Coronis Fusion 4MP / 6MP

User guide

ENABLING BRIGHT OUTCOMES

BARCO

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Welcome!

<div style="text-align: right; font-size: large;">1</div>

1.1 What's in the box

Overview

- Coronis Fusion 4MP / 6MP display
- User guide
- System disc
- Documentation disc
- Video cables
- Mains cables
- USB cable

If you ordered a Barco display controller, it is also in the box together with its accessories. A dedicated user guide is available on the documentation disc.

📄 Keep your original packaging. It is designed for this display and is the ideal protection during transport and storage.

1.2 Product overview

Front and Back
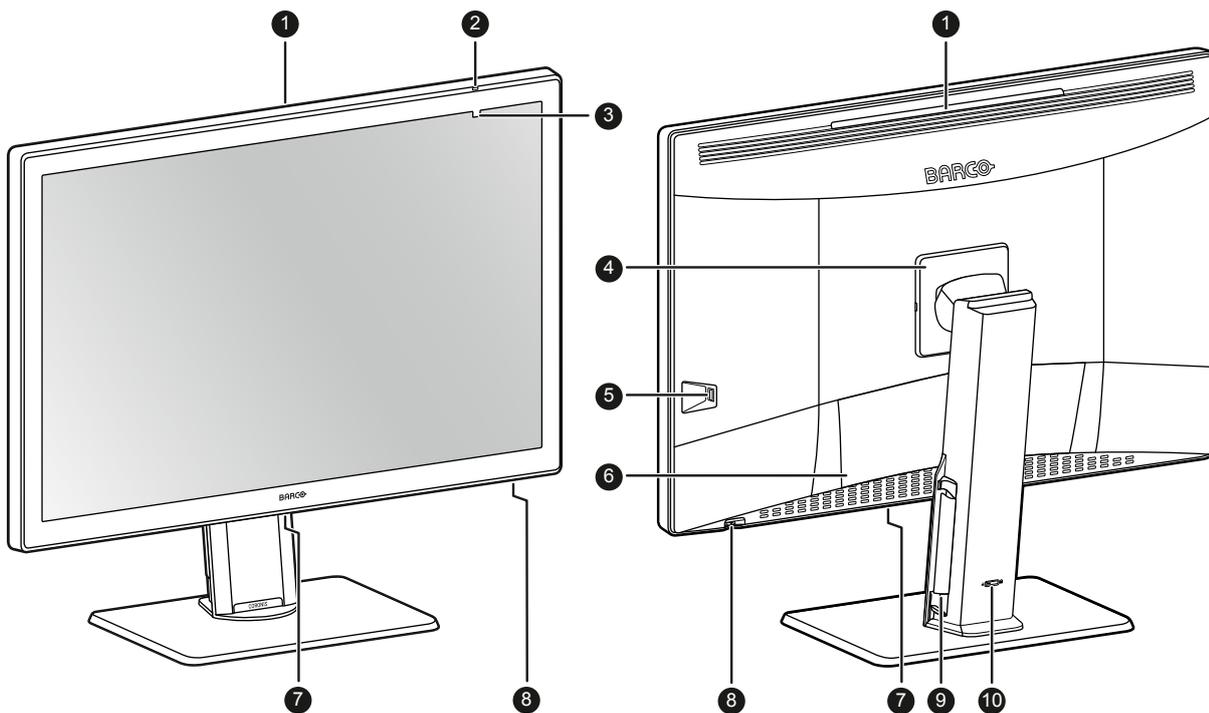
Image 1-1

1. SoftGlow Wall light
2. Ambient light sensor and Power status LED
   - Dimmed: Display not powered (mains cable unplugged or power switch in OFF position), or display is in normal operation
   - Fast blinking amber: Display is entering DPMS mode
   - Slow blinking amber: Display is in DPMS mode
   - Steady amber: Display manually switched off via the jog dial, or display in hibernate mode (requires DPMS and Hibernate to be enabled in the OSD menu)
3. Front sensor
4. VESA mount cover
5. USB-A 2.0 downstream connector with high-power charging functionality

6. Connector compartment cover
7. SoftGlow Task light
8. Jog dial
9. Cable routing channels
10. Stand locking mechanism

Connections
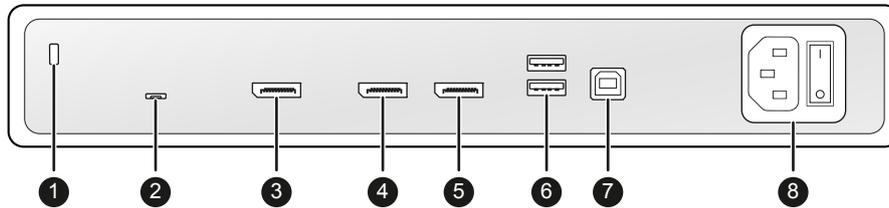
Image 1-2

1. Kensington security slot
2. Service port (for Barco service purposes only)
3. DisplayPort IN 2
4. DisplayPort OUT
5. DisplayPort IN 1
6. USB-A 2.0 downstream connectors (2x)
7. USB-B 2.0 upstream connector
8. 100–240 VAC mains power input and power switch

Welcome!

Installation 2

Before installing your display, make sure to have a suitable display controller installed in your computer. For a list of compatible display controllers, please refer to the compatibility matrix available on *my.barco.com* (MyBarco > My Support > Healthcare > Compatibility Matrices > Barco Systems Compatibility Matrices)

Your Barco display operates best when driven by a Barco MXRT display controller and when operated together with Barco's Intuitive Workflow Toolset. To obtain the MXRT driver (including the Intuitive Workflow Toolset), navigate to *www.barco.com/mxrt*.

To maximize quality assurance of your display, Barco recommends to install QAWeb. To obtain the QAWeb installation package navigate to *www.barco.com/support/medical qaweb*.

2.1 Display position adjustment

To adjust the display position

You can safely tilt and swivel the display as desired.
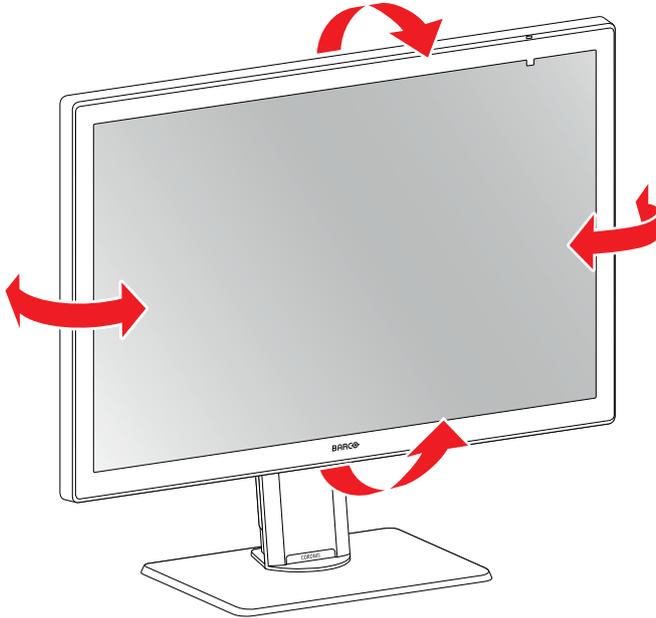
Image 2-1

To adjust the height of the display

After unlocking the height-positioning system of your display, you can adjust the height of the display.

1. Set the slider to the unlocked position to unlock the stand locking mechanism at the back of the stand.
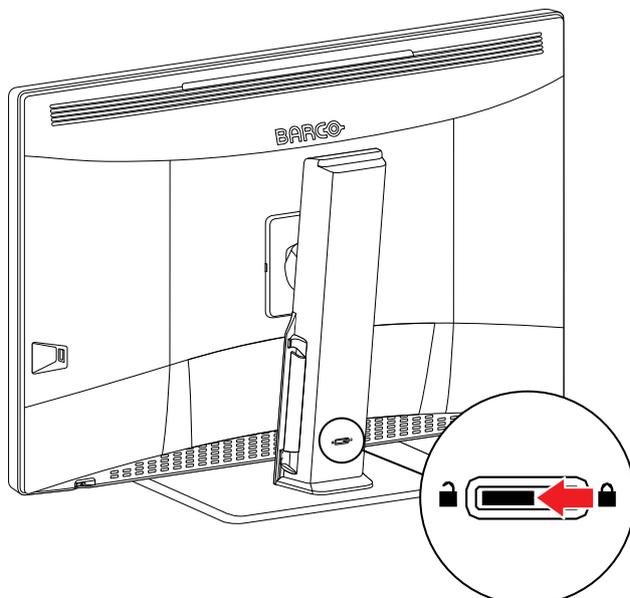
Image 2-2

2. You can now safely raise and lower the display as desired.
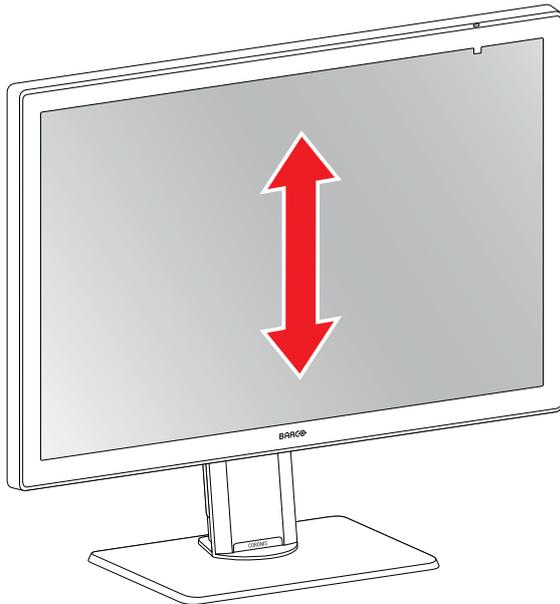
Image 2-3

⚡ **WARNING:** The display must be in its lowest position before the height-positioning system can be locked or unlocked.

2.2 Cable connections

To connect the cables

1. Open the connector compartment. Do this by gently lifting the bottom of the connector compartment cover, after which it can be removed from the display.
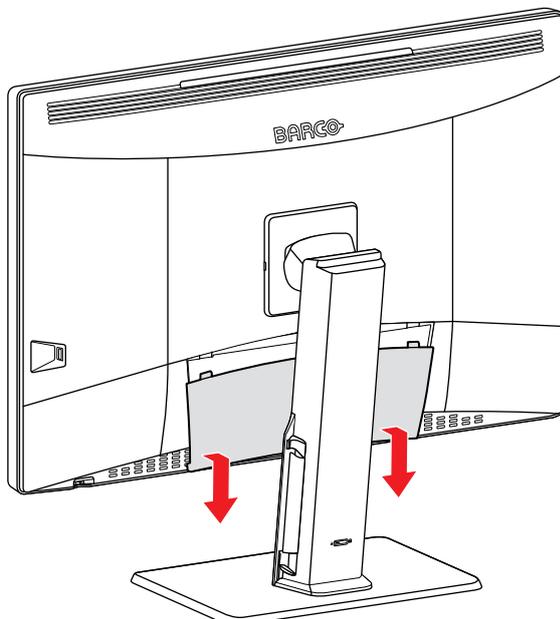
Image 2-4

2. Connect one or more video sources from your workstation(s) to the corresponding video inputs on the display.
Note: The MDCC-4430, MDCC-6530 can have multiple video inputs connected at once, and switching between these inputs can be easily done in the OSD menu. See "Image source selection", page 31 for more info on how to configure the different video inputs on your display.

3. The DisplayPort OUT allows you to daisy chain your Barco display and an external display using DisplayPort Multi-Stream Transport (MST).
4. Connect the workstation's USB host to the USB upstream connector on the display if you want to make use of QAWeb or any of the display USB downstream connectors (e.g. to connect a keyboard, mouse, touchpad or another peripheral).
5. Connect the supplied mains cable to the power input on the display.
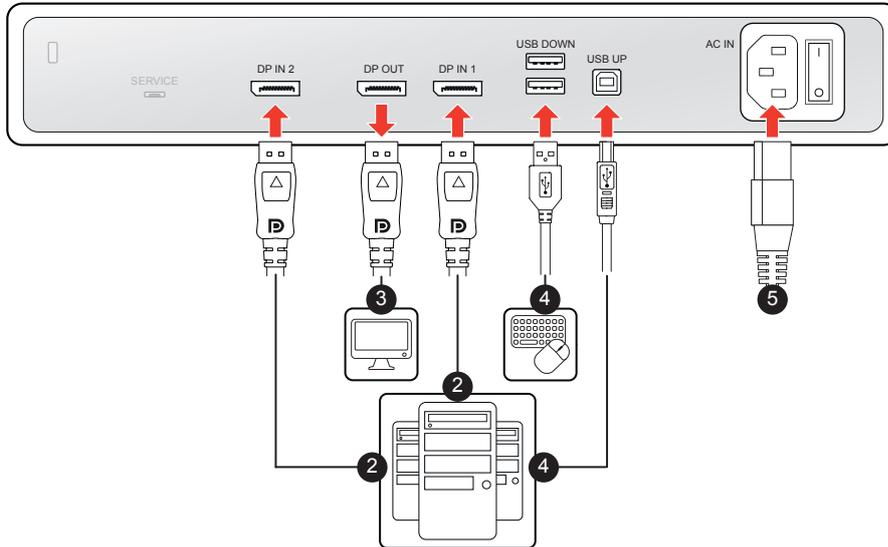
Image 2-5

6. Route all cables through the cable duct in the stand of your display. For better strain-relief and shielding of the cables, use the cable clips at the inside of the connector compartment.
7. Slide the top of the connector compartment cover in position and then push the bottom of the cover.
8. Connect the supplied mains cable to a **grounded** power outlet.

2.3 VESA-mount installation

> ⚠ **CAUTION:** Use suitable mounting apparatus to avoid risk of injury.

> ⚠ **WARNING:** Never move a display attached to an arm by pulling or pushing the display itself. Instead, make sure that the arm is equipped with a VESA approved handle and use this to move the display.
> Please refer to the instruction manual of the arm for more information and instructions.

> ⚠ **WARNING:** Use an arm that is approved by VESA (according to the VESA 100 mm standard). Use an arm that can support the weight of the display. Refer to the technical specifications of this display for the applicable weight.

Overview

The panel, standard attached to a stand, is compatible with the VESA 100 mm standard. Thus, it can be used with an arm that is approved by VESA. This chapter shows you how to release the panel from the stand and how to attach it to an arm. If you're not using an arm, you can skip this chapter.

1. Unlock the stand locking mechanism and put the display in the highest position.
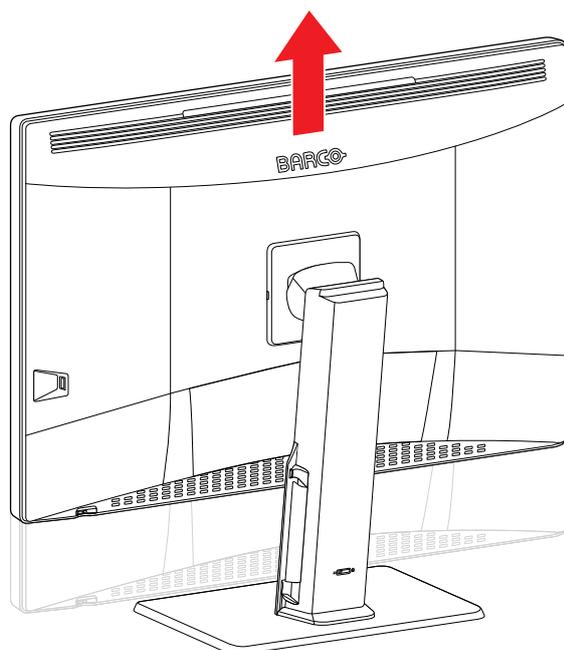
Image 2-6

2. Put the display face down on a clean and soft horizontal surface. Be careful not to damage the panel screen.
3. Release the VESA mount cover with a flathead screw driver.
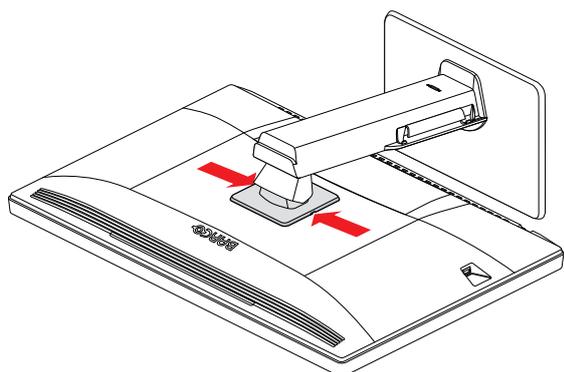
Image 2-7

4. Lift the VESA mount cover.
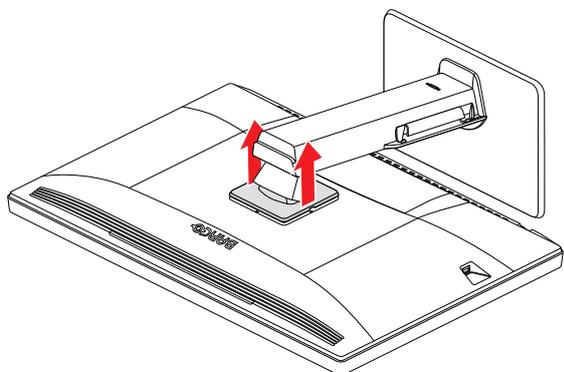
Image 2-8

5. Rotate the VESA mount cover to uncover the screws fixing the panel to the stand.
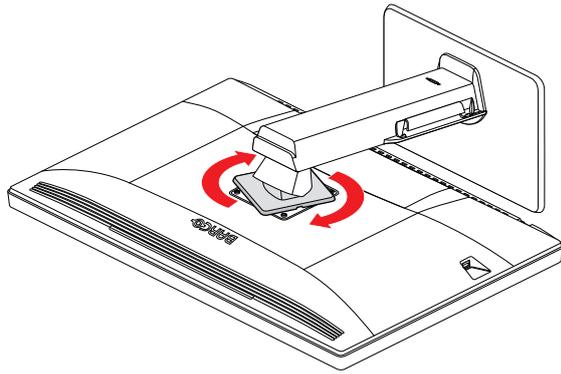
Image 2-9

6. Unscrew the 4 fixation screws while supporting the stand.
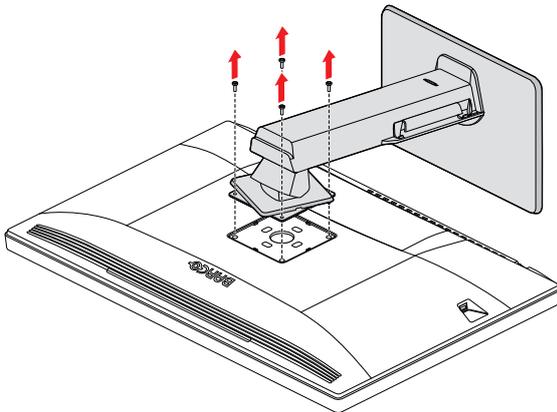
Image 2-10

7. Attach the panel **firmly** to the arm using 4 M4 screws.
   Respect the following rule to select an appropriate screw length:
   - L_{min} = T + W + 6.5 mm
   - L_{max} = T + W + 10 mm
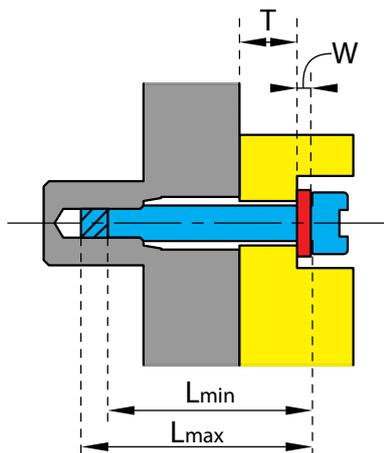
Image 2-11

2.4 First time starting up

Overview

You are now ready to start up your Coronis Fusion 4MP / 6MP for the first time.

1. Switch on your Coronis Fusion 4MP / 6MP as described in "Standby switching", page 19.

2. Turn on the computer connected to your display.

If you have properly installed your display and display controller, the Windows start-up messages will appear once the boot procedure is finished.

> Your Coronis Fusion 4MP / 6MP display will be running in a basic video mode at a default refresh rate when first time starting up. If you are using a Barco display controller, please consult the dedicated user guide available on the system CD to install the drivers, software and documentation. When this is done, your display will automatically detect the connected video input signal(s) and apply the correct video mode and refresh rate.

Daily operation 3

3.1 Recommendations for daily operation

Optimize the lifetime of your display

Enabling the Display Power Management System (DPMS) of your display will optimize its diagnostic lifetime by automatically switching off the backlight when the display is not used for a specified period of time. By default, DPMS is enabled on your display, but it also needs to be activated on your workstation. To do this, go to "Power Options Properties" in the "Control Panel".

> ☞ Barco recommends setting DPMS activation after 20 minutes of non-usage.

Use a screen saver to avoid image retention

Prolonged operation of an LCD with the same content on the same screen area may result in a form of image retention.

You can avoid or significantly reduce the occurrence of this phenomenon by using a screen saver. You can activate a screen saver in the "Display properties" window of your workstation.

> ☞ Barco recommends setting screen saver activation after 5 minutes of non-usage. A good screen saver displays moving content.

In case you are working with the same image or an application with static image elements for several hours continuously (so that the screen saver is not activated), change the image content regularly to avoid image retention of the static elements.

Understand pixel technology

LCD displays use technology based on pixels. As a normal tolerance in the manufacturing of the LCD, a limited number of these pixels may remain either dark or permanently lit, without affecting the diagnostic performance of the product. To ensure optimal product quality, Barco applies strict selection criteria for its LCD panels.

> ☞ To learn more about LCD technology and missing pixels, consult the dedicated white papers available at *www.barco.com/healthcare*.

Enhance user comfort

Every Barco multi-head display system is color matched with the highest specifications in the market.

> ☞ Barco recommends keeping color-matched displays together. Furthermore, it is important to use all displays of a multi-head configuration at the same rate to preserve color matching throughout the economic lifetime of the system.

Maximize quality assurance

Barco's QAWeb system offers online services for high-grade quality assurance, providing maximum diagnostic confidence and uptime.

> ☞ Barco recommends to install QAWeb Agent and apply at least the default policy. This policy includes calibration on regular intervals.
> Learn more about QAWeb at *www.barco.com/QAWeb*.

3.2 Shortcut functions

About the shortcut functions

The jog dial enables quick access to 3 shortcut functions:

• SoftGlow lights
• Main menu

• Standby

To use the shortcut functions

1. Shortly push or turn the jog dial during normal operation to activate the shortcut functions. The shortcut functions appear at the bottom right of the screen.

Image 3-1   Image 3-2   Image 3-3

2. Turn the jog dial left or right to select one of the shortcut functions.
3. Push short to confirm your selection

If no further actions are taken within the next 5 seconds, the shortcut functions will disappear again.

3.3 SoftGlow lights

About the SoftGlow lights

1. Shortly push or turn the jog dial during normal operation to activate the shortcut functions. SoftGlow lights is selected by default.
2. Push the jog dial repeatedly to toggle the different SoftGlow light modes (different combinations of Task light and Wall light enabled or disabled, are possible).

> 👉 Refer to "SoftGlow Task light", page 23 and "SoftGlow Wall light", page 23 for more details.

3.4 Standby switching

To switch on your display

> 📄 To use the display, make sure to put the power switch in ON position.

Shortly push the jog dial to exit standby mode and activate your display.

To switch off your display

1. Shortly push or turn the jog dial to activate the shortcut functions.
2. Turn the jog dial to select Standby.
3. Shortly push the jog dial to confirm the selection.
4. Shortly push the jog dial again to power off the display.

3.5 OSD main menu use

To open the OSD main menu

The OSD main menu allows you to configure different settings to make your Coronis Fusion 4MP / 6MP fit your needs within your working environment. Also, you can retrieve general information about your display and its current configuration settings through the OSD menu.

Bringing up the OSD main menu can be done by:

1. Shortly push or turn the jog dial during normal operation to activate the shortcut functions.
2. Turn the jog dial to select Main Menu.
3. Shortly push the jog dial to confirm the selection.

As a result, the OSD main menu comes up. If no further actions are taken within the next 90 seconds, the OSD menu will disappear again.

> The OSD menu auto-exit function can be disabled in the OSD menu. Please refer to "OSD menu automatic close function", page 22 for detailed instructions on how to do this.

To navigate through the OSD menus

• Turn the jog dial left or right to scroll through the (sub)menus, to change values or to make selections.
• Shortly push the jog dial to go into a submenu or confirm adjustments and selections.
• Push and hold the jog dial for approximately 3 seconds to cancel adjustments or exit a (sub)menu.
• Continue to hold the jog dial to exit all OSD menus.

Advanced operation 4

4.1 OSD menu language

About the OSD menu language

By default, the OSD menu comes up in English. However, there's a wide range of other languages available for the OSD menu of your Coronis Fusion 4MP / 6MP.

To change the language of the OSD menu:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > User Interface > Menu* menu.

3. Enter the *Language* submenu.

4. Select one of the available languages and confirm.

4.2 OSD menu orientation

About orientation

Your display can be mounted in landscape or portrait position. The OSD menu allows to adjust the orientation to landscape or portrait / inverse portrait.

To adjust the orientation

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > User Interface > Menu* menu.

3. Enter the *Orientation* submenu.

4. Select *Landscape/Portrait/Inverse Portrait* as desired and confirm.

4.3 OSD menu automatic close function

About the OSD menu automatic close function

By default, the OSD menu will disappear automatically after approximately 90 seconds of inactivity. However, this function can be disabled so that the OSD menu remains on the screen until manually closed.

To enable/disable the OSD menu automatic close function:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > User Interface > Menu* menu.

3. Enter the *Automatic Close* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

4.4 Power lock function

About the power lock function

By enabling the power lock function, standby switching is disabled (refer to "Standby switching", page 19 for more info). It will no longer be possible to switch off your display via the jog dial. DPMS mode is not affected by this setting.

To enable/disable the power lock function:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > User Interface > Controls* menu.

3. Enter the *Power Lock* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

4.5 SoftGlow Task light

About the SoftGlow Task light

The Coronis Fusion 4MP / 6MP is equipped with a SoftGlow Task light. This allows you to have light on your desk in a dark environment. The brightness of the SoftGlow Task light can be adjusted.

To enable/disable the SoftGlow Task light:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Lights* menu.

3. Enter the *SoftGlow Task Light* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

To adjust the SoftGlow Task light brightness:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Lights* menu.

3. Enter the *SoftGlow Task Light brightness* submenu.

4. Set a *SoftGlow Task Light brightness* value as desired and confirm.

4.6 SoftGlow Wall light

About the SoftGlow Wall light

The Coronis Fusion 4MP / 6MP is equipped with a SoftGlow Wall light. This allows you to have light on the wall at the back of your display in a dark environment. The brightness of the SoftGlow Wall light can be adjusted.

To enable/disable the SoftGlow Wall light:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Lights* menu.

3. Enter the *SoftGlow Wall Light* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

To adjust the SoftGlow Wall light brightness:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Lights* menu.

3. Enter the *SoftGlow Wall Light brightness* submenu.

4. Set a *SoftGlow Wall Light brightness* value as desired and confirm.

4.7 DPMS mode

About DPMS mode

Enabling the Display Power Management System (DPMS) mode on your display will optimize its diagnostic lifetime by automatically switching off the backlight when the display is not used for a specified period of time. By default, DPMS mode is enabled on your display, but it also needs to be activated on your workstation. To do this, go to the "Power options properties" window of your workstation.

> ☞ Barco recommends setting DPMS activation after 20 minutes of non-usage.

> ☞ When DPMS mode is enabled on your display, an additional OSD power saving function becomes available: hibernate. Please refer to "Hibernate", page 24 for more information on hibernation and how to enable this function.

To enable/disable DPMS mode on your display:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Power Management* menu.

3. Enter the *DPMS Mode* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

4.8 Hibernate

About hibernate

When hibernate is enabled, not only the backlight will be switched off, but also other functionalities will be disabled to further reduce power consumption to a minimum. This happens after a specific period of time which can be manually adjusted.

> 📄 Hibernate can only be enabled on your display when the DPMS mode is enabled first. Therefore, please refer to "DPMS mode", page 24 to do this.

> 📄 Please connect your keyboard or mouse to your PC rather than to the display's USB ports when hibernate is enabled.

To enable/disable hibernation on your display:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Power Management* menu.

3. Enter the *Hibernate* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

To specify the hibernate time-out:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Power Management* menu.

3. Enter the *Hibernate Timeout* submenu.

4. Set the time-out value as desired and confirm.

4.9 Luminance target

About the luminance target

The luminance target of your Coronis Fusion 4MP / 6MP is adjustable over a predefined range. When you change the luminance target, the display will adjust its backlight to reach the target.

To set the luminance target:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration* menu.

3. Enter the *Luminance Target* submenu.

4. Set a luminance target value as desired and confirm.

> The default, factory DICOM calibrated luminance value is available in the technical specifications table. The guaranteed backlight lifetime is valid for this setting.

4.10 Color presets

About color presets

The available color preset settings for your display are:

- **Clearbase:** Simulation of the clearbase film color temperature
- **Bluebase:** Simulation of the bluebase film color temperature
- **User:** When selecting the User color temperature setting, you will be able to manually define:
  - Color temperature (Kelvin)
  - Color coordinates (x, y)
- **6500K:** Corresponds to a color temperature of 6500 Kelvin (D65)
- **Native White:** The native, unmodified color temperature of the LCD panel

To select a color preset:

1. Bring up the OSD main menu.
2. Navigate to the *Configuration > Calibration > Color Settings* menu.
3. Enter the *Color Presets* submenu.
4. Select one of the available color presets and confirm.

4.10.1 Color temperature

About color temperature:

It is possible to change the color temperature of your display.

> Color temperature can only be changed on your display when Color Presets is set to *User*.

To change the color temperature:

1. Bring up the OSD main menu.
2. Navigate to the *Configuration > Calibration > Color Settings > Color Presets* menu.
3. Select *User* and confirm.
4. Enter the *Color Definition* submenu, select *Color Temperature* and confirm.
5. Enter the *Color Temperature* submenu, set the value as desired and confirm.

4.10.2 Color coordinates

About color coordinates:

It is possible to change the color coordinates of your display.

> ☞ Color coordinates can only be changed on your display when Color Presets is set to *User*.

To change the color coordinates:

1. Bring up the OSD main menu.
2. Navigate to the *Configuration > Calibration > Color Settings > Color Presets* menu.
3. Select *User* and confirm.
4. Enter the *Color Definition* submenu, select *Color Coordinates* and confirm.
5. Enter the *x* and *y* submenus, set the values as desired and confirm.

4.11 Color space

About color space

The available color space settings for your display are:

- **sRGB (standard Red Green Blue):** To match typical home and office viewing conditions. **Note:** This setting does not fully set your display to the sRGB color space. Refer to "sRGB", page 27 to do this.
- **Native:** The native, unmodified color space of the LCD panel.
- **PrePriAS (Preserve Primaries And Secondaries):** To change the white (color) point without reducing red, green and blue colors.

To select a color space:

1. Bring up the OSD main menu.
2. Navigate to the *Configuration > Calibration* menu.
3. Enter the *Color Space* submenu.
4. Select one of the available color space settings and confirm.

4.12 Viewing modes

About viewing modes

The Coronis Fusion 4MP / 6MP can be used in 2 viewing modes:

- **Diagnostic:** This mode provides the full calibrated luminance and is intended for using the display for diagnostic purposes.
- **Text:** In this mode, the luminance is reduced to approximately half of the luminance. This is intended for using the display with office applications such as word processing.
  Please note that text mode is not persistent, once powered off, the unit will restart in diagnostic mode.

> 📄 The diagnostic mode should always be selected when the Coronis Fusion 4MP / 6MP is intended to be used in a diagnostic environment.

To select a viewing mode:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration* menu.

3. Enter the *Viewing Mode* submenu.

4. Select *Diagnostic/Text* as desired and confirm.

4.13 Display functions

About display functions

Native, uncorrected panels will display all grayscale/color levels with luminance increments that are not optimal for crucial diagnostic information. Studies have shown however, that in medical images certain grayscale/color parts contain more diagnostic information then others. To respond to these conclusions, display functions have been defined. These functions emphasize on these parts containing crucial diagnostic information by correcting the native panel behavior.

The available display functions for your display are:

- **Native:** The native panel behavior will not be corrected.
- **Dynamic Gamma 1.8** or **2.2**: These are gamma functions that are shifted to take into account the non-zero luminance of an LCD panel when driven with a "black" signal. They are especially useful in CT applications to improve the perception of low Hounsfield values.
- **DICOM:** DICOM (Digital Imaging and Communications in Medicine) is an international standard that was developed to improve the quality and communication of digital images in radiology. In short, the DICOM display function results in more visible grayscales in the images. Barco recommends selecting the DICOM display function for most medical viewing applications.
- **sRGB:** The sRGB color space combines a display function, color space and white point selection, and is designed to match typical home and office viewing conditions. It is widely used in most computer applications. **Note:** This setting does not fully set your display to the sRGB color space. Refer to "sRGB", page 27 to do this.
- **User:** This display function will be automatically selected when display functions are defined by MediCal QAWeb.
- **Gamma 1.8** or **2.2**: Select one of these display functions in case the display is to replace a CRT display with a gamma of 1.8 or 2.2 respectively.
- **Test:** For Barco service purposes only.

> 📄 The settings of the display must be adapted to suit the requirements of the visualization software. In case of doubt, please contact the vendor of the visualization software.

To select a display function:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration* menu.

3. Enter the *Display Function* submenu.

4. Select one of the available display functions and confirm.

4.14 sRGB

About sRGB

When sRGB is enabled, the display is set to an sRGB color space with the following settings:

- **Color preset:** 6500K. See "Color presets", page 25 for more info.
- **Color space:** sRGB. See "Color space", page 26 for more info.
- **Display function:** sRGB. See "Display functions", page 27 for more info.

To enable sRGB:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration* menu.

3. Select *sRGB* and confirm.

4.15 Ambient Light Compensation (ALC)

About ALC

📄 Ambient Light Compensation (ALC) can only be enabled on your display when the DICOM display function is selected. Therefore, please refer to "Display functions", page 27 to correctly set the display function.

When ALC is enabled, the DICOM display function will be recalculated taking a preset ambient light correction value into account. This value is determined by the selected reading room. Therefore, it is also important to select a realistic reading room when enabling ALC. This can be done by following the instructions in "Reading rooms", page 28.

To enable/disable ALC:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration > Ambient Light* menu.

3. Enter the *Ambient Light Compensation* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

4.16 Reading rooms

About reading rooms

📄 Reading rooms can only be selected when the DICOM display function is selected. Therefore, please refer to "Display functions", page 27 to correctly set the display function.

The American Association of Physicists in Medicine (AAPM) composed a list of pre-defined reading rooms. Each of these reading rooms are defined by following parameters:

• the maximum light allowed in this type of room
• the preset ambient light correction value for this reading room

These parameters are stored in your display and determine the preset ambient light correction value to take into account to recalculate the DICOM display function when Ambient Light Compensation (ALC) is enabled. Please refer to "Ambient Light Compensation (ALC)", page 28 to enable ALC.

The available reading rooms for your Coronis Fusion 4MP / 6MP are:

• **CR/DR/ MAMMO:** Corresponds to light conditions in diagnostic reading rooms for computed radiology, digital radiology or mammography. This setting has the lowest maximum ambient light.
• **CT/MR/NM:** Corresponds to light conditions in diagnostic reading rooms for computed tomography, magnetic resonance or nuclear medicine scans.
• **Staff Office:** Corresponds to light conditions in office rooms.
• **Clinical Viewing Room:** Corresponds to light conditions in diagnostic reading rooms for clinical viewing.
• **Emergency Room:** Corresponds to light conditions in emergency rooms.
• **Operating Room:** Corresponds to light conditions in operating rooms. This setting has the highest maximum ambient light.

To select a reading room:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration > Ambient Light* menu.

3. Enter the *Reading Room* submenu.

4. Select one of the available reading rooms and confirm.

4.17 Continuous ALC

About Continuous ALC

📄 Continuous ALC can only be selected when the DICOM display function is selected. Therefore, please refer to "Display functions", page 27 to correctly set the display function.

Enabling continuous ALC will continuously recalculate the DICOM display function taking the averaged ambient light into account.

To select continuous ALC:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration > Ambient Light* menu.

3. Enter the *Continuous ALC* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

4.18 Embedded QA

Overview

- About Embedded QA
- DICOM status report
- DICOM compliance check
- DICOM calibration
- Reset DICOM calibration
- DICOM error threshold

4.18.1 About Embedded QA

About

Embedded QA allows you to run a display calibration or compliance test directly from the display using the OSD menus described in the next sections. Embedded QA will use the front sensor / I-Guard to measure the necessary luminance levels for either a calibration or compliance test. Various settings for both actions can be selected from the display's OSD menu. The last results of both actions can be consulted from the OSD.

Embedded QA or MediCal QAWeb?

Embedded QA is not a replacement for the Barco MediCal QAWeb solution.

Although Embedded QA is a reliable option to perform a simple calibration or compliance test, Barco still highly recommends MediCal QAWeb as the solution of choice for calibration and QA. Medical QAWeb brings many benefits such as centralized asset management, the ability to schedule tasks, remote management, automated reporting, alerting and specific support of regional QA standards such as DIN 6868-57, JESRA and AAPM TG18. That's why MediCal QAWeb Agent acts as the master for all supported displays from the moment it is installed and running. MediCal QAWeb Agent will take over from Embedded QA and overwrite any settings which were applied by Embedded QA.

4.18.2 DICOM status report

About DICOM status report

Following information is available:

DICOM Compliance Status (status since last compliance check)
- **Compliance status:** Shows if the current DICOM curve is compliant or not.
- **Maximum error:** Shows the maximum error of the current DICOM curve. This is the deviation compared to a perfect DICOM.

- **Error threshold:** Shows the error threshold. This is the maximum error allowed before a DICOM calibration is required.
- **Time elapsed since latest compliance check:** Shows the backlight runtime since last compliance check.
- **Display Function:** Shows the current display function.
- **Ambient light compensation:** Shows the ambient light compensation status.
- **Reading Room:** Shows the selected reading room.
- **Luminance:** Shows the measured luminance.
- **Black luminance:** Shows the measured black luminance.

DICOM Calibration Status

- **No calibration executed yet:** No other information is visible
- **Calibration executed:** When the calibration is executed, the following extra information is shown: Time elapsed since latest calibration, Display Function, Ambient Light Compensation and Reading Room.

Current DICOM Settings

- **Display Function:** Shows the current display function.
- **Ambient Light Compensation:** Shows the ambient light compensation status.
- **Reading room:** Shows the selected reading room.

To retrieve the DICOM status report:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration > Embedded QA* menu.

3. Select *DICOM Status Report* to make the information visible on the screen.

4.18.3 DICOM compliance check

About DICOM compliance check

The DICOM compliance check will measure the DICOM curve of your display in different steps. After measurement, the DICOM status report is shown.

To start DICOM compliance check:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration > Embedded QA* menu.

3. Select *DICOM Compliance Check* to start the compliance check.

⚡ *Warning:* Pressing a key during the compliance check will abort the check.

4.18.4 DICOM calibration

About DICOM calibration

The DICOM calibration will add a correction to the current DICOM curve to approach the perfect DICOM curve as well as possible.

To start DICOM calibration:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration > Embedded QA* menu.

3. Select *DICOM calibration* to start the calibration.

⚡ *Warning:* Pressing a key during calibration will abort the calibration, previous values will be restored.

📄 *Note:* After calibration, the compliance check will start automatically.

4.18.5 Reset DICOM calibration

About reset DICOM calibration

It is possible to restore the original (factory default) DICOM curve.

To reset the DICOM calibration:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration > Embedded QA* menu.

3. Enter the *DICOM Preferences* submenu.

4. Select *Reset DICOM Calibration* to restore the original (not corrected) DICOM curve.

4.18.6 DICOM error threshold

About DICOM error threshold

The threshold to define the DICOM compliance can be modified in steps of 5% starting from 5 to 30%. When the maximum deviation is not bigger than the selected threshold, the compliance check will be OK.

To set the DICOM error threshold:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Calibration > Embedded QA* menu.

3. Enter the *DICOM Preferences* submenu.

4. Set *Error Threshold* as desired and confirm.

4.19 Image scaling

About image scaling

Enabling image scaling will copy each individual pixel to one or more adjacent pixels so that the size of the displayed image will be a multiple of the original image source video input signal.

> Image scaling is only possible when the resolution of your display's video input signal is less than or equal to half the maximum resolution of the display.

To enable/disable image scaling:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Image Source* menu.

3. Enter the *Scaling* submenu.

4. Select *Enabled/Disabled* as desired and confirm.

4.20 Image source selection

About image source selection

By default, your Coronis Fusion 4MP / 6MP automatically detects the connected image sources and attaches them to the correct side of the screen. You can also manually select the image sources and control on which side of the screen they must be displayed.

To automatically select image sources:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Image Sources* menu.

3. Enter the *Image Source Selection* submenu.

4. Select the *Automatic* image source selection mode and confirm.

To manually select image sources:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Image Sources* menu.

3. Enter the *Image Source Selection* submenu.

4. Select one of the following image source selection modes and confirm:
   - **One Image Source:** Allows to select one image source to display.
   - **Two Image Sources:** Displays DisplayPort IN 1 on the left side and DisplayPort IN 2 on the right side of the screen.
   - **Expert mode:** Allows to select for the left and right side of the screen which image source to display: DisplayPort IN 1, DisplayPort IN 2 or None.

4.21 Grayscale conversion modes

> Your Coronis Fusion 4MP / 6MP automatically detects the connected video input signals and applies the correct grayscale conversion settings. Manually selecting a grayscale conversion mode is possible, but then your display's image source selection mode should be set to allow this. Refer to "Image source selection", page 31 to do this.

About grayscale conversion modes

Grayscale conversion modes specify how color generated on the display controller is converted to grayscale in your display.

The available grayscale conversion modes are:
- **No conversion**
- **Use Red Channel:** This mode is intended for grayscale displays where gray is sent over the red channel.
- **Use Green Channel:** This mode is intended for grayscale displays where gray is sent over the green channel.
- **Use Blue Channel:** This mode is intended for grayscale displays where gray is sent over the blue channel.

To manually select a grayscale conversion mode:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Image Sources > Input Settings > DisplayPort 1/2* menu.

3. Enter the *Grayscale Conversion* submenu.

4. Select one of the available color conversion modes and confirm.

4.22 DisplayPort standard version

About DisplayPort standard version

The Coronis Fusion 4MP / 6MP supports 2 DisplayPort standard versions: DP V1.1 and DP V1.2

To select the DisplayPort standard version

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Image Sources > Input Settings > DisplayPort1/2* menu.

3. Enter the *Input Interface Standard Version* submenu.

4. Select one of the available versions and confirm.

> 📄 To obtain full resolution and full refresh rate, DP V1.2 should be selected.

4.23 EDID timings

About EDID timings

Following EDID timings are available for your Coronis Fusion 4MP / 6MP:
*   **Resolution**: Allows to manually modify the resolution of the image source video input signal.
*   **Refresh Rate**: Allows to manually select the refresh rate of the image source video input signal depending on the maximum refresh rate of the display controller connected to your display.
*   **Color Depth**: Allows to change the color depth to 8 or to 10 bit.

To manually set EDID timings:

1. Bring up the OSD main menu.

2. Navigate to the *Configuration > Image Sources > Input Settings > DisplayPort 1/2* menu.

3. Enter the *EDID* submenu.

4. Select one of the available settings and confirm.

4.24 Display info

About display info

Your display serial number, native resolution, firmware versions, etc. are available in a dedicated submenu of the OSD menu.

To retrieve info about your display:

1. Bring up the OSD main menu.

2. Navigate to the *About this Display* menu to make the information visible on the screen.

4.25 Display status

About display status

The Status submenu of the OSD menu provides info on the current status of your display (runtimes, temperatures, etc.), the status of the connected image sources (video encoding mode, timings, etc.) and the current calibration status of your display (display function, luminance, ALC, etc.).

To retrieve the status of your display:

1. Bring up the OSD main menu.

2. Navigate to the *Status* menu.

3. Enter the *Display, Image Sources* or *Calibration* submenu as desired.

Cleaning your display

5

5.1 Cleaning instructions

To clean the display

Clean the display using a sponge, cleaning cloth or soft tissue, lightly moistened with a recognized cleaning product for medical equipment. Read and follow all label instructions on the cleaning product. In case of doubt about a certain cleaning product, use plain water.

Do not use following products:

- Alcohol/solvents at higher concentration > 5%
- Strong alkalis lye, strong solvents
- Acid
- Detergents with fluoride
- Detergents with ammonia
- Detergents with abrasives
- Steel wool
- Sponge with abrasives
- Steel blades
- Cloth with steel thread

> ⚠ **CAUTION:** Take care not to damage or scratch the front glass or LCD. Be careful with rings or other jewelry and do not apply excessive pressure on the front glass or LCD.

> ⚠ **CAUTION:** Do not apply or spray liquid directly to the display as excess liquid may cause damage to internal electronics. Instead, apply the liquid to a cleaning cloth.

Repackaging instructions

6

6.1 Repackaging instructions

To repack your display

1. Lock the stand locking mechanism at the lowest display position.
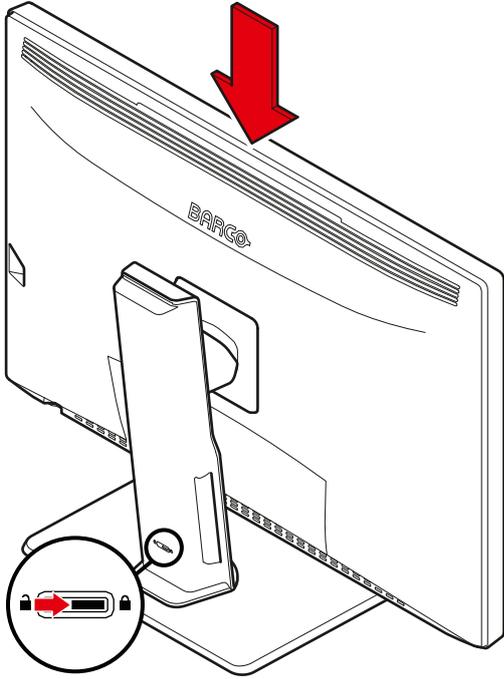
Image 6-1

2. Place the display in the bottom buffer on a stable surface.
   Caution: It takes 2 persons to safely execute this action.
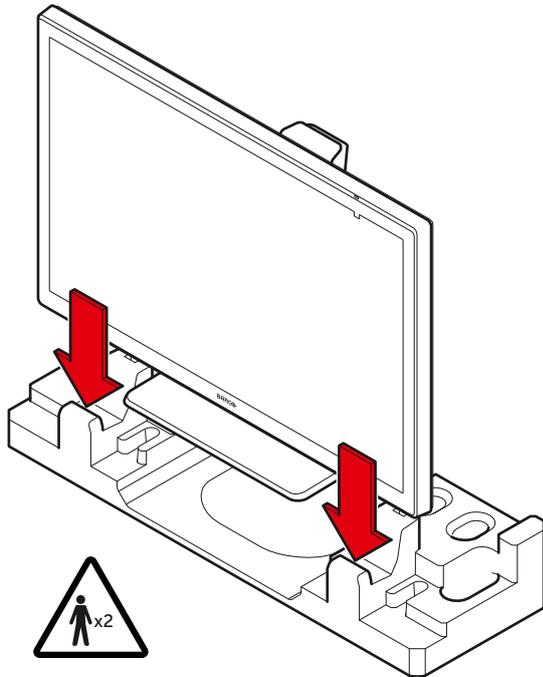
Image 6-2

3. Insert the rear buffer in the bottom buffer.
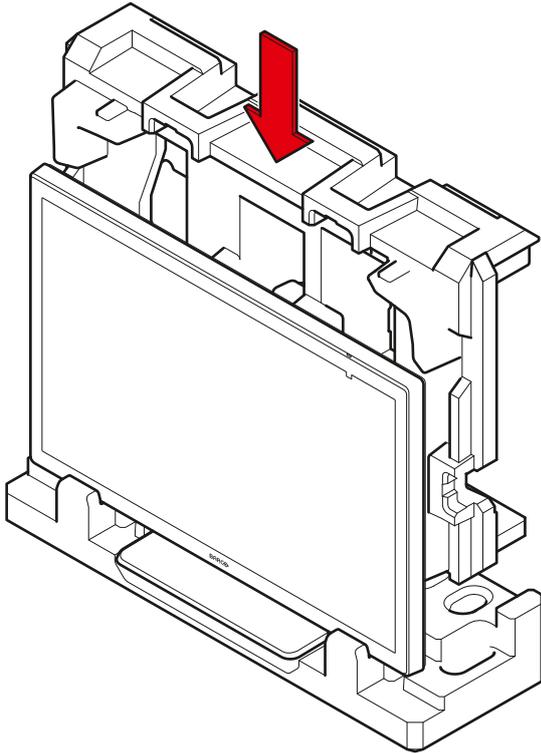
Image 6-3

4. Position the front buffer.
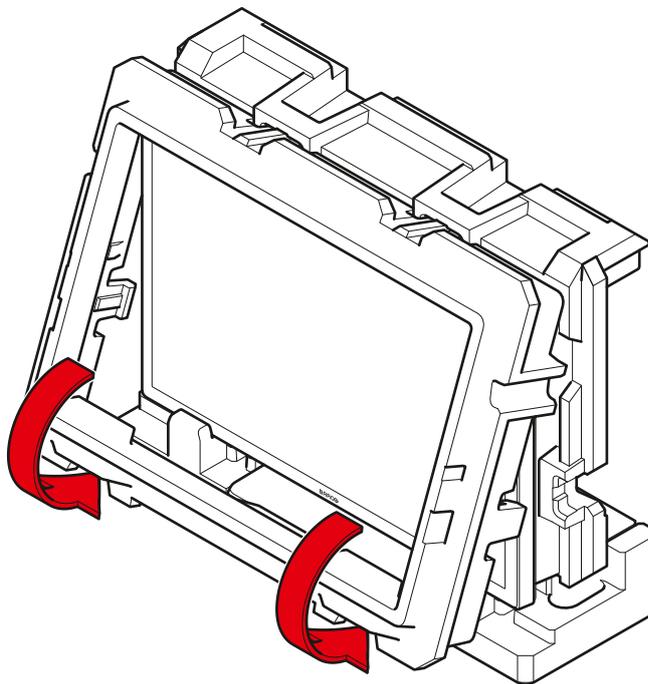
Image 6-4

5. Slide the accessory box(es) and all cables in the dedicated cavities.
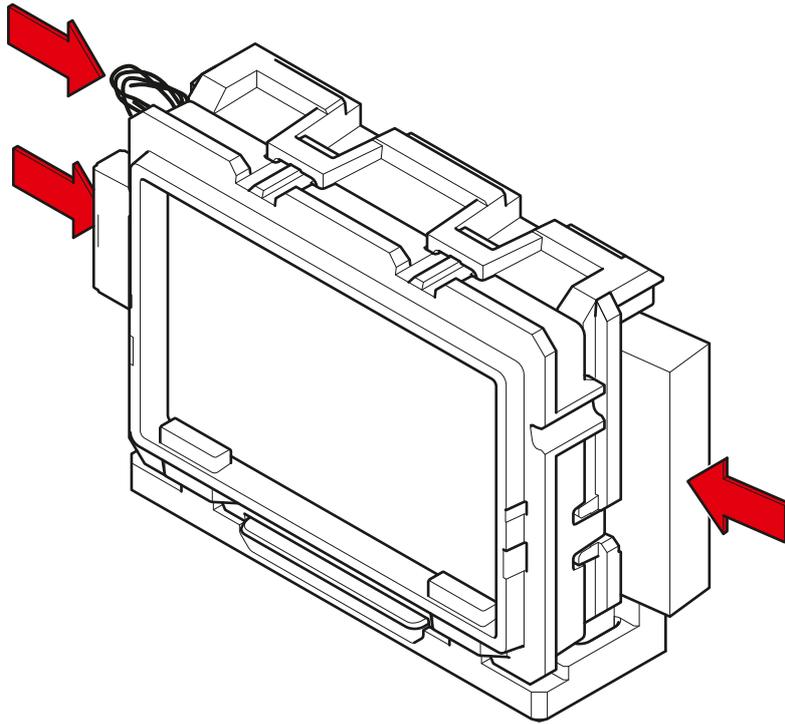
Image 6-5

6. Slide the display and the accessories in the box.
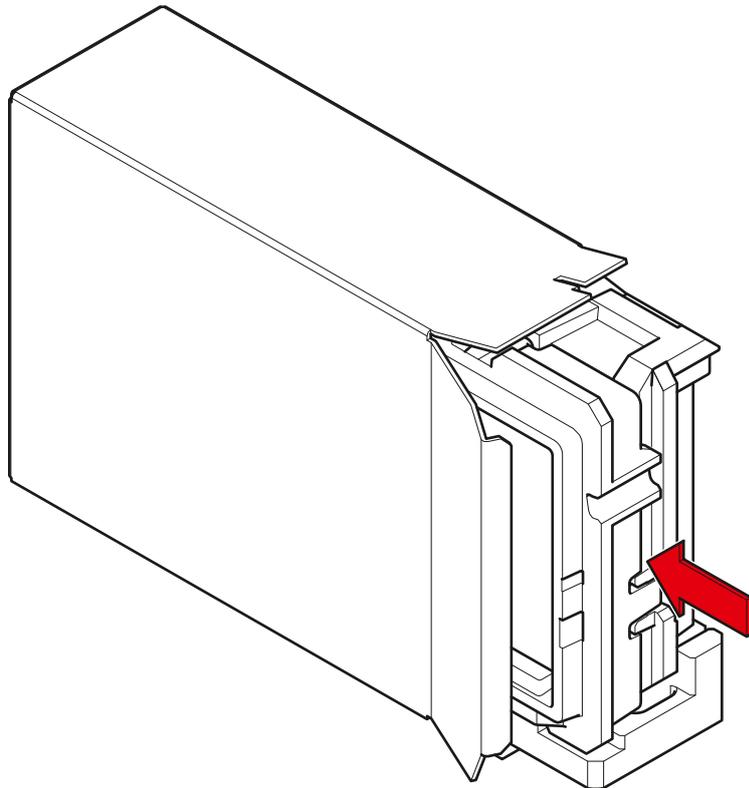
Image 6-6

7. Close and seal the box.
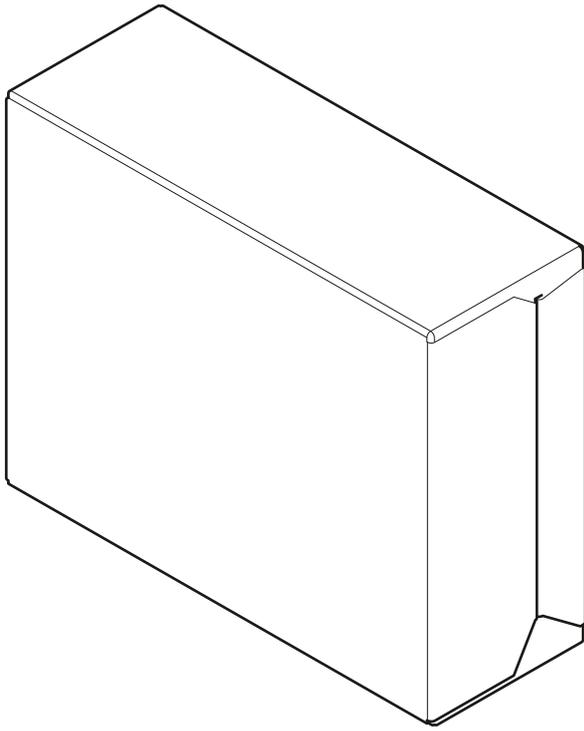
Image 6-7

Important
information

7

7.1 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.

Modifications to the unit

Do not modify this equipment without authorization of the manufacturer.

Type of protection (electrical)

Monitor with internal power supply: Class I equipment.

Degree of safety (flammable anesthetic mixture)

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

Non-patient care equipment

- Equipment primarily for use in a health care facility that is intended for use where contact with a patient is unlikely (no applied part).
- The equipment shall not be used with life support equipment.
- The user should not touch the equipment, nor its signal input ports (SIP)/signal output ports (SOP) and the patient at the same time.

Power connection – Equipment with internal power supply

- This equipment must be earthed.
- Power requirements: The equipment must be powered by the AC mains voltage.
- The equipment should be installed near an easily accessible outlet.
- The equipment is intended for continuous operation.

Transient over-voltage

If the device is not used for a long time, disconnect it from the AC inlet to avoid damage by transient over-voltage.

To fully disengage the power to the device, please disconnect the power cord from the AC inlet.

High magnetic environment

- The device shall not be used in the high magnetic environment of an MRI scanner.
- The installer shall assess the magnetic environment before installation or use of the device.

Power cords:

- Do not overload wall outlets and extension cords as this may result in fire or electric shock.
- Mains lead protection (U.S.: Power cord): Power cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs and receptacles.

- Use a power cord that matches the voltage of the power outlet, which has been approved and complies with the safety standard of your particular country.

Water and moisture

Never expose the device to rain or moisture.

Never use the device near water - e.g. near a bathtub, washbasin, swimming pool, kitchen sink, laundry tub or in a wet basement.

Ventilation

Do not cover or block any ventilation openings in the cover of the set. When installing the device in a cupboard or another enclosed location, heed the necessary space between the set and the sides of the cupboard.

Installation

Place the device on a flat, solid and stable surface that can support the weight of at least 3 devices. If you use an unstable cart or stand, the device may fall, causing serious injury to a child or adult, and serious damage to the device.

Malfunctions

Disconnect the equipment's power cord from the AC inlet and refer servicing to qualified service technicians under the following conditions:

- If the power cord or plug is damaged or frayed.
- If liquid has been spilled into the equipment.
- If the equipment has been exposed to rain or water.
- If the equipment does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
- If the equipment has been dropped or the cabinet has been damaged.
- If the product exhibits a distinct change in performance, indicating a need for service.

National Scandinavian Deviations for CL. 1.7.2

Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"

Norway: "Apparatet må tilkoples jordet stikkontakt"

Sweden: "Apparaten skall anslutas till jordat uttag"

7.2 Environmental information

Disposal Information

Waste Electrical and Electronic Equipment

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: *http://www.barco.com/AboutBarco/weee*

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
液晶面板 LCD panel	x	o	o	o	o	o
外接电(线)缆 External Cables	x	o	o	o	o	o
內部线路 Internal wiring	o	o	o	o	o	o
金属外壳 Metal enclosure	o	o	o	o	o	o
塑胶外壳 Plastic enclosure	o	o	o	o	o	o
散热片(器) Heatsinks	o	o	o	o	o	o
电源供应器 Power Supply Unit	x	o	o	o	o	o
风扇 Fan	o	o	o	o	o	o
文件说明书 Paper Manuals	o	o	o	o	o	o
光盘说明书 CD manual	o	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 of 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 Environmental 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.

7.3 Regulatory compliance information

Indications for use

The display is intended to be used for displaying and viewing digital images (excluding digital mammography) for review and analysis by trained medical practitioners.

Intended usage environment

- The display is not in contact with patients.
- The display is not in the same environment as the patient.
- The display is intended to be used in a dedicated diagnostic reading room.

Caution (USA): Federal law restricts this device to sale by or on the order of a physician. (Details & exemptions are in the Code of Federal Regulations Title 21, 801 Part D).

Contra-indications

The device is not intended for digital mammography.

Intended users

Barco diagnostic displays are intended to be used for primary diagnosis by trained medical practitioners. The device is initially set up by trained integrators or medical IT staff.

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

Canadian notice

CAN ICES-1/NMB-1

7.4 EMC notice

General information

This device is for use in professional healthcare facility environments only.

With the installation of the device, use only the delivered external cables and power supply or a spare part provided by the legal manufacturer. Using another can result in a decrease of the immunity level of the device.

> ⚠ **WARNING:** Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

> ⚠ **WARNING:** Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

> ⚠ **WARNING:** Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the Coronis Fusion 4MP / 6MP, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

Electromagnetic emissions

The Coronis Fusion 4MP / 6MP is intended for use in the electromagnetic environment specified below. The customer or the user of the Coronis Fusion 4MP / 6MP should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – Guidance
RF emissions CISPR 11	Group 1	The Coronis Fusion 4MP / 6MP uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The Coronis Fusion 4MP / 6MP is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class D	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

This Coronis Fusion 4MP / 6MP complies with appropriate medical EMC standards on emissions to, and interference from surrounding equipment. 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.

Interference can be determined by turning the equipment off and on.

If this equipment does cause harmful interference to, or suffer from harmful interference of, surrounding equipment, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Electromagnetic immunity

The Coronis Fusion 4MP / 6MP is intended for use in the electromagnetic environment specified below. The customer or the user of the Coronis Fusion 4MP / 6MP should assure that it is used in such an environment.

Immunity test	IEC 60601 test levels	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air	± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/ burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/ output lines 100 kHz repetition frequency	± 2 kV for power supply lines ± 1 kV for input/ output lines 100 kHz repetition frequency	Mains power quality should be that of a typical commercial or hospital environment
Surge IEC61000-4-5	Line to line: ± 0.5 kV, ± 1 kV Line to ground: ± 0.5 kV, ± 1 kV, ± 2 kV	Line to line: ± 0.5 kV, ± 1 kV Line to ground: ± 0.5 kV, ± 1 kV, ± 2 kV	Mains power quality should be that of a typical commercial or hospital environment
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% residual voltage for 0.5 period at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0% residual voltage for 1 period at 0° 70% residual voltage for 25 periods at 0° Voltage interruptions: 0% residual voltage for 250 periods at 0°	0% residual voltage for 0.5 period at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0% residual voltage for 1 period at 0° 70% residual voltage for 25 periods at 0° Voltage interruptions: 0% residual voltage for 250 periods at 0°	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Coronis Fusion 4MP / 6MP requires continued operation during power mains interruptions, it is recommended that the Coronis Fusion 4MP / 6MP be powered from an uninterruptible power supply or a battery
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	Not applicable [1]	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment
Conducted RF IEC 61000-4-6	3 Vrms (6 Vrms in ISM bands) 150 kHz to 80 MHz	3 Vrms (6 Vrms in ISM bands)	-
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.7 GHz	3 V/m	

1: Coronis Fusion 4MP / 6MP doesn't contain susceptible components to magnetic fields

Immunity to RF wireless communications equipment

Test frequency (MHz)	Band (MHz)	Service	Modulation	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380 – 390	TETRA 400	Pulse modulation 18 Hz	1.8	0.3	27
450	430 – 470	GMRS 460, FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0.3	28
710	704 – 787	LTE Band 13, 17	Pulse modulation 217 Hz	0.2	0.3	9
745						
780						
810	800 – 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18 Hz	2	0.3	28
870						
930						
1720	1700 – 1990	GSM 1800, CDMA 1900, GSM 1900, DECT, LTE Band 1/3/4/25, UMTS	Pulse modulation 217 Hz	2	0.3	28
1845						
1970						
2450	2400 – 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation 217 Hz	2	0.3	28
5240	5100 – 5800	W LAN 802.11 a/n	Pulse modulation 217 Hz	0.2	0.3	9
5500						
5785						

7.5 Explanation of symbols

Symbols on the device

On the device or power supply, you may find the following symbols (nonrestrictive list):

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 CCC 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 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 USB connectors on the device
	Indicates the DisplayPort connectors on the device
	Indicates the legal manufacturer
	Indicates the manufacturing date
	Indicates the temperature limitations[2] for the device to safely operate within specs
SN	Indicates the device serial number
REF	Indicates the device part number or catalogue number
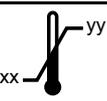
2:    Values for xx and yy can be found in the technical specifications paragraph.

	Warning: dangerous voltage
	Caution
	Consult the operating instructions
	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)
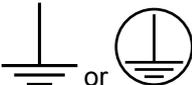
Symbols on the box

On the box of the device, you may find the following symbols (nonrestrictive list):

	Indicates a medical device that can be broken or damaged if not handled carefully when being stored.
	Indicates a medical device that needs to be protected from moisture when being stored.
	Indicates the storage direction of the box. The box must be transported, handled and stored in such a way that the arrows always point upwards.
	Indicates the maximum number of boxes to be stacked on each other.
xx-yy Kg	Indicates that the box should be carried with two persons.
	Indicates that the box should not be cut with a knife, a cutter or any other sharp object.
+ yy °C - xx °C	Indicates the temperature limits to which the medical device can be safely exposed when being stored.
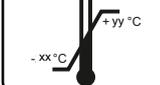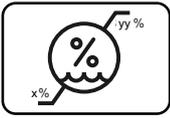
yy % x%	Indicates the range of humidity to which the medical device can be safely exposed when being stored.
yyy kPa xx kPa	Indicates the range of atmospheric pressure to which the medical device can be safely exposed when being stored.
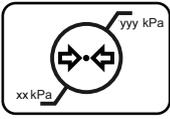
7.6 Legal disclaimer

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7.7 Technical specifications

MDCC-4430

Screen technology	IPS
Active screen size (diagonal)	772 mm (30.4")
Active screen size (H x V)	655 x 410 mm (25.8 x 16.1")
Aspect ratio (H:V)	16:10
Resolution	Native 4MP (2560 x 1600 pixels) Configurable to 2 x 2MP+ (1280 x 1600 pixels) Configurable to 2 x 2MP (1200 x 1600 pixels)
Pixel pitch	0.256 mm
Color imaging	Yes
Gray imaging	Yes

Bit depth	30 bit
Viewing angle (H, V)	178°
Uniformity correction	Color PPU
SteadyColor	No
Ambient light presets	Yes, reading room selection
Ambient light sensor	Yes
Front sensor	Yes, I-Guard
Maximum luminance (panel typical)	1050 cd/m²
DICOM calibrated luminance	600 cd/m²
Contrast ratio (panel typical)	2000:1
Response time ((Tr + Tf)/2) (typical)	18 ms
Housing color	Black / White
Video input signals	2x DisplayPort 1.2
Video output signals	1x DisplayPort (MST)
USB ports	1x USB 2.0 upstream (endpoint) 2x USB 2.0 downstream 1x USB 2.0 downstream with high-power charging functionality
Power rating	100-240 Vac, 50/60 Hz, 3.6-1.6 A
Power consumption	110 W (nominal) @ calibrated luminance of 600 cd/m² < 0.5 W (hibernate) < 0.5 W (standby)
Dimensions with stand (W x H x D)	714 x 524~624 x 240 mm
Dimensions w/o stand (W x H x D)	714 x 478 x 74 mm
Dimensions packaged (W x H x D)	800 x 650 x 300 mm
Net weight with stand	17.7 kg
Net weight w/o stand	13.1 kg
Net weight packaged	22.3 kg (without optional accessories)
Tilt	-5° to +25°
Swivel	-30° to +30°
Pivot	N/A
Height adjustment range	100 mm
Mounting standard	VESA (100 mm)
Screen protection	Protective, anti-reflective glass cover
Recommended modalities	All digital images, except digital mammography

Certifications	FDA 510(k) K191845 for General Radiology pending
	CE1639 (MDD 93/42/EEC; A1:2007/47/EC class IIb product)
	CCC (China), KC (Korea), PSE (Japan), BIS (India), BMSI (Taiwan), EAC (Russia, Kazakhstan, Belarus, Armenia and Kyrgyzstan)
	Safety specific:
	IEC 60950-1:2005 + A1:2009
	EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013
	IEC 60601-1:2005 + A1:2012
	EN 60601-1:2006 + A1:2013 + A12:2014
	ANSI/AAMI ES 60601-1:2005 + R1:2012
	CAN/CSA C22.2 No. 60601-1:2014
	EMI specific:
	IEC 60601-1-2:2014 (ed.4)
	EN 60601-1-2:2015 (ed.4)
	FCC part 15 Class B
	ICES-001 Level B
	VCCI (Japan)
	Environmental:
	China Energy Label, EU RoHS, China RoHS, REACH, Canada Health, WEEE, Packaging Directive
Supplied accessories	User guide
	Documentation disc
	System disc
	Video cables
	Mains cables
	USB cable
Optional accessories	Graphics board
	Touch pad
QA software	QAWeb
Warranty	5 years, including 40000 hrs backlight warranty
Operating temperature	0 °C to 35 °C (15 °C to 30 °C within specs)
Storage temperature	-20 °C to 60 °C
Operating humidity	20% to 85% (non-condensing)
Storage humidity	20% to 85% (non-condensing)
Operating pressure	70 kPa minimum
Storage pressure	50 to 106 kPa

MDCC-6530

Screen technology	IPS
Active screen size (diagonal)	772 mm (30.4")
Active screen size (H x V)	654 x 409 mm (25.8 x 16.1")
Aspect ratio (H:V)	16:10
Resolution	Native 6MP (3280 x 2048 pixels)

	Configurable to 2 x 3MP+ (1640 x 2048 pixels) Configurable to 2 x 3MP (1536 x 2048 pixels)
Pixel pitch	0.1995 mm
Color imaging	Yes
Gray imaging	Yes
Bit depth	30 bit
Viewing angle (H, V)	178°
Optical glass	Yes (optional)
Uniformity correction	Color PPU
SteadyColor	No
Ambient light presets	Yes, reading room selection
Ambient light sensor	Yes
Front sensor	Yes, I-Guard
Maximum luminance (panel typical)	1050 cd/m²
DICOM calibrated luminance	600 cd/m²
Contrast ratio (panel typical)	2000:1
Response time ((Tr + Tf)/2) (typical)	18 ms
Housing color	Black / White
Video input signals	2x DisplayPort 1.2
Video output signals	1x DisplayPort (MST)
USB ports	1x USB 2.0 upstream (endpoint) 2x USB 2.0 downstream 1x USB 2.0 downstream with high-power charging functionality
Power rating	100-240 Vac, 50/60 Hz, 3.6-1.6 A
Power consumption	110 W (nominal) @ calibrated luminance of 600 cd/m² < 0.5 W (hibernate) < 0.5 W (standby)
Dimensions with stand (W x H x D)	714 x 524~624 x 240 mm
Dimensions w/o stand (W x H x D)	714 x 478 x 74 mm
Dimensions packaged (W x H x D)	800 x 650 x 300 mm
Net weight with stand	Version with Protective cover: 17.7 kg Version with Optical glass: 18.5 kg
Net weight w/o stand	Version with Protective cover: 13.1 kg Version with Optical glass: 13.9 kg

Net weight packaged	Version with Protective cover: 22.3 kg (without optional accessories) Version with Optical glass: 23.1 kg (without optional accessories)
Tilt	-5° to +25°
Swivel	-30° to +30°
Pivot	N/A
Height adjustment range	100 mm
Mounting standard	VESA (100 mm)
Screen protection	Protective, anti-reflective glass cover Optical bonded protective, anti-reflective glass cover (optional)
Recommended modalities	All digital images, except digital mammography
Certifications	FDA 510(k) K191845 for General Radiology pending CE1639 (MDD 93/42/EEC; A1:2007/47/EC class IIb product) CCC (China), KC (Korea), PSE (Japan), BIS (India), BMSI (Taiwan), EAC (Russia, Kazakhstan, Belarus, Armenia and Kyrgyzstan) Safety specific: IEC 60950-1:2005 + A1:2009 EN 60950-1:2006 + A1:2010 + A11:2009 + A12:2011 + A2:2013 IEC 60601-1:2005 + A1:2012 EN 60601-1:2006 + A1:2013 + A12:2014 ANSI/AAMI ES 60601-1:2005 + R1:2012 CAN/CSA C22.2 No. 60601-1:2014 EMI specific: IEC 60601-1-2:2014 (ed.4) EN 60601-1-2:2015 (ed.4) FCC part 15 Class B ICES-001 Level B VCCI (Japan) Environmental: China Energy Label, EU RoHS, China RoHS, REACH, Canada Health, WEEE, Packaging Directive
Supplied accessories	User guide Documentation disc System disc Video cables Mains cables USB cable
Optional accessories	Graphics board Touch pad
QA software	QAWeb
Warranty	5 years, including 40000 hrs backlight warranty
Operating temperature	0 °C to 35 °C (15 °C to 30 °C within specs)
Storage temperature	-20 °C to 60 °C
Operating humidity	20% to 85% (non-condensing)
Storage humidity	20% to 85% (non-condensing)

Operating pressure	70 kPa minimum
Storage pressure	50 to 106 kPa

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