

XO[®] HD DISPLAY

User Guide



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CONTENTS

1 Introduction	4
2 Warning & safety information	5
3 Installation.....	6
3.1 Physical Installation	6
3.2 Connecting the display to the PC	6
3.3 Setting the screen resolution	6
3.3.1 Windows 7	6
3.3.2 Windows XP	7
4 Care & cleaning	8
4.1 Maintenance	8
4.2 Service	8
4.3 Cleaning	8
5 Disposal.....	10
5.1 Product disposal information	10
6 Control panel description	11
7 On-Screen-Display (OSD) functions.....	12
8 Technical specifications	13
9 Identification label.....	14

1 INTRODUCTION

This User Guide is valid for:

Part no.	Description
XO-614	XO HD Display incl. articulating balanced double arm and handles
XO-615	XO HD Display incl. a single arm

XO HD Display is a 22" healthcare screen specifically designed for use in health care. Thanks to its excellent image quality, lightweight design and easy-to-wipe protective housing XO HD Display is a perfect solution for use in the dental clinic.

2 WARNING & SAFETY INFORMATION



DANGER OF ELECTRIC SHOCK

DO NOT ATTEMPT TO OPEN OR DISASSEMBLE. NO USER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



DO NOT USE IN OXYGEN RICH ENVIRONMENTS. THIS EQUIPMENT DOES NOT HAVE A GAS-SEALED ELECTRONICS ENCLOSURE AND COULD IGNITE ANY FLAMMABLE OR EXPLOSIVE GASES PRESENT IN ITS ENVIRONMENT.

TO PREVENT DAMAGE WHICH MAY RESULT IN FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR EXCESSIVE MOISTURE.

THE ENCLOSURE HAS TO BE CHECKED UPON COLLISION DAMAGE; REFER TO QUALIFIED SERVICE PERSONNEL.

TO AVOID RISK OF ELECTRIC SHOCK ANY EQUIPMENT CONNECTED TO THE SCREEN MUST BE SUFFICIENTLY ISOLATED FROM MAINS VOLTAGE (IEC 60601-1 APPROVED).



IMPORTANT SAFETY NOTICE REGARDING THE SINGLE AND DOUBLE SUSPENSION ARMS FOR XO WORKSTATIONS

THE SUSPENSION ARMS ARE DESIGNED TO BE USED WITH XO SCREEN AND XO WIDE SCREEN ONLY. USING ANOTHER DISPLAY (OR OTHER EQUIPMENT) MAY INTRODUCE A MECHANICAL HAZARD IF THE MAXIMUM LOAD OF THE ARM IS EXCEEDED.

DO NOT USE OTHER CABLES THAN THOSE SUPPLIED BY XO WITH THE ARMS. THE CABLES SUPPLIED BY XO ARE SPECIFICALLY DESIGNED TO WITHSTAND THE WEAR CAUSED BY REPEATED BENDING.

DO NOT, UNDER ANY CIRCUMSTANCES, ROUTE A HIGH-VOLTAGE CABLE THROUGH THE ARM. IF THE OUTER INSULATION OF THE CABLE BREAKS THERE IS A RISK OF FATAL ELECTRIC SHOCK!

DO NOT OVERTIGHTEN THE FRICTION BREAK (DOUBLE SUSPENSION ARM ONLY). IF THE FRICTION BREAK IS OVERTIGHTNED THERE IS A RISK THAT THE BALANCING MECHANISM MAY FAIL RESULTING IN A MECHANICAL HAZARD.

3 INSTALLATION

For detailed instructions on how to install the screen on an XO 4 workstation please see Installation guide for XO HD Display.

3.1 PHYSICAL INSTALLATION

Do not install or leave the display:

- In places subject to extreme temperatures, for example near a radiator, heating vent, or in direct sunlight. Subjecting the LCD display to extreme temperatures, could cause deformations of the casing or malfunctions.
- In places subject to mechanical vibration or shock.
- In places subject to inordinate amounts of dust, dirt, or sand, for example near an open window or an outdoor exit.
- Near any equipment that generates a strong magnetic field.
- If setting up temporarily in an outdoor environment, be sure to take adequate precautions against airborne dust and dirt.

Provide adequate ventilation to the display.

Any external connection with other peripherals must follow the requirements of clause 16 of IEC60601-1 3rd ed. and Table BBB.201 of IEC 60601-1-1 for the medical electrical systems.

3.2 CONNECTING THE DISPLAY TO THE PC

When integrated into an XO 4 workstation the HDMI cable supplied with the screen arm should be used.

If the graphics card in the PC does not contain a suitable HDMI connector then it may be possible to use an adaptor (not supplied with the screen).

3.3 SETTING THE SCREEN RESOLUTION

The optimal picture quality is achieved by using the native resolution of the screen (1920 x 1080 pixels).

3.3.1 WINDOWS 7

- a. To set the resolution right click on the desktop and then click "Screen resolution" in the menu that appears.
- b. Select the screen in the list labelled "Display".
- c. Select the desired resolution in the list "Resolution".
- d. Click "OK" to save.

3.3.2 WINDOWS XP

- a. To set the resolution right click on the desktop and then click "Properties" in the menu that appears.
- b. Select "Settings".
- c. Select the desired resolution in the list "Resolution".
- d. Click "OK" to save.

4 CARE & CLEANING

Do not press on or scratch the LCD screen. Do not place a heavy object on the LCD screen. This may cause the screen to lose uniformity or cause LCD panel malfunctions.

Please note:

- If the display is used in a cold place, a residual image may appear in the screen. This is not a malfunction. The display returns to normal as the temperature rises to a normal operating level.
- If a still picture is displayed for a long time, a residual image may appear for a while. Use screen saver software to avoid this.

4.1 MAINTENANCE

Be sure to switch OFF the mains voltage to XO 4 when cleaning your LCD display.

Take care not to scratch the front surface with any hard or abrasive material. Dust, finger marks, grease etc. can be removed with a soft damp cloth (a small amount of mild detergent can be used on the damp cloth). Do not apply water or detergent directly to the front surface as this may cause staining or damage the electronic components. Never use any solvent on the front as this may cause permanent damage. Wipe off water drop immediately. Long contact with water may cause discoloration spots. When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.

4.2 SERVICE

XO HD Display contains no user serviceable parts. Attempting to open or disassemble the display may expose the user to hazardous voltages, risk of excessive temperatures, fire or explosion from enclosed energy sources, or impairment of function.

This product is intended to be installed in a medical system only by a trained system integrator. In the medical systems where the success of a clinical intervention depend from the image displayed by the screen, an adequate backup solution has to be provided at medical system level.

XO HD Display can be repaired only by trained service personnel (contact your local dealer to get assistance).

4.3 CLEANING

Be sure to switch OFF the mains voltage to XO 4 when cleaning your LCD display. The display is not intended to be sterilized!



DO NOT SPRAY WATER, DISINFECTANT OR CLEANING AGENTS DIRECTLY ONTO THE DISPLAY. THE LIQUID MAY ENTER THE DISPLAY AND CAN CAUSE FIRE, ELECTRIC SHOCK AND/OR DAMAGE TO THE ELECTRONICS.

Front panel

- Take care not to scratch the front surface with any hard or abrasive material. Dust, finger marks, grease etc. can be removed with a soft damp cloth (a small amount of mild detergent can be used on the damp cloth). Do not apply water or detergent directly to the front surface as this may cause staining or damage the electronic components. Never use any solvent on the front polarizer or module as this may cause permanent damage.
- Wipe with a soft cotton cloth.
- Wipe off water drop immediately. Long contact with water may cause discoloration spots. When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.

Possible cleaning solutions:

- 70 percent isopropyl alcohol
- 1.6 percent aqueous ammonia
- Cidex® (2.4 percent glutaraldehyde solution)
- Sodium hypochlorite (bleach) 10 percent
- "Green soap" (USP)
- 0.5 percent Chlorhexidine in 70 percent isopropyl alcohol
- Like Cleansafe® optical cleaning liquid

Cabinet

- Clean the cabinet using a soft cotton cloth, lightly moistened with a recognized cleaning product for medical equipment
- Repeat with water only
- Wipe with a soft cotton cloth

IT MAY BE POSSIBLE THAT DUST PARTICLES HAVE ENTERED THE DISPLAY AND ARE STUCK BEHIND THE FRONT PANEL. DO NOT ATTEMPT TO DISSEMBLE THE DISPLAY YOURSELF! THIS KIND OF CLEANING MUST BE DONE AT A SERVICE CENTER. PLEASE CONTACT YOUR AUTHORIZED XO DEALER.

5 DISPOSAL

5.1 PRODUCT DISPOSAL INFORMATION

For countries in the European Union

This product (including the cables, plugs and accessory) must not be disposed of with the other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, or your supplier's office.

For countries outside the European Union

Disposal of electrical products in countries outside the European Union should be done in line with local regulations.

DISPOSE OF IT AS REQUIRED BY LOCAL ORDINANCES OR REGULATIONS.
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6 CONTROL PANEL DESCRIPTION

The display contains 6 buttons located at the bottom of the right side (see Figure 1). The meaning of the buttons is given in Table 1. Note that some buttons have different functionality depending on whether the on-screen-display (OSD) is shown or not.

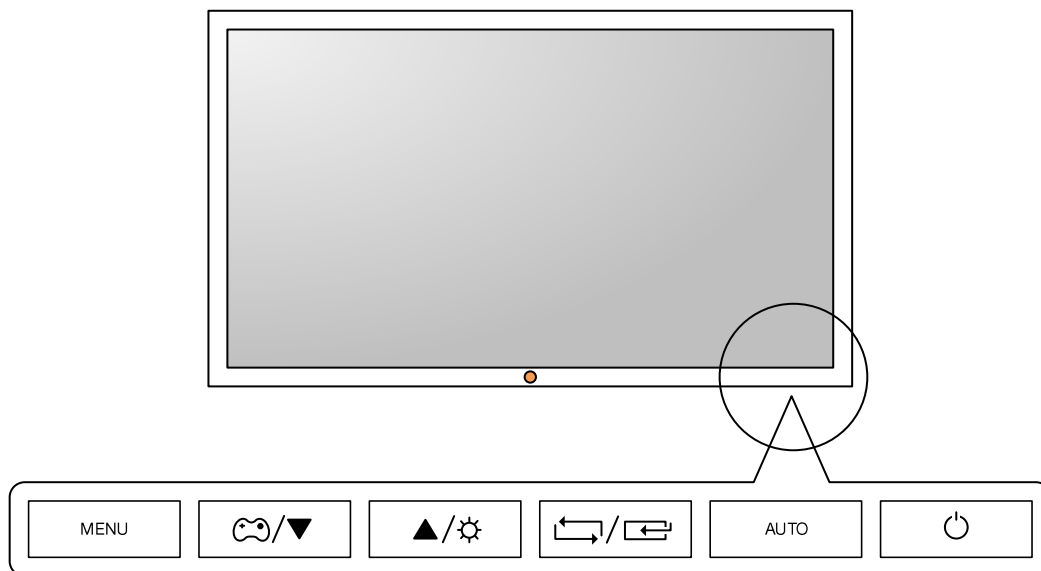


Figure 1: Control panel buttons







BUTTON	DESCRIPTION
MENU	Menu Button. Press this button to show the on-screen-display (OSD). This button is also used to exit the OSD or to return to a higher-level OSD menu. If held pressed for 10 seconds, this button will lock the OSD. When locked, it is not possible to change the OSD settings. The lock can be disabled by holding the menu button pressed for 10 seconds.
	Game mode button. Press this button to enter the display into “game mode” (optimize the display to be used for video games).
	Up/down buttons. These buttons are used for navigating the menu or to adjust values in the OSD.
	Brightness button. This button is used to control the brightness of the display.
	Switch input button. Use this button to switch between analogue and digital input.
	Select button. Used for selecting functions in the OSD.
AUTO	Auto button. Use this button to automatically adjust the displays settings when using an analog input.
	ON/OFF button. Switches the display on and off. Note: Switching off the unit will also switch off the display. When the unit is s on again, the display will automatically be switched on as well.

Table 1: Control panel buttons

7 ON-SCREEN-DISPLAY (OSD) FUNCTIONS

MENU	DESCRIPTION
PICTURE	
Brightness	Controls screen brightness.
Contrast	Controls the contrast of the picture displayed on the screen.
Sharpness	Controls the sharpness of the picture displayed on the screen.
Samsung Magic Bright	Provides preset picture settings for various environments.
Samsung Magic Angle	Optimize the display for viewing at a specific angle.
Coarse	Removes vertical noise lines from the display (analog only).
Fine	Removed horizontal noise lines from the display (analog only).
HDMI Black Level	Adjust HDMI black level contrast, colour tone etc.
COLOR	
Samsung Magic Colour	Expresses natural colours more clearly without changing the picture quality.
Red	Red colour value adjustment.
Green	Green colour value adjustment.
Blue	Blue colour value adjustment.
Colour Tone	Set the colour temperature of the display.
Gamma	Set intensity of colours of medium brightness.
SIZE & POSITION	
H-Position	Moves the position of the display area horizontally (analog only).
V-Position	Moves the position of the display area vertically (analog only).
Image Size	Enable/disable forced wide-screen format.
Menu H-Position	Adjust the horizontal position of the OSD.
Menu V-Position	Adjust the vertical position of the OSD.
SETUP & RESET	
Reset	Restore settings to factory defaults.
Language	Set the language for the OSD.
Eco Saving	Low-power settings (reduce power to display).
Off Timer On/Off	Enable/disable the off timer.
Off Timer Setting	Enable/disable the off timer.
PC/AV Mode	Set input source (PC or AV device).
Key Repeat Time	Change repeat delay for OSD buttons.
Customized Key	Specify the function of the customized key.
Auto Source	Enable/disable auto source.
Display Time	Set the time before the OSD automatically disappears.
Menu Transparency	Enable/disable OSD transparency.
INFORMATION	
N/A	Shows frequency and resolution information.

Table 2: OSD functions

8 TECHNICAL SPECIFICATIONS

DISPLAY CHARACTERISTICS

Screen size	22" / 54 cm diagonal
Backlight	LED backlight
Panel manufacturer	Samsung
Brightness	Typical 250 cd/m ²
Contrast	Typical 1.000 : 1
Colour	16,7 million colours
Viewing angle	170° horizontal, 160° vertical
Response time	5 ms (GTG)
Optimal resolution	1920 x 1080 (full HD)
Maximum resolution	1920 x 1080 (full HD)

POWER

DC input:	14 V (+/- 10 %)
Typ. power consumption:	30 W
Power save mode:	0.3 W

OPERATING ENVIRONMENT

Temperature:	10° C to 40° C (max)
Humidity:	10 % to 80 % (no condensation)

VIDEO CONNECTION


- HDMI (recommended)
- VGA

MOUNTING

- Industry standard VESA 75 mm and 100 mm mounting (standalone)
- XO 4 mounting with double arm
- XO 4 mounting with single arm

9 IDENTIFICATION LABEL

S/N label placed behind the VESA mounting plate and content.

XO[®] HD DISPLAY	
Produced:	Assembled by:
<input type="text"/>	<input type="text"/>
Serial:	Revision:
<input type="text"/>	<input type="text"/>
Weight:	XO CARE A/S DK 2970 Hørsholm info@xo-care.com www.xo-care.com
<input type="text"/>	
	

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