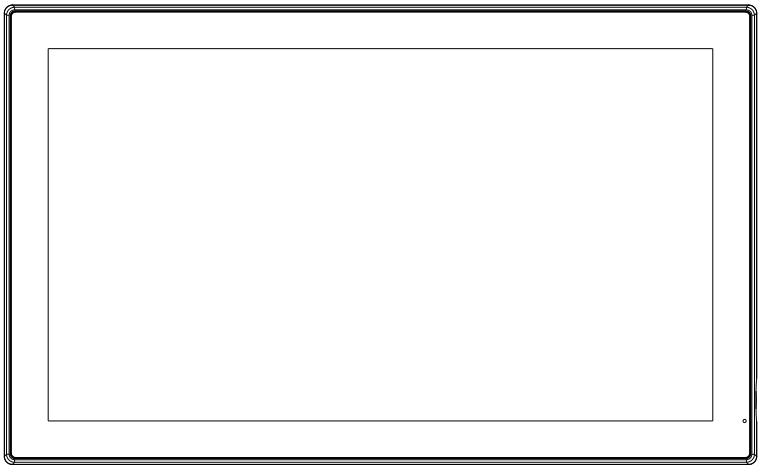
Display User's Manual

PC180380R



Model: RGP1823AM

Use this product after carefully reading this Manual and understanding the contents. Store this manual with care, as close as possible, so that you can read whenever necessary.

Utilisez ce produit après avoir lu attentivement ce manuel et compris le contenu.Conservez ce manuel avec soin, à porté de main, afin de pouvoir le consulter en cas de besoin.

◆Carefully read this User's Manual and use the product properly. Before using it, also read "Safety Precautions."

◆Keep the User's Manual as close to you as possible and in safe custody.

◆If you have lost the manual, contact your dealer. We will reissue a manual.

◆The names of companies and products are registered brand names or brand names.

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Revision History

The revision letter changes with related comments each time the document is updated.

Revision	Comment
A	Initial release of this document

Safety Precautions

I Monitor Description

The equipment is applied for healthcare that is intended for general use in hospital environment for data collection and display for reference. It shall not be used with life support system or for medical diagnosis. It may provide simple image review software functionality for medical image processing and manipulation, such as grayscale window and level, zoom and pan, user delineated geometric measurements, compression, or user added image annotations. The device does not perform advanced image processing or complex quantitative functions. This does not include electronic transfer of medical image software functions.

II External Equipment

Accessory equipment connected to the analog and digital interfaces must be in compliance with the respective nationally harmonized IEC standards (i.e. IEC 60601-1 for medical equipment.) Furthermore all configurations shall comply with the system standard in IEC 60601-1. Anyone who connects additional equipment to the signal input part or signal output part is configuring a medical system, and is therefore, responsible that the system complies with the requirements of the system standard IEC 60601-1. The unit is for exclusive interconnection with IEC 60601-1 certified equipment in the patient environment and IEC 60XXX certified equipment outside of the patient environment.

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

III Intended Use

This monitor is only used to display and review medical digital images and can be used as a part of the medical system for diagnosis. Complete diagnostic capabilities are provided by the medical system.

Intended User Profile

Age:	Adult (specify range 21~70)
Gender:	Can be use by all genders
Linguistic/ Cultural Background:	At least English
Education/ Professional Competence:	General level of education
Intended User Group:	Hospital staff
Intended location:	Medical environment, No Applied Part
Knowledge Base:	User should possess basic medical knowledge
Mode of operation:	Continuous
Product Lifetime:	5 years
Protection against:	IPX0
The equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide:	Not AP or APG Category.

IV FCC

FCC Information

FCC(U. S. Federal Communications Commission)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and radiates radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause unacceptable interference to radio or television reception, 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 antenna.
- 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 your dealer or an experienced radio/TV technician for help.

FCC Warning:

To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to this monitor would void the user's authority to operate this device.

Avertissement de la FCC :

Pour assurer une conformité constante aux règlements de la FCC, l'utilisateur doit utiliser un cordon d'alimentation relié à la terre et le câble d'interface vidéo blindé fourni avec un noyau en ferrite incorporé. De plus, tous les changements ou modifications non autorisés réalisés sur ce moniteur priveraient l'utilisateur du droit de faire fonctionner cet appareil.

Electromagnetic Compatibility Notice

Guidance and manufacturer's declaration – electromagnetic emissions		
The monitor is intended for use in the electromagnetic environment specified below. The customer or the user of the monitor should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment – Guidance**
RF emissions CISPR 11	Group 1	The monitor uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference with nearby electronic equipment.
RF emissions CISPR 11	Class B	The monitor 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	

Guidance and manufacturer's declaration – electromagnetic emissions			
The monitor is intended for use in the electromagnetic immunity environment (Home healthcare environment defined in IEC60601-1-2) specified below. The customer or the user of the monitor 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	± 8kV contact ± 15kV air	± 8kV contact ± 15kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines 100 kHz ±1 kV for input/output lines 100 kHz	±2 kV for power supply lines 100 kHz	Mains power quality should be that of a typical commercial or hospital environment
Surge IEC61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % UT(100 % dip in UT) 0.5 cycles and 1 cycle 70 % UT (30 % dip in UT)	0 % UT(100 % dip in UT) 0.5 cycles and 1 cycle 70 % UT (30 % dip in UT) 25/30 cycles	Mains power quality should by that of a typical commercial or hospital environment. If the user of the monitor requires continued operation during power mains interruptions,

	25/30 cycles 0 % UT (100 % dip in UT) 250/300 cycles	0 % UT (100 % dip in UT) 250/300 cycles	it is recommended that the monitor be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m 50Hz or 60Hz	30 A/m 50Hz or 60Hz	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Guidance and manufacturer's declaration – electromagnetic emissions

The monitor is intended for use in the electromagnetic immunity environment (Home healthcare environment defined in IEC60601-1-2) specified below.

The customer or the user of the monitor should assure that it is used in such an environment.

Immunity test	**IEC 60601 Test levels**	**Compliance level**	**Electromagnetic environment – guidance**
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	Proximity electromagnetic field from RF wireless communication equipment (Specified the table below) 3 V 0.15 MHz to 80 MHz 6V ISM bands and amateur radio between 150 kHz and 80 MHz 80% AM at 1kHz 10 V/m 80 MHz to 2.7 GHzz	3 V 0.15 MHz to 80 MHz 6V ISM bands and amateur radio between 150 kHz and 80 MHz 80% AM at 1kHz 10 V/m 80 MHz to 2.7 GHz	Portable and mobile RF communications equipment should be used no closer to any part of the monitor, including cables, than the recommend separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** **$d = 1.2\sqrt{P}$** **$d = 1.2\sqrt{P}$** 80 MHz to 800 MHz **$d = 2.3\sqrt{P}$** 800 MHz to 2.5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d 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] Interference may occur in the vicinity of equipment marked with symbol: 

NOTE 1 : UT is the a.c. mains voltage prior to application of the test level. NOTE 2 : At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 3 : Guidelines regarding conducted disturbances induced by RF fields or radiated RF fields may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

NOTE 4 : The ISM (industrial, scientific and medical) bands between 0.15 MHz and 80 MHz are 6.765 MHz to 6.795 MHz; 13.553 MHz to 13.567 MHz; 26.957 MHz to 27.283 MHz; and 40.66 MHz to 40.70 MHz . The amateur radio bands between 0.15 MHz and 80 MHz are 1.8 MHz to 2.0 MHz, 3.5 MHz to 4.0 MHz, 5.3 MHz to 5.4 MHz, 7 MHz to 7.3 MHz, 10.1 MHz to 10.15 MHz, 14 MHz to 14.2 MHz, 18.07 MHz to 18.17 MHz, 21.0 MHz to 21.4 MHz, 24.89 MHz to 24.99 MHz, 28.0 MHz to 29.7 MHz and 50.0 MHz to 54.0 MHz.

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 monitor is used exceeds the applicable RF compliance level above, the monitor should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the monitor .

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 10 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the monitor

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

Immunity to proximity fields from following RF wireless communication equipment has been confirmed:

Test frequency (MHz)	Bandwidth a) (MHz)	Service a)	Modulation b)	Maximum power (W)	Minimum separation distance (m)	IEC/EN60601 test level (V/m)	Compliance level (V/m)
385	380-390	TETRA400	Pulse modulation b)	1.8	0.3	27	27
450	430-470	GMRS 460, FRS 460	FM ±5 kHz deviation 1 kHz sine	2	0.3	28	28
710	704-787	LTE Band 13, 17	Pulse modulation b) 217 Hz	0.2	0.3	9	9
745							
780							
810	800-960	GSM 800 / 900, TETRA 800, iDEN 820 CDMA 850, LTE Band 5	Pulse modulation b) 18 Hz	2	0.3	28	28
871							
930							
1720	1700-1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation b) 217 Hz	2	0.3	28	28
1845							
1970							

2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation b) 217 Hz	2	0.3	28	28
5240	5100-5800	WLAN 802.11 a/n	Pulse modulation b) 217 Hz	0.2	0.3	9	9
5500							
5785							

a) For some services, only the uplink frequencies are included.
b) The carrier shall be modulated using a 50 % duty cycle square wave signal.

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

Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter** m		
	150kHz to 80MHz $d=1.2\sqrt{P}$	**80MHz to 800MHz** $d=1.2\sqrt{P}$	**800MHz to 2.5GHz** $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

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.

NOTE 1 **:** At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 **:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

NOTE 3 The screen of EUT flickers during testing, but it is self-recoverable after test. NOTE 4 The EUT was stopped operating during the test, but it is self-recoverable after test.

NOTE 4 The screen of EUT flickers during testing, but it is self-recoverable after test.

V Precautions

• Make sure to carefully read the Operating Manual prior to using the monitor in order to properly use the monitor.

• The manufacturer shall bear absolutely no responsibility for damage to this product by a customer or a third party that results from the ignoring of contents in this Operating Manual.

• **Follow the instructions below for safety use of the LCD Monitor.**

- To avoid electric shock, do not attempt to remove any cover or touch the inside of the monitor. Only a qualified service technician should open the monitor case.

- Do not insert metal objects or spill liquid into the LCD monitor through cabinet slots.

They may cause accident fire, electric shock, or failure. If a foreign object is inserted or water has penetrated, unplug the AC cable and have the monitor serviced.

- Do not cover or block the vent holes in the case.

- Disconnect the power plug from the AC outlet if you will not use it for an indefinite period of

• If your LCD monitor uses an AC/DC Adapter, only use the adapter which is accompanied with this device. Use of another AC/DC Adapter may cause a malfunction or danger.

• If your LCD monitor does not operate normally-in particular, if there are any unusual sounds or smells coming from it-**unplug the AC cable** immediately and contact the manufacturer, authorized or service center.

• No modification of this equipment is allowed.

• OPERATOR is not allowed to touch enclosure and PATIENT simultaneously.

• Do not connect to multiple socket outlets.

• To avoid the risk of electric shock this equipment must only be connected to a supply mains with protective earth.

Avertissement de la FCC :

Pour assurer une conformité constante aux règlements de la FCC, l'utilisateur doit utiliser un cordon d'alimentation relié à la terre et le câble d'interface vidéo blindé fourni avec un noyau en ferrite incorporé. De plus, tous les changements ou modifications non autorisés réalisés sur ce moniteur priveraient l'utilisateur du droit de faire fonctionner cet appareil.

Canadian notice

This ISM device complies with Canadian ICES-003.

Cet appareil ISM est conforme à la norme NMB-003 du Canada.

Précautions

● Prenez soin de lire attentivement le manuel d'utilisation avant d'utiliser le moniteur.

● Remarquez que hormis le cas d'une reconnaissance de responsabilité pour une compensation légale, le fabricant n'endossera absolument aucune responsabilité pour les dommages occasionnés à ce produit par un client ou un tiers dus à l'ignorance du contenu de ce manuel d'utilisation, et d'un mauvais usage.

● Suivez les instructions ci-dessous pour utiliser le moniteur LCD en toute sécurité.

- Pour éviter les chocs électriques, n'essayez pas de retirer les caches ni de toucher l'intérieur du moniteur. Seul un technicien qualifié peut ouvrir le boîtier du moniteur.

- N'insérez pas d'objets métalliques ou ne renversez pas de liquide dans le moniteur LCD à travers les ouvertures du boîtier.

Cela pourrait provoquer un incendie, une électrocution ou une panne. Si un corps étranger est inséré ou si de l'eau pénètre, débranchez le cordon CA et faites vérifier le moniteur.

- Ne couvrez pas ou d'obstruez pas les trous de ventilation sur le boîtier.

-Débranchez la prise d'alimentation de la prise CA quand l'appareil ne doit pas être utilisé pendant une période indéterminée.

- N'appliquez pas de pression sur l'écran. Le LCD est très délicat.

● Si votre moniteur LCD utilise un adaptateur CA/CC, utilisez uniquement l'adaptateur, qui accompagne cet appareil. L'utilisation d'un autre adaptateur CA/CC peut provoquer un dysfonctionnement ou être dangereux.

● Si votre moniteur LCD ne fonctionne pas normalement, en particulier, si des sons ou des odeurs inhabituels s'échappent du moniteur, débranchez le cordon CA immédiatement et contactez le fabricant, un revendeur agréé ou le centre s.a.v.

● Aucune modification de cet équipement n'est autorisée.

● Opérateur n’est pas permis de toucher simultanément la clôture et le patient.

● Ne connectez pas au bloc multiprise.

● Pour éviter le risque de choc électrique, cet équipement doit être uniquement raccordé à un réseau d'alimentation avec protection par mise à la terre.

●Le coupleur d'appareil est utilisé comme dispositif de déconnexion du secteur, ne placez pas le moniteur LCD de telle sorte qu'il soit difficile de faire fonctionner le dispositif de déconnexion.

VI Environment

- Place the monitor on a flat and leveled surface.
- Place the monitor in a well-ventilated place.
- Keep the monitor away from:

overly hot, cold, or humid places, direct sunlight, dusty surroundings, and equipment that generates strong magnetic fields.

ROHS

EU Directive 2011/65/EC and 2015/863/EU ; EN IEC 63000:2018(IEC 63000:2016);
On the restriction of certain hazardous substances in electrical and electronic equipment. This product is RoHS compliant.

Safety Information

General Recommendations

Adhere to all warnings on the device and in the operating instructions manual. Follow all instructions for operation and use.

Modifications to the Unit:

Do not modify this equipment without authorization of the manufacturer.

Non-Patient Care Equipment

- Equipment primarily for use in a health care facility. It is intended for use when contact with a patient is unlikely (no applied part).
- The equipment may 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.

Mission Critical Applications

We strongly recommend for there to be a replacement monitor immediately available in mission critical applications.

Power Connection – Equipment with external Power Supply

- Power requirements: The equipment must be powered by the DC mains voltage.

Ergonomics

- Position your monitor no closer than 40 cm and no further away than 70 cm from your eyes. The optimal distance is 50cm.
- Use the preset Color Setting. Do not use primary color blue on a dark background, as

it is difficult to see and may produce eye fatigue to insufficient contrast.

- Adjust the monitor height so that the top of the screen is at or slightly below eye level. Your eyes should look slightly downward when viewing the middle of the screen.

Power Cords

- Do not overload wall outlets and extension cords as this may result in fire or electric shock.
- Main leads protection (U.S.: Power cord): Power cords should be routed so that they are not walked upon or pinched by items placed upon or against them. Pay particular attention to cords at plugs and receptacles.
- The power supply cord should be replaced by the designated operator only at all time.
- Use a power cord that matches the voltage of the power outlet, which should be approved and in compliance with the safety standard of your particular country.
- Avoid placing the monitor near places that is hard to reach or difficult to disconnect the power supply cord.
- For ME EQUIPMENT provided with NEMA configuration non-locking plug types 120V/ 15 A, 125V/ 15A, 250V/ 20A, maximum 3 m long, "Hospital Grade" mains plug shall be provided and the POWER SUPPLY CORD shall be marked.

Grounding Reliability

Grounding reliability can only be achieved when the equipment is connected to an equivalent receptacle.

Liquids and Moisture

Never expose the monitor to liquids or moisture.

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

Ventilation

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

Contraindications

This monitor is not intended to be used for direct diagnosis and therapeutic interventional Radiology for reference only.

No part of this product may come in contact with a patient. Never touch the product and a patient at the same time.

The monitor shall not be used in digital mammography and for medical equipment systems for MRI.

Personal Allergy History: Users should avoid use if they have an allergic reaction to any of the ingredients in this product.

Equipment Symbols

Electrical and Electronic Equipment Symbols

In addition to the equipment symbols described in your user's manual, the following symbols may appear on the monitor.



Alternating current.



Direct current.



Indicates the device meets the requirements of the applicable EC directives.
Indique que l'appareil satisfait aux exigences des directives CE en vigueur.



FCC. USA only. Complies with applicable US government (Federal Communications Commission) radio-frequency interference regulations.

FCC. USA seulement. Conforme aux réglementations applicables en matière de brouillage radio-fréquence du gouvernement des États-Unis (Federal Communications Commission).



Fragile. Handle with care.
Fragile. Manipuler avec soin.



Indicates front.
Indique avant.



Keep dry. Protect from water.
Garder au sec. Protège de la pluie.

ON. Power connection to the mains.
SUR. Connexion électrique au secteur.



Recycled materials or may be recycled.
Les matériaux recyclés ou peuvent être recyclés.



Stacking limit by number.
Limite d'empilement par nombre.



Standby or power indicator.
Indicateur de veille ou d’alimentation.



This way up.
De cette façon jusqu'à.



USB connector port.
Port de connexion USB.



Power OFF.
Éteindre.



This symbol indicates that the waste of electrical and electronic equipment must not be disposed as unsorted municipal waste and must be collected separately. Please contact an authorized representative of the manufacturer for information concerning the decommissioning of your equipment.
Ce symbole indique que les déchets d'équipements électriques et électroniques ne doivent pas être éliminés avec les déchets ménagers non triés et doivent être collectés séparément. Veuillez contacter un représentant autorisé du fabricant pour obtenir des informations sur le déclassement de votre équipement.



ATTENTION: Consult accompanying documents.



DANGER - Shock Hazard. Dangerous voltage. To reduce the risk of electric shock, do not remove cover. Refer servicing to qualified service personnel.



ATTENTION: Consult accompanying documents.
Consultez les documents accompagnés.



Equipotentiality. Connect device to a potential equalization conductor.
Équipotentialité. Raccordez l'appareil à un conducteur de liaison équipotentielle.



Protective earth (ground)
Protection par mise à la terre (masse).

Cleaning Instructions

Cleaning the Cabinet and the LCD Display

●When cleaning, remove the outlet from the LCD display for safety.
●Lightly wipe off dirt on the cabinet and LCD panel surface with a hard-wrung soft cloth soaked in a neutral cleaning solution. Follow its instructions when using a disposable cloth.
●Do not use thinner, benzine, alcohol, or such on the cabinet that is made of plastic. These can damage the cabinet, alter its quality, and cause the paint to peel off.
●Do not apply insecticides and other volatile items to the cabinet. Also do not leave rubber and vinyl products or such in contact with it for long hours. This can cause the quality to alter and the paint to peel off.
●Cleaners usable for the LCD panel are isopropyl alcohol(without abrasive), non-ammonic glass cleaner, and watered-down neutral cleaning solution. Do not use organic solvents such as acetone and toluene.
●When the screen has dust on the LCD panel surface, wipe it off with soft moist cloth.
●Treat the LCD panel with care. Do not rub the LCD panel surface with a rough item or hit it on the surface. Also, do not strongly press the LCD panel surface. This can lead to unevenness in the screen and also to failure of the product.

Disposal of the Unit

- **Do not dispose of this product with general wastes.**
- **Follow your local regulations or rules upon dispose of this product.**

Disposal Information

Waste Electrical and Electronic Equipment



This symbol on the product indicates that under the European Directive 2012/19/EU, governing waste from electrical and electronic equipment,

this product must not be disposed of with other municipal waste.

Please dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly

to promote the sustainable reuse of material resources.

For more information about recycling of this product, please contact your local city office or your municipal waste disposal service.

Auxiliaries

Check List
Before operating this monitor, please make sure that all items listed below are present in your package:

- The LCD monitor
- User's manual

If any of the above items are found missing or if you wish to order the optional items, please contact your dealer.

NOTES

* We recommend you to keep the packing box for transportation and the like.
* In case of transporting and packing the unit in the packing box, carefully place it, keeping its panel from touching any objects.

Application and Function Description

●Some Basic Facts

The medical safety approved RGP model is a versatile monitor designed for ergonomic and easy handing. The liquid-crystal display (LCD) monitor supports the most common resolutions from 640x480 (VGA) up to 1366x768 and presents sharp, low-radiation images.

With the OSD wheel knob on the bottom right side of the display leaves ample space on your desk for other peripheral equipment.

A VESA 100 adapter according to VESA standards is available on the rear cover for wall or swivel-arm mounting.

●Function Description

The medical flat-screen display is built into slim and ergonomic housing. The monitor displays 16.7 Million colors with a resolution of 1366x768 pixels.

The RGP model is optionally equipped with a protection glass or IPX1 protection against water drops.

The signal is equivalent to the analog and digital standard signals of your PC.

After connection of the signal, the flat-screen display automatically adapts, as far as possible, to the VGA signal and presents a stable and centered image. Additional display parameters, such as brightness and contrast, can be adjusted via the on-screen menu.

The equipment supplied includes the signal cables, the medical-grade power supply with power cord, and this user manual.

Features

●LCD display

This specification defines a 18.5” Color TFT LCD monitor, which is applicable to 1366x768. It is possible to display 16.7 million colors (RGB6-bits+Hi_FRC) and adjust the picture image by OSD (On Screen Display). The on screen display has lock-out capability.

●Power management

This unit has the power management system loaded. The power management mode functions when either horizontal or vertical signals, or both, disappears. It also reduces power consumption to less than 5W.

●VESA® standard wall / arm mountings

The unit is compliant with VESA mount hanging tools. The tilt stand is detachable; the unit can be set up for wall-hanging or arm according to users' environment.

●Security device slot for Kensington® security system

Anti-theft security device slot has been loaded to correspond to MicroSave® security system of Kensington®.

Connection Method

No tools are required to set up the LCD monitor. Simply follow the instructions outlined in the next few pages.

Connectors for the signal cables' power are located on the back of the panel behind the cover door. Please refer to the diagram on this page for the connector configuration.

•Connect Power Adapter and Cable

Connect the female end of the power cable to the AC/DC power input receptacle on the LCD Monitor. Then, plug the male end of the power cable into an AC outlet.

•Connect DVI/DP Cable

If you have a DVI/DP digital graphics card adapter and a DVI/DP cable, connect it to the DVI/DP connector of the monitor. The optional DVI/DP graphics adapter and the DVI/DP cable can be ordered by contacting dealer directly.

• VGA connector

The VGA cable is transmitting the image data to your flat screen. The cable has two 15pin D-Sub VGA connectors to connect to your graphic adapter.
- Connect one end of the cable with your flat screen. Take care to connect it correctly and please use the little screws to make sure the cable will not disconnect.
- Connect the other end of the VGA cable with the graphics adapter in your computer. Please use the little screws to make sure the cable will not disconnect.
- First turn on your flat screen and then turn on your computer.

The LED is green until the display receives a signal from the computer.

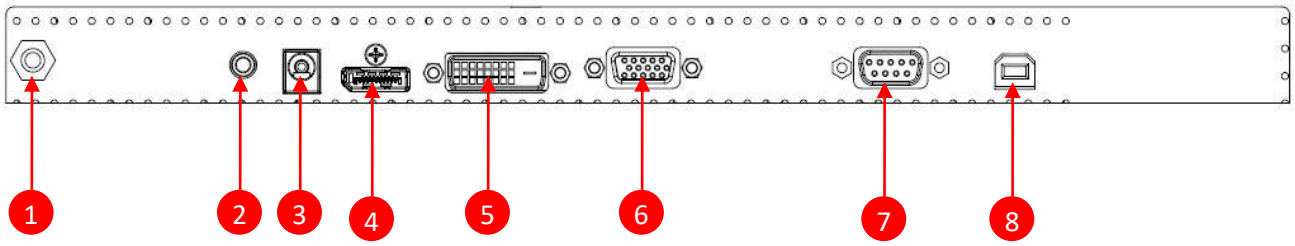
•Connect USB / RS232 Cable

Connect USB / RS232 in connector of the LCD monitor and PC out device. With the attached USB / RS232 cable.

•Connect Audio Cable

Connect Audio in connector of the LCD monitor and Audio out device (PC.DVD,CD...) with the attached stereo mini cable.

Available Connections



Available connections (bottom view)

No	Name	Connection Type	Remarks
1	GND Post	Ground Stud / Screw	Connect to the system to earth ground
2	AUDIO	stereo phone jack	Audio signal input
3	DC 12V Input	Power Din- 4pin	DC 12V input
4	DisplayPort	DisplayPort	DisplayPort signal input
5	DVI	DVI-D	DVI-D single link signal input
6	VGA	D-Sub 15	VGA signal input
7	RS232C	D-sub 9	Touch screen signal output
8	USB	USB type-B	USB upstream port. Connect to the system

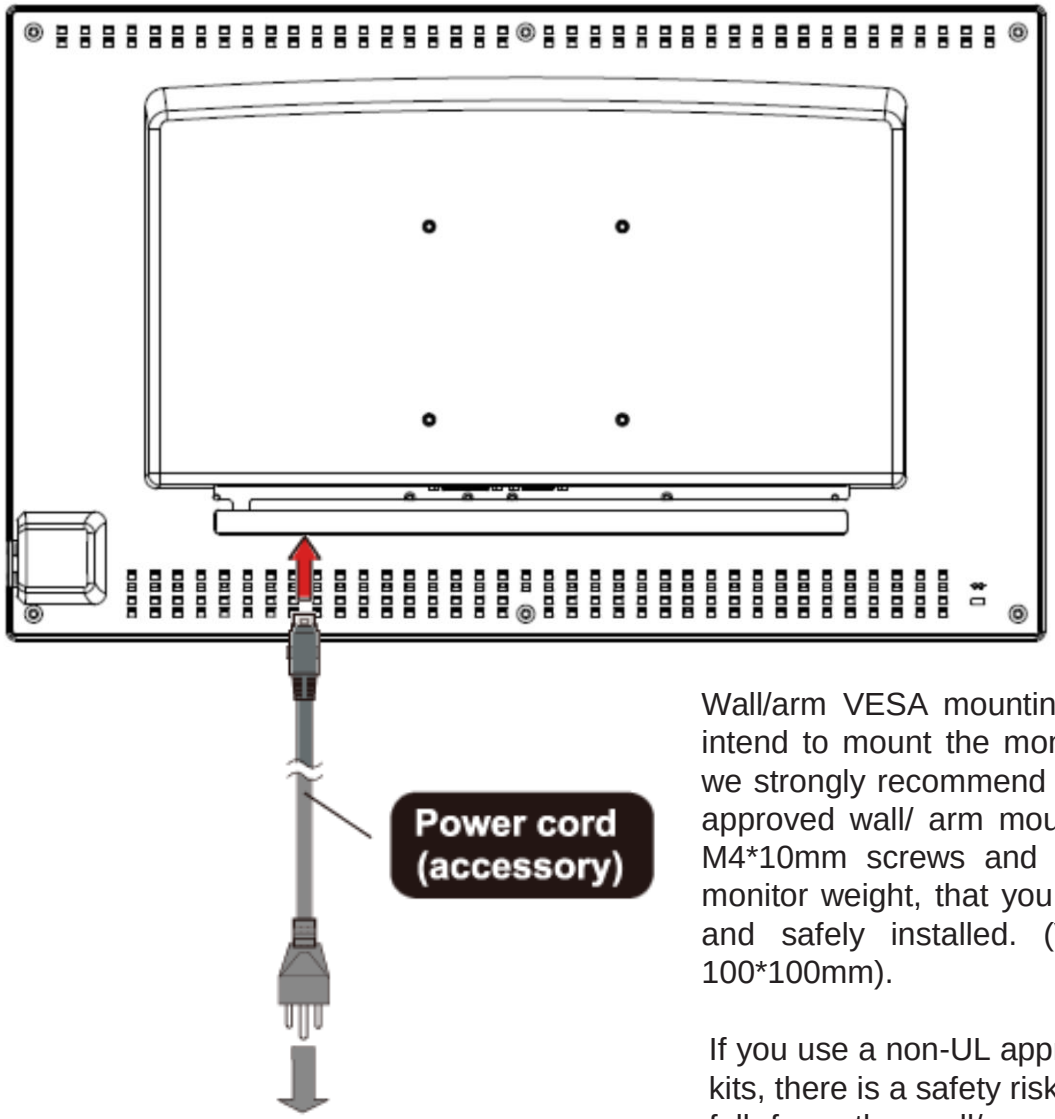
Cable Management

The LCD monitor has built-in cable guides and cover to help you organize and route the cables neatly on your desktop space. The cable cover is located on the back of the monitor stand and is opened by gently pulling it off the stand. Under the cover, the cables can be held in position by numerous clips.

There are several ways to route the cables and you may use any way you find suitable for your situation. However, the routing method illustrated by the drawing on the right is recommended to give the best result, both aesthetically and functionally, in most situations. Once the cables are in position, gently snap the cover back on to the stand.

Anti-Theft Security Lock Slot

The LCD monitor is equipped with a security lock slot compatible to Kensington® security lock type. The security cable lock maybe available through your dealer or it can be purchased at most computer peripheral stores near you.



Wall/arm VESA mounting the Monitor If you intend to mount the monitor on the wall/arm, we strongly recommend that you use only UL approved wall/ arm mount kits with attached M4*10mm screws and can load more than monitor weight, that you ensure it is securely and safely installed. (VESA mounting for 100*100mm).

If you use a non-UL approved wall/arm mount kits, there is a safety risk that the Monitor may fall from the wall/arm due to an improper attachment through the use of wrong length screws.

Mounting

The Monitor can be mounted onto the wall or stand.

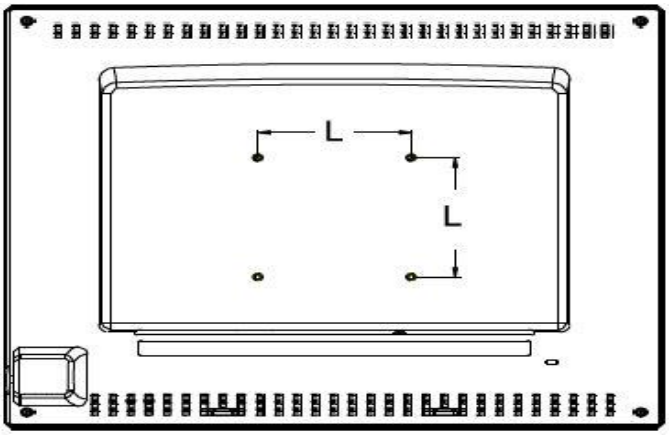
If you intend to mount the monitor on the wall, we strongly recommend that you use wall mount kits with attached M4*10mm screws and can load more than monitor weight, that you ensure it is securely and safely installed.

CAUTION:

When mounting the monitor, take care to tighten the retention screws or bolts until fully secure, but do not over tighten. Over tightening the retention screws or bolts may cause them to become stripped, rendering them useless.

Wall Mounting Installation

The Monitor has Video Electronics Standards Association (VESA) standard mounting holes tapped into the rear panel. The standard holes are M4*4. Mounting in portrait position is not feasible. To be installed by skilled person only.



To mount the Monitor onto the wall or stand, please follow the steps below.

Step 1: Select the location on the wall for the wall-mounting bracket.(Listed VESA)

Step 2: Carefully mark the locations of the four screw holes in the bracket on the wall

Step 3: Drill four pilot holes at the marked locations on the wall for the bracket retention screws.

Step 4: Align the wall-mounting bracket screw holes with the pilot holes.

Step 5: Secure the mounting-bracket to the wall by inserting the retention screws into the four pilot holes and tightening them.

Step 6: Insert the four monitor mounting screws provided in the wall mounting kit into the four screw holes on the real panel of the LCD Monitor and tighten until the screw shank is secured against the rear panel.

Step 7: Align the mounting screws on the monitor rear panel with the mounting holes on the bracket.

Step 8: Carefully insert the screws through the holes and gently pull the monitor downwards until the monitor rests securely in the slotted holes. Ensure that all four of the mounting screws fit snuggly into their respective slotted holes.

Step 9: Secure the LCD Monitor by fastening the retention screw of the wall-mounting bracket.

Step 10: Secure the LCD Monitor by fastening the retention screw of the wall-mounting bracket

How to Operate

Names and Functions of Each Part



Control Dial

The Control Dial is a multi-functional device located behind the LED Indicator on the right side of the front bezel. It has three movements- rotate upward, rotate downward, and press inward as a button.

1.Power On/Off

Press the Control Dial to power the unit on from the off stage (the LED is off). To turn the power off, press the Control Dial and hold for at least 1 second until the LED turns off.

2.OSD Control

While the monitor is on (green LED and image on the screen), pressing the Control Dial activates the OSD. While the OSD menu is active, use the three way movements of the Control Dial to adjust the monitor.

Rotate Downward: Move Up/Right, Increase, Larger, More

Rotate Upward: Move Down/Left, Decrease, Smaller, Less

Button Press: Execute, Do, Save

LED Indicator

This LED indicator turns green when the power is switched ON and the power cord is properly attached. It turns amber when the monitor goes into a power saving mode (Active Off).Please refer to the Power Management section of manual for more information.

Charts of OSD Adjustment Functions

The charts display the function tree and give a brief explanations of the functions. Color, LCD, and other adjustments have submenus under each tree.

On-Screen Display

The LCD monitor features an On-Screen Display(OSD) menu with easily identifiable icons designed to make adjusting your monitor display settings a more user-friendly process. When highlighted, the icon illustrates the control function and provide brief instructions to assist the user in identifying which control needs adjustment.

The OSD menu is activated by pressing the Control Dial inward and you can select and adjust the function of your choice by rotating and clicking the Control Dial. The main menu displays a list of sub menu icons and the current video input mode. Rotate the dial to move the highlights to the control you would like to adjust, then press the Control Dial inward to select that control or to activate that function. Depending on the control you select, a submenu of the control with a status bar will appear. The status bar indicates in which direction, from the factory preset, your adjustments are being made. Rotate the Control Dial to adjust the control.

When you have finished making the adjustments, the setting is saved automatically by exiting the control function. If you do not touch the control dial for 30 seconds, the OSD is automatically exited, saving your current settings.

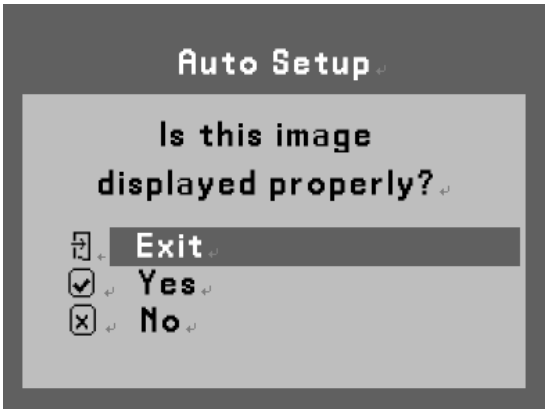
Menu Descriptions

The LCD monitor is capable of accepting VGA, DVI, DisplayPort signal inputs and therefore has two different sets of OSD control functions. Because the digital signaling always gives optimum display quality without much adjustment, it requires fewer OSD functions than the analog input mode. The functions that are not available in the digital input mode are Auto Setup, Display, and Clock/Phase, denoted by as trick (*) in the following descriptions. If selected while in digital input mode, you will encounter a “Not Available” message.



*Auto Setup

Automatically adjust the size, position, contrast, and the like of the screen.
Is this image displayed properly?
Yes: Close OSD window.
No: Return to Phase Menu. (Change manually)



Brightness

Selecting this control allows you to make adjustments to the brightness level of the display screen in the scale of 0 to 100.



Contrast

Selecting this control allows you to make adjustments to the contrast level of the display screen in the scale of 0 to 100.



*Display

Exit

Return to Main Menu.



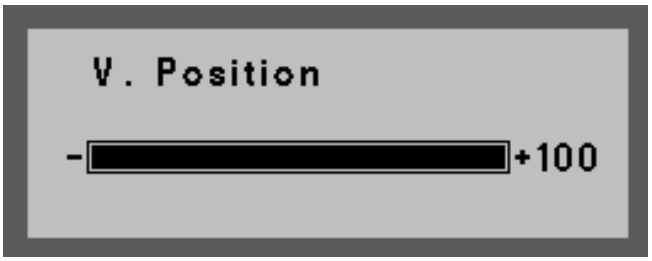
H. Position

Adjust the horizontal position of the display. When rotating control dial clockwise, the display moves to the right, and vice versa. For the digital input DVI or Display Port, this function is not available.



V. Position

Adjust the vertical position of the display. When rotating control dial clockwise, the display moves to the up, and vice versa. For the digital input DVI or Display Port, this function is not available.

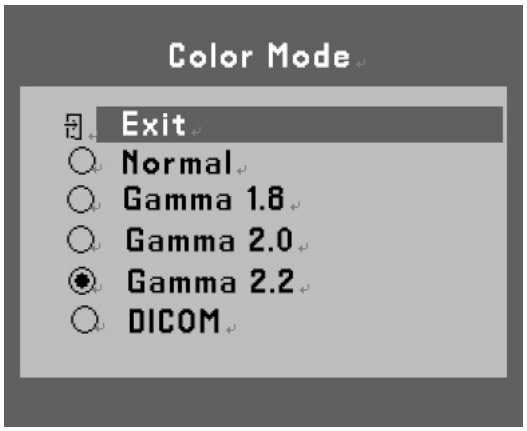


Color Mode

User can select Normal mode or one Gamma settings (Gamma_1.8 _2.0 _2.2 or DICOM).

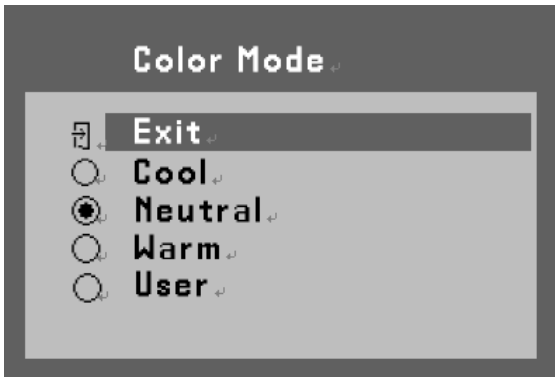
Exit

Return to Main Menu.

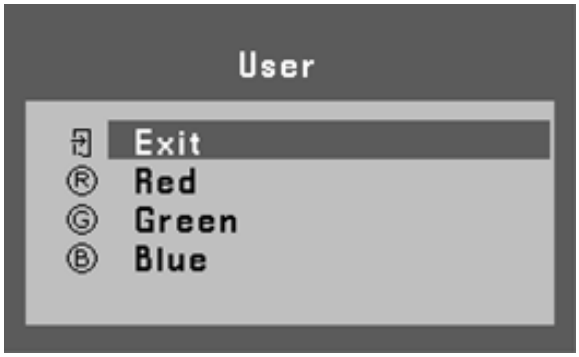


Color Temperature (for Normal)

After user select Normal mode, it allows user to select preset color temperature of the display. Preset color temperatures are Cool(9300K), Neutral(6500K), Warm(5400K) & User adjustable color temperature.



User

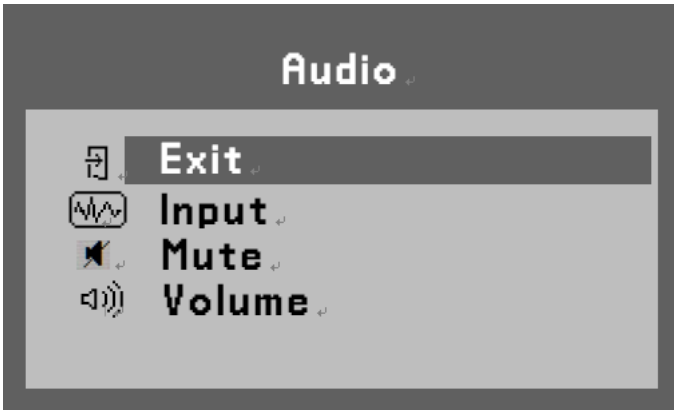


• **Red**: Adjust red and equivalent colors at the range from 0 to 100. As greater value is, the deeper color is, and vice versa.
• **Green**: Adjust green and equivalent colors at the range from 0 to 100. As greater value is, the deeper color is, and vice versa.
• **Blue**: Adjust blue and equivalent colors at the range from 0 to 100. As greater value is, the deeper color is, and vice versa.

Audio

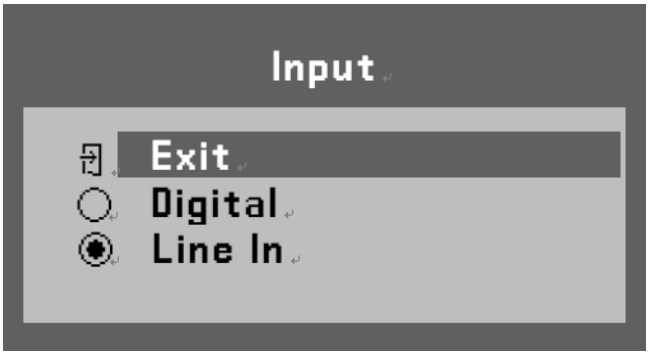
Exit

To exit the Audio of the OSD menu.



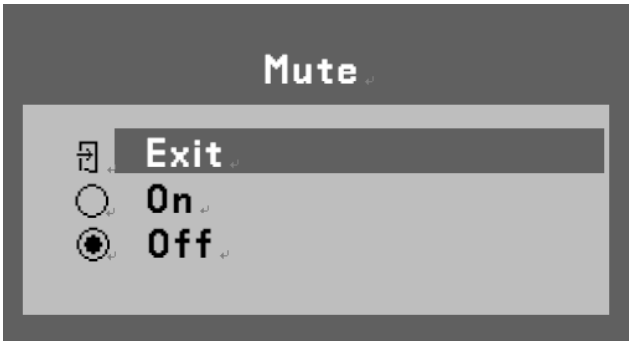
Input

Allows users to select the audio input source of the display setting.
Digital &Line-In audio input source are available.



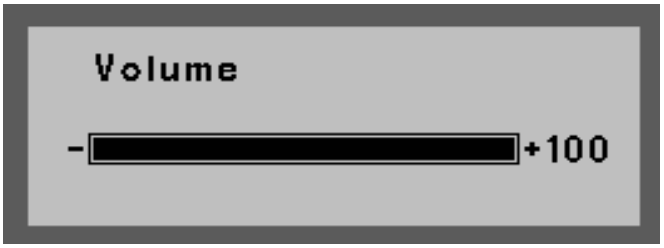
Mute

Allows users to Mute(On) & Unmute(Off) the audio output of the display setting.



Volume

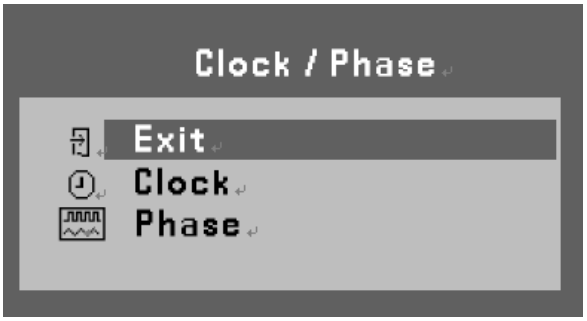
Allows users to adjust the audio output of the display setting.



*Clock / Phase

Exit

Return to Main Menu.



Clock

when operating "Auto adjustment" and if any partially phased screen, make fine adjustments on video signal position to horizontally synchronized signals by rotating the control knob. As the value gets larger, the screen moves to the right, and vice versa. Adjustable at the range from 0 to 100. For the digital input DVI, this function is not available.

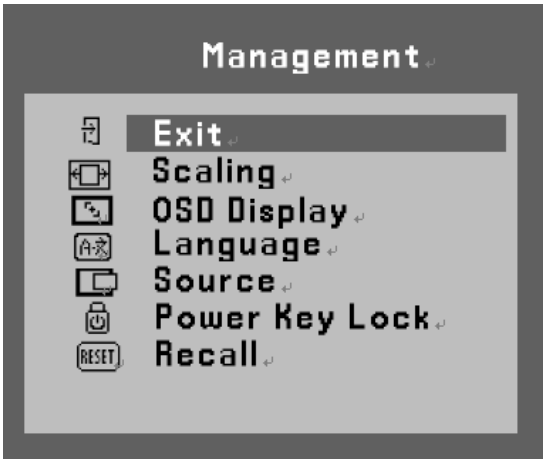


Phase

Make "Phase" adjustments, if any flickers, blurs, or horizontal stripes on screen.
Adjustable at the range from 0 to 63. For the digital input DVI, this function is not available.



Management

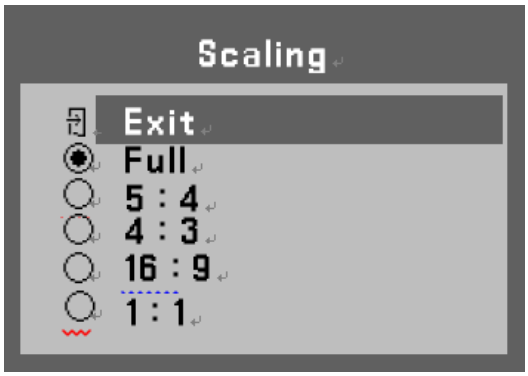


Exit

To exit the Management of the OSD menu.

Scaling

Allows users to select preferred image scaling of the display setting.



Full screen

Expands the current image to the full size of the monitor.

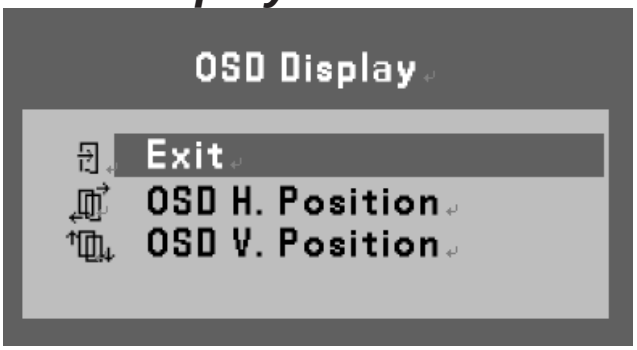
Aspect ratio (5:4, 4:3, 16:9)

Expands the video image until its largest dimension fills the screen, while maintaining the aspect ratio of the image size. For example, when input timing is not equal to panel native resolution 1366x768, the image may be displayed with black bars to fill the screen.

1 : 1

Display image as its original input image resolution.

OSD Display



Exit

To exit the OSD Display of the OSD menu.

OSD H. Position

Allows users to set OSD menu in horizontal position on the display.



OSD V. Position

Allows users to set OSD menu in vertical position on the display.



Language Exit

To exit the Language of the OSD menu.

English, French, German, Italian, Spanish & Japanese

OSD menu languages are available for users to select preferred languages.



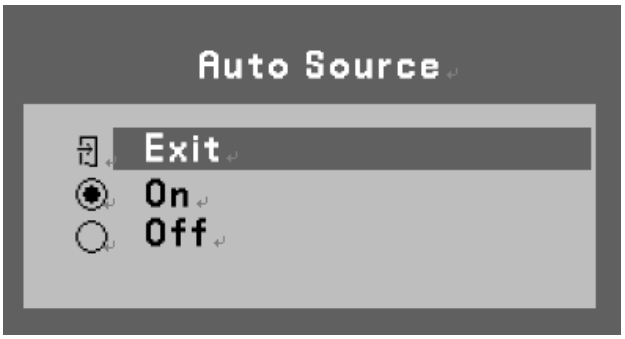
Source

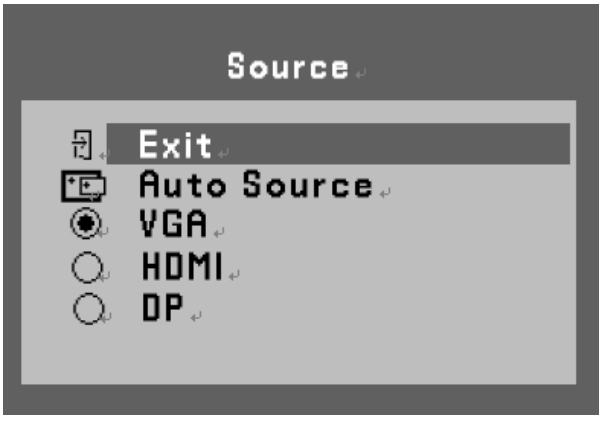
Exit

To exit the Source of the OSD menu.

Auto Source

Allows users to Enable or Disable the Auto Select function of the display setting.





VGA, DVI & Display Port (DP)

Sources are available for user to select preferred input source.

Power Key Lock

Exit

To exit the Power Key Lock of the OSD menu.

Locked

Allows users to ***disable*** the DC power key function of the display setting.

Unlocked

Allows users to ***enable*** the DC power key function of the display setting.



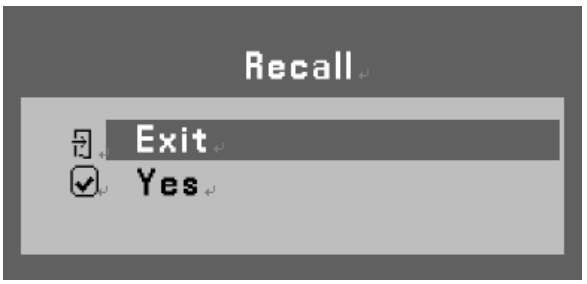
Recall

Exit

To exit the Recall function of the OSD menu.

Yes

Allows users to recall the display setting back to factory default setting.



Operating Hours

Keep records of the monitor operating hours



Applicable Signals Timings

※The display may not work correctly with timings other than listed below.

◎ : Recommended timing ○ : Applied timing

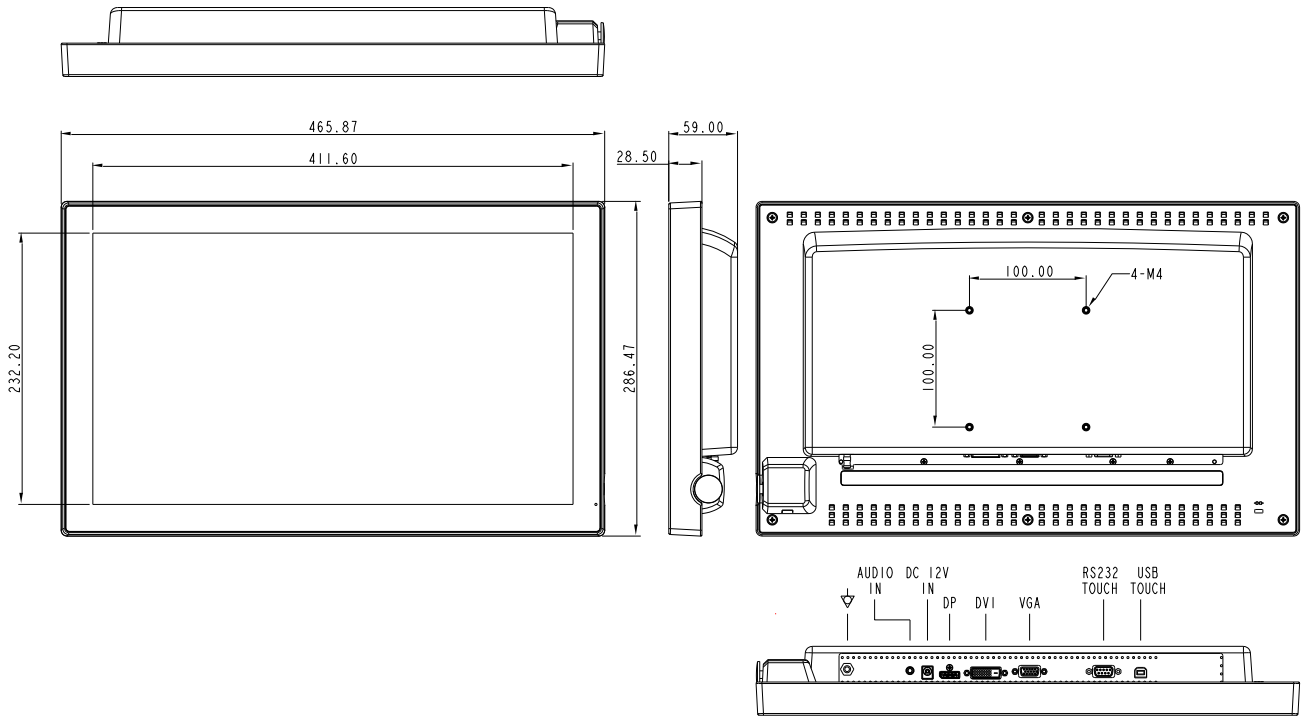
Resolution	V Frequency (Hz)	H Frequency (kHz)	Standard Type	Support Interface		
				VGA	DVI	DP
720 x 400	70	31.5	VESA Standard	O	O	O
640 x 480	60	31.5	Industry Standard	O	O	O
640 x 480	72	37.9	VESA Standard	O		
640 x 480	75	37.5	VESA Standard	O		
800 x 600	56	35.2	VESA Guidelines	O		
800 x 600	60	37.9	VESA Guidelines	O	O	O
800 x 600	72	48.1	VESA Standard	O		
800 x 600	75	46.9	VESA Standard	O		
1024 x 768	60	48.4	VESA Guidelines	O	O	O
1024 x 768	70	56.5	VESA Standard	O		
1024 x 768	75	60.0	VESA Standard	O		
1366 x 768	60	47.7	VESA Standard	◎	◎	◎

Specifications

Product Name :18.5" Color LCD Display

<table>
<tr><th>Items</th><th>Specifications</th></tr>
<tr><td>LCD display device</td><td>18.5 inch Color TFT Normally White</td></tr>
<tr><td>Pixel pitch</td><td>Horizontal 0.3mm x Vertical 0.3mm</td></tr>
<tr><td>Display area</td><td>Horizontal 409.8mm x Vertical 230.4mm</td></tr>
<tr><td>Pixel</td><td>1366 x 768 pixels</td></tr>
<tr><td>Display gradation</td><td>16.7 M colors (RGB 6 bits data +Hi FRC data)</td></tr>
<tr><td>Standard viewing angle</td><td>
<table>
<tr><th>Conditions CR≥10</th><th>Min</th><th>Max</th></tr>
<tr><td>Horizontal (Right)</td><td>75</td><td>85</td></tr>
<tr><td>Horizontal (Left)</td><td>75</td><td>85</td></tr>
<tr><td>Vertical (Up)</td><td>70</td><td>80</td></tr>
<tr><td>Vertical (Down)</td><td>70</td><td>80</td></tr>
</table>
</td></tr>
<tr><td>Input signal</td><td>(1) VGA port connector
(2) DVI-D port connector
(3) DisplayPort connector
(4) USB port connector
(5) RS232 port connector
(6) Audio port connector</td></tr>
<tr><td>Environment</td><td>
<table>
<tr><td></td><td>Operation</td><td>Transport / Storage</td></tr>
<tr><td>Temperature</td><td>0~40°C</td><td>-30~70°C</td></tr>
<tr><td>Humidity</td><td>10~95%</td><td>10~95%</td></tr>
<tr><td>Air pressure</td><td>700~1060hPa</td><td>500~1060hPa</td></tr>
</table>
</td></tr>
<tr><td>Power Supply</td><td>DC 12V, 4.5A; (Provided Adapter: EDACPOWER ELEC.)
Type:EM10681N-120, I/P: 100-240Vac, 2.0-1.0A, 50-60Hz,
O/P: 12Vdc, 5.0A</td></tr>
<tr><td>Consumption current</td><td>Approx. 35W Max. Less than 2.5W when power management on</td></tr>
<tr><td>External dimensions</td><td>Width 465.8mm x Depth 59mm x Height 286.4mm
(without stand)</td></tr>
<tr><td>Mass</td><td>True Flat: 4.6 kg (without stand)</td></tr>
<tr><td>International standards</td><td>ANSI/AAMI ES60601-1: ;CAN/CSA-C22.2 No. 60601-1
FCC Part 15 subpart B
CE(EN 55032/EN 55035;EN 62368-1;WEEE;RoHS); IEC/EN 60601-1; EN60601-1-2;</td></tr>
<tr><td>VESA Mounting</td><td>100 x 100mm</td></tr>
</table>

●The specifications and appearance will be changed for improvement without notice.



CAUTION and WARNING

1. The unit is for exclusive interconnection with IEC 60XXX certified equipment outside of patient environment and IEC 60601-1 certified equipment inside the patient environment.
2. This device complies with EN60601-1-2, To minimize the interference from other equipment, a minimum 0.5 m distance shall be kept form other potential electromagnetic sources, such as the Cell Phone.
3. The power cable connector is the primary means of detaching the system from the power supply. The monitor should be installed close to a power outlet, which is easily accessible.
4. Handle with care when transporting. Save packaging for transporting.
5. AC power inlet is considered as Disconnect Device.
6. To prevent fire or shock hazards, do not expose this unit to rain or moisture. Also, do not use this unit's polarized plug with an extension cord receptacle or other outlets unless the prongs can be fully inserted.
7. Do not modify this equipment without authorization of the manufacturer.
8. To prevent the risk of electric shock, make sure power cord is fully disengage the power to the unit. Please disconnect the power cord from the AC outlet.
9. To prevent electric shock, please do not remove cover or any internal components. Refer to a qualified technician for service.
10. This device is intended to be used (1) outside the "patient vicinity" area or (2) within the "patient vicinity" to the patient such as consulting rooms.
11. To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective ground.
12. The LCD monitor become heat when it's working, please do not touch the panel and plastic enclosure over 10 seconds, and do not touch the mental enclosure on the back of the LCD monitor over 1 second.
13. For safety reasons, turn-off the power switch and unplug the monitor before cleaning.
14. Equipment with SIP/SOP connectors should either comply with IEC 60601-1 and/or IEC 60601-1-1 harmonized national standard or the combination should be evaluated.
15. Power cord shell be connected to a socket-out with earthing connection
16. The monitor series requires special precautions regarding EMC and need to be installed. You need to carefully read EMC Information and the "PRECAUTIONS" section in this document, and observe the following instructions when installing and operating the product.
17. The monitor series should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the equipment or system should be observed to verify normal operation in the configuration in which it will be used.
18. Anyone who connects additional equipment to the signal input part or signal output parts, configuring a Medical system, is responsible that the system complies with the requirements of IEC/EN60601-1-2.

19. Be sure to use the cables attached to the product, or cables specified by DIVA. Use of cables other than those specified or provided by DIVA of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and improper operation.
20. If this equipment is modified, appropriate inspection and testing must be conducted to ensure continued safe use of the equipment.
21. CAUTION: Double pole, neutral fusing. Disconnect mains before servicing.

 ATTENTION ET  AVERTISSEMENT

1. L'unité est destinée à une interconnexion exclusive avec des équipements certifiés IEC 60XXX en dehors de l'environnement du patient et des équipements certifiés IEC 60601-1 à l'intérieur de l'environnement du patient.
2. Cet appareil est conforme à la norme EN60601-1-2. Pour minimiser les interférences provenant d'autres équipements, une distance minimale de 0,5 m doit être maintenue par rapport à d'autres sources électromagnétiques potentielles, comme les téléphones cellulaires.
3. Le connecteur du cordon d'alimentation est le principal moyen de débrancher le système de l'alimentation électrique. Le moniteur doit être installé à proximité d'une prise de courant facilement accessible.
4. À manipuler avec précaution lors du transport. Conservez l'emballage pour le transport.
5. L'entrée d'alimentation CA est considérée comme un dispositif de déconnexion.
6. Pour éviter tout risque d'incendie ou de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité. En outre, n'utilisez pas la fiche polarisée de cet appareil avec une prise de rallonge ou d'autres prises, à moins que les broches puissent être complètement insérées.
7. Ne pas modifier cet équipement sans l'autorisation du fabricant.
8. Pour éviter tout risque de choc électrique, assurez-vous que le cordon d'alimentation est débranché de la prise murale. Pour désactiver complètement l'alimentation de l'appareil, débranchez le cordon d'alimentation de la prise CA.
9. Pour éviter les chocs électriques, n'enlevez pas le couvercle ou des composants internes. Faites appel à un technicien qualifié pour l'entretien.
10. Ce dispositif est destiné à être utilisé (1) à l'extérieur de la zone « proximité du patient » ou (2) à l'intérieur de la zone « proximité du patient », par exemple dans les salles de consultation.
11. Pour éviter le risque de choc électrique, cet équipement doit être uniquement raccordé à un réseau d'alimentation avec protection par mise à la terre.
12. LCD L'écran LCD devient chaud lorsqu'il fonctionne, ne touchez pas le panneau et le boîtier en plastique pendant 10 secondes et ne touchez pas le boîtier mental à l'arrière du moniteur LCD pendant 1 seconde.
13. Pour des raisons de sécurité, éteignez l'interrupteur d'alimentation et débranchez le moniteur avant de le nettoyer.
14. Les équipements dotés de connecteurs SIP / SOP doivent être conformes à la norme nationale harmonisée CEI 60601-1 et / ou CEI 60601-1-1 ou la combinaison doit être évaluée.
15. Le connecteur du cordon d'alimentation est le principal moyen de débrancher le système de l'alimentation électrique. Le moniteur doit être installé à proximité d'une prise de courant facilement accessible.
16. La série de moniteurs nécessite des précautions particulières concernant EMC et doit être installée. Vous devez lire attentivement les informations EMC et la section « PRÉCAUTIONS » de ce document, et respecter les instructions suivantes lors de l' installation et de l' exploitation du produit.
17. La série de moniteurs ne doit pas être utilisée à côté ou empilée avec d' autres équipements. Si l' utilisation adjacente ou empilée est nécessaire, l' équipement ou le système doit être observé pour vérifier le fonctionnement normal dans la configuration dans laquelle il sera utilisé.
18. Quiconque relie des équipements supplémentaires à la pièce d' entrée du signal ou aux pièces de sortie du signal, configurant un système médical, est responsable que le système soit conforme aux exigences de l' IEC/EN60601-1-2.
19. Assurez-vous d' utiliser les câbles fixés au produit, ou les câbles spécifiés par DIVA. L' utilisation de câbles autres que ceux spécifiés ou fournis par DIVA de cet équipement pourrait entraîner une augmentation des émissions électromagnétiques ou une diminution de l' immunité électromagnétique de cet équipement et un mauvais fonctionnement.
20. Si cet équipement est modifié, des inspections et des essais appropriés doivent être effectués afin d' assurer une utilisation sécuritaire continue de l' équipement.
21. ATTENTION : Double poteau, neutre futilisation. Débranchez les conduites avant l' entretien.

Contact Information

Legal information and responsibility

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