# <u>KT-E240F</u>

# 24" True Flat Medical Monitor





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CHAPTER 1

### Introduction & Installation

# The LCD monitor KT-E240F

The LCD monitor KT-E240F is a 24-inch TFT LCD monitor designed for the needs of medical image display. With the DICOM GSDF and the 10-bit gamma correction for white balance, KT-E240F is optimized for the display of medical images, allowing high-quality medical video images.

#### Features

- True Flat Design with AR Filter
- High Brightness and High Contrast Ratio
- Integral Light Emitting Diode (LED) Backlight System
- FHD Resolution (1920 x 1200)
- HDMI 2.0 (High Definition Multimedia Interface) Support Up to 1920 x 1200 @ 60 Hz
- DP 1.2 (Display Port 1.2) Support Up to 1920 x 1200 @ 60 Hz
- SDI (Serial Digital Interface) Support Up to 1920 x 1080 @ 60 Hz
- DVI (Digital Visual Interface) Support Up to 1920 x 1200 @ 60 Hz
- Multi-Standard Video System Supported: NTSC, PAL, SECAM
- Video Enhancement features including
- 14-bit LUT (Look Up Table) processing
- DICOM Part 14 GSDF Compliant
- DICOM Clear and Blue Mode support
- Variable Gamma and DICOM (Color Temp) mode
- Variable Picture control
- Variable Image size
- Variable Multi-Picture display mode
- Optional upgrade to IP-based monitor with built-in AVAS

#### Unpacking

Before you unpack the LCD monitor, prepare a suitable workspace, stable, level and clean, near a wall outlet. Set up the LCD monitor in a location where is sufficient with airflow and away from the range of direct sunlight. On unpacking the LCD monitor, make sure the following items are included in the box and in good condition:

- ✓ LCD Monitor
- ✓ User's Manual

If you find any of these items are missing or appear damaged, contact your dealer or the seller immediately. Do not throw away the packing material or shipping carton in case you need to ship or store the LCD monitor in the future.

#### Identifying Components

The LCD monitor is designed to provide easy and convenient access to all the control keys and the peripheral ports. Before you begin with installation, please identify the controls and ports through the following figures.

#### LCD Monitor View



1. Display Module

The display is a 24" diagonal TFT LCD display. The screen supports the maximum resolution of 1920x1200 @ 60Hz .

2. OSD Key Functions

Key Name	Function
POWER Key	Power On/ Off
MENU/ENTER Key	Select main OSD menu. Select sub menu. Apply adjustments (save).
EXIT/INPUT Key	Exit / Return to previous menu in main OSD menu. Used to activate Input hot menu when main OSD menu isn't displayed. Used to LOCK / UNLOCK setting for key activation by holding the key for longer than 15 sec. when main OSD menu isn't displayed.
LEFT Key	Move and adjust values in main OSD menu. Used to activate "Backup Source MSG On / Off" hot menu by holding the key for longer than 3 sec. when main OSD menu isn't displayed.
RIGHT Key	Move and adjust values in main OSD menu. Used to activate Display Mode hot menu by holding the key for longer than 3 sec. when main OSD menu isn't displayed.
PORT A Key	PIP Main input selection function It is available only when using the pip function.
PORT B Key	PIP Sub input selection function It is available only when using the pip function.

- 3. Input /Output Signal Ports
  - (1) DC POWER Input : +24V Power Connector
  - (2) DC POWER Output : +5V/+12V Power Connector
  - (3) RS-232C
  - (4) SDI 1 OUT/INPUT
  - (5) S-VIDEO OUT/INPUT
  - (6) VIDEO OUT/INPUT
  - (7) DVI 2 OUT/INPUT
  - (8) DVI 1 OUT/INPUT
  - (9) DP/HDMI INPUT
  - (10) USB UP
  - (11) RGB INPUT (SFP+ Option)
  - (12) AUDIO INPUT (STATUS Option)
  - (13) AUDIO OUTPUT (LAN Option)

4. Interfaces on the AVAS Back Panel

NAME	Function
SFP+	SFP+ port for SFP+ Modules only.
STATUS LED	<ul> <li>Status LED, will indicate the AVAS operational status:</li> <li>a. Blinking green: running OK;</li> <li>b. Blinking orange: warning indicator;</li> <li>c. Continuous orange: FPGA is starting-up;</li> <li>d. Blinking red: An error has occurred;</li> <li>e. Off, no power supplied to the AVAS.</li> </ul>
1GbE	1GbE(RJ45) has no function yet.

NOTE: The plug on the power supply cord of the power supply is the disconnecting device for the AVAS. The used socket-outlet shall be installed near the equipment and shall be easily accessible.

# Adjusting the Viewing Angle

The LCD monitor can be adjusted vertically for the user's preferable viewing angle position.



# Do not force the monitor past its maximum extension in any direction. You could damage the monitor and the monitor stand.

# Positioning

Before you set up your workstation, prepare a suitable place, which should be a stable flat dust-free surface with good ventilation. Position the screen of the monitor not to face a window where sunlight often comes in. The glare caused by reflected sunlight can make the image on the screen difficult to read.



- When positioning the equipment, make sure that the main ports and sockets are easily accessible.
- **OD** Do not place the monitor close to a heat source.
- ✓ Do not place the monitor in direct sunlight or near a window. When the monitor is exposed to moisture and direct sunlight, it can be seriously damaged.

### **Connecting AC/DC power**

- 1. Plug the female end of the AC/DC power adaptor into the DC power connector.
- 2. Plug the female end of the power cord into the AC power connector on the adaptor.
- 3. Plug the male end of the power cord into the wall socket.
- 4. The plug on the power cable can be various according to the electrical standard in each country.

# **Connecting Video**

- 1. Before connecting the monitor to the PC or the equipments, please power off the both devices.
- 2. Connect one end of HDMI 2.0 cable to the PC's or the equipment's HDMI port and the other end to the monitor HDMI port. You may also connect the DP 1.2 cable to the DP port if the PC or the equipment are equipped with DP input.
- 3. Make sure the signal cable is secure to both the monitor and the PC or equipment. Tighten the connecting screws to ensure a secure connection
- 4. The signal input is selected by the OSD menu. For more details, please refer to the next chapter.

#### \*KT-E240FEEPBTFNH (AVAS option)



#### \* KT-E240FEEPBTFH



CHAPTER 2

#### **OSD Menu Controls**

This chapter refers to the On Screen Display (OSD) controls. Using the OSD controls the user can adjust contrast, brightness, display clarity, color temperature and etc. Please read this chapter carefully to get the most out of this monitor.

# **Display Mode**

•	12 Display Mode	12 Display Function	1 Select Regio	n Picture	•
	1P	2P LR	2Р ТВ	2P PIP	•
	ENT	ER EXIT	< DOWN	> UP	

MENU	DESCRIPTION	DEFAULT	REMARKS
Display Mode	Used to select a Display mode. [1P, 2P LR, 2P TB, 2P PIP, 4P]	1P	

# **Display Function**

•	I       I	Þ
	Disp Rotate Disp Latency	•

MENU		U	DESCRIPTION	DEFAULT	REMAR KS
Disp Rotate			It is used to rotate the screen. [0°, 90°, 180°, 270°]	0°	
Disp Late	ency		Not Used.		
	2010	LR Ratio	It is used to adjust the screen size from two 2P LR PIP mode.		
	2P LR	Input Swap	2P LR Used to change the position of the two port screens in PIP mode.		
	2P TB	Input Swap	2P TB Used to change the position of the two port screens in PIP mode.		
Multi-	2P PIP	PIP Position	Used to change the position of the two port screens in 2P PIP mode. [Top-Left, Top-Right, Bottom-Left, Bottom-Right, Center, USER]	Bottom-Right	
Mode		PIP Transparency	Not Used.		
		PIP Size	In 2P PIP mode, it is used to adjust the size of two port screens.	10	
		Input Swap	2P PIP Used to change the position of the two port screens in PIP mode		
	4P		Not Used.		

# **Select Region**

•	12 Display Mode	12 Display Function	L Select Region	Picture	Þ
	Left Side	Right Side	Full		•
			< DOWN	> UP	

MENU		DESCRIPTION	DEFAULT	REMARKS
Select Region		PIP feature is the ability to use the screen. [Left Side, Right Side, Full]	Full	
	2P LR	PIP feature is the ability to use the screen. [Left Side, Right Side, Full]	Full	
Multi- Display Mode	2P TB	PIP feature is the ability to use the screen. [Top Side, Bottom Side, Full]	Full	
	2P PIP	PIP feature is the ability to use the screen. [Main, Sub, Full]	Full	
	4P	PIP feature is the ability to use the screen. [4P Full]	4P Full	

# Picture

•	12 Display Mode	12 Display Function	<b>1</b> Select Region	Picture	Þ
	Backlight	Brightness	Contrast	Sharpness	

MENU	DESCRIPTION	DEFAULT	REMARKS
Backlight	Adjust the target Luminance.	100	
Brightness	Adjusts the brightness of the screen. Press the < or > button to adjust brightness.	50	
Contrast	Adjusts the contrast of the screen. Press the < or > button to adjust contrast.	50	
Sharpness	Adjusts the sharpness of the screen. Press the < or > button to adjust sharpness.	2	

Color

Analog	Color	Advance	Input	Þ
Panel Uniformity	Gamma	Temperature	Color Effect	
<b>⊢</b>	Ð	<	>	
ENTER	EXIT	DOWN	UP	

MENU	DESCRIPTION	DEFAULT	REMARKS
Panel Uniformity	Not Used.		
Gamma	Used to select the variable gamma. [OFF, Custom, 2.0, 2.2, DICOM]	2.2	
Control the intensity of the color of the screen's image.Temperature[D95,D75,D65,Blue,Clear,User] In User Mode, Off should be set in Gamma mode to adjust Red, Green, Blue.		Clear	
Color Effect	Used to represent the color effect of the screen. [Standard, Game, Movie, Photo, Vivid, User]	Standard	
Demo	Used to change the type used in the demo. [OFF,Type1, Type2, Type3, Type4, Type5]	OFF	
Color Format	Colors used are used in the form of a screen. [RGB, YUV]	RGB	
РСМ	Not Used.		
Hue	Adjust the Hue of the screen.	50	
Saturation	Used to change the color saturation of the screen.	50	

# Advance

Analog	Þ
Aspect Ratio Over Scan Switching Time DDCCI	•

MENU	DESCRIPTION	DEFAULT	REMARKS
Aspect Ratio	Adjust the Aspect Ratio of the screen. Press the < or > button to select the desired aspect ratio. [Full, 16:9, 4:3, 5:4, 1:1]	Full	
Over Scan	Used to scan over the screen. [ON,OFF]	OFF	
Switching Time	Screen switching time setting function.	2	
Over Drive	Not Used.		
DDCCI	Selects the DDCCI function. [ON,OFF]	ON	Display Data Channel Command Interface
Ultra Vivid	Used to screen appear sharp [OFF, L, M, H]	OFF	
Over Scan Ratio	Adjusts the Over Scan Ratio of the screen. Over Scan Ratio After adjustment, Over Scan On / Off menu is On, the adjusted Over Scan Ratio value is applied.	10	
DP Option	Used to select a DP Version. [D0, D1, D6]	D0	
DP MST	Not Used.		
DP EDID	Not Used.		
Clone mode	Not Used.		
Free Sync	Not Used.		
Freeze	Used to stop the screen. Press the Right button to set freeze function [ON,OFF]	OFF	

# Input

•	Analog Color Advance Input	Þ
•	VIDEO Auto Select	•

MENU		DESCRIPTION	DEFAULT
Input		Selects Monitor or other external input sources connected to the Monitor. [RGB,DP, HDMI, DVI 1, DVI 2, SDI 1, AVAS, S-VIDEO, VIDEO, Auto Select]	AUTO
PIP Mode	2P LR	2P LR Used to change the side of the two port screens in PIP mode. [Left side, Right side]	
	2P TB	2P TB Used to change the side of the two port screens in PIP mode. [Top side, Bottom side]	
	2P PIP	In the 2P PIP mode it is used to set the Main Screen, Sub screen.	
	4P	4P Used to set the position of each port in PIP mode. [1p In, 2p In, 3p In, 4p Inl	

# Audio

•	Audio	Other	Information	Factory	Þ
	Volume	Mute	Stand Along	Audio Source	
	<b>ENT</b>	I E	] <b>(</b> at down	> UP	r

MENU	DESCRIPTION	DEFAULT	REMARKS
Volume	Used to adjust the speaker volume on the monitor.	50	
Mute	The sound of the screen can be adjusted [ON , OFF].	OFF	
Stand Along	Don't Switch Audio Source if Line In is Currently Playing unless a Digital Source is found. (Optional - ready for future use)	OFF	
Audio Source	It can be used to select the audio source. [Analog , Digital region1]	Analog	

# Other

•	Audio Other Information Factory	Þ
	Reset Menu Time OSD H Position OSD V Positi	ion
	ENTER EXIT DOWN UP	,

MENU	DESCRIPTION	DEFAULT	REMARKS
Reset	Used to reset.		
Menu Time	OSD Menu disappear from over the screen after setting time.	20	
OSD H Position	Adjust the OSD MENU position.	50	
OSD V Position	Adjust the OSD MENU position	50	

# Information

•	Audio	Other	Information	Factory	•
	H	H 1920X120 : 74.1KHz H	DMI 00@60.0Hz CLK:154.2M <b>C</b> T DOWN	IHz > UP	•

MENU	DESCRIPTION	DEFAULT	REMARKS
Information	It informs the information of the monitor.		

# OSD Input Source

	RGB		
	DP		
	HDMI		
	DVI 1		
	DVI 2	Used to select required	
Main Source	SDI 1	Main Input source	
	AVAS		
	S-VIDEO		
	VIDEO		
	Auto Select		

# **PIP TABLE**

Main Source Sub Source	RGB	DP	HDMI	DVI 1	DVI 2	SDI 1	AVAS	S-VIDEO	VIDEO
RGB	0	0	0	0	0	0	0	0	0
DP	0	0	0	0	0	0	0	0	0
HDMI	0	0	0	0	0	0	0	0	0
DVI 1	0	0	0	0	0	0	0	0	0
DVI 2	0	0	0	0	0	0	0	0	0
SDI 1	0	0	0	0	0	Х	0	Х	Х
AVAS	0	0	0	0	0	0	0	0	0
S-VIDEO	0	0	0	0	0	Х	0	Х	Х
VIDEO	0	0	0	0	0	Х	0	Х	Х

#### CHAPTER 3

### **Technical Information**

#### **Specifications**

	KT-E240FEEPBTFNH	KT-E240FEEPBTFH	
Items	Specification		
Screen Size(Active Area)	24.07" (518.40(H) x 324.0(V) [mm])		
Aspect ratio	16:10		
Number of Pixels	1920 (H) x 1200 (V)		
Pixel Pitch	0.270(H) x 0.270(V) [mm]		
Displayable Colors	1.07 Billion (10-bit)	16.78M (8-bit)	
Brightness	900 cd/m <sup>2</sup>	350 cd/m <sup>2</sup>	
Contrast Ratio	1000:1		
Display Mode	AHVA	AH-IPS	
Response Time(Typical)	14ms (Gray To Gray)		
Viewing Angle(H/V)	178/178		

### **Environmental Condition**

Temperature	Operational	0~40 °C
	Storage	-20 ~ 60 ℃
Humidity	Operational	Ta = $40 \degree$ C , 90% RH (No condensation)
	Storage	5% ~ 90%
Pressure	Operational	500 hPa to 1013 hPa
	Storage	500 hPa to 1013 hPa

# AVAS (Optional)

LAN	RJ45 Jack x 1	1GbE
SFP+	Module	SFP+ 10Gbps

#### Status LED will indicate the AVAS operational status:

- 1. Blinking green: running OK.
- 2. Blinking orange: warning indicator.
- 3. Continuous orange: FPGA is starting-up.
- 4. Blinking red: An error has occurred.
- 5. Off, no power supplied to the AVAS.

#### General

	KT-E240FEEPBTFNH	KT-E240FEEPBTFH	
Power Supply	DC24V, 4.16A(MAX)		
Power Consumption (Max)	65.0 W		
Dimensions (Without Stand) [ W mm x H mm x D mm ]	578.13 x 402.78 x 68.0 [mm]		
Weight (Without Stand)	7.85kg	7.2kg	

1. Type of protection against electric shock: Class I equipment.

2. Degree of protection against electric shock: Not classified – no applied parts.

- 3. Classification according to the degree of protection against ingress of water: IPX0, ordinary equipment.
- 4. This equipment is not suitable for use in the presence of flammable anesthetics or oxygen.

5. Mode of operation: continuous operation.



#### Input / Output Signal Connectors

\*KT-E240FEEPBTFNH (AVAS option)



#### \*KT-E240FEEPBTFH

Symbol	Signal	Connector	Specification	
RS-232C	RS-232C	D-Sub Jack x 1	Service Port	
USB Up	USB Up	USB-B Jack x 1	For Touch (Option)	
Video	Video Input Video Output	BNC Jack x 2	1V[p-p] ( 75 Ω) [ NTSC / PAL / SECAM]	
	S-Video Input		Y: 1V[p-p] ( 75 Ω) , C: 0.286V[p-p] ( 75 Ω) [NTSC]	
S-Video	S-Video Output	Mini DIN Jack x 2 (4 pin)	Y: 1V[p-p] ( 75 Ω) , C: 0.300V[p-p] ( 75 Ω) [PAL / SECAM]	
SDI 1	SDI Input SDI Output	BNC Jack x 2	Serial Input Common Mode : 2.2V[p-p](75Ω) MAX : 1920 x 1080 / 60 Hz	
DVI 1~2	DVI Input DVI Output	DVI Jack x 2 (Type D)	Digital RGB : TMDS MAX : 1920 x 1200 / 60 Hz	
	HDMI 1.4 Input (For AVAS)	HDMI Jack x 1 (Type A) (Internal Connection)	Digital RGB : TMDS MAX : 1920 x1200 / 60 Hz	
וואושח	HDMI 2.0 Input	HDMI Jack x 1 (Type A)	Digital RGB : TMDS MAX : 1920 x 1200 / 60 Hz	
DP	DP 1.2 Input	DP Jack x 1	DisplayPort 1.2 MAX : 1920 x 1200 / 60 Hz	
RGB	RGB Input	D-Sub Jack x 1	Analog RGB: 0.7V[p-p](75Ω), H/CS/V : TTL (2.2 kΩ), MAX : 1920 x 1200 / 60 Hz	
Audio	Audio Input	Stereo Jack x 1	1V[p-p]	
Audio	Audio Output	Stereo Jack x 1	1V[p-p]	



Do not touch signal input, signal output or other connectors, and the patient simultaneously.

- ✓ External equipment intended for connection to signal input, signal output or other connectors, shall comply with relevant IEC Standard (e.g., IEC60950 for IT equipment and IEC60601-1 series for medical electrical equipment). In addition, all such combination-system-shall comply with the standard IEC60601-1 and /for IEC60601-1-1 harmonized standard or the combination.
- ✓ If in doubt contact qualified technician or your local representative.

#### CHAPTER 4

#### **Safety Precautions and Maintenance**

#### Safety precautions



#### FOR OPTIMUM PERFORMANCE, PLEASE NOTE THE FOLLOWING WHEN SETTING UP AND USING THE LCD MONITOR.



- ✓ DO NOT OPEN THE MONITOR. There are no user serviceable parts inside and opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.
- $\checkmark$  Do not spill any liquids into the cabinet or use your monitor near water.
- ✓ Do not insert objects of any kind into the cabinet slots, as they may touch dangerous voltage points, which can be harmful or fatal or may cause electric shock, fire or equipments failure.
- ✓ Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
- ✓ Do not place this product on a sloping or unstable cart, stand or table, as the monitor may fall, causing serious damage to the monitor.
- ✓ When operating the LCD monitor with its AC power supply, use a power supply cord you use must have been approved by and comply with the international safety standards.
- ✓ Do not place any objects onto the monitor and do not use the monitor outdoors.
- ✓ The inside o f the fluorescent tube located within the LCD monitor contains mercury. Please follow the bylaws or rules of your municipality to dispose of the tube properly.
- ✓ Do not use monitor in very hot, humid, dusty or oily areas.
- $\checkmark$  Do not bend power cord.
- ✓ Do not cover vents on monitor.
- ✓ If monitor or glass is broken, handle with care. Do not come in contact with the liquid crystal.



#### Immediately unplug the monitor from the wall outlet and refer servicing to qualified service power personnel under the following conditions:



- ✓ When the power supply cord or plug is damaged.
- ✓ If liquid has been spilled, or objects have fallen into the monitor.
- ✓ If the monitor has been exposed to rain or water.
- ✓ If the monitor has been dropped or the cabinet damaged
- ✓ If the monitor does not operate normally by following operating instructions.
- ✓ Allow adequate ventilation around the monitor so that heat can properly

dissipate. Do not block ventilated openings or place the monitor near a radiator or other heat sources. Do not put anything on top of monitor.

- ✓ 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.
- ✓ Handle with care when transporting. Save packing for transporting.

#### Image Persistence

- ✓ Image persistence is when a residual or ghost image of a previous image remains visible on the screen. Unlike CRT monitors, LCD monitors' image persistence is not permanent, but constant images being displayed for a long period of time should be avoided.
- ✓ To alleviate image persistence, turn off the monitor for as long as the previous image was displayed. For example, if an image was on the monitor for one hour and a residual image remains, the monitor should be turned off for one hour to erase the image.

NOTE: As with all personal display devices, Kostec recommends using a moving screen saver at regular intervals whenever the screen is idle or turning off the monitor when not in use.

#### **Placement and Adjustment of the Monitor**

- ✓ For optimum performance of the system, one hour warm-up is recommended.
- 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.
- ✓ For optimal view, 20-inch distance from your eyes to the screen is recommended.



- ✓ Rest your eyes periodically by focusing on an object farther away and blinking often.
- Position the monitor at a 90 degree angle to windows and other light sources to minimize glare and reflections. Adjust the monitor tilt so that ceiling lights do not reflect on your screen.
- ✓ You can use an antiglare filter to have a better view out of the reflected light.
- ✓ Clean the LCD monitor surface with a lint-free, non-abrasive cloth. Avoid using any cleaning solution or glass cleaner.
- ✓ Adjust the monitor's brightness and contrast controls to enhance readability.
- ✓ Avoid displaying fixed patterns on the monitor for long periods of time to avoid image persistence (residual image).

# Cleaning the LCD panel



- When the liquid crystal panel becomes dusty or dirty, wipe gently with a soft cloth.
- $\checkmark$  Do not rub the LCD panel with a hard or coarse material.
- ✓ Do not apply pressure to the LCD surface.
- ✓ Do not use OA cleaner as it will cause deterioration or discolor the LCD surface.

# **Cleaning the Cabinet**

- ✓ Firstly, unplug the power supply.
- ✓ Gently wipe the cabinet with a soft cloth.
- ✓ Dampen a cloth with a neutral detergent and water, wipe the cabinet and then dry with a soft cloth.

NOTE : Many plastics are used on the surface of the cabinet. Do not clean with benzene, thinner, alkaline detergent, alcoholic system detergent, glass cleaner, wax, polish cleaner, soap powder, or insecticide. Do not place rubber or vinyl against the cabinet for long periods. These types of fluids and fabrics can cause the paint to deteriorate, crack or peel.

# Safety

- ✓ 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:
  - 1. Reorient or relocate the receiving device.
  - 2. Increase the separation between the equipment.
  - 3. Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
  - 4. Consult the manufacturer or field service technician for help.

# Keep away from a window

 Do not place your LCD Monitor near a window to prevent the Monitor from being exposed to rain, water, moisture or sunlight that can severely damage it.

#### Safe storage

 Safe storage of the LCD Monitor is in a range of minus 20 to plus 60 Celsius (68°F - 149°F). Storing the LCD Monitor out of this range could result in permanent damage.

#### Safe disposal of the waste



- ✓ This marking shown n the product or its literature, indicates that it should not be disposed with other household waste at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.
- ✓ Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.
- ✓ Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial waste for disposal.

### **CAUTION! High Voltage**

The DC/AC inverter where high voltage current flows has the following 'caution mark against high voltage' and you are absolutely not allowed to open the monitor to access the inverter. Please refer to a technician for the service, if it is necessary.



# CHAPTER 5 Troubleshooting

#### No picture

- ✓ The signal cable should be completely connected to the computer or the equipment.
- ✓ Front power switch and computer (equipment) power switch should be in the ON position.
- Make sure that a supported mode has been correctly selected on the system being used.
- ✓ Check the monitor and your display card with respect to compatibility and recommended settings.
- ✓ Check the signal cable connector for bent or pushed-in pins.
- $\checkmark$  Check the signal input.

### Power Button does not respond

✓ Unplug the power cord of the monitor from the AC outlet to turn off and reset the monitor.

#### Image Persistence

Image persistence is when a residual or ghost image of a previous image remains visible on the screen. Unlike CRT monitors, LCD monitors' image persistence is not permanent, but constant images being displayed for a long period of time should be avoided.

To alleviate image persistence, turn off the monitor for as long as the previous image was displayed. For example, if an image was on the monitor for one hour and a residual image remains, the monitor should be turned off for one hour to erase the image.

NOTE: As with all personal display devices, Kostec recommends using a moving screen saver at regular intervals whenever the screen is idle or turning off the monitor when not in use.

#### Unstable, unfocused or swimming image

- ✓ Signal cable should be completely attached to the computer or equipment.
- Check the monitor and your display card with respect to compatibility and recommended signal settings.
- ✓ If your text is garbled, change the display mode and use 60Hz refresh rate.

# Display image is not properly sized

 Check to make sure that a supported mode has been selected on the display card or system being used. (Consult display card or system manual to change graphic mode)

## No Video

- $\checkmark$  If no video is present on the screen, turn the power off and on again.
- $\checkmark$  Make sure the computer is not in a power-saving mode.

# CHAPTER 6

References

#### **Customer Service and Support:**

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