AMM215WTTP

LCD Color Display

User Guide

ENABLING BRIGHT OUTCOMES

Barco, Inc.
3059 Premiere Parkway, Suite 400, Duluth, GA 30097, USA
www.barco.com/en/support
www.barco.com

Registered office: Barco NV
President Kennedypark 35, 8500 Kortrijk, Belgium
www.barco.com/en/support
www.barco.com

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1 Welcome!

Introduction

Thank you for choosing this AMM215WTTP!

For future reference, record the serial number of your display below. The serial number is located on the back of the display.

Serial number

Warnings, cautions, notes and tips

There are four levels of precautionary or advisory statements that may be used in this user guide. In descending order of importance, they are:

WARNING: Describes hazards or dangers that might result in personal injury or death.

CAUTION: Describes hazards that could damage the product.

Gives additional information about the described subject.

Gives extra advice about the described subject.

1.1 What's in the box

Overview

Make sure the following items are present when you unpack the box:

- AMM215WTTP LCD display
- Power cord
- VGA signal cable
- USB cable (A to B)
- DVI-D cable
- DC power supply
- Quick start guide
- Manual
- Multilingual documentation disc
- Cable cover screw
- AC-Adaptor (part number: BPM050S12F09 (Bridgepower))

Your system provider may offer alternative cords or cables depending on the installation requirement and local geography issues.

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

1.2 Product Overview

Front View

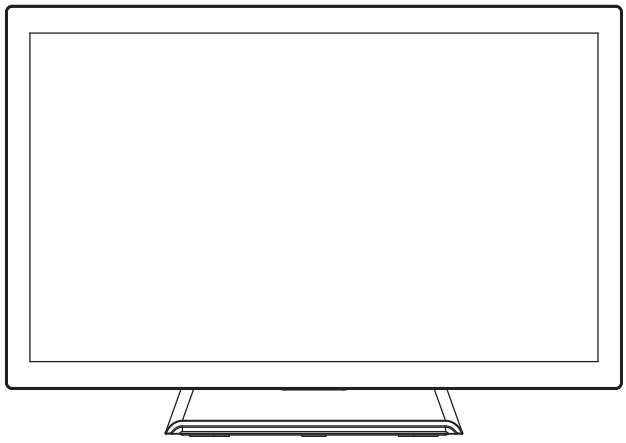

Image 1–1

Bottom View

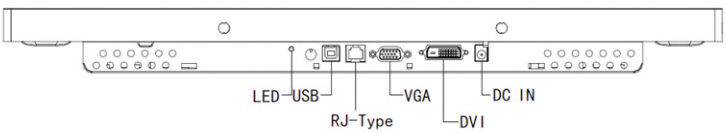

Image 1–2

Flat Panel Mounting Physical Mounting Interface by VESA

This monitor confirms to the VESA Flat Panel Mounting Physical Mounting Interface standard which defines a mounting interface for flat panel monitors, and corresponding with the standards of flat panel monitor mounting devices, such as wall and table arms.

To mount the monitor on a UL certified swing arm or other mounting fixture, follow the instructions included with the mounting fixture to be used.

Please select the proper screws! The distance between the back cover surface and the bottom of the screw hole is 8 mm. Please use four M4 screws diameter with proper length to mount your monitor.

The mounting stand must be able to support at least 17.6 lb, or 8 kg.

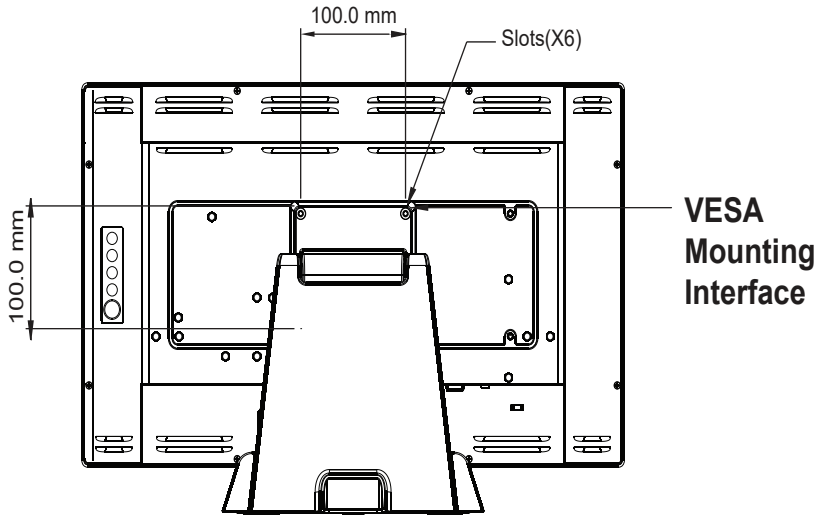

Image 1–3

2 Installation

WARNING: Read all the important safety information before installing and operating your monitor. Please refer to the dedicated chapter in this user guide.

WARNING: Sufficient expertise is required to install this equipment. All devices and complete setup must be tested before taking into operation.

CAUTION: When the display is assembled in the medical system, take care of the fixation of all cables, to avoid unwanted detachment.

CAUTION: The equipment is not intended to be sterilized.

2.1 Workspace

To prepare a suitable workspace

Before you carefully unpack your monitor, prepare a suitable workspace

You need:

- a stable and level surface
- a grounded power outlet
- an area which is relatively free of glare from sunlight or other sources of bright light

The monitor is cooled by natural convection (it has no fan). For optimum performance, do not block the cooling vents.

2.2 Unpacking

To unpack the monitor

- Inspect the monitor and other package contents for shipping damage that could cause a fire or shock hazard.
- Immediately report any shipping damage to the carrier or transportation company and contact customer service in case of return.

2.3 Start Your Installation

To Start Installation

Please follow these instructions to hook up the cables to associated connectors:

1. Lay the LCD flat on an even surface.
2. Move the stand into position as seen in the step 1 diagram.
3. Remove the cable cover as seen in the step 2 diagram.
4. Connect the cables to the appropriate connectors as seen in the step 3 diagram.
5. Re-attach the cable cover. Take the screw (CBM M3x6) out of the accessory box, and insert the screw into the cable cover and monitor as seen in the step 4 diagram.

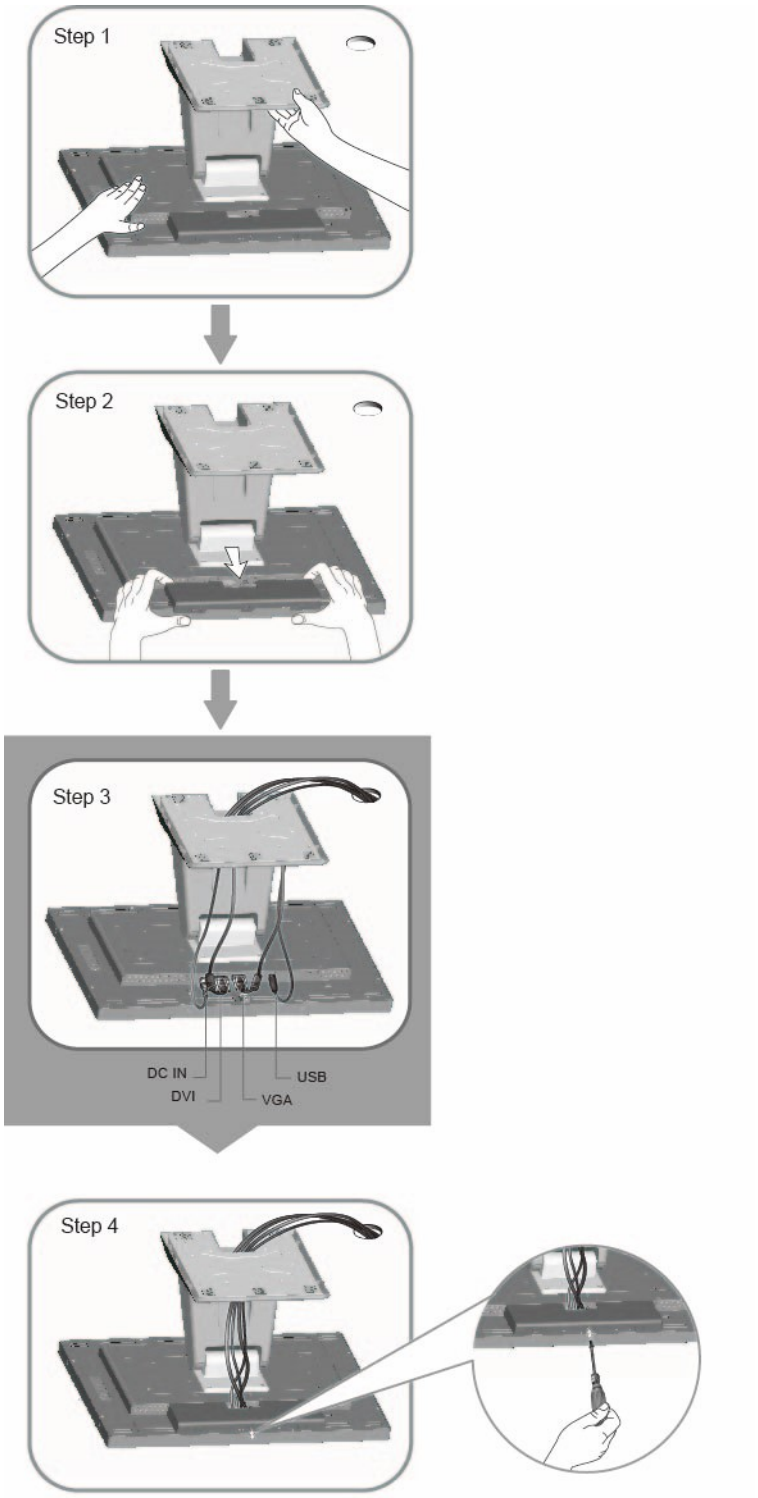

Image 2–1

2.4 Connecting the Display

How to set up the Display

1. Be sure all equipment is turned off.
2. Connect the DC plug to the power connector on the monitor and the other end into an electrical outlet.

3. Connect the D-SUB or DVI cable from the display's D-SUB or DVI input connector to the D-SUB or DVI connector of your host computer and tighten the screws.
4. Connect the USB cable from the USB port of your display to the USB port of your computer.
5. Configure the touch screen. Refer to the "Touch Screen Driver Installation" section of this user guide.
6. Once the touch screen is configured, the monitor is ready for use.

External power supply applicable: Bridgepower BPM050S12F09

To ensure the LCD display works well with your computer, please configure the display mode of your graphics card to make it less than or equal to 1920 x 1080 resolution and make sure the timing of the display mode is compatible with the LCD display.

3 Daily Operation

3.1 Recommendations for daily operation

To avoid image retention

Permanent burn-in may occur from the following:

- Displaying color bar or static images repeatedly or for a long period of time.
- Using the unit repeatedly in a high temperature/ high humidity environment.
- Continuously displaying an image smaller than the monitor.

To reduce the risk of burn-in, it is recommended to turn off the power of the unit, and reduce the brightness when the unit is not in use.

3.2 How to Use the OSD Menus

How to navigate through the OSD menus

Navigating through the OSD menus can be done by:

1. Press the *Menu* button to open the on-screen menu.
2. Press the *Up* or *Down* button to select icons.
3. Press the *Select* button to choose the adjustment items.
4. With the OSD menu on the screen, press the *Menu* button to return to the main menu or to exit OSD.

How to Lock the OSD / Power menu buttons

Locking the OSD / Power menu buttons can be done by:

1. Press the *Menu* key to open the OSD menu.
2. Press and hold the *Menu* key with the OSD menu on the screen. The OSD menu will disappear. Press the *Power* key once while the *Menu* key is still being pressed. The Lock/Unlock menu will appear for 3 seconds.
3. Use the *Select* key to select OSD or *Power* setting, then set to Lock by pushing the *Up* or *Down* button.
4. When *Up* or *Down* button is released, the previous setting will be saved and the Lock/Unlock menu will close automatically.

How to Unlock the OSD / Power menu buttons

Unlocking the OSD / Power menu buttons can be done by:

1. Press and hold the *Menu* key and *Power* key simultaneously. The Lock/Unlock menu will appear for 3 seconds.
2. Use the *Select* key to select OSD or Power setting. Set at Unlock by pushing the *Up* or *Down* button.
3. When the *Up* or *Down* button is released, the previous setting will be saved and the Lock/Unlock menu will close automatically.

The OSD menu will automatically close, if left idle for a pre-set time.

When the OSD Lock function is selected, this indicates that all the buttons except the *Power* button are now disabled.

When the Power Lock function is selected, the *Power* key is disabled. The user cannot turn off the monitor with the *Power* key.

4 Advanced Operation

4.1 On-Screen Display Menus

Main OSD Menu:

The available functions are:

- Contrast: the monitor luminance level control
- Brightness: the monitor backlight level control
- Auto Adjust: fine-tune the image to full screen automatically
- Left/Right: moving screen image horizontal position to left or right
- Up/Down: moving screen image vertical position to up or down
- Horizontal size: the screen image horizontal dot clock adjustment
- Fine: the screen image pixel phase adjustment
- OSD Left/Right: moving OSD menu horizontal position to left or right
- OSD Up/Down: moving OSD menu vertical position to up or down
- OSD Time Out: OSD auto-disappear time selection
- Factor Reset: factory default value restored
- DVI/VGA: select input source
- OSD Language: OSD menu language selection (English, French, Deutsch, Italian, Spanish, Japanese, Traditional Chinese and Simplified Chinese)
- RGB: color temperature selection (9300K, 6500K, 5500K, 7500K, User)

4.2 Advanced

Compatibility Modes

About compatibility modes:

Mode	Resolution	Horizontal frequency (KHz)	Vertical frequency (Hz)
IBM VGA	720 x 400	31.47	70
IBM VGA	640 x 480	31.47	60
Apple MacII	640 x 480	35.00	66
VESA VGA	640 x 480	37.86	72
VESA VGA	640 x 480	37.50	75
VESA SVGA	800 x 600	35.16	56
VESA SVGA	800 x 600	37.88	60
VESA SVGA	800 x 600	48.08	72
VESA SVGA	800 x 600	46.88	75
Apple Mac	832 x 624	49.72	75
VESA XGA	1024 x 768	48.36	60
VESA XGA	1024 x 768	56.48	70
VESA XGA	1024 x 768	60.02	75
VESA SXGA	1280 x 1024	64.00	60
VESA SXGA	1280 x 1024	80.00	75
VESA SXGA	1152 x 864	67.50	75
VESA SXGA	1280 x 960	60.00	60
WXGA+	1440 x 900	56.00	60

Mode	Resolution	Horizontal frequency (KHz)	Vertical frequency (Hz)
WXGA+	1440 x 900	70.60	75
WSXGA+	1680 x 1050	65.20	60
WSXGA+	1680 x 1050 (VGA only)	82.30	75
WXGA	1366 x 768	47.712	60
WSXGA+	1920 x 1080	67.50	60

4.3 Touch Screen Driver Installation

Overview

The AMM215WTTP is available with USB connections. The touch driver is located on the enclosed CD-ROM for these operating systems: VISTA, XP, 2000, CE, XP Embedded, Linux, Apple Mac OS.

The AMM215WTTP is Microsoft Windows HID (Human Interface Device) compatible if you use the USB touch screen interface. No additional software driver is required for general operation of the touch screen.

The system requires 15 seconds for Windows 7 to install/uninstall the touch drivers while turning power on/off or plugging/unplugging USB cable.

4.4 AMM215WTTP Driver Installation Instructions

PC Running VISTA, XP, 2000

If you are using a PC running VISTA, XP, 2000:

1. Power on the PC
2. Be sure the USB cable is connected from the PC to the LCD display
3. Open the CD-ROM
4. Follow the step-by-step instructions as shown on the pop-up windows

PC running Windows XP Embedded

If you are using a PC running Windows XP embedded:

1. Power on the PC
2. Be sure the USB cable is connected to the PC
3. Be sure that your EWF is disabled. If your EWF is enabled, please disable the EWF by using the EWF Manager command
4. Click on the XP driver on the CD-ROM and follow the step-by-step instructions as shown on the pop-up windows

PC running Windows CE

If you are using a PC running Windows CE:

1. Power on the PC
2. Be sure the USB cable is connected to the PC
3. Using Platform Builder, build an image file by following the step-by-step instructions found in the folder file on the CD-ROM

PC running Linux or Apple Mac OS or Custom

If you are using a PC running Linux or Apple Mac OS or Custom:

1. Power on the computer
2. Be sure the USB cable is connected to the computer
3. Follow the step-by-step instructions found in the folder file on the CD-ROM

Cleaning your display

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5.1 Cleaning instructions

To clean the display

Turn off the product before cleaning. No specific liquid or chemical is necessary when cleaning this LCD monitor. However, we suggest to clean the monitor with non-abrasive cloths and cleaning solutions used in hospitals to clean similar equipment.

CAUTION: Do not apply excessive pressure on the LCD.

CAUTION: To clean the display, do not spray liquid cleaners directly to the screen. Stand away from the monitor, spray the cleaning solution onto a soft cloth and clean gently.

CAUTION: Do not use abrasive cleaners, waxes, or solvents.

6 Troubleshooting

6.1 Troubleshooting list

To diagnose a problem

Before sending your LCD display for servicing, check the troubleshooting list below to see if you can self-diagnose the problem.

Problem	Remedy
No image	Check that all the I/O and power connectors and correctly and well connected. Make sure the pins of the connectors are not crooked or broken.
Partial image or incorrectly displayed image	Check to see if the resolution of your computer is higher than that of the LCD display. Reconfigure the resolution of your computer to make it less than or equal to 1920 x 1080.
Image has vertical flickering line bars	Use “Horizontal size” to make an adjustment. Check and reconfigure the display mode of the vertical refresh rate of your graphic card to make it compatible with the LCD display.
Image is unstable and flickering	Use “Fine” to make an adjustment.
Image is scrolling	Check and make sure the VGA signal cable (or adapter) is securely connected. Check and reconfigure the display mode of the vertical refresh rate of your graphics card to make it compatible with the LCD display.
Vague image (characters and graphics)	Use “Horizontal size” to make an adjustment. If the problem still exists, use “Fine” to make an adjustment.

6.2 Warning Signal

Overview

If you see warning messages on your LCD screen, this means that the LCD display cannot receive a clean signal from the computer graphics card. The three kinds of warming signals are listed below. Please check the cable connections or contact your local dealer or service center for more information.

No signal	The LCD display has been powered on but it cannot receive any signal from the computer graphics card. Check all the power switches, power cables, and VGA/DVI signal cable.
Going to sleep	The LCD display is under the power saving mode. In addition, the LCD display will enter power saving mode when experiencing a sudden signal disconnecting problem. The monitor can be activated by pressing any keyboard, triggering the mouse or touching the screen.
Out of range	The signal of the computer graphic card is not compatible with the LCD display. When the signal is not included in the “Modes” listed, the LCD monitor will display this message. “Advanced”, page 16

Important Information

7

7.1 Safety Information

General recommendations

- Read the operating manual thoroughly and be familiar with the content, prior to using this equipment.
- Do not place the monitor, or any other heavy object, on the power cord to prevent fire or electrical shock from damage to the power cord.
- Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. ME equipment should be placed easily powered off place.
- Do not expose the monitor to dust to avoid fire or shock hazard.
- Avoid placing the monitor against a bright background or where sunlight or other light sources may reflect on the area of the monitor. Place the monitor just below eye level.
- Handle the monitor with care.
- Refrain from giving a shock to the monitor.
- Do not scratch the screen, as the screen is fragile.

Preventive maintenance

Periodic maintenance inspections are essential to keep the monitor in optimum condition and ensure safe operation.

With the monitor disconnected from the mains, perform the following periodic check:

- Check the integrity of the power cord and inspect its routing, so that it is not under the risk of being punched or cut.
- Check the integrity of the protective earth connection.
- Clean the area around the power plug. Dust and liquids may result in fire.
- Clean the ventilation slot of the monitor. Dust can obstruct the air flow and cause temperature increase of the electronics.

General recommendations:

- Keep the monitor clean to prolong its operational lifetime.
- LCD panel performance may deteriorate in the long term. Periodically check that it is correctly operating.
- Periodically check the tightness of the VESA mount screws. If not sufficiently tight, the monitor may detach from the arm, which may result in injury or equipment damage.

Equipment

- Monitor with power supply is suitable for use in patient environment.
- This equipment has been tested and found to comply with the limits for medical devices in IEC 60601-1-2:2014.
- Equipment with SIP/SOP connectors should either comply with IEC 60601-1 harmonized national standard or the combination should be evaluated. Do not touch the patient with signal input or output connectors.

Power connection

- Only use the proprietary power supply.
- Electrical input rating: 12V DC, 3A
- Only use a hospital grade power supply cord.
- Grounding reliability can only be achieved when the equipment is connected to an equipment receptacle labeled “Hospital Only” or “Hospital Grade”.
- To avoid the risk of electric shock, this equipment must only be connected to a supply mains with protective earth.
- The equipment is intended for continuous operation.

Recommendation to Use More Than One Unit

As unforeseen situations can occasionally occur with the monitor, when the display is used please use a safety control. It is strongly recommended the user uses more than one unit or prepares a spare unit in case there is an emergency.

Water and moisture

- Never expose the display to rain or moisture.
- Degree of protection against the ingress of water: IPX1 compliance.
- AC adapter is not protected against water. Do not expose AC adapter to water.

Ventilation

- Do not cover the slots or openings of the monitor for proper heat dissipation. Always put the monitor in a place where there is adequate ventilation to prevent internal heat buildup.
- Do not block the monitor cooling vents. The monitor is cooled by natural convection and has no fan
- Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.

Warnings

1. Federal law (United States of America) restricts this device to use by, or on order of a physician.
2. Should any solid object or liquid fall into the panel, unplug the unit and have it checked by qualified personnel before operating it any further.
3. Unplug the unit if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.
4. Test this equipment prior to a medical procedure. This monitor was fully tested at the factory before shipment.
5. Do not attempt internal repairs or adjustments not specifically detailed in this operating manual.
6. Pay close attention to the care, cleaning instructions in this manual. A deviation may cause damage.
7. Do not sterilize the monitor.
8. Read the entire operating manual before assembling or connecting the camera.
9. Do not stack more than 6 boxes high.
10. The device has no means to be incorporated in an IT-network in the clinical environment.
11. The enclosure has to be checked upon collision damage, refer to qualified service personnel.
12. The protective screen is made of tested high-resistance PMMA (polymethyl methacrylate). Nonetheless there is the possibility that it may crack if subject to strong impacts. Evaluate and prevent the risk of possible breakages of the protective screen by correctly handling and positioning the monitor in the operating room.

Cautions

1. Turn the power off when the unit is not in use.
2. Never operate the unit right after having transported from a cold location directly to a warm location.
3. Do not force the monitor past 28 degrees of vertical when adjusting the screen position (for monitors equipped with stands only).
4. Remove the power module and connection when transporting the unit.
5. Do not install the unit near mechanical vibration.
6. The unit is designed for operation in a horizontal position. Never operate the unit in a vertical position.
7. Keep the unit away from equipment with strong magnets (i.e. a large loudspeaker).
8. The products have lower breaking capacity type. Do not install at the building power system prospective short-circuit current exceeding 35 A.
9. To connect to an international power supply, use a an attachment plug appropriate for the power outlet.
10. The AMM215WTTP must be installed and operated according to the EMC information provided in this manual.

7.2 Cybersecurity

Hospital IT security

To prevent unauthorized access to the device, the organization incorporating the AMM215WTTP in their IT network shall have the necessary state-of-the-art policies, processes, standards and other security measures in place to incorporate, support and protect the device into the IT network. This shall include the application of risk management (e.g. by following IEC 80001-1:2010 or equivalent standards).

7.3 Environmental Information

Disposal Information

Waste Electrical and Electronic Equipment (WEEE)

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

For more information about recycling of this product, please contact your local city office or your municipal waste disposal service. For details, please visit the Barco website at: http://www.barco.com/AboutBarco/weee

Turkey RoHS compliance

Türkiye Cumhuriyeti: AEEE Yönetmeliğine Uygundur.

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

台灣RoHS

Chinese RoHS

	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Pb	汞 Hg	鎘 Cd	六價鉻 Cr6+	多溴聯苯 PBB	多溴二苯醚 PBDE
塑膠零件	o	o	o	o	o	o
金屬零件	-	o	o	o	o	o
線纜和電纜組件	-	o	o	o	o	o
液晶面板	-	o	o	o	o	o
電路板總成	-	o	o	o	o	o
軟體(光碟片等)	o	o	o	o	o	o

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

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

○: 係指該項限用物質之百分比含量未超出百分比含量基準值。

o: Indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

—: 係指該項限用物質為排除項目。

—: Indicates that the restricted substance corresponds to the exemption.

產品中有害物質的名稱和含量

部件名稱	有害物質					
	鉛 Pb	汞 Hg	鎘 Cd	六價鉻 Cr6+	多溴聯苯 PBB	多溴二苯醚 PBDE
塑膠部件	o	o	o	o	o	o
金屬部件	x	o	o	o	o	o
電線電纜組件	x	o	o	o	o	o
顯示器	x	o	o	o	o	o

部件名稱	有害物質					
	鉛 Pb	汞 Hg	鎘 Cd	六價鉻 Cr6+	多溴聯苯 PBB	多溴二苯醚 PBDE
觸控屏	x	o	o	o	o	o
電路模組	x	o	o	o	o	o
軟體(CD等)	o	o	o	o	o	o
本表格依据SJ/T 11364的規定編制。 o: 表示该有害物質在該部件所有均質材料中的含量均在 GB/T 26572規定的限量要求以下。 X: 表示该有害物質至少在該部件的某一均材料中的含量超出GB/T26572規定的限量要求,對于所有顯示X的情況, 本公司按照EU RoHS采用了容許的豁免指標。						

根据 SJ/T 11364SJ/T 11364 SJ/T 11364 SJ/T 11364 SJ/T 11364 要求 , 本公司電子信息產品均注明以下污 染控制标志.本產品環保使用期限为10年, 在正常環境使用的條件下,不會發生外泄或突變,使用該電子訊息不會對環境造成嚴重汙染或對其人身財產造成嚴重損害。

本公司鼓勵并建议客戶將產品依据所在地的相關法令,進行回收及再利用,切勿隨意与一般垃圾丢弃。

中国RoHS自我声明符合性标志 / China RoHS – SDoC mark

本产品符合《电器电子产品有害物质限制使用管理办法》和《电器电子产品有害物质限制使用达标管理目录》的要求。

This product meets the requirements of the “Management Rule on the Use Restriction of Hazardous Substances in Electrical and Electronic Products” and the “Management Catalogue for the Use Restriction of Hazardous Substances in Electrical and Electronic Products”.

绿色自我声明符合性标志可参见电子档文件
The green SDoC mark is visible in the digital version of this document.

7.4 EU Declaration of Conformity for Medical Applications

Declaration of Conformity

A Declaration of Conformity has been filed for this product. A sample of this document may be found in the addendum which accompanies this manual. For a copy of the Declaration of Conformity document, contact Barco, Inc. and request the AMM215WTTP DoC.

7.5 Regulatory compliance information

Indications for use

This device is intended to be used in operation rooms and health care facilities as a touch user interface tool to display and view digital images. It is not intended for diagnosis.

Intended usage environment

- 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.

Contra-indications

This display is not intended to be used for direct diagnosis and therapeutic interventional radiology.

Intended users

Surgical displays are intended to be used by trained medical practitioners.

Notice to the user and/or patient

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

WARNING: Excessive use may damage eyesight. Please rest for 10 minutes after use for 30 minutes. Children under the age of 2 should not watch the screen. Children over the age of 2 should not watch the screen for more than 1 hour per day.

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 equipment has been tested and found to comply with the limit 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 typical medical installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment 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 device.
- Increase the separation distance between the equipment.
- Connect the equipment to an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer or field service 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.

Because many medical offices are located in residential areas, this monitor, in addition to the medical requirements, has also been tested and found to comply with the limits for FCC Class B computing devices in a typically configured system. It is the system integrator or configurer’s responsibility to test and ensure that the entire system complies with applicable EMC laws.

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

UKCA compliance

UK Responsible Person (UKRP): Barco UK Ltd, Building 329, Doncastle Road, Bracknell RG12 8PE, Berkshire, United Kingdom

7.6 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: Portable and mobile RF communications equipment may affect the normal function of the AMM215WTTP.

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.

Electromagnetic emissions

The AMM215WTTP is intended for use in the electromagnetic environment specified below. The customer or the user of the AMM215WTTP should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – Guidance
RF emissions CISPR 11	Group 1	The AMM215WTTP 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 AMM215WTTP 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 AMM215WTTP 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 AMM215WTTP is intended for use in the electromagnetic environment specified below. The customer or the user of the AMM215WTTP 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		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 100 kHz repetition frequency		Mains power quality should be that of a typical commercial or hospital environment
Surge IEC 61000-4-5	± 0.5 kV, ± 1 kV, ± 2kV		Mains power quality should be that of a typical commercial or hospital environment
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m 50 Hz or 60 Hz		Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % U_T ; 0,5 cycle At 0° . 45°, 90°, 135°, 180°, 225°, 270°, and 315° q)		Mains power quality should be that of a typical commercial or hospital environment. If the user of the AMM215WTTP requires continued operation during power mains interruptions, it is recommended that the AMM215WTTP be powered from an uninterruptible power supply or a battery
	0% U_T; 1 cycle and 70 % U_T ; 25/30 cycles Single phase: at 0°		
	0 % U_T ; 250/300 cycle		

U_T is the A.C. mains voltage prior to application of the test level.

Immunity test	IEC 60601 test levels	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC61000-4-6 Radiated RF IEC 61000-4-3	3 V 0,15 MHz - 80 MHz 6V in ISM and amateur radio bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz 10 V/m 80 MHz - 2,7 GHz 80% AM at 1 kHz		Portable and mobile RF communications equipment should be used no closer to any part of the AMM215WTTP, including cables than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended Separation Distance 0.15 MHz to 80 MHz $d = \left[\frac{3,5}{V_1}\right]\sqrt{P}$ 80 MHz to 800 MHz $d = \left[\frac{3,5}{E_1}\right]\sqrt{P}$ 800 MHz to 2.5 GHz $d = \left[\frac{7}{E_1}\right]\sqrt{P}$ where **P** is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey (a), should be less than the compliance level in each frequency range (b). Interferency may occur in the vicinity of equipment marked with the following symbol

At 80 MHz and 800 MHz, the higher frequency range applies.

These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

(a) Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast, cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the AMM215WTTP is used exceeds the applicable RF compliance level above, the AMM215WTTP should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the AMM215WTTP.

(b) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [V1] V/m.

Recommended Separation Distances Between Portable and Mobile RF Communications Equipment and the AMM215WTTP system

The AMM215WTTP system is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The user of the AMM215WTTP system can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the AMM215WTTP system as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power (W) of transmitter	Separation distance (m) according to frequency of transmitter		
	150 kHz to 80 MHz d=1.17, √P	80 MHz to 800 MHz d=1.17, √P	800 MHz to 2.5 GHz d=1.17, √P
0.01	0.12	0.12	0.23
0.1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.70	3.70	7.37
100	11.70	11.70	23.30

For transmitters rated at a maximum output power not listed above, the recommended separation distance (d) in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

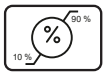
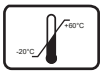
7.7 Explanation of symbols

Overview

You may find the following symbols (nonrestrictive list):

CE	Indicates the device meets the requirements of the applicable EC directives/ regulations.
FC	Indicates compliance with Part 15 of the FCC rules (Class A or Class B).
c UL us Medical Equipment	Medical equipment is in accordance with UL 60601-1 and CAN/CSA C22.2 No. 601.1 in regards to electric shock, fire and mechanical hazards
Rx ONLY	Caution: Federal law (United Stated of America) restricts this device to sale by or on the order of a licensed healthcare practitioner.
UK CA	Indicates the device meets the requirements of the UK MDR 2002 (as amended).
	Indicates the legal manufacturer.
	Indicates the manufacturing date.

	Indicates the entity importing the medical device into the locale.
MD	Indicates this is a Medical Device.
SN	Indicates the device serial number.
UDI	Indicates the Unique Device Identifier.
	Warning: dangerous voltage
	Caution
	Consult the Instructions For Use.
	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).
	DC power control switch
	Fragile, handle with care
	Keep dry
	This way up
	Indicates the maximum number of boxes to be stacked on each other.
	Recyclable
EC REP	Indicates the Authorised Representative for the European Union.
CH REP	Indicates the Authorised Representative for Switzerland.

	For indoor use only
	China RoHS symbol. The number indicates EFUP (Environmental Friendly Use Period) from the date of manufacturing
IPX1	Tested to comply with IP (Ingression Protection) Rating
	Atmospheric pressure: 500 hPa ~1,060 hPa
	Humidity: 10 ~ 90% RH
	Storage temperature: -20° C — 60° C
	Refer to instruction manual / booklet Note: On ME EQUIPMENT “Follow instructions for use”

7.8 Warranty

Responsibility

Barco, Inc. accepts full responsibility for the effects on safety, reliability, and performance of the equipment only if:

- Re-adjustments, modifications, and/or repairs are carried out exclusively by Barco, Inc.
- The electrical installation of the relevant operating room complies with the applicable IEC and CE requirements.

Warranty is void if any of these warnings are disregarded.

Description of Warranty

BARCO warrants to the first Buyer (Buyer) that the product purchased when shipped in its original container will conform to BARCO specifications, and to any BARCO approved specifications furnished to BARCO by the Buyer, and will be free of defects in materials and workmanship. BARCO warrants that the product purchased is manufactured from new components which meet BARCO standards, quality and specifications.

Subject to the conditions and limitations set forth below, BARCO will, at its option, either repair any component of its products that prove defective by reason of improper workmanship or materials or BARCO has the exclusive right to replace with refurbished units or with an equivalent product. BARCO warrants that the components used for repair, refurbished units or equivalent product will meet BARCO standards, quality and specifications.

Commencement and Duration of Warranty

The product purchased will be warranted for a period of twenty-four (24) months (excluding the LCD panel, touchscreen, and the protection filter) from the date of shipment.

LCD panels and touchscreens are warranted for a period of twelve (12) months from the date of shipment.

Protection filters are not warranted as damage to the protection filter is considered to be normal wear and tear and can be replaced at Buyer's cost.

Components used for repair, refurbished units or equivalent product will be warranted for a period of twelve (12) months from the date of repair.

Limitation of Warranty

This limited warranty does not cover any damage to this product or other non- BARCO products that results from any of the following: improper installation or operation; accident; abuse; misuse; natural disaster; war; insufficient or excessive electrical supply; abnormal mechanical or environmental conditions; any unauthorized disassembly, repair or modification; normal wear and tear; tampering by anyone other than an BARCO engineer or an BARCO Authorized Service Center (ASC); the use of supplies, consumable items and conditions beyond the control of BARCO, such as common carrier provided equipment and/or facilities; operation of BARCO product in excess of the specifications. This limited warranty also does not apply to any product that has not been handled or packaged correctly, that has been sold as second-hand or has been resold contrary to the US export regulations, on which the original identification information (i.e. serial number, rating and/or warranty label) has been altered, obliterated or removed.

In Warranty

BARCO or its ASC will repair or replace if defective in material or workmanship without cost, for a period of twenty-four (24) months, (LCD panels and touchscreens for a period of twelve (12) months) after the date of shipment.

Buyer must notify BARCO or its ASC of the defect before expiration of the warranty period, and request an RMA number. If the configuration has been modified in any manner, the product must be returned to its original configuration before any warranty service will be performed by BARCO or its ASC. No goods are to be returned to BARCO or its ASC without prior authorization. Buyer will be responsible for packaging (preferably original container) and shipping the defective goods to BARCO or its ASC, shipping charges prepaid.

BARCO or its ASC will return the in warranty product, at no cost to the buyer.

Out-of-Warranty

BARCO or its ASC will repair or replace if defective in material or workmanship with fee, any product which the warranty period has expired (out-of-warranty).

Buyer must notify BARCO or its ASC of the defect and request an RMA number. If the configuration has been modified in any manner, the product must be returned to its original configuration before any service will be performed by BARCO or its ASC. No goods are to be returned to BARCO or its ASC without prior authorization. Buyer will be responsible for packaging (preferably original container) and shipping the defective goods to BARCO or its ASC, shipping charges prepaid.

BARCO or its ASC will return the out-of-warranty product, at cost to the buyer.

Product End of Life (EOL)

In the event of an RMA of an EOL product(s), BARCO will hold or store major components of its products for a period of five (5) years, after the EOL of its products. BARCO shall continue to perform the service of its products as long as BARCO holds or stores said components of the products, with reasonable charge.

The forgoing Warranty and Out-of-Warranty terms apply.

Disclaimer

THE FORGOING IS THE COMPLETE WARRANTY FOR BARCO PRODUCTS AND SUPERSEDES ALL OTHER WARRANTIES AND REPRESENTATIONS, WHETHER ORAL OR WRITTEN. EXCEPT AS EXPRESSLY SET FORTH ABOVE, NO OTHER WARRANTIES ARE MADE WITH RESPECT TO BARCO PRODUCTS AND BARCO EXPRESSLY DISCLAIMS ALL WARRANTIES NOT STATED HEREIN, INCLUDING, TO THE EXTENT PERMITTED BY APPLICABLE LAW, ANY WARRANTY THAT MAY EXIST UNDER NATIONAL, STATE, PROVINCIAL OR LOCAL LAW INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY ON NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALL WARRANTIES, WHETHER EXPRESS OR IMPLIED, ARE LIMITED TO THE PERIODS OF TIME SET FORTH ABOVE. SOME STATES OR OTHER JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY.

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7.9 Legal disclaimer

Disclaimer notice

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Product Security Incident Response

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

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

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

7.10 Technical specifications

Overview

Description	Active matrix TFT LCD technology
Display	21.5 inches
Resolution	1920 (H) x 1080 (V)
Pixel pitch	0.24795 mm x 0.24795 mm

Aspect ratio	16:9
Refresh rate	56 ~ 75 Hz
Dimensions (W x H x D)	517.4 x 351.7 x 219.0 mm (with stand) 517.4 x 313.3 x 46.0 mm (without stand)
Power Adaptor	• AC 100 ~ 240V 56–60Hz, 1.5A • DC 12V, 4.2A
VESA mounting	100 mm x 100 mm
Operating temperature	32 °F ~ 104° F (0 °C to 40° C)
Storage temperature	- 4° F ~ 140 °F (-20 °C to 60 °C)
Relative humidity	10% ~ 90%
Storage humidity	10% ~ 90%
Atmospheric pressure	500 ~ 1060 hPa
Life time	5 years

Barco, Inc.
3059 Premiere Parkway, Suite 400
Duluth, GA 30097
USA

EC REP

Barco NV
President Kennedypark 35
8500 Kortrijk
Belgium

R5911667 /05 | 2022-07-12