Nio Fusion 4MP

Online User Guide

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Using the online User Guide

Sources of information

Overview of product documentation

Document	Content
Quick install sheet (poster in box)	Gives a short overview of the installation of a complete system.
Getting started guide (booklet in box)	Gives a detailed description of the installation and connection of a complete system.
Online user guide (html file installed on PC)	Gives a detailed description of how to operate the display using its local controls and on-screen display (OSD). This document is to be consulted on screen.
User manual (PDF file on CD-ROM)	Contains the same information as the online user guide, but is laid-out for printing.

User interface

Items in the navigation frame:

Item	Description
Contents	Shows the complete content of the help system.
Index	Shows the available help topic entries in alphabetic order.
Search	Allows to search for a particular entry in the help system.

Item	Description
Favorites	Allows to add and remove help topics to a list of favorites. (requires cookies)

Items in the toolbar frame

Item	Description
⟳ Synchronize	Press this button to show the location of the help item in the Contents.
∧ Previous	Press this button to move to the previous help topic.
∨ Next	Press this button to move to the next help topic.
▦ Related topics	Press this button to display related topics (if available).
✉ E-mail	Press this button to e-mail the current help topic.
🖨 Print	Press this button to print the current help topic.
🔖 Bookmark	Press this button to bookmark the current help topic. This topic will then appear in the web browser's Favorites menu. (requires cookies)

Graphic board control panel

This chapter describes how to configure the displays in your BARCO NIO FUSION 4MP Display System using the tools available through the *Advanced* button on the *Settings* tab of the *Windows Display Control Panel*.

Note: If you purchased Barco Medical Displays only and not a complete BARCO NIO FUSION 4MP Display System you will need to refer to the user manual for the display controller you are using.

Languages supported

The BarcoMed tabs support the following languages:

English (U.S) (default)
Dutch
French
German
Italian
Japanese
Korean
Simplified Chinese
Traditional Chinese
Spanish

Note: To change between the languages select the correct region via the Regional Settings Control Panel in your machine's Start > Settings > Control Panel.

Barco Driver Properties

Accessing the Barco tab

Note: You must have logged on to Windows using an account with administrator privileges in order to use the Barco portions of the *Windows Display Control Panel* to change any display settings.

1. Open the *Windows Display Control Panel* by one of the methods below:

    a) Start > Settings > Control Panel > Display

    b) Open the *"Display Properties Control Panel"* by right clicking in an empty area on the desktop, then select **Properties**.

    c) **Windows Vista**: Right click in an empty area on the desktop, select "Personalization", then click on"Display Settings".

2. Click on the **Settings** tab (The **Settings** tab is not present in Vista).

3. Select the **rectangle** that represents the BARCO NIO FUSION 4MP Display whose settings you wish to change.

4. Click on the **Advanced Settings** button.

5. Select the **Barco** tab from the Properties screen.

Using the Barco tab

The Barco tab is divided into three sections. The first section provides information about the graphics controller and allows access to the graphics controller advanced configuration pages. The second section provides information about the display. The bottom section allows access to two Barco tools, Barco System Report and MediCal QAWeb. Also, there is a active link to the Barco Medical Imaging Systems web site.

Figure 1: Ex: Barco Tab

Display Information

Name: Displays the model name of the display.

Serial Number: Displays the serial number of the display.

Backlight LifeTime: This is the amount of time in hours that the backlight has been on. The backlight will typically last a very long time, but will only be able to hold the recommended calibrated luminance for a certain amount of time, after which time it will become slowly dimmer.

Barco system report

The Barco System Report, also known as BarcoMed SelfExam, is a wizard based tool which collects data about the components that are

installed in your system. This information is used by the Barco MIS Support team when trying to resolve customer issues.

MediCal QAWeb

Clicking on the QA Web button will launch the MediCal QAWeb application. Please refer to the MediCal QAWeb manual for information about this application.

Advanced properties for MXRT controller

To access the advanced properties configuration pages for the display controller(s) for your BARCO NIO FUSION 4MP Display System, click on the **Advanced** button in the *Graphics Device Information* section.

There are several pages accessible from the advanced configuration button. They are:

- Barco Adapter Configuration
- OpenGL
- Direct3D
- Rotation (when supported)
- Details
- OpenGL Profiles

Barco Adapter Configuration

The Barco Adapter Configuration page allows you to switch between the following monitor configurations and display options for the displays connected to a Barco MXRT controller:

Display Layout

- DualView
  Both displays are enabled independent of each other.
- SingleView
  A single large desktop spans across both displays.

- Clone
  The primary display is cloned to the secondary display.

Color Format

- 24-Bit TrueColor Mode
- 30-Bit TrueColor Mode (HDR)

Display Resolution

- Sets display resolution for 1 or 2 displays.

Note: To switch out of **SingleView** or **Clone mode**, the buttons in this Control Panel page must be used. The main Windows Control Panel cannot be used. Depending on your system, certain configurations can be disabled.

Note: **Clone Mode** is supported for two color displays or projectors in 32bpp. Clone mode is not supported on grayscale displays. Also, HDR is not supported while in Clone Mode.

When choosing Clone Mode under the Barco Adapter Configuration page, if two displays are enabled, then the larger of the two current resolutions will be used. If only one of the two displays is enabled, the enabled displayís current resolution will be used.

When the resolution set for clone mode is larger then the maximum supported on a display, the resolution set on the Master will automatically be scaled to maximum resolution of the Cloned display. If the Scale to Display Preferred Mode is checked, the maximum resolution will be the EDID preferred mode. If it is unchecked, then it will be the largest mode in the Cloned displays mode list. Clone mode can only be exited through the Barco Adapter Configuration page in the Barco Advanced Control Panel.

Note: Not all options are available at all times. Please select the help tips in the driver software for more information.

OpenGL and Direct3D

The OpenGL and Direct3D pages of the Advanced Properties page are divided into two sections: Main Settings and Custom Settings.

Main Settings

In the Main Settings section there is a slider bar which allows the user to adjust the OpenGL or Direct3D settings for optimum performance, optimum quality or for a point in between. There is also a checkbox provided for enabling Custom Settings.

Custom Settings

Note: Barco recommends that you use the default settings, unless your viewing application vendor provides detailed information on custom settings.

In the Custom Settings section the user can fine tune the following options:

- Anisotropic filtering
- SMOOTHVISION
- Wait for Vertical Sync

Anisotropic Filtering

Anisotropic filtering is a technique that preserves detail on surfaces that have three-dimensional perspective and fade away into the background. It works best when used in conjunction with Mipmapping.

Anisotropic filtering can be set to favor either an increase in system processing performance or improved image quality.

Note: If you are unsure how to configure anisotropic filtering, use the **Application Preference** option. Your display will automatically adjust to the application's requirements.

Please refer to the on-line help (click on the "?" in the control panel's openGL tab) for more information on using advanced features such as *Anisotropic Filtering*.

SMOOTHVISION

The Advanced Settings tab enables you to apply ATI's SMOOTHVISION technology for full-scene anti-aliasing. SMOOTHVISION improves image quality by removing jagged edges (anti-aliasing) from 3D images, resulting in smoother, more natural looking objects.

Please refer to the on-line help for more information on using advanced features such as *SMOOTHVISION*.

Wait for Vertical Sync:

- For OpenGL the default setting is *Default Off*.
- For Direct3D the default setting is *Application Preference*.

Please refer to the on-line help for more information on using advanced features such as *Wait for Vertical Sync*.

Rotation

The Rotation page is visible only when the display connected to the current (active) head of your Barco MXRT display controller does not support rotation internally. The Rotation feature allows the user to rotate the Windows desktop to match the physical orientation of the display.

(Device) Details

The Details page provides detailed information about the display controller connected to the active display. This information is useful in debugging issues that may occur when using your BARCO NIO FUSION 4MP Display(s).

OpenGL Profiles

The Configuration page enables you to customize display profiles for individual applications. Typically, you would change these settings for one or more of the following reasons:

- Diagnostic purposes.
- Fine-tuning a specific application/system configuration.
- Specific settings recommended by your hardware or software documentation.
- Tuning your application/system environment for best performance and memory usage.

Activating a configuration profile

The *Configuration Profiles* list box displays a number of common applications whose optimal configuration profile are factory-set by default.

To activate a particular profile, select the application name from the list and click **Apply**. This will add the information to the necessary Windows registry settings. If prompted, restart Windows.

If you subsequently experience problems with your application, or if you want to try to optimize the performance of your system on specific applications, modify your configuration settings accordingly.

Adding a new application profile

Click the **Add** button in the Configuration Profiles section and enter the name of the new application for which you want to set the configuration parameters.

Modifying the configuration parameters

To change the configuration settings of a specific application, select the name of that application from the *Configuration Profiles* list box. Click the **Modify** button. Now select or clear the rest of the

configuration controls on this tabbed dialog to obtain the desired display parameters for the selected application.

To remove the selected configuration profile completely, select the name of the application from the *Configuration Profiles* list box and click **Delete**.

Note: You cannot delete the factory-set configuration profiles.

Click the **Apply** or **OK** button to enable your *Configuration* settings.

Configuring the Windows desktop

Note: If you are using a color display in conjunction with your Barco grayscale display(s) you should configure your desktop before setting the resolution of your Barco grayscale display(s).

You must have logged on to Windows using an account with administrator privileges in order to use the Barco portions of the *Windows Display Control Panel* to change any display settings.

The recommended configuration for best grayscale image quality when using a color display in conjunction with your high-resolution grayscale display(s) is to set the *color display* as the **primary** monitor of the Windows desktop. Then set the colors setting on the *"Settings"* tab of the *Windows Display Control Panel* to the highest possible color depth (e.g. 32 bits-per-pixel "true color") supported by the color display's controller.

The colors setting for your high-resolution grayscale displays should be set to 256 colors (8 bits per pixel). You should set the **palette mode** for the your high-resolution grayscale displays to *Static Gray palette with NO system colors*. This guarantees that all of the 256 gray levels available for GDI graphics will be present. This also eliminates the danger that colors will change when focus moves among different applications.

However, if you are using the *Color to Gray Compatibility* palette mode, the color setting for your high-resolution grayscale displays should default to True Color (32 bits per pixel). Even though this

palette mode supports 32 bit True Color, Barco recommends that when using a using a color display in conjunction with your high-resolution grayscale display(s) that you still set the *color display* as the **primary** monitor of the Windows desktop.

Display information

Precautions

1. Optimize the lifetime of your display

Enabling the Display Power Management System (DPMS) of your display (in the display's Settings menu) 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.

2. 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.

3. 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 paper available at www.barcomedical.com.

4. Enhance user comfort

Every Barco multi-head display system is color matched with the highest specification 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.

5. Maximize Quality Assurance

The 'MediCal QAWeb' system offers online service for high-grade Quality Assurance, providing maximum diagnostic confidence and uptime.

☞ Learn more and sign up for the free MediCal QAWeb Essential level at www.barcomedical.com/qa

Display controls

Overview of controls

The front controls are soft touch keys.

When you touch any of them while no on-screen display (OSD) is on the screen, the front illumination is switched on for a few seconds.

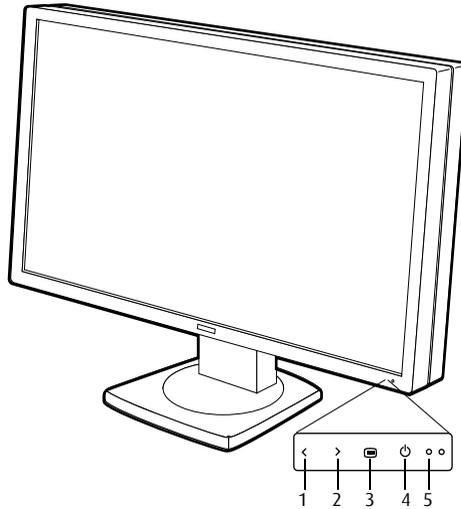When you touch a key again *while the illumination is on*, the function of the key is executed.

Figure 2: Front view

1. **Left/Down touch key**

   To move down or decrease values in the OSD.

2. **Right/Up touch key**

   To move up or increase values in the OSD.

3. **Enter touch key**

To display the OSD (on-screen display). In the OSD, this button acts as Enter button to make selections.

4. **Standby touch key**

To put the display in standby mode.

5. **Power LED**

Indicates the display's power status.

Green: Display is on (when enabled in the OSD).

Orange: Display is in Standby power-saving mode.

Off: Display is disconnected from the power or the LED's on state is disabled in the OSD.

Note: When the LED is disabled in the OSD, it will still be activated (green) when the display is on but does not receive any video signal.

How to use the controls

1. When the OSD is not on the screen, touch any of the soft touch keys.

   The front illumination is switched on for about 10 seconds.

2. While the illumination is on, touch the Enter ▣ touch key to display the main menu. It contains several submenus.

3. To open a submenu, use the Up ❯ or Down ❮ touch keys to select the submenu. Next, press the Enter ▣ touch key to open the submenu.

4. To exit from a submenu, use Up ❯ or Down ❮ to select **EXIT**. Next, press Enter ▣.

   If you exit from the Main Menu, you exit the OSD.

5. To change an adjustment value or setting, use Up ❯ or Down ❮ to select the adjustment or setting. Next, press Enter ▣ to go

into edit mode. This is indicated by the scroll bar becoming
longer.

SETTINGS	
DPMS	On
Power LED	On
User Controls	On
EXIT	

Figure 3: Setting is selected

SETTINGS	
DPMS	On
Power LED	On
User Controls	On
EXIT	

Figure 4: Edit mode is active

Use Up ❯ or Down ❬ to change the value. Use Enter ▣ to
confirm the change.

Changes are saved automatically after confirming.

6. Some items in the menus cannot be changed. They are read-
   only values, displayed in light gray.

Tip:

While you are adjusting a value:

- Touching Up and Down at the same time resets to the last
  stored value.
- Touching Up and Enter at the same time selects the maximum
  value.
- Touching Down and Enter at the same time selects the
  minimum value.

Stand-by switching

To switch from on state to stand-by:

1. Touch the Stand-by ⏻ touch key.

> **2.** A warning message appears. Press the Stand-by touch key again to switch the display into stand-by or press any other key to keep the display in on state.

To switch from stand-by to on state:

> **1.** Touch any of the soft touch keys.
>
>   The front illumination is switched on for about 10 seconds.

> **2.** While the illumination is switched on, touch the Stand-by ⏻ touch key to switch the display on.

Info messages

The following messages may appear automatically on the screen:

Input Selection

The Input selection menu appears in case 2 video signals are connected and the resolution of one or both video signals is too high to display them both.

In that case the input selection menu allows you to select one of both video signals.

No signal selected

This message appears in case the display finds no proper video signal at its inputs.

Resolution too high

This message appears in case the resolution of the selected video signal is too high to display.

Text mode / Diagnostic mode

These messages appear for a few seconds directly after switching to Text mode or Diagnostic mode.
In text mode, the display luminance is approximately half of the luminance in diagnostic mode. Text mode is intended for using the

display with office applications such as word processing. You can switch between both modes by touching the up > and down < keys at the same time.

On-screen display (OSD)

Complete OSD

Luminance and color menu

Name	Description
Measured luminance	Indicates the actual luminance measured by the internal sensor. This is a read-only value. It is expressed in a percentage of the calibrated value (100% is calibrated).
Luminance target	Allows to manually adjust the luminance target. See note below.
Color target	Allows to select from a list of factory-defined and user-defined color targets.

Note: When you change the luminance target, the display will adjust its backlight to reach the target. This can be seen in the Measured luminance line.

When the luminance target cannot be reached, e.g., due to aging of the backlight, the Measured luminance line changes to **Minimum value reached** or **Maximum value reached**.

Display Function menu

Name	Description
Display function	Allows to select from a list of pre-defined display functions. If the DICOM DF is selected, a number of additional settings is available.
ALC & DICOM options	Jumps to the ALC & DICOM Options sub-menu, which allows to edit the settings for the DICOM display function. This function is available only when the DICOM DF is selected.

ALC & DICOM Options submenu

Name	Description
Correction value	Shows the ambient light correction value that is taken into account in the calculation of the display function.
DICOM offset	The DICOM DF is recalculated at the moment the DICOM Offset is changed, taking the new DICOM Offset into account. • When set to "Dark Room", the ambient light is not taken into account. • When set to "Preset", a preset ambient light value determined by the selected reading room is taken into account.
Reading room	Allows to select from a pre-defined list of reading room types. You must select a reading room that corresponds to the type of room the display is installed in.

Name	Description
Reading room def.	Jumps to the reading room definition submenu, which allows to edit the reading room condition settings.
Calibration info	Jumps to the calculation information submenu, which displays information about the values taken into account to recalculate the DICOM DF.

Reading room definition submenu

Name	Description
Reading room	Indicates the reading room type you are editing. You can select another room to edit by using the Up ❯ or Down ❮ touch keys.
Max. ambient light	This indicates the maximum ambient light that corresponds to the selected reading room. If the measured ambient light is higher than the value entered here, you should take measures to darken the room or select another reading room type.
Preset corr. value	This value is taken into account in the calculation of the DICOM DF if DICOM Offset is set to "Preset". To each reading room type corresponds another preset value.

Calibration Information submenu

Name	Description
Preset ambient value	Shows the ambient light correction value taken into account to calculate the DICOM DF, expressed in lux.

Name	Description
Bright luminance	Shows the bright luminance value taken into account to calculate the DICOM DF.
Dark luminance	Shows the dark luminance value taken into account to calculate the DICOM DF.
Ambient correction	Shows the ambient light correction value taken into account to calculate the DICOM DF, expressed in cd/m².

Settings menu

Name	Description
DPMS	Allows to switch the display power management system on/off. See note below.
Power LED	Allows to switch the power LED's on state on/off. The LED's orange DPMS state is not influenced by this setting. So, when the display goes into power-saving mode, the LED will turn orange, even if it was switched off by this setting
User controls	Allows to disable the touch keys on the front. When switched off, the user cannot display the OSD until the user controls key-code is entered.
Sound	Allows to switch the sound on/off. When switched on, a short beep sounds each time you touch a soft touch key.
Automatic menu exit	Allows to switch the automatic menu exit on/off. When switched on, the OSD is closed automatically when left idle for a certain time.

Name	Description
Input Switch Mode	Select "**Auto**" if you wish the display to select the video inputs automatically. If only one video input is connected, the image will be shown in the center of the screen. If both video inputs are connected, the video signal connected to the "Left" input is shown on the left side of the screen and the signal connected to the "Right" connector is shown on the right side. If one of the video signals exceeds the resolution of 1280x1600, the signal is suppressed. Select "**Left**" to display only the signal connected to the "Left" video input. Select "**Right**" to display only the signal connected to the "Right" video input.
Preferred Input	Select the video resolution you wish the connected graphic board(s) to reproduce. After changing this setting you must reboot the PC so that the graphic board changes its resolution. This function takes effect with plug-and-play graphic boards only.

Note:

- The **DPMS** system will power down the display when the connected computer is left idle for a certain time.

Barco recommends to switch DPMS on to prevent image burn-in (image retention) on the LCD panel.

- To enter the **user controls** keycode, the OSD must not be visible. Touch any of the soft touch keys to switch on the front illumination. While the illumination is on, touch the following keys in successive order: Enter ⬛, Down ⟨, Up ⟩, Down ⟨, Enter ⬛.

Information menu

Information

Name	Description
Product	The display type
Serial No	Indicates the display serial number
SW Number	Displays the internal software number
SW Version	Displays the current internal software version
Display Lifetime	Indicates the total time the display has been operating, including the time in stand-by
Backlight Lifetime	Indicates the total time the display has been operating, excluding the time in stand-by

Changing Display Functions

Concepts

- The Display Function menu lets you select a display function (DF).
- When you select the DICOM DF you can define the DICOM DF to be recalculated taking an ambient light condition into account.
- In this case, the recalculation can be based on an illuminance of 0 lux ("Dark Room") or a preset value ("Preset") determined by the selected reading room.
- In the latter case you must select a reading room that corresponds to the type of room the display is installed in. E.g., if the display is installed in a room where CT scans are observed, the "CT/MR/NM" reading room is the preferred selection.
- The reading room is defined by 2 parameters:

Maximum Ambient Light defines the maximum light allowed in this type of room. This value can be adjusted within certain limits determined by the selected reading room.

Preset Correction Value is the predefined correction value for this reading room. This value can be adjusted within certain limits determined by the selected reading room.

- The reading room parameters are pre-defined in the display according to the AAPM (American Association of Physicists in Medicine). However they can be changed within certain limits.

Display function selection

To select a display function (DF):

1. Touch any of the soft touch keys.

   The front illumination is switched on.

2. While the illumination is on, touch the Enter ⊡ touch key to display the main menu.

3. Use the Up › or Down ‹ touch keys to select the **Display Function** menu. Use Enter ⊡ to open the menu.

4. Use Up › or Down ‹ to select **Display Function**. Use Enter ⊡ to go into edit mode.

5. Use Up › or Down ‹ to select the desired DF.

6. Use Enter ⊡ to save the changes.

You can select the following DFs:

Name	Description
DICOM	Select a DICOM display function for most medical viewing applications. The DICOM function results in more visible grayscales in the images.
Dyn Gamma 2.2 Dyn Gamma 1.8	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 Haunsfield values.
Native	If you select Native, the native panel behavior will not be corrected.
Test	This is identical to the Native DF.
Gamma 2.2 Gamma 1.8	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.
User	This is a user-definable DF.

ALC & DICOM Options

DICOM offset

Introduction

The DICOM DF will be recalculated *only* when another DICOM Offset is selected. The DICOM DF will be recalculated based on the new offset setting.

To select a DICOM offset:

1. Select the DICOM display function. See **To select a display function (DF):**, on page 27.

2. In the ALC & DICOM Options menu, use Up ＞ or Down ＜ to select **DICOM Offset**. Use Enter ⊜ to go into edit mode.

3. Use Up ＞ or Down ＜ to select an offset.

4. Use Enter ⊜ to save the changes.

You can select the following offsets:

Value	Description
Dark Room	The DICOM DF will be recalculated taking an ambient light value of 0 lux into account. This means that the measured ambient light does **not** influence the DICOM DF.
Preset	The DICOM DF will be recalculated taking a preset ambient light value into account. This value is determined by the selected Reading Room and can be adjusted manually within certain limits.

Reading room selection

This function is available only when the DICOM display function is selected.

To select a reading room setting:

1. Select the DICOM display function. See **To select a display function (DF):**, on page 27.

2. In the ALC & DICOM Options menu, use Up ＞ or Down ＜ to select **Reading Room**. Use Enter ⊜ to go into edit mode.

3. Use Up ＞ or Down ＜ to select the reading room that corresponds to the room type the display is installed in.

4. Use Enter ⊜ to confirm the selection.

You can select the following reading room types::

Name	Description
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.
Office	Corresponds to light conditions in office rooms.
Clinical	Corresponds to light conditions in diagnostic reading rooms for clinical viewing.
Emergency	Corresponds to light conditions in emergency rooms.
Operating	Corresponds to light conditions in operating rooms. This setting has the highest maximum ambient light.

Reading room definition

This function is available only when the DICOM display function is selected.

To modify a reading room definition:

1. Select the DICOM display function. See **To select a display function (DF):**, on page 27.

2. In the ALC & DICOM Options menu, use Up › or Down ‹ to select **Reading Room Def**. Use Enter ⊡ to open the submenu.

3. Select the reading room definition you wish to modify. Thereto, use Up › or Down ‹ to select **Reading Room**. Use Enter ⊡ to

go into edit mode. Use Up ⟩ or Down ⟨ to select the reading room. Use Enter ⊡ to confirm the selection.

4. To modify the maximum ambient light for this reading room, use Up ⟩ or Down ⟨ to select **Max. Ambient Light**. Use Enter ⊡ to go into edit mode. Use Up ⟩ or Down ⟨ to change the value. Use Enter ⊡ to save the changes.

You can change this value within certain limits determined by the selected reading room.

5. To modify the Preset correction value for this reading room, use Up ⟩ or Down ⟨ to select **Preset Corr. Value**. Use Enter ⊡ to go into edit mode. Use Up ⟩ or Down ⟨ to change the value. Use Enter ⊡ to save the changes.

You can change this value within certain limits determined by the selected reading room.

Switching DPMS on/off

To switch DPMS on/off:

1. Touch any of the soft touch keys.

The front illumination is switched on.

2. While the illumination is on, touch the Enter ⊡ touch key to display the main menu.

3. Use the Up ⟩ or Down ⟨ touch keys to select the **Settings** menu. Use Enter ⊡ to open the menu.

4. Use Up ⟩ or Down ⟨ to select **DPMS**. Use Enter ⊡ to go into edit mode.

5. Use Up ⟩ or Down ⟨ to select On or Off.

6. Use Enter ⊡ to save the changes.

Switching Power LED on/off

To switch the power LED on/off:

1. Touch any of the soft touch keys.

   The front illumination is switched on.

2. While the illumination is on, touch the Enter ⬛ touch key to display the main menu.

3. Use the Up › or Down ‹ touch keys to select the **Settings** menu. Use Enter ⬛ to open the menu.

4. Use Up › or Down ‹ to select **Power LED**. Use Enter ⬛ to go into edit mode.

5. Use Up › or Down ‹ to select On or Off.

6. Use Enter ⬛ to save the changes.

Note:

- When the display is switched in stand-by, the power LED will turn orange, even if the power LED setting is switched off.
- When the power LED setting is switched off, the LED will still turn on (green) when the display is on but receives no video signal.

Enabling/disabling User Controls

To disable the user controls:

1. Open the OSD main menu.

2. Open the **Settings** menu.

3. Select **User Controls**.

4. Select **Off**.

5. Return to the Settings menu.

    6. Exit the OSD

Now the user cannot display the OSD again until the user controls keycode is entered (see below).

To enable the user controls again:

    1. To enter the **user controls** keycode, the OSD must not be visible.

    2. Touch any of the soft touch keys to switch on the front illumination.

    3. While the illumination is on, touch the following keys in successive order:

       Enter ▣, Down ‹ , Up ›, Down ‹ , Enter ▣.

As a result, the **User Controls** setting in the Settings menu is switched on again.

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