact information provided on our website (*www.barco.com*).

FCC class B

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

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC responsible: Barco Inc., 3059 Premiere Parkway Suite 400, 30097 Duluth GA, United States, Tel: +1 678 475 8000

6.4.2 Intuitive Workflow Tools

Only the intuitive workflow tools SpotView, I-luminate, FilmClip and Application Appearance Manager (AAM) are in scope of this section.

Indications for use

The Intuitive Workflow Tools are intended to be used as accessories for image enhancement in diagnostic displays.

Intended usage environment

There are no specific intended conditions for use.

Contra-indications

Not applicable.

Intended users

The Intuitive Workflow Tools are intended to be used by trained medical practitioners.

Information for Australia

The English version of this manual is applicable for Australia.

How to receive a paper version of this manual

To receive a hard copy of this user guide, please submit a request via our eSupport services https://www.barco.com/support. Include the name, part number of the product, language, address details and number of copies in the request. Barco will provide the hard copy user guide to you free of charge within 7 days after the request.

6.5 Explanation of symbols

Overview

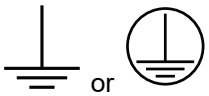
On the Display Controller or in the Intuitive Workflow Tools user interface, you may find the following symbols (nonrestrictive list):

CE	Indicates the device meets the requirements of the applicable EC directives/regulations.
CE 0123	Indicates the device meets the requirements of the applicable EC directives/regulations.
FC	Indicates compliance with Part 15 of the FCC rules (Class A or Class B).
CLASSIFIED UL	Indicates the device is approved according to the UL regulations.
CLASSIFIED C UL US	Indicates the device is approved according to the UL regulations for Canada and US

	Indicates the device is approved according to the UL regulations for Canada and US
	Indicates the device is approved according to the UL Demko regulations.
	Indicates the device is approved according to the VCCI regulations.
	Indicates the device is approved according to the KC regulations.
	Indicates the device is approved according to the BSMI regulations.
	Indicates the device is approved according to the PSE regulations.
	Indicates the device is approved according to the RCM regulations.
	Indicates the device is approved according to the EAC regulations.
	Caution: Federal law (United Stated of America) restricts this device to sale by or on the order of a licensed healthcare practitioner.
	Indicates the device is approved according to the BIS regulations.
	Indicates the USB connectors on the device.

	Indicates the DisplayPort connectors on the device.
	Indicates the legal manufacturer.
	Indicates the manufacturing date.
	Indicates the entity importing the medical device into the locale.
	Indicates the temperature limitations[4] for the device to safely operate within specs.
MD	Indicates that the device is a Medical Device.
SN	Indicates the device Serial Number.
REF	Indicates the device part number or catalogue number.
UDI	Indicates the Unique Device Identifier.
EC REP	Indicates the Authorised Representative for the European Union.
CH REP	Indicates the Authorised Representative for Switzerland.
	Warning: dangerous voltage
	Caution

4. Values for xx and yy can be found in the technical specifications paragraph.

	Consult the Instructions For Use.
 eIFU indicator	Consult the Instruction For Use on the website address that is provided as eIFU indicator.
	Indicates this device must not be thrown in the trash but must be recycled, according to the European WEEE (Waste Electrical and Electronic Equipment) directive.
	Indicates Direct Current (DC).
	Indicates Alternating Current (AC).
	Stand-by
	Equipotentiality
 or	Protective earth (ground)

6.6 Legal disclaimer

Disclaimer notice

Although every attempt has been made to achieve technical accuracy in this document, we assume no responsibility for errors that may be found. Our goal is to provide you with the most accurate and usable documentation possible; if you discover errors, please let us know.

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The specifications of Barco products are subject to change without notice.

Trademarks

All trademarks and registered trademarks are property of their respective owners.

Copyright notice

Product Security Incident Response

As a global technology leader, Barco is committed to delivering secure solutions and services to our customers, while protecting Barco's intellectual property.

When product security concerns are received, the product security incident response process will be triggered immediately. To address specific security concerns or to report security issues with Barco products, please inform us via contact details mentioned on https://www.barco.com/psirt.

To protect our customers, Barco does not publicly disclose or confirm security vulnerabilities until Barco has conducted an analysis of the product and issued fixes and/or mitigations.

Privacy policy

Barco is concerned about respecting the privacy of our users. Please see our privacy policy on our website at http://www.barco.com/en/about-barco/legal/privacy-policy to learn more.

6.7 Technical specifications

Check with local service representatives for specifications if your card is not listed.

MXRT-2600

Product acronym	MXRT-2600
Bus compatibility	PCIe Gen3 x16 (wired x8)
Power consumption	26 Watt
Form factor	168 mm (L) x 68 mm (H) single PCIe slot wide
Operating system	Windows 7 – 32/64-bit, Windows 8.1 – 64-bit, Windows 10 – 64-bit, Windows 11 – 64–bit
Platforms	Intel® and AMD architectures
Graphics accelerator	ATI FirePro
Graphics memory	2 GB DDR3
Memory interface	128-bit
Memory bandwidth	28.8 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.2a
Connectors	2x DisplayPort
Supported resolutions	Up to 6MP color
DirectX support	Microsoft® DirectX v11.2, Vertex Shader 5.0, Pixel Shader 5.0
OpenGL support	OpenGL 4.4
OpenCL support	OpenCL 1.2
Approvals and compliance	FCC Part 15 Class B, CE EN 55022 Limit B, EN 55024, UL-60950-1, BMSI CNS, CISPR- 22/24, IEC609050-1, VCCI, CSA C22.2, EU RoHS directive (2011/65/EU), Certificate of Information & Communication Equipment (Republic of Korea)
Operating temperature	0° to 55°C (32° to 131° F)

MXRT-2700

Product acronym	MXRT-2700
Bus compatibility	PCIe Gen3 x16 (wired x8)
Power consumption	35 Watt

Form factor	168 mm (L) x 68 mm (H) single PCIe slot wide
Operating system	Windows 7 – 64-bit, Windows 10 – 64-bit, Windows 11 – 64–bit
Platforms	Intel® and AMD architectures
Graphics accelerator	AMD Radeon Pro
Graphics memory	2 GB DDR5
Memory interface	64-bit
Memory bandwidth	48 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.4
Connectors	2x Mini DisplayPort 1x DisplayPort
Supported resolutions	Up to 6MP color
DirectX support	Microsoft® DirectX v12, Shader Model 5.1
OpenGL support	OpenGL 4.5
OpenCL support	OpenCL 2.0
Vulkan support	Vulkan 1.1
Approvals and compliance	FCC Part 15 Class B, CE EN 55032 Limit B, EN 55024, UL-60950-1, BMSI CNS, CISPR- 32/24, IEC609050-1, VCCI, CSA C22.2, EU RoHS directive (2011/65/EU), Certificate of Information & Communication Equipment (Republic of Korea)
Operating temperature	0° to 55°C (32° to 131° F)

MXRT-4700

Product acronym	MXRT-4700
Bus compatibility	PCIe Gen3 x16 (wired x8)
Power consumption	50 Watt
Form factor	168 mm (L) x 68 mm (H) single PCIe slot wide
Operating system	Windows 7 – 64-bit, Windows 10 – 64-bit, Windows 11 – 64–bit
Platforms	Intel® and AMD architectures
Graphics accelerator	AMD Radeon Pro
Graphics memory	4 GB DDR5
Memory interface	128-bit
Memory bandwidth	96 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.4
Connectors	2x Mini DisplayPort 1x DisplayPort
Supported resolutions	Up to 8MP color
DirectX support	Microsoft® DirectX v12, Shader Model 5.1
OpenGL support	OpenGL 4.5
OpenCL support	OpenCL 2.0
Vulkan support	Vulkan 1.1
Approvals and compliance	FCC Part 15 Class B, CE EN 55032 Limit B, EN 55024, UL-60950-1, BMSI CNS, CISPR- 32/24, IEC609050-1, VCCI, CSA C22.2, EU RoHS directive (2011/65/EU), Certificate of Information & Communication Equipment (Republic of Korea)
Operating temperature	0° to 55°C (32° to 131° F)

MXRT-5600

Product acronym	MXRT-5600
Bus compatibility	PCIe Gen3 x16
Power consumption	75 Watt
Form factor	172 mm (L) x 110 mm (H) single PCIe slot wide
Operating system	Windows 7 – 32/64-bit, Windows 8.1 – 64-bit, Windows 10 – 64-bit, Windows 11 – 64–bit
Platforms	Intel® and AMD architectures
Graphics accelerator	ATI FirePro
Graphics memory	4 GB GDDR5
Memory interface	128-bit
Memory bandwidth	96 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.2a
Connectors	4x DisplayPort
Supported resolutions	Up to 12MP color and 10MP grayscale
DirectX support	Microsoft® DirectX v11.2, Vertex Shader 5.0, Pixel Shader 5.0
OpenGL support	OpenGL 4.4
OpenCL support	OpenCL 1.2
Approvals and compliance	FCC Part 15 Class B, CE EN 55022 Limit B, EN 55024, UL-60950-1, BMSI CNS, CISPR- 22/24, IEC609050-1, VCCI, CSA C22.2, EU RoHS directive (2011/65/EU), Certificate of Information & Communication Equipment (Republic of Korea)
Operating temperature	0° to 45°C (32° to 113° F)

MXRT-6700

Product acronym	MXRT-6700
Bus compatibility	PCIe Gen3 x16
Power consumption	75 Watt
Form factor	173 mm (L) x 112 mm (H) single PCIe slot wide
Operating system	Windows 7 – 64-bit, Windows 10 – 64-bit, Windows 11 – 64–bit
Platforms	Intel® and AMD architectures
Graphics accelerator	AMD Radeon Pro
Graphics memory	8 GB DDR5
Memory interface	256-bit
Memory bandwidth	160 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.4
Connectors	4x DisplayPort
Supported resolutions	Up to 12MP color and 10MP grayscale
DirectX support	Microsoft® DirectX v12, Shader Model 5.1
OpenGL support	OpenGL 4.5
OpenCL support	OpenCL 2.0
Vulkan support	Vulkan 1.1
Approvals and compliance	FCC Part 15 Class B, CE EN 55032 Limit B, EN 55024, UL-60950-1, BMSI CNS, CISPR- 32/24, IEC609050-1, VCCI, CSA C22.2, EU RoHS directive (2011/65/EU), Certificate of Information & Communication Equipment (Republic of Korea)
Operating temperature	0° to 55°C (32° to 131° F)

MXRT-7600

Product acronym	MXRT-7600
Bus compatibility	PCIe Gen3 x16
Power consumption	150 Watt
Power connector	One 2x3 power connector
Form factor	248 mm (L) x 110 mm (H) single PCIe slot wide
Operating system	Windows 7 – 32/64-bit, Windows 8.1 – 64-bit, Windows 10 – 64-bit, Windows 11 – 64–bit
Platforms	Intel® and AMD architectures
Graphics accelerator	ATI FirePro
Graphics memory	8 GB GDDR5
Memory interface	256-bit
Memory bandwidth	160 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.2
Connectors	4x DisplayPort
Supported resolutions	Up to 12MP color and 10MP grayscale
DirectX support	Microsoft® DirectX v11.2, Vertex Shader 5.0, Pixel Shader 5.0
OpenGL support	OpenGL 4.4
OpenCL support	OpenCL 1.2
Approvals and compliance	FCC Part 15 Class B, CE EN 55022 Limit B, EN 55024, UL-60950-1, BMSI CNS, CISPR- 22/24, IEC609050-1, VCCI, CSA C22.2, EU RoHS directive (2011/65/EU), Certificate of Information & Communication Equipment (Republic of Korea)
Operating temperature	0° to 45°C (32° to 113° F)

MXRT-8700

Product acronym	MXRT-8700
Bus compatibility	PCIe Gen3 x16
Power consumption	135 Watt
Power connector	One 2x3 power connector
Form factor	241 mm (L) x 112 mm (H) single PCIe slot wide
Operating system	Windows 7 – 64-bit, Windows 10 – 64-bit, Windows 11 – 64–bit
Platforms	Intel® and AMD architectures
Graphics accelerator	AMD Radeon Pro
Graphics memory	16 GB DDR5
Memory interface	256-bit
Memory bandwidth	224 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.4
Connectors	6x Mini DisplayPort
Supported resolutions	Up to 12MP color and 10MP grayscale
DirectX support	Microsoft® DirectX v12, Shader Model 5.1
OpenGL support	OpenGL 4.5
OpenCL support	OpenCL 2.0
Vulkan support	Vulkan 1.1

Approvals and compliance	FCC Part 15 Class B, CE EN 55032 Limit B, EN 55024, UL-60950-1, BMSI CNS, CISPR- 32/24, IEC609050-1, VCCI, CSA C22.2, EU RoHS directive (2011/65/EU), Certificate of Information & Communication Equipment (Republic of Korea)
Operating temperature	0° to 55°C (32° to 131° F)

MXRV-3100

Product acronym	MXRV–3100
Bus compatibility	PCI Express Gen4 x8
Power consumption	50 Watt
Power connector	No external power connectors
Form factor	2.713 inches x 6.137 inches, single-slot
Operating system	Windows 10/11 & Linux drivers, 64–bit
Platforms	Intel® and AMD architectures
Graphics accelerator	NVIDIA® Ampere® GA107
Graphics memory	GDDR6 4GB
Memory interface	64–bit
Memory bandwidth	80 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.4
Connectors	4x Mini DisplayPort
Supported resolutions	4x 4096x2160@120Hz 4x 5120x2880@60Hz
DirectX support	Microsoft® DirectX 12.0, Shader Model 6.6
OpenGL support	OpenGL 4.6
OpenCL support	OpenCL 3.0
Vulkan support	Vulkan 1.3
Approvals and compliance	32-bit pixels (supports 8-bit and 10-bit per color channel)
Operating temperature	0° to 50°C

MXRV-7100

Product acronym	MXRV–7100
Bus compatibility	PCI Express Gen4 x8
Power consumption	50 Watt
Power connector	No external power connectors
Form factor	2.7 inches x 6.6 inches, single-slot
Operating system	Windows 10/11 & Server 2019/2022
Platforms	Intel® and AMD architectures
Graphics accelerator	NVIDIA® Ada Lovelace® AD107
Graphics memory	GDDR6 16GB
Memory interface	128–bit
Memory bandwidth	224 GB/s
Pixel depth	32-bit pixels (supports 8-bit and 10-bit per color channel)
Electrical standard	DisplayPort complying to v1.4
Connectors	4x Mini DisplayPort
Supported resolutions	4x 4096x2160@120Hz 4x 5120x2880@60Hz 2x 7680x4320@60Hz

DirectX support	Microsoft® DirectX 12.0, Shader Model 6.6
OpenGL support	OpenGL 4.6
OpenCL support	OpenCL 3.0
Vulkan support	Vulkan 1.3
Operating temperature	0° to 45°C

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