IEI Technology Corp.

MODEL:

SRM Series/SRM-KIT Series

High Brightness Industrial LED Monitor
9-36 V DC Input, VGA/DVI-D, Auto-Dimming,
Optional Touch Screen, RoHS Compliance, IP 65 Protection

User Manual

Rev. 3.00 – 29 March, 2012

RoHS Lead Free

Revision

Date	Version	Changes
29 March, 2012	3.00	Updated for R30 version
8 November, 2011	2.02	Updated Section 5.4.6: RS-232 Touch Panel Connector
15 December, 2010	2.01	Modified AV-6600 AD board information Modified Chapter 6 OSD Controls Updated Chapter 7 Software Drivers
27 August, 2010	2.00	Updated for SRM-121/150-R20 and SRM-KIT-R20
September 2008	1.11	Added SRM-121XA/XMA models information
May 2007	1.10	- Added safety warning note for monitors used in high temperature areas - AV-5300 AD Board CN25 connector pin 3 voltage changed to +9V~+36V input
January 2007	1.0	Initial Release

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Introduction

1.1 Overview

Figure 1-1: SRM and SRM-KIT Series LCD Monitor

The SRM series industrial monitor is the latest member of IEI's line of sophisticated LCD designs, and it has been improved to be RoHS compliant. The SRM series is designed to fit industrial automation, or any other applications that require minimum installation space and flexible configuration. The SRM sunlight readable industrial monitor with the ultra-high brightness and auto-dimming LCD is also suitable for outdoor use. The flat front panel of the SRM series provides IP 65 protection, which effectively wards off dust and water. Flexible analog or digital interfaces are provided for ease of connection with a management computer. Resistive type touch panels are optional. If remote/non-attentive control is preferred, RS-232 or USB interfaces can be used with customized adapter cables.

1.1.1 Standard Features

All the models listed in **Section 1.2.1** have the following standard features:

- Auto-dimming TFT LCD
- 1000 cd/m^2 high brightness and 60000 hrs MTFB long lifetime panel
- Analog VGA and DVI-D input
- IP 65 compliant aluminum front panel
- Heavy duty aluminum chassis
- RoHS compliance

- Wide range operating temperature
- Wide viewing angle
- High contrast ratio
- Advanced thermal and air-flow design
- Supports panel, rack, wall, stand and arm mounting
- Optional 9 ~ 36V DC power input for mobile applications
- Optional RS-232 and USB interface touch panel

1.1.2 SRM Series Industrial Monitor Applications

The SRM series industrial monitor is designed for rigorous industrial environments where it may be exposed to both heat and moisture. Its durability and strength also makes it an ideal choice for public access computers. Some possible applications include:

- Digital Surveillance
- X-ray imaging terminal
- Multimedia advertising platform
- General Computing
  - Computer-based testing center
  - General purpose information system
  - Mobile nursing station
  - Interactive education use
- Automation & Control
  - Plant environment monitoring
  - Factory automation HMI terminal
  - Shop-floor/MES control
- Self-service Kiosk
  - Full-service receptionist kiosk
  - Hospital self-registration terminal
  - Interactive photo kiosk
  - Video rental kiosk
  - Self-service POS terminal

1.1.3 Model Variations

1.1.3.1 SRM-121 Model Variations

The SRM-121 has four models. The model variations are listed in **Table 1-1**.

Model Number	LCD Size	Resolution	9~36V Power	Touch Screen
SRM-121XA/R-R30	12.1”	1024 x 768	No	RS-232 and USB
SRM-121XMA/R-R30	12.1”	1024 x 768	Yes	RS-232 and USB
SRM-KIT121XA-R30	12.1”	1024 x 768	No	No
SRM-KIT121XMA-R30	12.1”	1024 x 768	Yes	No

Table 1-1: SRM-121 Model Variants

1.1.3.2 SRM-150 Model Variations

The SRM-150 has four models. The model variations are listed in **Table 1-2**.

Model Number	LCD Size	9~36V Power	Touch Screen
SRM-150GS/R-R30	15”	No	RS-232 and USB
SRM-150GMS/R-R30	15”	Yes	RS-232 and USB
SRM-KIT150G-R30	15”	No	No
SRM-KIT150GM-R30	15”	Yes	No

Table 1-2: SRM-150 Model Variants

1.2 External Overview

The SRM series industrial monitors are durable devices that can be used in harsh industrial environments. The following sections describe the physical layout of the SRM series industrial monitors.

1.2.1 SRM Series Front View

The front of the SRM series industrial monitor is a flat panel TFT LCD screen surrounded by an aluminum frame. A control button panel (OSD) is located vertically on the right side of the frame with the following control buttons:

- LCD On/Off
- Auto
- Left
- Right
- Menu

The OSD panel also has one auto-dimming sensor, one power LED and one auto -dimming LED.

Figure 1-2 shows the LCD monitor front view of the SRM-121 and the SRM-150.

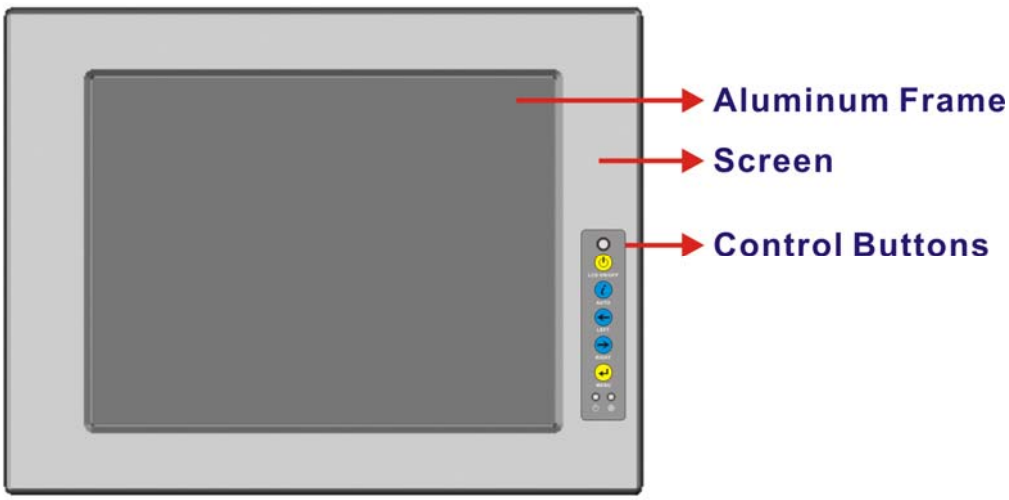


Figure 1-2: SRM Series Front View

1.2.2 SRM-KIT Series Front View

The front of the SRM-KIT series monitor is a flat panel TFT LCD screen attached to a metal chassis. **Figure 1-3** shows a typical SRM-KIT front view.

Figure 1-3: SRM-KIT Series Front View

1.2.3 SRM Series Rear View

The rear panel features fan ventilation holes and four retention screw holes that support a wall-mounting bracket. The retention screw holes are circled in **Figure 1-4**.

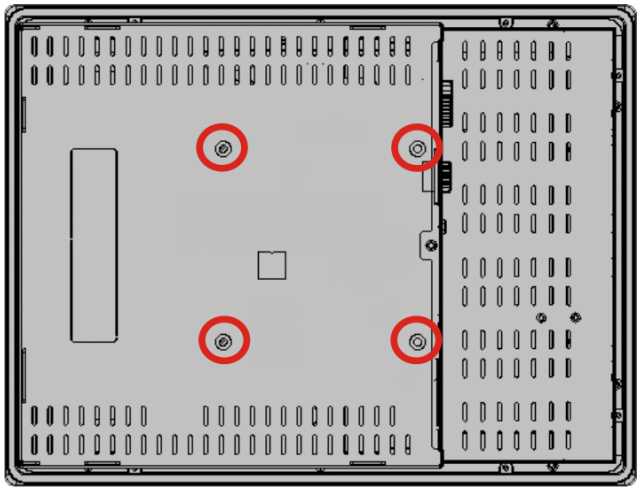


Figure 1-4: SRM Series Rear View

1.2.4 SRM-KIT Series Rear View

The rear of the SRM-KIT series monitor is a metal chassis. An on screen display (OSD) control button panel is located vertically on the left side of the chassis with the following control buttons:

- LCD On/Off
- Auto
- Left
- Right
- Menu

The OSD panel also has one auto-dimming sensor, one power LED and one auto-dimming LED. Refer to **Chapter 6** for a complete description of OSD panel.

Figure 1-5 shows the LCD monitor rear view of the SRM-KIT121G and the SRM-KIT150G.

Figure 1-5: SRM-KIT Series Rear View

1.2.5 Top View

The top view provides access to retention screws that secure the back cover to the chassis. The retention screw holes are circled in **Figure 1-6** below.

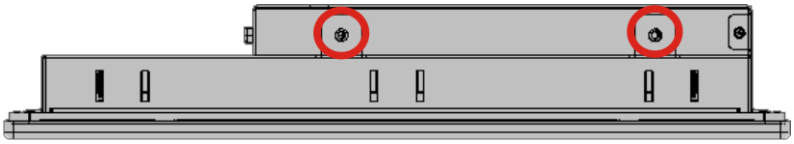


Figure 1-6: Top View

1.2.6 Bottom View

The bottom view provides access to retention screws that secure the back cover to the chassis. The retention screw holes are circled in **Figure 1-7** below.

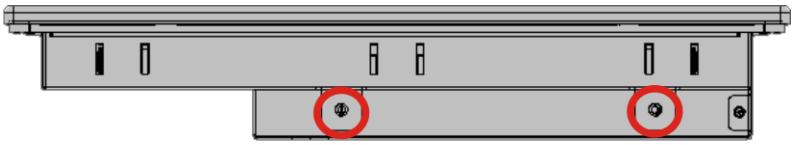


Figure 1-7: Bottom View

1.2.7 SRM Series I/O Panel

The I/O panel of the SRM Series shown in **Figure 1-8** has the following interfaces.

- 1 x RS-232 connector touch panel interface
- 1 x USB connector touch panel interface
- 1 x 9~36 V DC terminal block (M models only)
- 1 x 12 V DC input connector
- 1 x VGA connector
- 1 x DVI-D connector

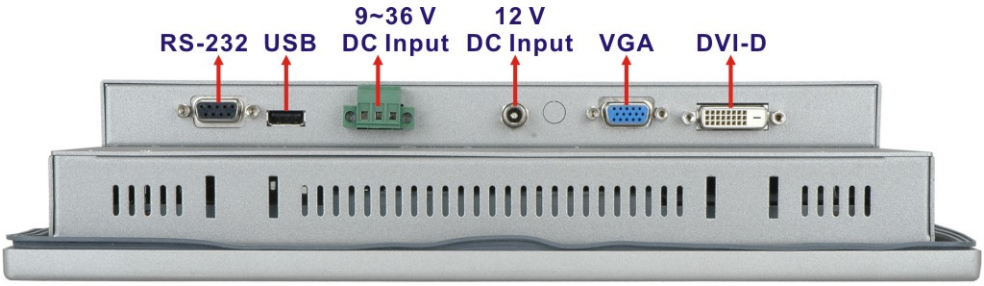


Figure 1-8: Side View

1.2.8 SRM-KIT Series I/O Panel

The I/O panel of the SRM-KIT Series shown in **Figure 1-9** has the following interfaces.

- 1 x 12 V DC input connector
- 1 x VGA connector
- 1 x DVI-D connector

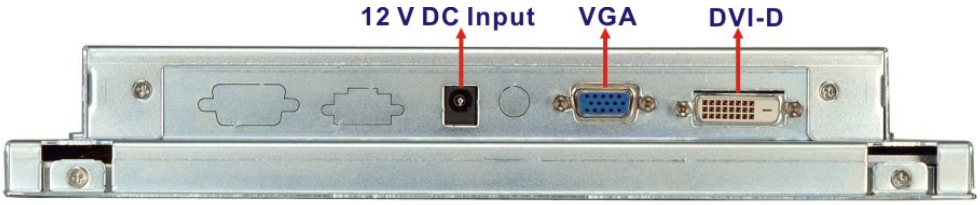


Figure 1-9: Side View

1.2.9 SRM Series Frame

An aluminum frame surrounds the SRM series LCD monitor. This aluminum frame has small screw holes that are used to attach the LCD monitor to a rack mount kit for mounting into a rack or cabinet. The screw holes on the SRM-121 and the SRM-150 are circled in **Figure 1-10** and **Figure 1-11**.

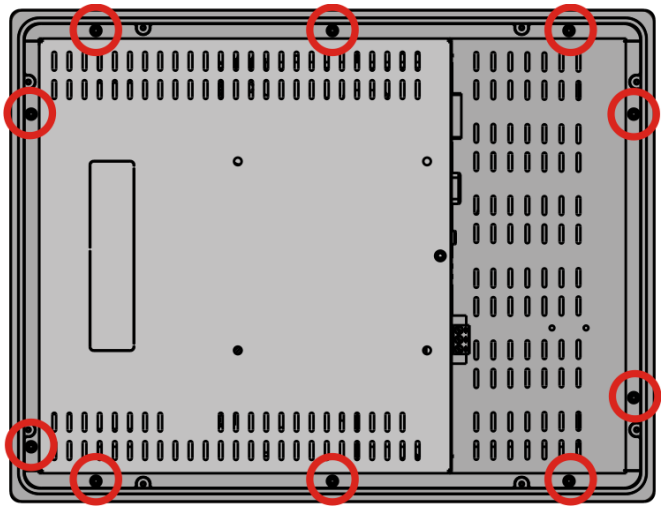


Figure 1-10: SRM-121 Frame Rear View (10 rackmount kit screw holes)

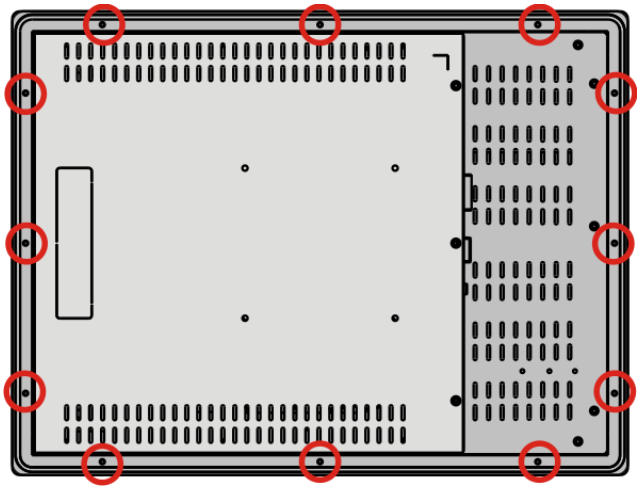


Figure 1-11: SRM-150 Frame Rear View (12 rackmount kit screw holes)

1.3 Series Specifications

Table 1-3 shows the SRM Series specifications.

Model	SRM-121	SRM-150
LCD Size	12.1”	15”
Input Interface	Analog VGA and DVI-D	
Resolution	1024 x 768	1024 x 768
Brightness	1000 cd/m^2	800 cd/m^2
Contrast	600:1	800:1
Display Color	262K (6 bit/color) or 16.7M (8 bit/color)	
Pixel Pitch	0.240 mm	0.297 mm
View Angle	-80~80° (H) / -80~60° (V)	
Front Frame	Aluminum	
Chassis	Heavy-duty steel	
Input Voltage	12VDC and 9~36VDC	
OSD Function	Yes	
Mounting	Wall / Panel / Rack / Arm / Stand	
Color	Silver	
Dimension (mm)	340 x 260 x 58	409.62 x 309.0 x 65.2
Operating Temperature	-10°C~60°C	
Storage Temperature	-20°C~80°C	
IP Level	IP 65 (SRM series only)	
N/G Weight	4 kgs	6 kgs

Table 1-3: SRM Series Specifications

1.4 Certifications

All SRM series industrial monitor models comply with the following international standards:

- RoHS
- IP 65

For a more detailed description of these standards, please refer to **Sections B.1** and **B.2**.

Chapter

2

Mechanical Overview

2.1 Physical Dimensions

The following sections describe the physical dimensions for the SRM-121, SRM-150 and SRM-KIT industrial monitor.

2.1.1 SRM-121 Physical Dimensions

The physical dimensions of the SRM-121 are shown in **Figure 2-1**.

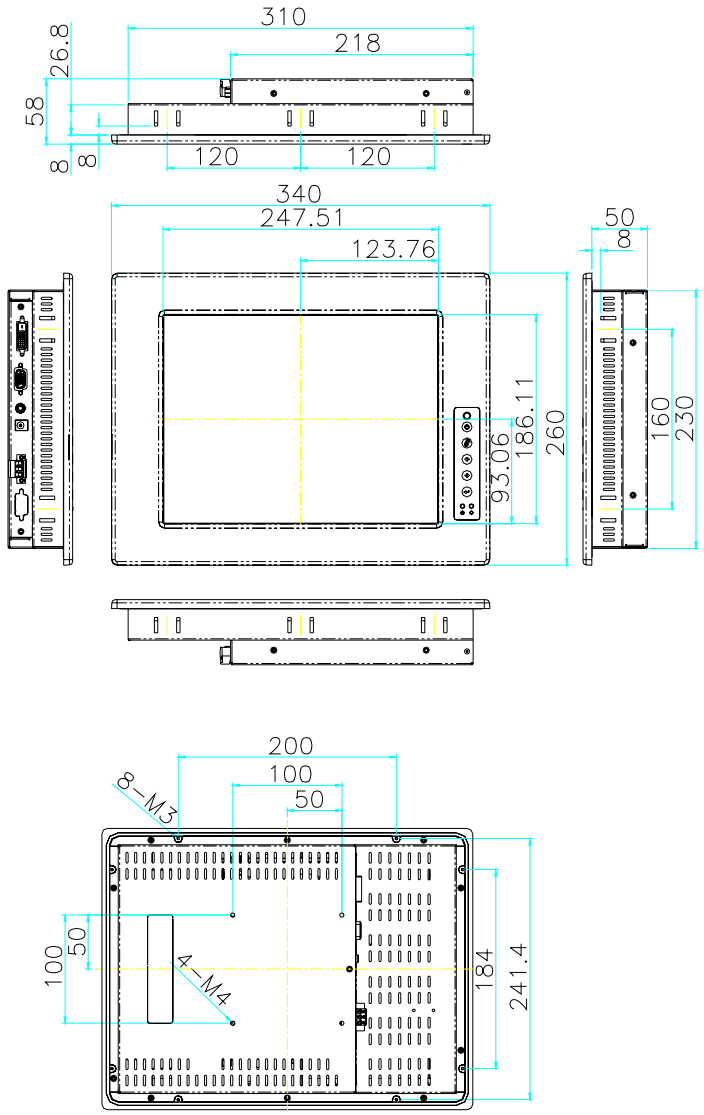


Figure 2-1: SRM-121 Physical Dimensions (millimeters)

2.1.2 SRM-150 Physical Dimensions

The physical dimensions of the SRM-150 are shown in **Figure 2-2**.

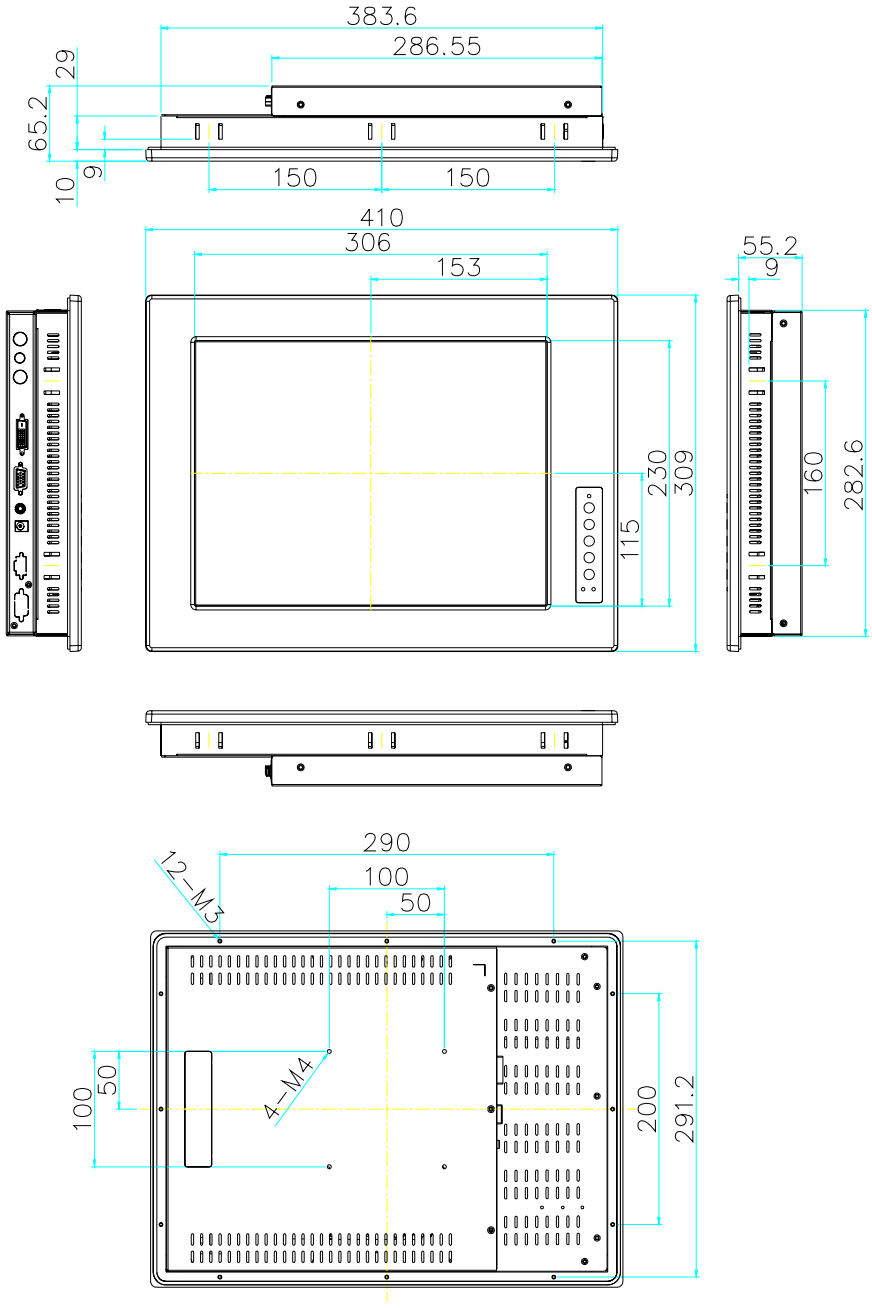


Figure 2-2: SRM-150 Physical Dimensions (millimeters)

2.1.3 SRM-KIT121 Physical Dimensions

The physical dimensions of the SRM-KIT121 are shown in **Figure 2-3**.

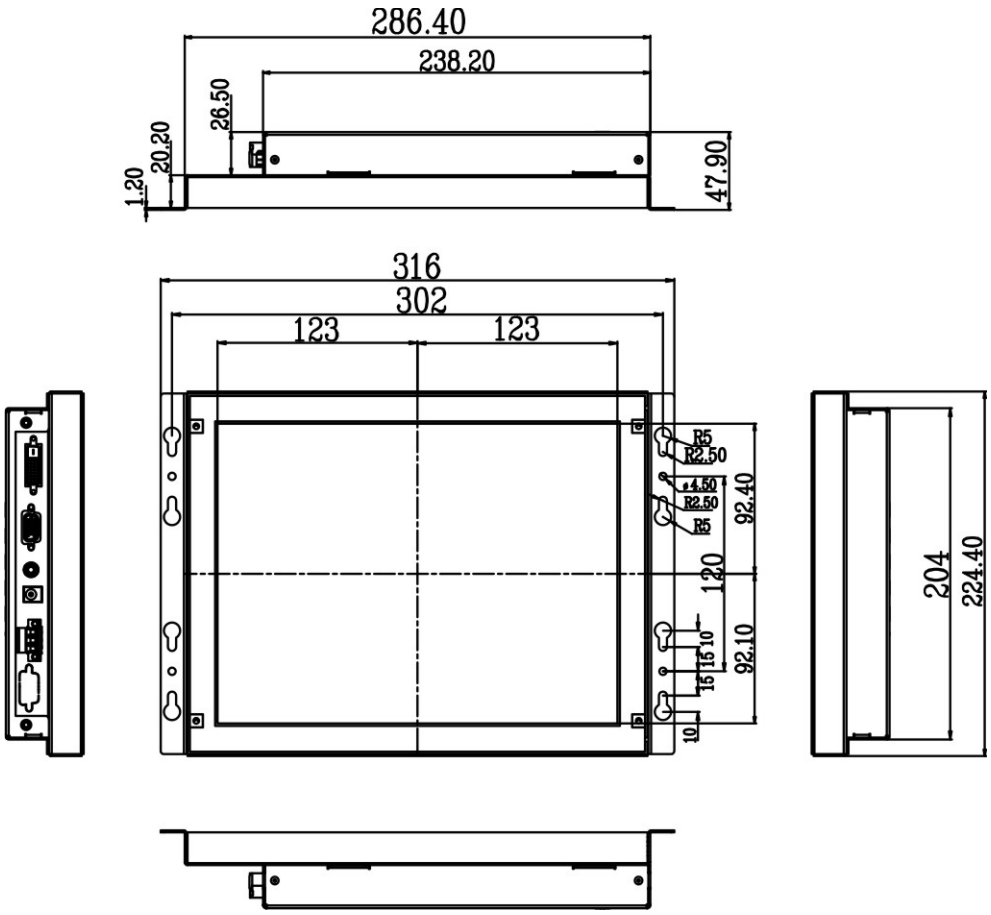


Figure 2-3: SRM-KIT121 Physical Dimensions (millimeters)

2.1.4 SRM-KIT150 Physical Dimensions

The physical dimensions of the SRM-KIT150 are shown in **Figure 2-4**.

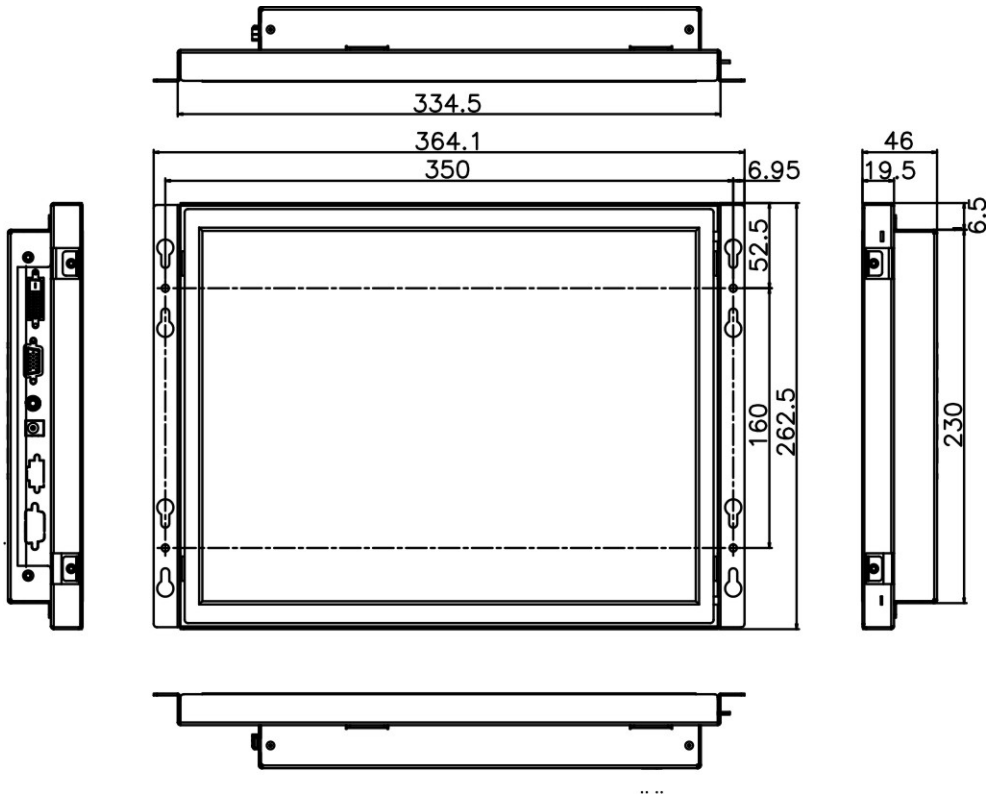


Figure 2-4: SRM-KIT150 Physical Dimensions (millimeters)

2.2 Mounting Kits

The following sections describe the various optional mounting kits available for each model of the SRM series industrial monitor. Refer to **Section 5.5** for detailed instructions on the different mounting methods for the monitors.

Table 2-1 lists the mounting kits available for the SRM series monitor.

Model	SRM-121	SRM-150
Panel Mounting Kit	PK-121M	PK-150M
Wall Mounting Kit	WK-121MS-R10	WK-150MS-R10
Rack Mounting Kit	RK-121MS-R10	RK-150MS-R10
LCD Monitor Arm	ARM-11	ARM-31
LCD Monitor Stand	STAND-100-RS	

Table 2-1: SRM Series Mounting Kits

2.3 Mounting Options

Each SRM series industrial monitor has a number of mounting holes or slots located on the back side of the aluminum frame or on the rear panel for mounting the monitor to a rack, panel, cabinet, rail, wall, arm or stand. The following sections describe the various mounting methods or each model of the SRM series industrial monitor.

2.3.1 Panel Mounting

Each model of the SRM series industrial monitor has a series of mounting slots located on the top and bottom panel for mounting the monitor to a panel.

Table 2-2 lists the number of mounting clamps required to mount the monitor to a panel.

Model	Mounting Clamps
SRM-121	10
SRM-150	10

Table 2-2: Panel Mounting Clamps

2.3.2 Rack and Cabinet Mounting

Each model of the SRM series industrial monitor has a series of holes located on the rear of the front panel for securing the monitor to the rack mounting kit.

Table 2-3 lists the number of holes each monitor has to secure the monitor to the rack mounting kit.

Model	Holes
SRM-121	10
SRM-150	12

Table 2-3: Rack Mounting Holes

2.3.3 Wall Mounting

Each model of the SRM series industrial monitor has four holes located on the rear panel for mounting the monitor to a wall.

2.3.4 Monitor Arm or Stand Mounting

The SRM series industrial monitor has four mounting holes which are compatible with VESA FDMI (MIS-D 100) and located on the rear panel for mounting the monitor to a monitor arm or stand.

Chapter

3

LCD and Touch Panel Specifications

3.1 LCD Specifications

3.1.1 LCD Overview

The SRM series industrial monitors use the following LCD panels with LED backlight.

- **SRM-121**: MITSUBISHI AA121XL01 XGA TFT LCD
- **SRM-150**: MITSUBISHI AA150XT01 XGA TFT LCD

Detailed specifications for the LCD screens are listed in the following sections.

3.1.2 SRM-121 LCD Specifications

Table 3-1 lists the LCD specifications of the SRM-121.

Model	SRM-121
Size	12.1”
MFR/Model	MITSUBISHI AA121XL01
Resolution	XGA (1024 x 768)
Display Area (mm)	245.76 x 184.32
Pixel Pitch (mm)	0.240 x 0.240
Number of Colors	262K (6 bit/color), 16.7M (8 bit/color)
View Angle	-80~80° (H) / -80~60° (V)
Brightness (cd/m^2)	1000
Contrast Ratio	600:1
Response Time (ms)	T_R: 6 T_F: 9
Interface	LVDS (6 bit/8 bit)
Logic Input Voltage (V)	VCC+0.3 V
Backlight	LED, edge-light, replaceable
Power Supply Voltage for LCD	3.3 V / 3.6 V (max.)

Model	SRM-121
Power Supply Current for LCD	320 mA / 600 mA (max.)
Operating Temperature	-30°C ~80°C
Storage Temperature	-30°C ~80°C
Shock Level (Non-operation)	1470 m/s^2 (150G), Waveform 2ms.
Vibration Level (Non-operation)	9.8 m/s^2 (1.0G) zero to peak, frequency range 5-500Hz sweep rate 0.5 octave/min
LED Life (hrs)	60,000

Table 3-1: SRM-121 LCD Specifications

3.1.3 SRM-150 LCD Specifications

Table 3-2 lists the LCD specifications of the SRM-150.

Model	SRM-150
Size	15”
MFR/Model	MITSUBISHI AA150XT01
Resolution	XGA (1024 x 768)
Display Area (mm)	304.1 x 228.1
Pixel Pitch (mm)	0.297 x 0.297
Number of Colors	262K(6 bit/color), 16.7M(8 bit/color)
View Angle	-80~80° (H) / -80~60° (V)
Brightness (cd/m2)	800
Contrast Ratio	800:1
Response Time (ms)	T_R: 6 T_F: 19

Model	SRM-150
Interface	LVDS (6 bit/8 bit)
Logic Input Voltage (V)	VCC+0.3 V
Backlight	LED, edge-light, replaceable
Power Supply Voltage for LCD	3.3V / 3.6V (max.)
Power Supply Current for LCD	410mA / 700mA (max.)
Operating Temperature	-20°C ~70°C
Storage Temperature	-20°C ~70°C
Shock Level (Non-operation)	1470 m/s^2 (150G), Waveform 2ms.
Vibration Level (Non-operation)	9.8 m/s^2 (1.0G) zero to peak, frequency range 5-500Hz sweep rate 0.5 octave/min
Lamp Life (hrs)	60,000

Table 3-2: SRM-150 LCD Specifications

3.2 Optional Touch Panels

IEI offers optional touch panels for the SRM series industrial monitors with the following features:

- Small border customized design
- All size touch panel design
- Customized activation force and palm rejection
- Customized optical characteristics
- High reliability and durability in the field

3.2.1 Touch Panel Models

Table 3-3 lists the SRM series industrial monitors and their associated touch panels.

Model	Touch Panel
SRM-121	PANJIT 1121505B
SRM-150	PANJIT 1150508B

Table 3-3: Touch Panel Models

3.2.2 Touch Panel Dimensions

Table 3-4 shows the touch panel dimensions in millimeters.

Model	Dimension	Width	Length	Thick
PanJit 1121505B	Dimensional Outline:	204	268	2.1
	Viewing Area:	188	250	-
	Active Area:	185	246	-
PanJit 1150508B	Dimensional Outline:	257.5	333.6	2.9
	Viewing Area:	232.1	308.2	-
	Active Area:	228.1	304.1	-

Table 3-4: Touch Panel Dimensions (mm)

3.2.3 Touch Panel Specifications

Table 3-5 lists the touch panel specifications.

Type	Analog Resistive Type Touch Panel
Wire Type	5-wire
RATING	
Maximum Voltage and Current	DC7V
Usable temperature range	-10℃ ~ 50℃ (under ambient humidity)
Storage temperature range (Before assembling the PanJit Touch Panel)	-20℃ ~ 70℃ (under ambient humidity)
Operating Humidity	20% ~ 90% RH (under ambient temperature)
Storage Humidity	20% ~ 90% RH (under ambient temperature)
ELECTRICAL PERFORMANCE	
Resistance between terminals	Direction “X”: 40 ~ 100 Ω Direction “Y”: 40 ~ 100 Ω
Linearity	Direction “X”: 2% or less Direction “Y”: 2% or less
Insulation resistance	DC25V and 20MΩ or more
Chattering	10msec or less
MECHANICAL PERFORMANCE	
Input Method	Stylus or finger
Linearity test force	Input with finger: 100g or less Input with stylus: 100g or less
Surface hardness	≧2H
OPTICAL PERFORMANCE	
Optical clarity	Total transmission 78% or more

Table 3-5: Touch Panel Specifications

Chapter

4

AD Board

4.1 AV-6600 AD Board Overview

The AV-6600 AD board provides a wide variety of control interfaces, receiving and managing interface signals from a CPU card through cabling. The following sections describe the AV-6600 AD board in detail.

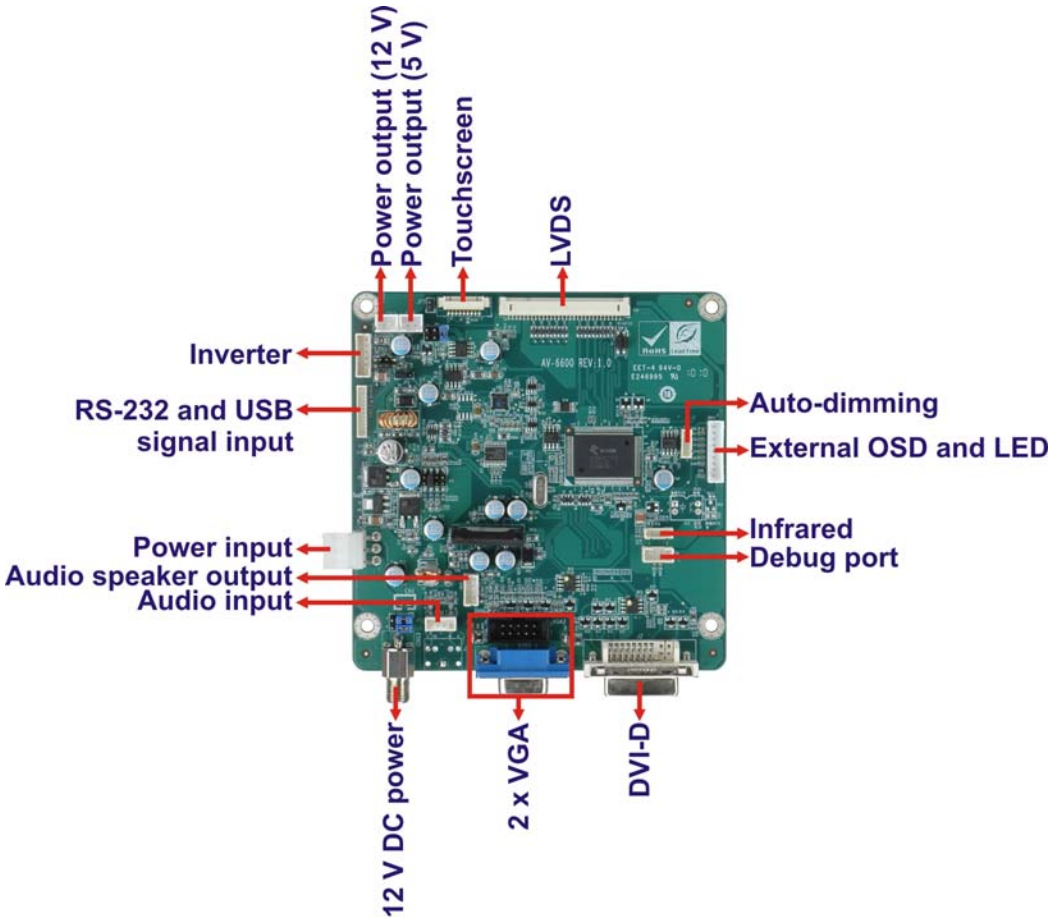


Figure 4-1: AV-6600 AD Board Overview

4.1.1 AV-6600 Peripheral Interface Connectors

Table 4-1 shows a list of the peripheral interface connectors on the AV-6600 AD board.

Connector	Type	Label
Audio input connector	4-pin wafer connector	CN11
Audio speaker output connector	4-pin wafer connector	CN12

Auto-dimming connector	6-pin wafer connector	CN7
Debug connector	4-pin wafer connector	CN9
External OSD and LED indication connector	9-pin wafer connector	CN10
Infrared connector	6-pin wafer connector	CN8
Inverter interface connector	6-pin wafer connector	CN6
LVDS connector	30-pin connector	CN5
Power output connector (+12 V)	2-pin wafer connector	CN3
Power output connector (+5 V)	2-pin wafer connector	CN4
Power input connector	3-pin connector	CN2
RS-232 and USB signal input connector	12-pin wafer connector	CN14
Touchscreen connector	9-pin wafer connector	J4
VGA connector	10-pin box header	VGA2

Table 4-1: AV-6600 Peripheral Interface Connectors

4.1.2 AV-6600 Rear Panel Connectors

Table 4-2 lists the rear panel connectors on the AV-6600 AD board.

Connector	Type	Label
12V DC power connector	DC Power Jack	CN13
DVI connector	24-pin DVI-D connector	J2
VGA connector	15-pin VGA connector	VGA1

Table 4-2: AV-6600 Rear Panel Connectors

Chapter

5

Installation

5.1 Installation Precautions

When installing the SRM series industrial monitor, please follow the precautions listed below:

- **Read the user manual**: The user manual provides a complete description of the SRM series industrial monitor, installation instructions and configuration options.
- **DANGER! Disconnect Power**: Power to the monitor must be disconnected when installing the SRM series industrial monitor, or before any attempt is made to access the rear panel. Electric shock and personal injury might occur if the rear panel of the monitor is opened while the power cord is still connected to an electrical outlet.
- **Qualified Personnel**: The SRM series industrial monitor must be installed and operated only by trained and qualified personnel. Maintenance, upgrades, or repairs may only be carried out by qualified personnel who are familiar with the associated dangers.
- **Mounting**: Since the monitor may weigh up to 10 kg (not including a swing arm or other accessories), please ensure at least two people assist with mounting the monitor.
- **Air Circulation**: Make sure there is sufficient air circulation when installing the monitor. The monitor's cooling vents must not be obstructed by any objects. Blocking the vents can cause overheating of the monitor. Leave at least 5 cm of clearance around the monitor to prevent overheating.
- **Grounding**: The monitor should be properly grounded. The voltage feeds must not be overloaded. Adjust the cabling and provide external overcharge protection per the electrical values indicated on the label attached to the back of the monitor.
- **Anti-static Discharge**: The rear panel of the monitor must to be removed to configure the monitor's AD board voltage select jumper. When doing so, be sure the monitor is disconnected from its power source and take all necessary safety precautions to avoid electrocution and static discharge to the AD board. The use of a grounded wrist strap and an anti-static work pad is recommended.

5.2 Unpacking

5.2.1 Packaging

When shipped, the SRM series industrial monitor is wrapped in a plastic bag. Two polystyrene ends are placed on either side of the monitor. The monitor is then placed into a first (internal) cardboard box. This box is then sealed and placed into a second (external) cardboard box. The second box is also sealed. A bag containing accessory items is placed underneath the monitor, at the bottom of the internal (first) box.

5.2.2 Unpacking Procedure

To unpack the SRM series industrial monitor, follow the steps below:

WARNING:

The front side LCD screen has a protective plastic cover stuck to the screen. Only remove the plastic cover after the SRM series industrial monitor has been properly installed. This ensures the screen is protected during the installation process.

Step 1: Use box cutters, a knife or a sharp pair of scissors to open the seal on the top side of the external (second) box.

Step 2: Open the external (second) box.

Step 3: Use box cutters, a knife or a sharp pair of scissors the seal on the top side of the internal (first) box.

Step 4: Lift the monitor out of the boxes.

Step 5: Remove both polystyrene ends, one from each side.

Step 6: Pull the plastic cover off the SRM series industrial monitor.

Step 7: Make sure all the components listed in the packing list are present.

5.2.3 Packing List

All the monitors in the SRM series are shipped with the following components:

Quantity	Item	Image
1	DVI cable	
1	VGA cable	
1	Screw kit	
1	User manual and driver CD	
1	Touch screen driver CD (SRM series only)	
1	Touch pen (SRM series only)	
1	36 W AC power adapter (Not included in M models)	
1	AC power cord (Not included in M models)	

If any of these items are missing or damaged, contact the distributor or sales representative immediately.

5.3 Pre-installation Preparation

5.3.1 Tools

Before installing the SRM series industrial monitor, make sure the following tools are on hand:

- **Phillips (crosshead) screwdriver**: All the retention screws on the system are Phillips screws.
- **Soft working mat**: When the SRM series industrial monitor is installed, the screen is placed on the working surface. It is therefore important to rest the MPC industrial workstation on a soft at that cannot damage the LCD screen on the front of the SRM series industrial monitor.

5.3.2 Voltage Select Jumper Settings

If the monitor comes with both 12V and 9 ~ 36V DC power connectors, the voltage select jumper on the integrated AD board must be configured for the DC connector that is used to power the monitor.

NOTE:

The default voltage select jumper is configured for a 12V power source. Do not change the jumper setting unless a 9~36V DC power connector is to be used as the monitor's power source.

To properly set the voltage select jumper, the following steps must be completed:

Step 1: Use a screwdriver to remove all the screws holding the rear panel to the monitor.

Step 2: Remove the rear panel.

Step 3: Locate the voltage select jumper.

Step 4: Use the jumper(s) to set the correct voltage input. Replace the rear panel.

Step 5: Replace all removed screws.

5.4 Connectors

Table 5-1 lists the external peripheral interface panel connectors for the SRM series industrial monitors.

	SRM-121	SRM-150	SRM-KIT121	SRM-KIT150
VGA	Yes	Yes	Yes	Yes
DVI-D	Yes	Yes	Yes	Yes
Power (12V Jack)	Yes	Yes	Yes	Yes
Power (9 ~ 36V)	M model only	M model only	M model only	M model only
RS-232 Touch Panel	Yes	Yes	No	No
USB Touch Panel	Yes	Yes	No	No

Table 5-1: External Peripheral Interface Connectors

5.4.1 Rear Panel Connectors Overview

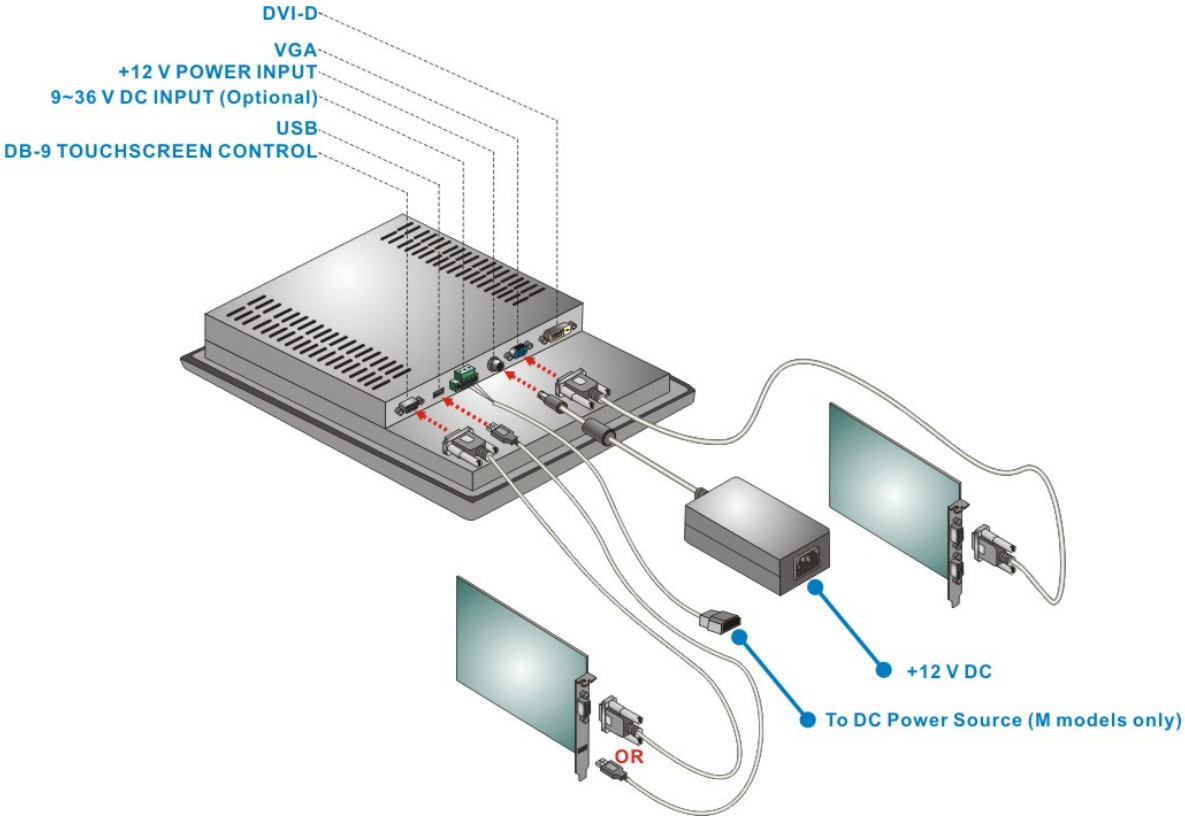


Figure 5-1: Monitor Rear Panel Connections

Figure 5-1 shows all the possible rear panel connectors for the SRM series LCD monitor. The following sections fully describe the rear panel connectors for the SRM series LCD monitor.

5.4.2 VGA Connector

Use the rear panel standard 15-pin female VGA connector to connect the monitor to the system graphics interface.

5.4.3 DVI-D Connector

Use the rear panel standard 24-pin female DVI-D connector to connect the monitor to the system graphics interface.

5.4.4 12V Power Connector

Use the rear panel +12V DC jack to connect the monitor to a power source.

Figure 5-2: 12V Power Connector

5.4.5 DC Power Connector

Use the rear panel 3-pin terminal block DC power connector to connect the monitor to a DC power source.

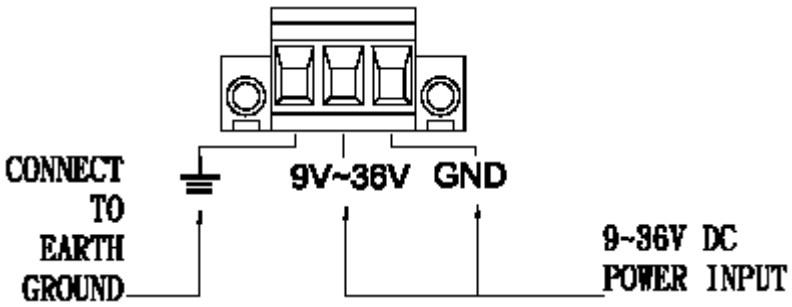


Figure 5-3: DC Power Connector

5.4.6 RS-232 Touch Panel Connector

Use the rear panel standard RS-232 DB-9 female touch panel connector to connect the monitor to the system graphics interface.

PIN	DESCRIPTION	PIN	DESCRIPTION
1	N/A	6	NDSR
2	NRX	7	NRTS
3	NTX	8	N/A
4	NDTR	9	N/A
5	GND		

Table 5-2: RS-232 Touch Panel Connector Pinouts

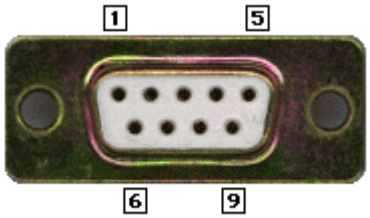


Figure 5-4: RS-232 Touch Panel Connector

5.5 Mounting the SRM Series LCD Monitor

The SRM series LCD monitor can be mounted in a panel, cabinet, rack, or wall. The monitor can also be mounted on a monitor arm or stand. The mounting methods are described below.

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.

5.5.1 Panel Mounting

To mount the SRM series LCD monitor into a panel, please follow the steps below.

Step 1: Select the position on the panel to mount the monitor.

Step 2: Cut out a section of the panel that corresponds to the rear panel dimensions of the monitor. Take care that the panel section that is cut out is smaller than the overall size of the metal frame that surrounds the monitor but just large enough for the rear panel of the monitor to fit through (**Figure 5-5**).

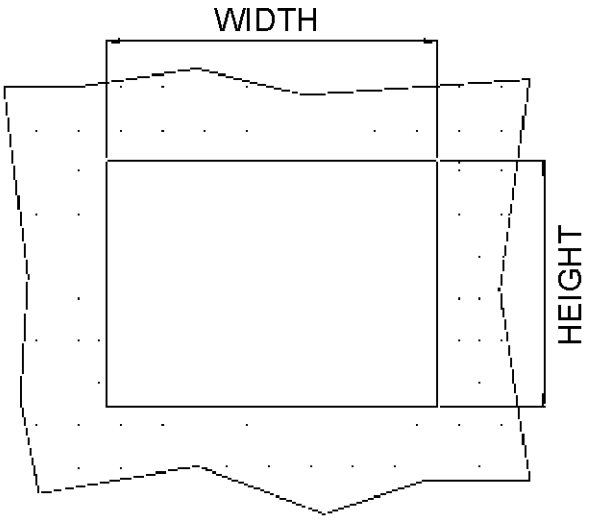


Figure 5-5: Panel Opening

Step 3: Slide the monitor through the hole until the metal frame is flushed against the panel (**Figure 5-6**).

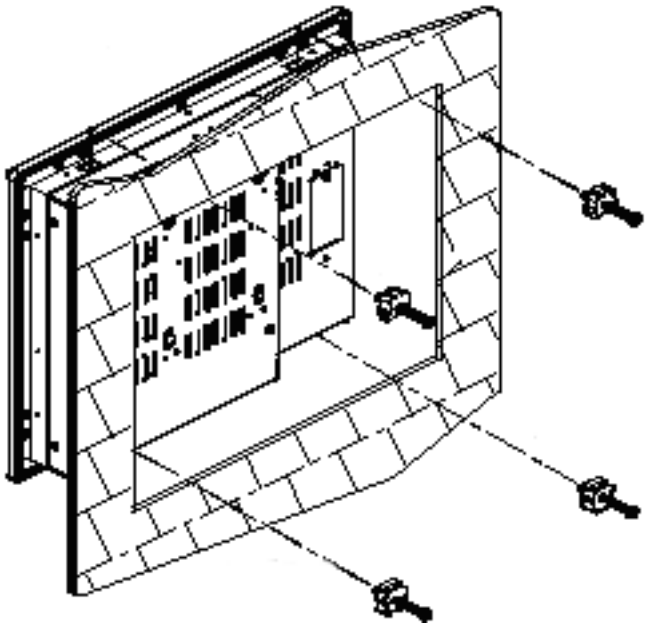


Figure 5-6: Insert the Monitor

Step 4: Insert the panel mounting clamps into the pre-formed holes along the edges of the monitor, behind the metal frame. **Figure 5-7** shows the location of clamp insertion holes on one side of the LCD monitor. Refer to **Table 2-2** for the mounting clamps required for each model.

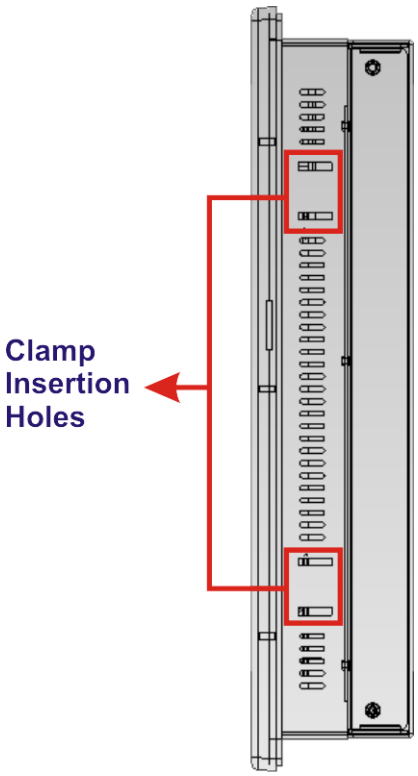


Figure 5-7: Clamp Insertion Holes

Step 5: Tighten the screws that pass through the panel mounting clamps until the plastic caps at the front of all the screws are firmly secured to the panel (**Figure 5-8**).

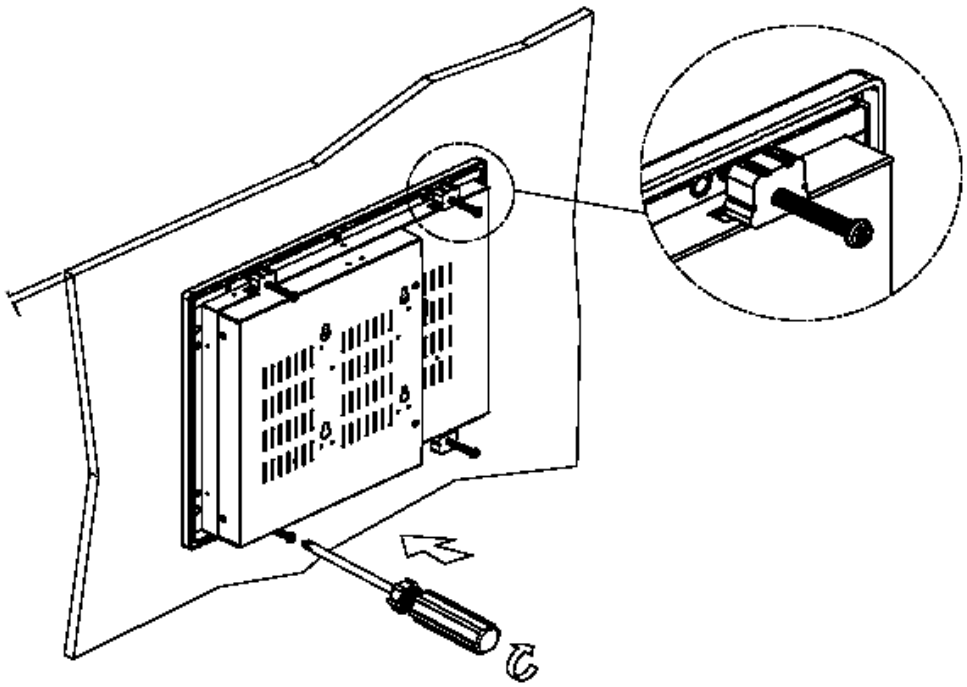


Figure 5-8: Panel Mounting Clamp Position

5.5.2 Cabinet and Rack Installation

The SRM series provides optional rack mount kits for industrial racks. To mount the SRM series LCD monitor into a cabinet/rack, please follow the steps below.

Step 1: The back of the metal frame surrounding the SRM series LCD monitor has several retention screw holes for a rack mount kit. See **Figure 1-10** and **Figure 1-11**.

Step 2: Slide the monitor through the rack mount kit until the rear side of the monitor frame is flushed against the front of the rack mount kit.

Step 3: Make sure the retention screw holes at the rear of the monitor frame are aligned with the retention screw holes in the rack mount kit.

Step 4: Secure the rack mount kit to the monitor by inserting and tightening the retention screws (**Figure 5-9**).

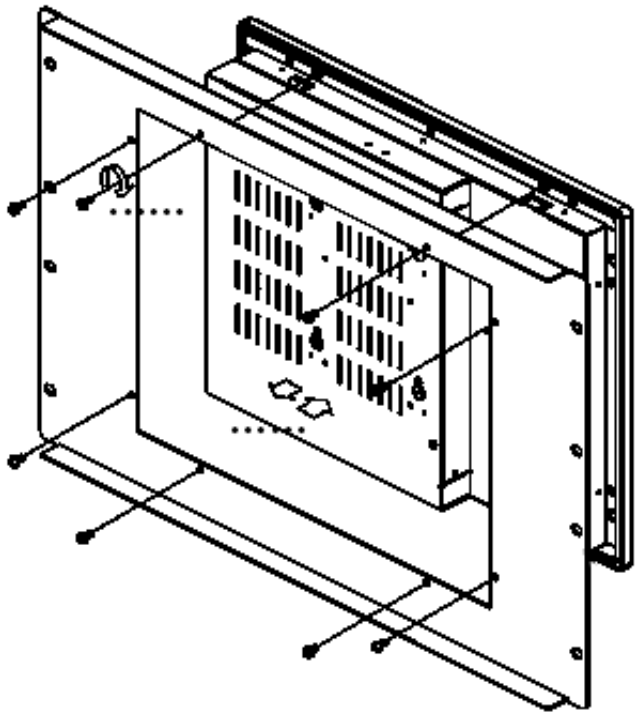


Figure 5-9: Secure the Rack Mount Kit

Step 5: Slide the monitor with the attached rack mount kit into a rack or cabinet (**Figure 5-10**).

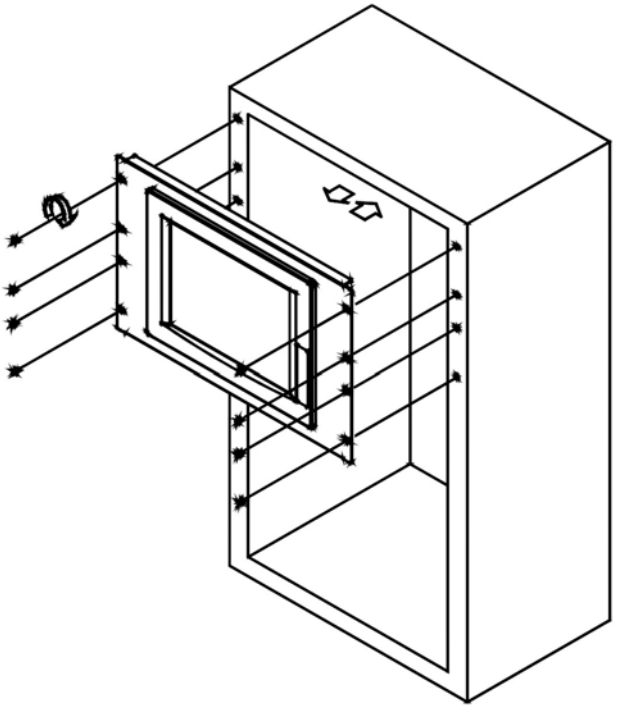


Figure 5-10: Install into a Cabinet/Rack

Step 6: Once the monitor with the attached cabinet/rack has been properly inserted into the rack or cabinet, secure the front of the rack/cabinet bracket to the front of the rack or cabinet (**Figure 5-10**).

5.5.3 Wall Mounting

To mount the SRM series industrial monitor onto a wall, please follow the steps below.

Step 1: Select a location on the wall for the wall-mounting bracket.

Step 2: Carefully mark the locations of the four bracket screw holes 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 (**Figure 5-11**).

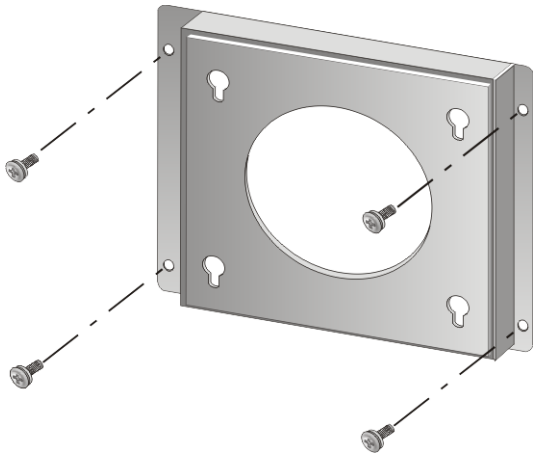


Figure 5-11: Wall-mounting Bracket

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 monitor and tighten until the screw shank is secured against the rear panel (**Figure 5-12**).

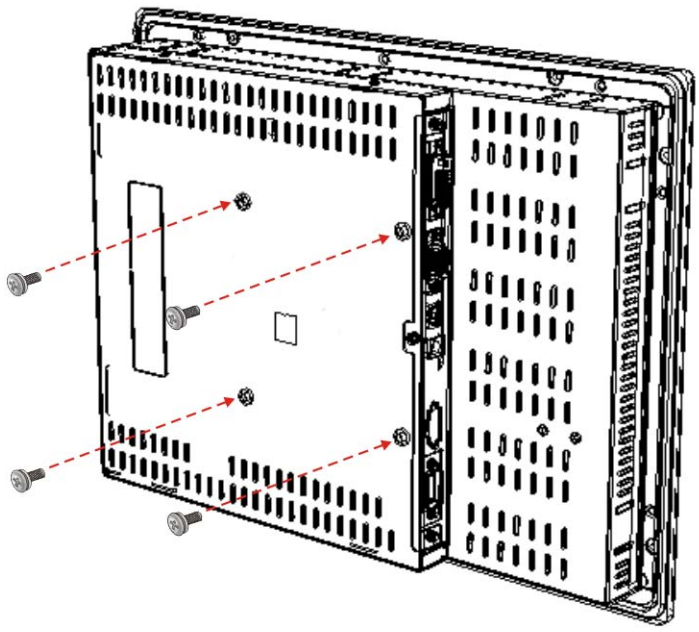


Figure 5-12: Monitor Support Screws

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 (**Figure 5-13**). Ensure that all four of the mounting screws fit snuggly into their respective slotted holes.

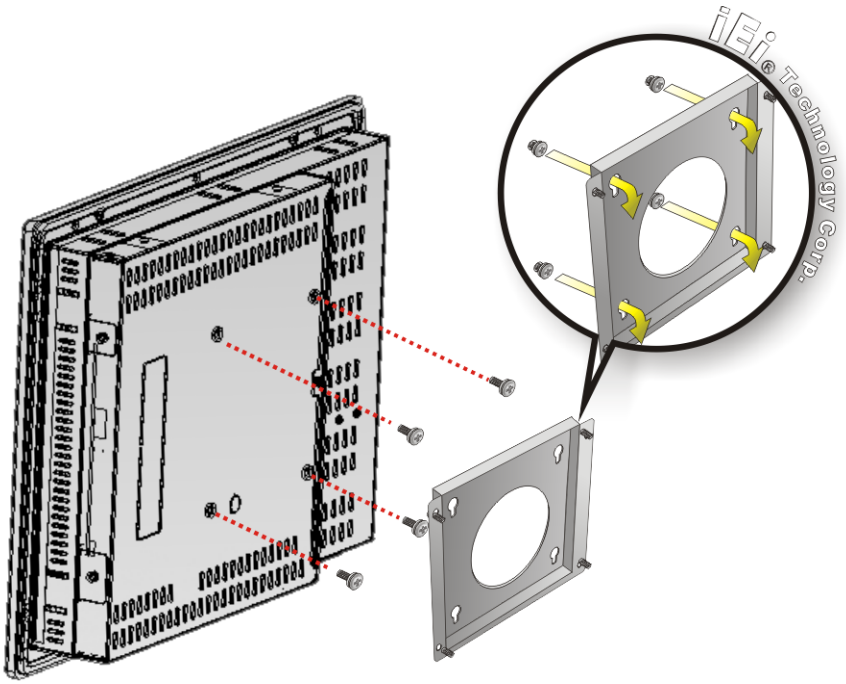


Figure 5-13: Wall Mounting the Monitor

5.5.4 Monitor Stand Installation

The SRM series industrial monitor has Video Electronics Standards Association (VESA) standard mounting holes tapped into the rear panel. The standard holes are M4 set at 100m x 100mm apart (**Figure 5-14**).

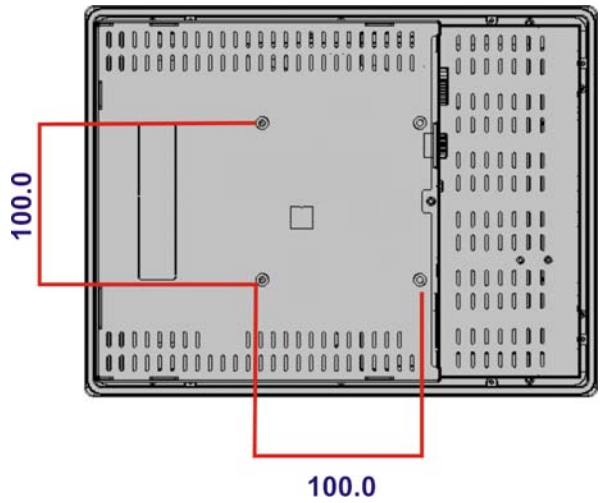


Figure 5-14: VESA Mounting Holes

The monitor stand mounting plate has a matching VESA hole pattern. To mount the SRM series industrial monitor onto a stand, please follow the steps below.

Step 1: Line up the threaded holes on the monitor rear panel with the screw holes on the monitor stand mounting plate.

Step 2: Secure the monitor to the stand with the supplied retention screws (**Figure 5-15**).

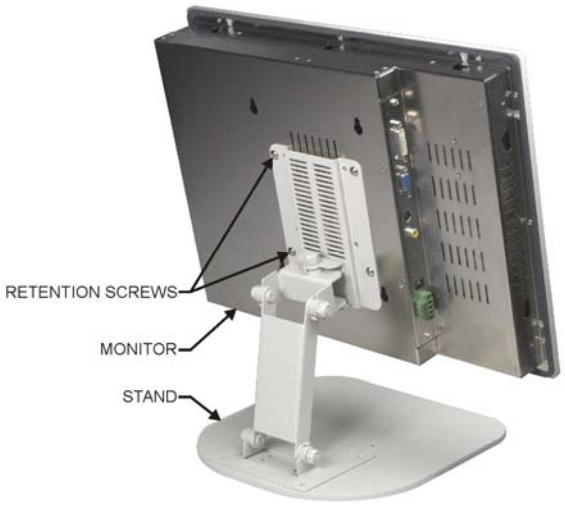


Figure 5-15: Monitor Stand Mounting

5.5.5 Monitor Arm Installation

The SRM series industrial monitor has Video Electronics Standards Association (VESA) standard mounting holes tapped into the rear panel. The standard holes are M4 set at 100m x 100mm apart (**Figure 5-14**). The monitor arm mounting plate has a matching VESA hole pattern. To mount the SRM series industrial monitor onto a monitor arm, please follow the steps below.

Step 1: Line up the threaded holes on the monitor rear panel with the screw holes on the monitor arm mounting plate.

Step 2: Secure the monitor to the arm with the supplied retention screws (**Figure 5-16**).

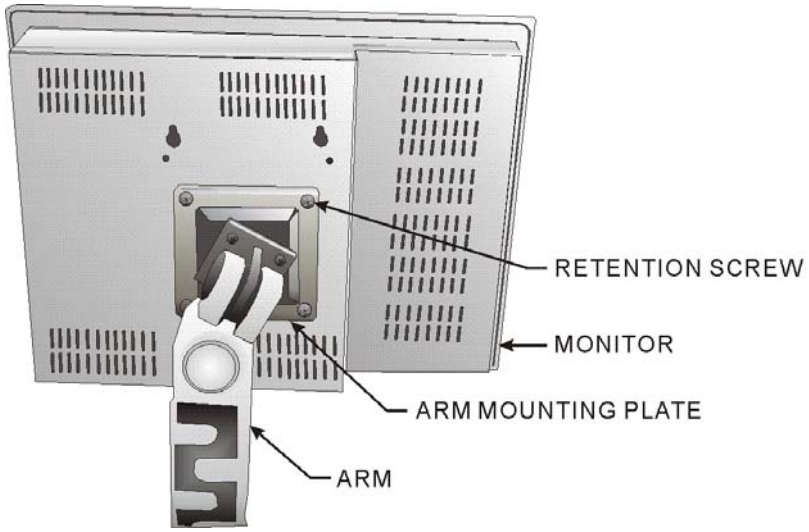


Figure 5-16: Monitor Arm Mounting

Chapter

6

On-Screen-Display (OSD) Controls

6.1 User Mode OSD Structure

6.1.1 OSD Buttons

There are several on-screen-display (OSD) control buttons oriented either vertically along the right hand side of the monitor front panel. **Figure 6-1** shows a typical arrangement of OSD controls.

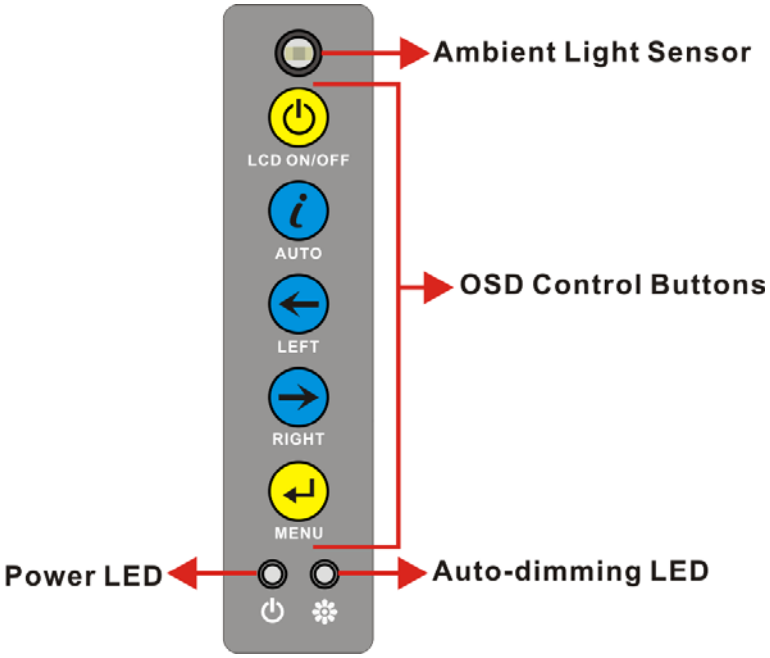


Figure 6-1: OSD Control Buttons for All Models

- **LCD ON/OFF Button**
  Press this button to turn the LCD monitor on or off. When the LCD monitor is on, the power LED is turned on in green.
- **Auto/Exit Button**
  Press this button to enable auto-configuration or apply default values.
- **Left Button**
  Press this button to scroll to the left, to increase the value, or to switch from one selected item to another.
- **Right Button**
  Press this button to scroll to the right, to decrease the value, or to switch from one selected item to another.

- **Menu/Enter Button**
  Press this button to open the OSD window. When inside a menu, press this button to confirm the function adjustment or selection of the item. There may be several levels in one item. As you select an item in the menu, the sub-items will be displayed.

The OSD control panel also includes one sensor and two LED.

- **Ambient Light Sensor**
  The ambient light sensor detects the brightness of ambient environment when the auto-dimming function is turned on.
- **Power LED**
  The power LED is turned on in green when the LCD monitor is on.
- **Auto-dimming LED**
  The auto-dimming LED is turned on in red when the auto-dimming function is on.

6.1.2 OSD Menu Structure

Table 6-1 shows the OSD menu structure for all models of the SRM series LCD monitor.

Level 0	Level 1	Value
Main Display Features Menu	Brightness	0 to 100
	Contrast	0 to 100
	Clock	0 to 100
	Phase	0 to 100
	H. Position	0 to 100
	V. Position	0 to 100
	Sharpness	1 to 5
Color Menu	6500K	- Preset NTSC value
	7500K	- Preset NTSC value
	9300K	- Preset NTSC value
	Red	RGB values from 0 to 100
	Green	RGB values from 0 to 100
	Blue	RGB values from 0 to 100
OSD Menu	OSD Time Out	0 to 60 sec
	OSD Position	1 to 5
	OSD Transparency	20, 40, 60, 80, 100
	Factory Reset	Select
	Auto Adjust	Select
	Auto Color	Select
	Gamma	Off, On
Exit Menu	Exit	Select

Table 6-1: OSD Menus

6.2 Using the OSD

OSD menu options are described below.

6.2.1 Main Display Features

Main display features are shown in **Figure 6-2**.

Figure 6-2: Main Display Features

Brightness	The brightness option adjusts the brightness of screen. This function adjusts the offset value of ADC. Setting this value too high or too low will affect the quality of image. When the auto- dimming function is turned on, the brightness control is not effective.
Contrast	This function adjusts the gain value of ADC. Adjusting this value too high or too low will worsen the quality of image.
Clock	Adjusts the width of the display screen.
Phase	Adjusts the input signal.
H. Position	Adjusts the horizontal position of the display screen.
V. Position	Adjusts the vertical position of the display screen
Sharpness	Adjust the sharpness of the display

6.2.2 Color

Color options are shown in **Figure 6-3**.

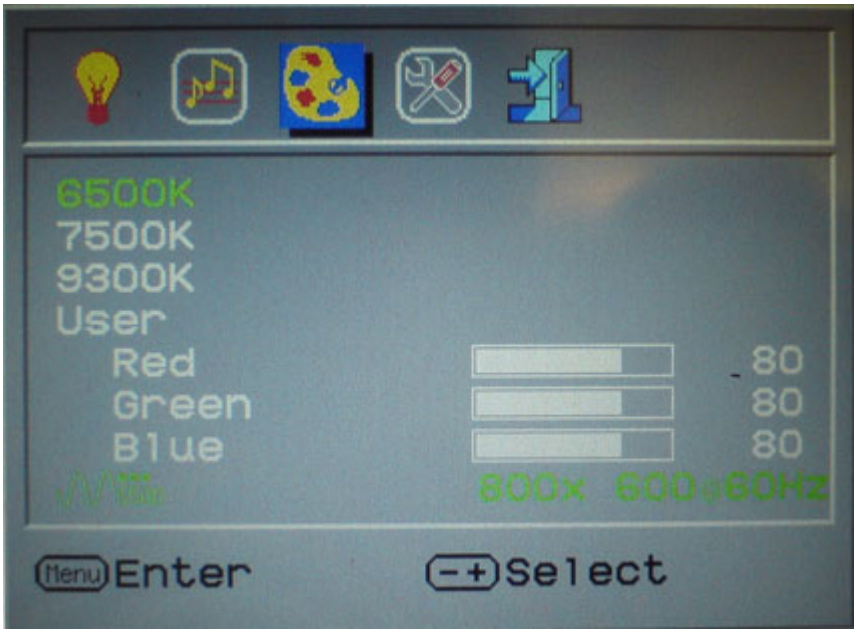


Figure 6-3: Color Options

The Color menu fine-tunes the palette of color hues for the LCD.

6500k	NTSC standard Kelvin
7500k	NTSC standard Kelvin
9300k	NTSC standard Kelvin
User	This item allows fine-tuning the balance among Red, Green, and Blue color hues if images look garish or unrealistic.

6.2.3 OSD Configurations

The OSD configurations are shown in **Figure 6-4**.

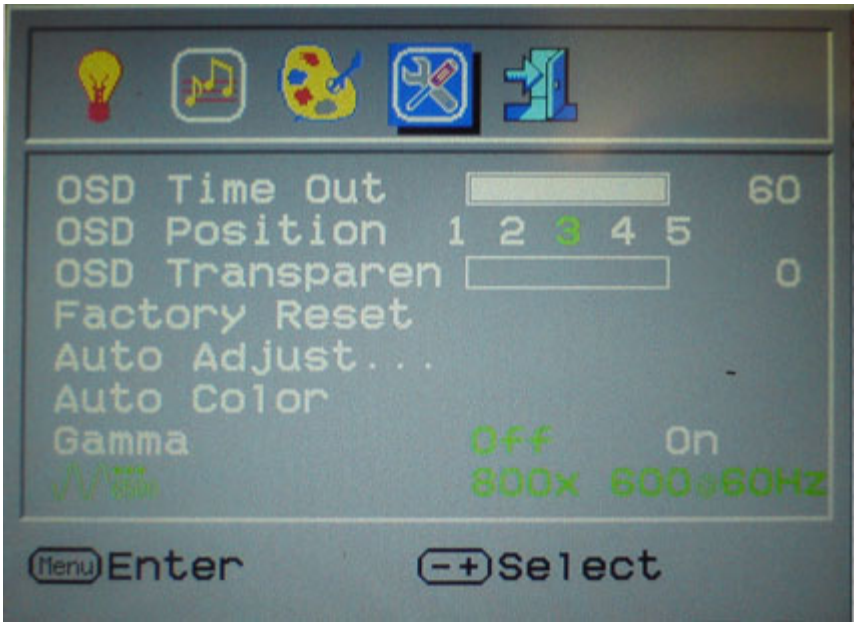


Figure 6-4: OSD Configurations Menu

OSD Configurations are described below.

OSD Time Out	Determines how many seconds the OSD screen stays on screen before it disappears when OSD is left unattended.
OSD Position	Adjusts the OSD position on the screen. Position 1 is in the upper left of the screen, position 2 in the upper right and position 3 in the center.
OSD Transparency	Adjust the transparency of the OSD menu background.
Factory Reset	Restores the default OSD settings. Note that this will restore all default display settings.
Auto Adjust	Automatically adjusts the position of the display screen
Auto Color	Automatically adjusts the color settings.

6.2.4 Auto-Dimming Configurations

The SRM industrial monitor features an auto-dimming LCD that can automatically adjust the backlight brightness according to the ambient light. If the auto-dimming function is turned on, the backlight turns brighter when the ambient illuminance is high. The backlight dims automatically when the ambient brightness level is low.

The SI unit of illuminance is “lux”. Lux measures the intensity of light. **Table 6-2** lists the illuminance (LUX measurement) of everyday light sources.

Light Source	Brightness (LUX)
Night without moonlight	<10
Night with moonlight	<100
Office desk lighting	500~1000
Overcast day	1000~2000
Sunny day	10,000
Direct sunlight	100,000

Table 6-2: LUX Measurement of Everyday Light Source

6.2.4.1 Default Settings

The auto-dimming default settings of the SRM industrial monitor are listed in the table below:

OSD	Default Settings	Description
Light Min	0	Minimum backlight value Unit in percentage (%)
Light Max	100	Maximum backlight value Unit in percentage (%)
LUX Min	0	Minimum ambient brightness **Unit in 100 lux**
LUX Max	52	Maximum ambient brightness Unit in 100 lux (52=5200 lux)

Table 6-3: Auto-Dimming Default Settings

The **Figure 6-5** shows the SRM-121 default linearity of the LCD backlight and ambient light. When the sensor detects the ambient illuminance as 5200 LUX or above, the SRM series industrial monitor adjusts the LCD brightness to 100%.

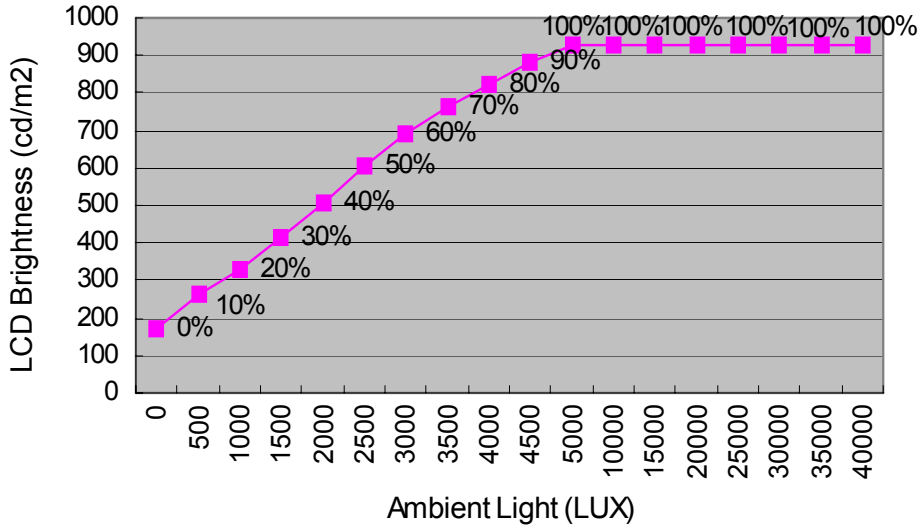


Figure 6-5: SRM-121 Default Linearity of the LCD Backlight and Ambient Light

6.2.4.2 Changing the Default Settings

The maximum and minimum LUX value and backlight brightness in the OSD panel can be adjusted to meet custom needs and lighting conditions.

NOTE:

When the auto dimming function is on, the "Brightness Control" in main display feature (refer to **Section 6.2.1**) is not effective. The user can only adjust the maximum and minimum value of the LUX and backlight to make the LCD brighter or darker.

Light Max. and Light Min.

To keep the LCD brightness within a specific range, not the 0~100% wide range, adjust the minimum and maximum value of the LCD backlight. For example, set the Light Min. to

30 and the Light Max. to 70. Then, the adjustable LCD brightness range is among 30% to 70%. By doing this, the LCD brightness does not become too bright or too dark if the ambient light reaches the default maximum or minimum value.

LUX Max. and LUX Min.

The SRM series is an ideal product for outdoor display. However, if the SRM series is installed in an environment with stable and low lux lighting, the LCD monitor cannot detect the default maximum lux (5200 lux) and make the LCD brightness reach to the maximum. To set the LCD brightness to the maximum value, the user can adjust the default maximum lux value.

For example, in a low lux office desk lighting environment, the default lux maximum value may be adjusted from 52 (5200 lux) to 4 (400 lux). Once the setting is changed, the monitor detects the ambient light and increases the LCD brightness to the maximum. In this case, the LCD brightness increases in a low lux environment by decreasing the maximum LUX value while keeping other settings in default.

Chapter

7

Software Drivers

7.1 Introduction

The touch panel controller enables analog resistive touch panels for four-wire, five-wire & eight-wire models. The controller directly communicates with the PC system through the touch panel communications interface. The controller design is superior in sensitivity, accuracy, and friendly operation. The touch panel driver emulates the left mouse button and the right mouse button functions.

The touch panel driver supports the following operating systems:

- Microsoft® Windows® versions:
  - Microsoft® Windows® 2000
  - Microsoft® Windows® XP
  - Microsoft® Windows® 2003
  - Microsoft® Windows® 2008
  - Microsoft® Windows® Vista
  - Microsoft® Windows® 7
- Microsoft® Windows® CE versions:
  - Microsoft® Windows® CE 4.2
  - Microsoft® Windows® CE 5.0
  - Microsoft® Windows® CE 6.0
- Linux Kernel 2.6
- DOS

Driver installation is described below.

7.2 RS-232 or USB Touch Screen

Before installing the driver, connect the SRM Series monitor to the motherboard. The SRM Series monitors support touch screen modality through an RS-232 or USB interface connection. Decide through which interface the touch screen is to be controlled.

- **RS-232 Interface:** If the touch screen interface connection is an RS-232 connection, connect the RS-232 connector on the single board computer to the DB-9 connector of the SRM Series monitor.

- **USB Interface:** If the touch screen interface connection is a USB connection, connect the USB connector on the single board computer to the external USB port connector of the SRM Series monitor.

7.3 Touch Panel Driver Installation

WARNING:

Before the touch screen driver is installed, make sure the system is connected to the monitor with a USB cable or an RS-232 null cable. Also, make sure the VGA connector on the system is connected to the VGA connector on the bottom of the monitor.

To install the touch panel driver for the SRM Series, please follow the instructions below:

Step 1: **Connect the SRM Series monitor to the single board computer**. See above.

Step 2: **Install the driver CD**. Install the driver CD into the system to which the SRM Series monitor is connected.

Step 3: Select the **Touch Screen** option in the menu of driver CD. The directory in **Figure 7-1** appears.

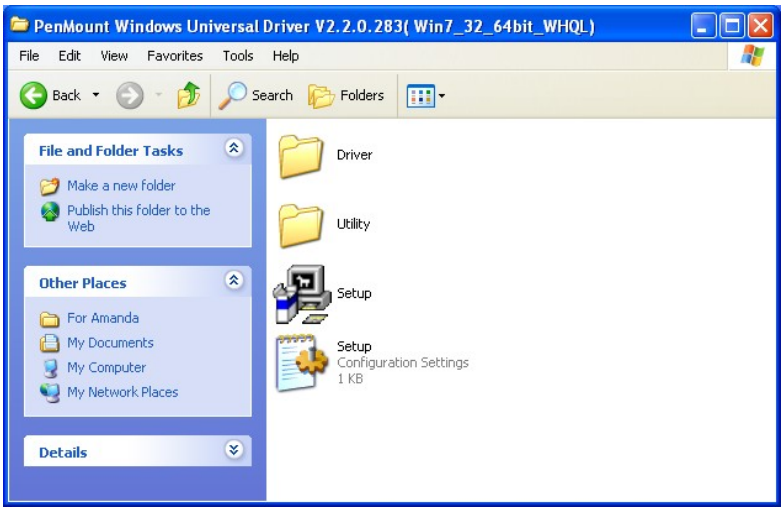


Figure 7-1: Setup Icon

Step 4: Double click the setup icon in **Figure 7-1**.

Step 5: The Welcome screen in **Figure 7-2** appears.

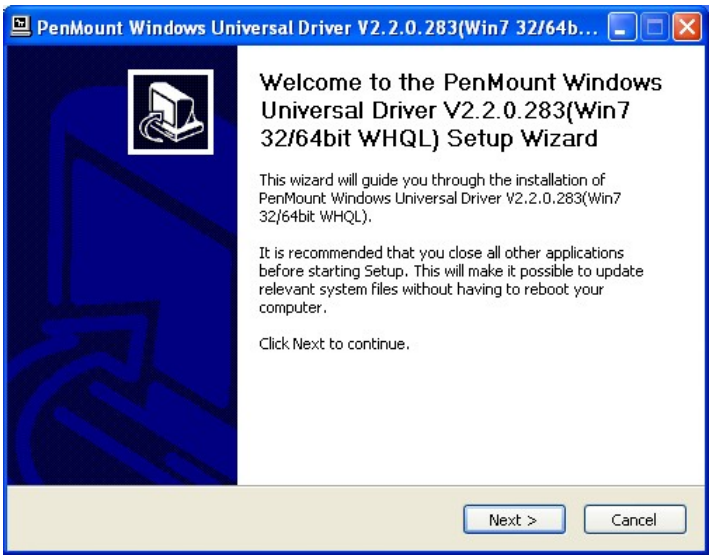


Figure 7-2: Welcome Screen

Step 6: Click **Next** to continue.

Step 7: The license agreement in **Figure 7-3** appears. Accept the terms of the agreement by clicking **I Agree**.

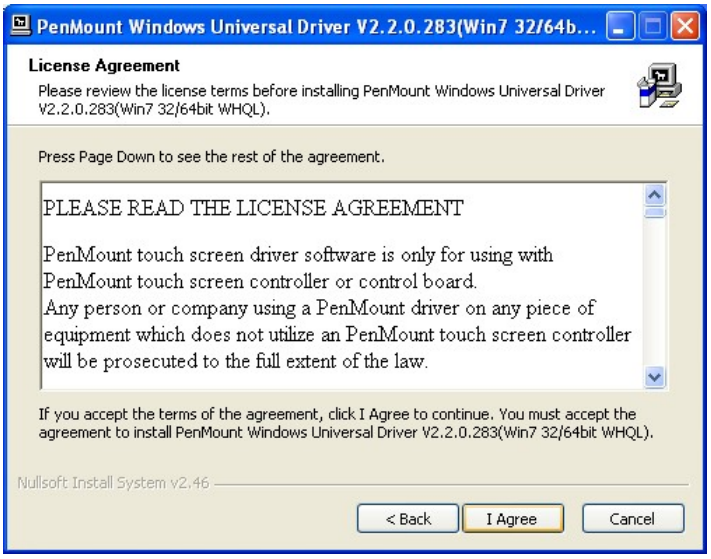


Figure 7-3: License Agreement

Step 8: The installation destination screen appears. See **Figure 7-4**. Click **Install**.

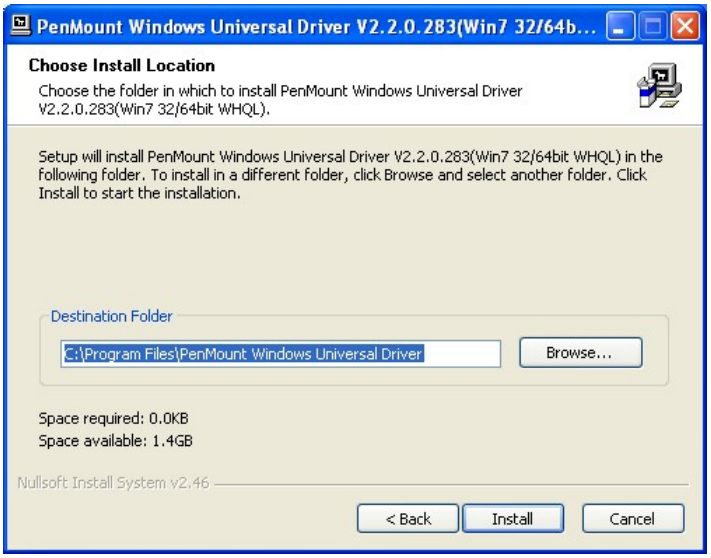


Figure 7-4: Initiate Install

Step 9: The installation of the program begins. See **Figure 7-5**.

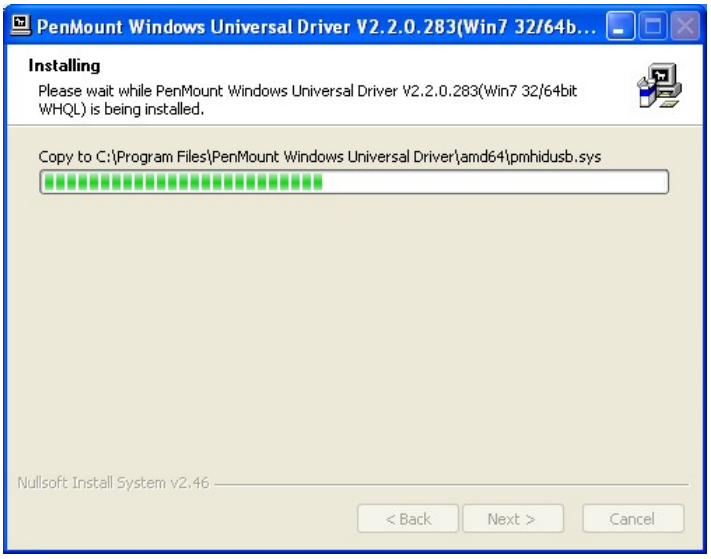


Figure 7-5: Installation Starts

Step 10: When the installation is complete, the complete screen appears. See **Figure 7-6**.

To complete the installation process click **Finish**.

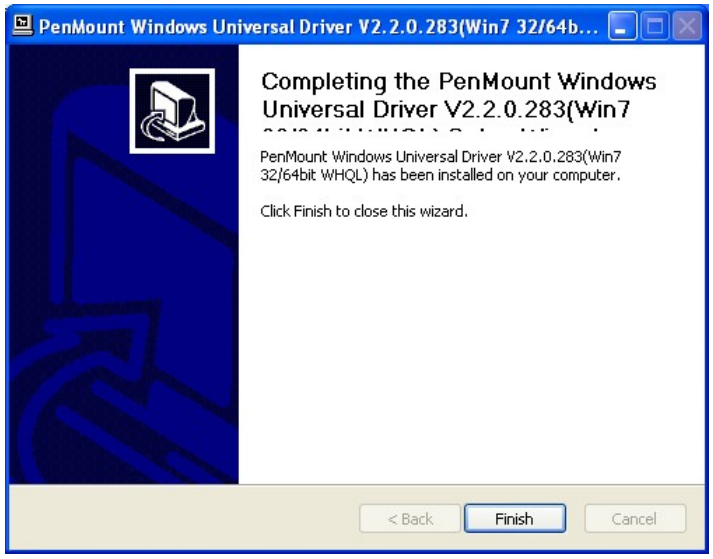


Figure 7-6: Finish Installation

7.4 Change the Touch Screen Interface

If the touch screen interface must be changed from an RS-232 interface to a USB interface or, from a USB interface to an RS-232 interface, the following steps must be followed.

Step 1: Uninstall the touch screen driver

Step 2: Remove the interface cable i.e. remove the RS-232 cable or the USB cable

Step 3: Install the new cable i.e. install the USB cable or the RS-232 cable.

Step 4: Reinstall the driver CD as described above.

7.5 Calibrating the Touch Screen

To calibrate the touch screen cursor with the motion of the touch screen pen (or finger), please follow the steps below:

Step 1: Make sure the system is properly connected through an RS-232 or a USB interface to the SRM Series monitor.

Step 2: Make sure the touch screen driver is properly installed.

Step 3: Locate the PenMount Monitor icon in the bottom left corner of the screen.

Figure 7-7: PenMount Monitor Icon

Step 4: Click the icon. A pop up menu appears. See **Figure 7-8**.

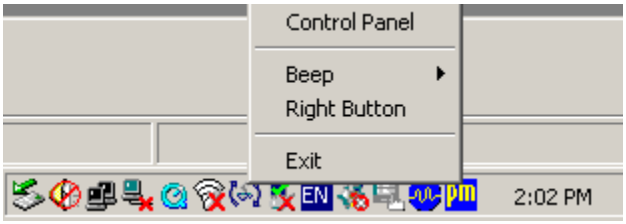


Figure 7-8: PenMount Monitor Popup Menu

Step 5: Click Control Panel in the pop up menu shown in **Figure 7-8.**

Step 6: The configuration screen in **Figure 7-9** appears.

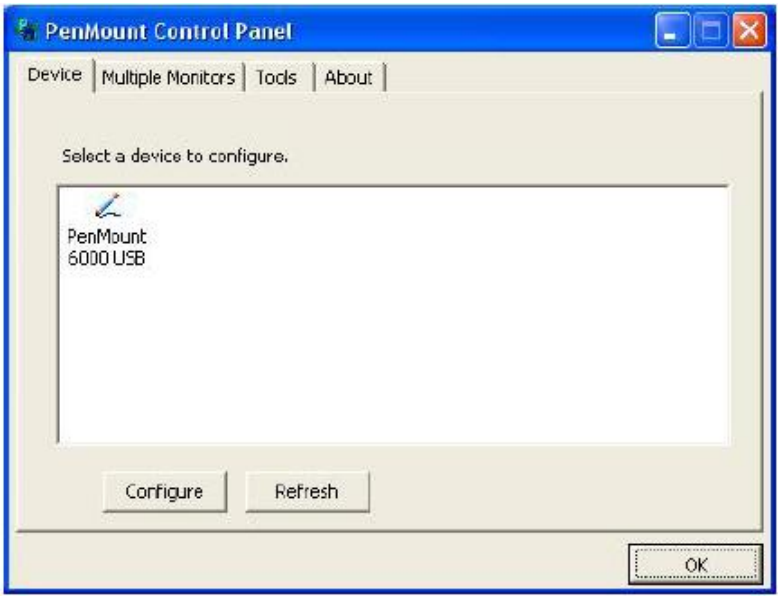


Figure 7-9: Configuration Screen

Step 7: Double click the PenMount 6000 icon as shown in **Figure 7-9**.

Step 8: The calibration initiation screen in **Figure 7-10** appears.

Step 9: Select the Standard Calibration button as shown in **Figure 7-10**.

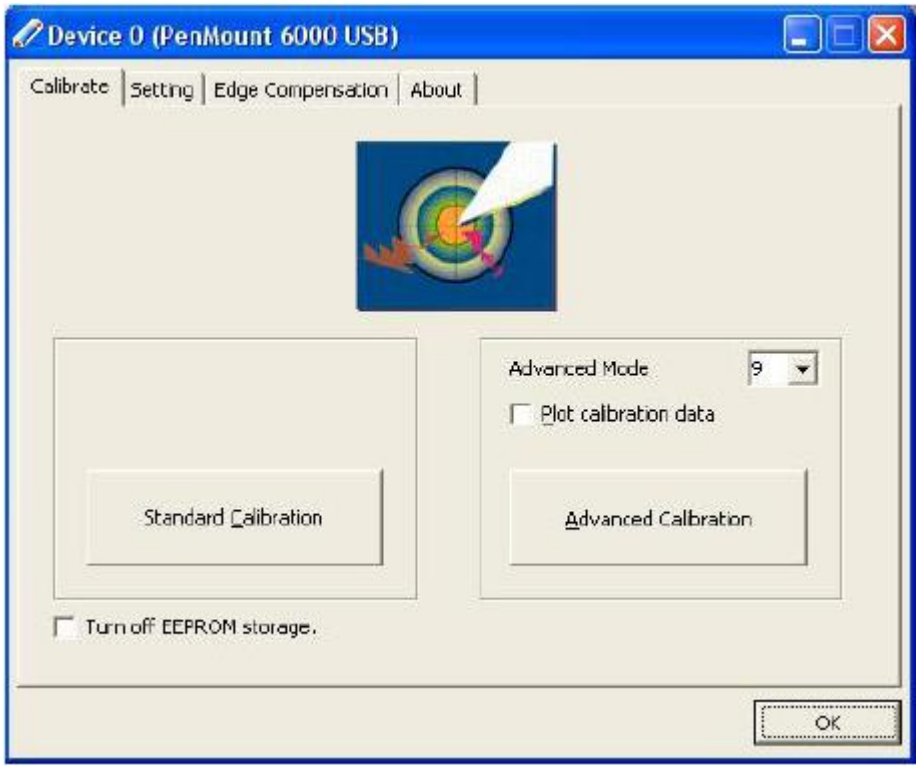


Figure 7-10: Calibration Initiation Screen

Step 10: The calibration screen in is shown. See **Figure 7-11**.

Figure 7-11: Calibration Screen

Step 11: Follow the instructions. The user is asked touch the screen at five specified points after which the screen is calibrated.

Chapter

8

Gasket Replacement

8.1 Gasket Replacement

A gasket used for a long time may gradually lose its ability to protect the monitor from fluids and vapors; scratches or dirt may also accumulate. It is recommended that the gasket be replaced yearly.

NOTE:

If the monitor is mounted vertically, first remove it and place it on a flat, level surface with the display screen facing down before changing the gasket.

Step 1: Remove the old gasket from the sides of the monitor.

Step 2: Attach the new gasket to the monitor. Make sure the gasket fits precisely into the groove along the edges of the monitor's front panel (**Figure 8-1**).

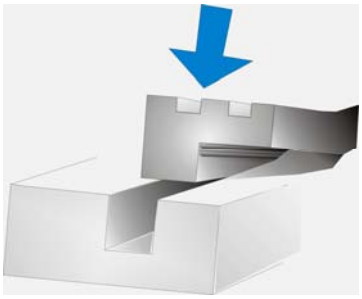


Figure 8-1: Gasket Replacement

NOTE:

Compliance with the IP 65 standard depends on correct installation of the gasket. Be sure to check that the gasket is properly installed after changing it.

Appendix

A

Safety Precautions

WARNING:

The precautions outlined in this chapter should be strictly followed. Failure to follow these precautions may result in permanent damage to the SRM Series.

A.1 Safety Precautions

Please follow the safety precautions outlined in the sections that follow:

A.1.1 General Safety Precautions

Please ensure the following safety precautions are adhered to at all times.

- ***Follow the electrostatic precautions*** outlined below whenever the SRM Series is opened.
- ***Make sure the power is turned off and the power cord is disconnected*** whenever the SRM Series is being installed, moved or modified.
- ***Do not apply voltage levels that exceed the specified voltage range***. Doing so may cause fire and/or an electrical shock.
- ***Electric shocks can occur*** if the SRM Series chassis is opened when the SRM Series is running.
- ***Do not drop or insert any objects*** into the ventilation openings of the SRM Series.
- ***If considerable amounts of dust, water, or fluids enter the SRM Series***, turn off the power supply immediately, unplug the power cord, and contact the SRM Series vendor.
- **DO NOT**:
  - Drop the SRM Series against a hard surface.
  - Strike or exert excessive force onto the LCD panel.
  - Touch any of the LCD panels with a sharp object
  - In a site where the ambient temperature exceeds the rated temperature

A.1.2 Anti-static Precautions

WARNING:

Failure to take ESD precautions during the installation of the SRM Series may result in permanent damage to the SRM Series and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the SRM Series. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the SRM Series is opened and any of the electrical components are handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband***: Wearing a simple anti-static wristband can help to prevent ESD from damaging any electrical component.
- ***Self-grounding***: Before handling any electrical component, touch any grounded conducting material. During the time the electrical component is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad***: When configuring or working with an electrical component, place it on an antic-static pad. This reduces the possibility of ESD damage.
- ***Only handle the edges of the electrical component***: When handling the electrical component, hold the electrical component by its edges.

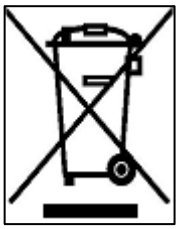
A.1.3 Product Disposal

CAUTION:

Risk of explosion if battery is replaced by and incorrect type. Only certified engineers should replace the on-board battery.

Dispose of used batteries according to instructions and local regulations.

- Outside the European Union - If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.
- Within the European Union:



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product. The mark on electrical and electronic products only applies to the current European Union Member States.

Please follow the national guidelines for electrical and electronic product disposal.

A.2 Maintenance and Cleaning Precautions

When maintaining or cleaning the SRM Series, please follow the guidelines below.

A.2.1 Maintenance and Cleaning

Prior to cleaning any part or component of the SRM Series, please read the details below.

- Except for the LCD panel, never spray or squirt liquids directly onto any other components. To clean the LCD panel, gently wipe it with a piece of soft dry cloth or a slightly moistened cloth.
- The interior of the SRM Series does not require cleaning. Keep fluids away from the SRM Series interior.
- Be cautious of all small removable components when vacuuming the SRM Series.
- Turn the SRM Series off before cleaning the SRM Series.
- Never drop any objects or liquids through the openings of the SRM Series.
- Be cautious of any possible allergic reactions to solvents or chemicals used when cleaning the SRM Series.
- Avoid eating, drinking and smoking within vicinity of the SRM Series.

A.2.2 Cleaning Tools

Some components in the SRM Series may only be cleaned using a product specifically designed for the purpose. In such case, the product will be explicitly mentioned in the cleaning tips. Below is a list of items to use when cleaning the SRM Series.

- ***Cloth*** – Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended when cleaning the SRM Series.
- ***Water or rubbing alcohol*** – A cloth moistened with water or rubbing alcohol can be used to clean the SRM Series.
- ***Using solvents*** – The use of solvents is not recommended when cleaning the SRM Series as they may damage the plastic parts.
- ***Vacuum cleaner*** – Using a vacuum specifically designed for computers is one of the best methods of cleaning the SRM Series. Dust and dirt can restrict the airflow in the SRM Series and cause its circuitry to corrode.
- ***Cotton swabs*** - Cotton swaps moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas.
- **Foam swabs** - Whenever possible, it is best to use lint free swabs such as foam swabs for cleaning.

Appendix

B

Certifications

B.1 RoHS Compliant

All models in the SRM LCD monitor series comply with the Restriction of Hazardous Materials (RoHS) Directive. This means that all components used to build the industrial workstations and the workstation itself are RoHS compliant.

The RoHS Directive bans the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.

B.2 IP 65 Compliant Front Panel

The front panels on all five models in the SRM series LCD monitor series have an ingress protection rating (IP) of 65, IP 65. The front panels are protected from dust particles and water spray.

Appendix

C

smartOSD

C.1 IEI smartOSD Quick Installation Guide

IEI smartOSD is a proprietary On-Screen-Display (OSD) software solution from IEI that enables easy, remote monitor setting adjustments in a Windows environment. IEI smartOSD delivers excellent performance and provides more flexibility than the typical OSD hardware solutions when adjusting a monitor. smartOSD also allows monitor settings such as brightness, contrast, screen position, size, color gain to be read and changed over normal video cable (VGA or DVI). The smartOSD function is only supported by revision 1.1 models and above.

C.2 Pre-installation Notice

Before installing smartOSD software, please make sure one of the following operating systems is installed:

- Windows 95
- Windows NT 4.0
- Windows 98
- Windows 2000
- Windows 2003
- Windows XP
- Windows Vista

C.3 smartOSD Install

Connect the SRM Series to a host computer. Insert the CD that came with the system and follow the instructions below.

Step 1: When the CD install the screen shown in **Figure C-1** appears.

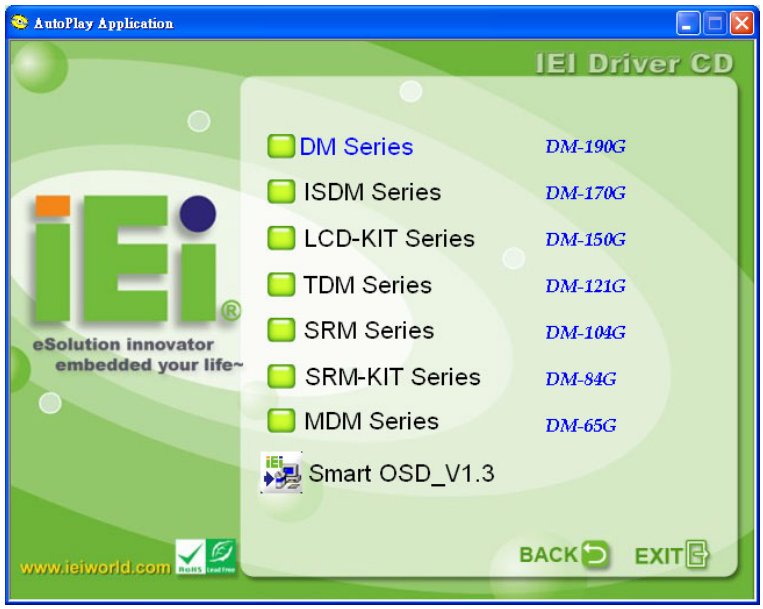


Figure C-1: smartOSD Installer

Step 2: Click “Smart OSD” in **Figure C-1**.

Step 3: The welcome screen shown in **Figure C-2** appears.

Figure C-2: smartOSD Welcome Screen

Step 4: Click **Next** to continue.

Step 5: The Folder Select screen in **Figure C-3** appears.

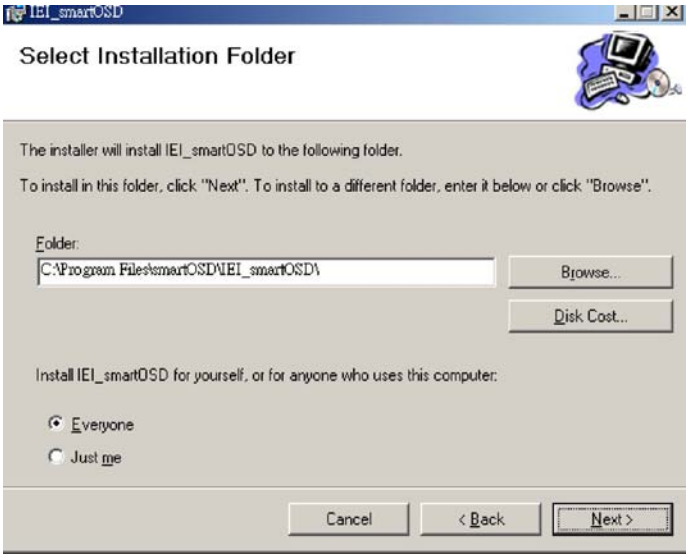


Figure C-3: smartOSD Folder Select Screen

Step 6: Select the installation folder in **Figure C-3** shown above.

Step 7: Click **Next** to continue.

Step 8: The screen in **Figure C-4** appears.

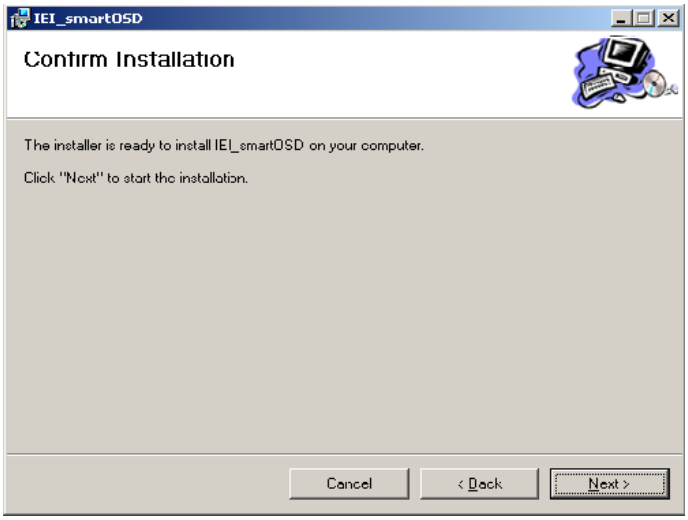


Figure C-4: smartOSD Confirm Installation

Step 9: Confirm the installation by clicking **Next** in the screen above.

Step 10: The program starts to install and the progress bar shown in **Figure C-5** appears.

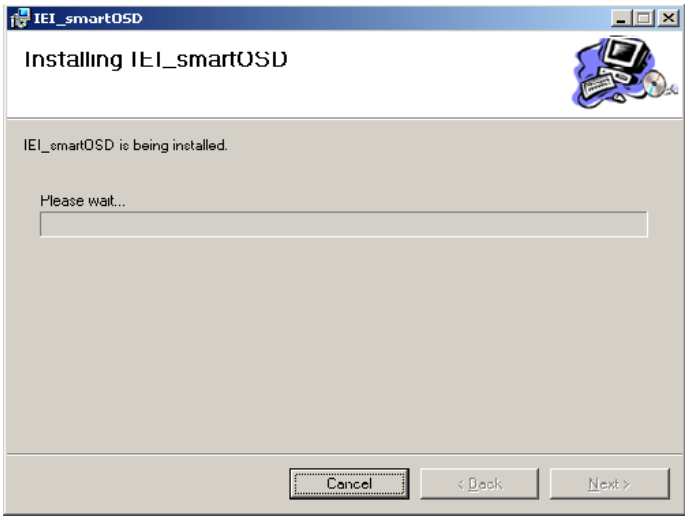


Figure C-5: smartOSD Installation Progress

Step 11: When the installation is complete the “Complete Installation” screen in **Figure C-6** appears.

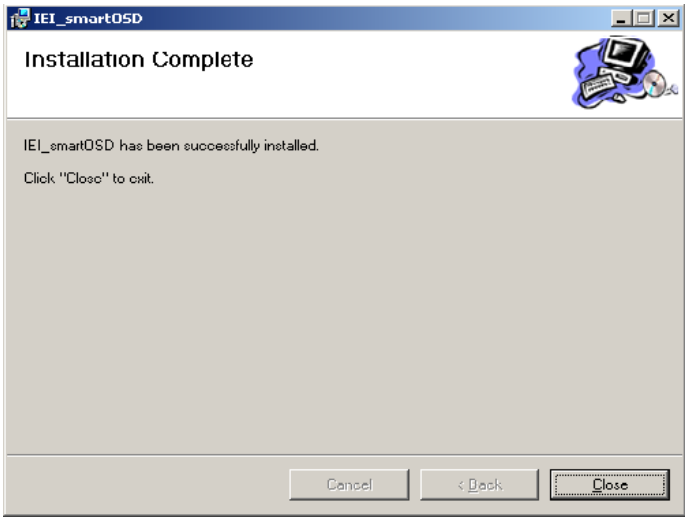


Figure C-6: smartOSD Installation Complete

Step 12: Click **Close** in the screen above.

Step 13: After quick setup is complete, the IEI smartOSD wizard logo appears on the desktop as shown in the screen below.

Step 14: To access the smartOSD, click the smartOSD wizard logo.

C.4 Software Illustration

The table below shows the smartOSD menu structure for all IEI LCD monitors.

NOTE:

To update the display setting status immediately, push the refresh button on every page

To turn the system on, press ALT + P.

Item	Elements
Management	Save/Load File
	Power Management
EDID	EDID contains basic information about the monitor and its capabilities.
Image	Brightness
	Contrast
	Sharpness

Display	Auto Adjust
	Phase
	Clock
Color	Auto Color
	User Red Gain
	User Green Gain
	User Blue Gain
	Color Temperature (5000k and 4200k disabled in the SRM Series)
	Gamma
PIP	PIP (disabled in the SRM Series)
	PIP Source Input (disabled in the SRM Series)
	PIP Size (disabled in the SRM Series)
System	Monitor Power Control
	Auto Brightness (disabled in the SRM Series)
	Main Source Input (S-Video and CVBS disabled)
	Volume (disabled in the SRM Series)
	Factory Presets/OSD Lock/OSD Unlock
	Mute (disabled in the SRM Series)

Table C-1: SmartOSD Menu Structure

C.4.1 Manage Page

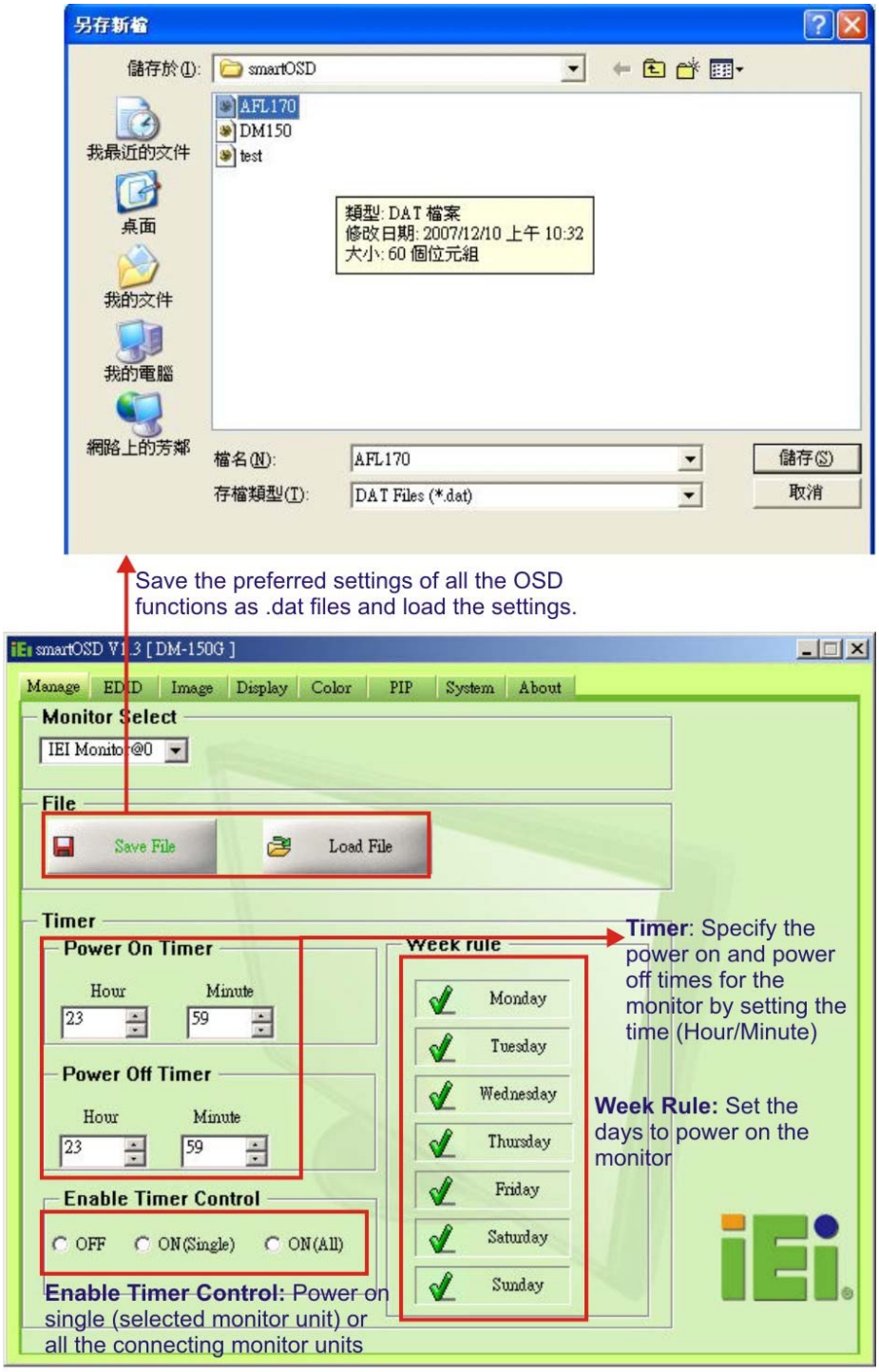
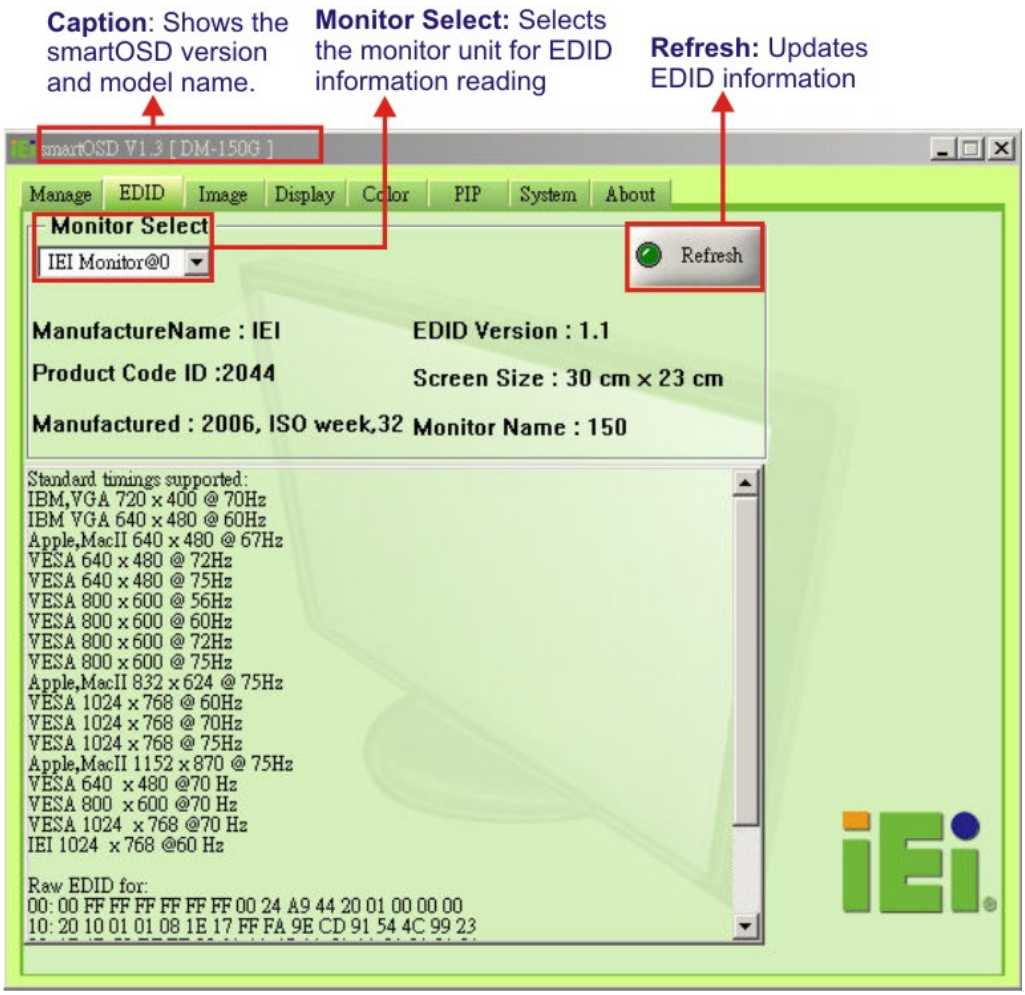
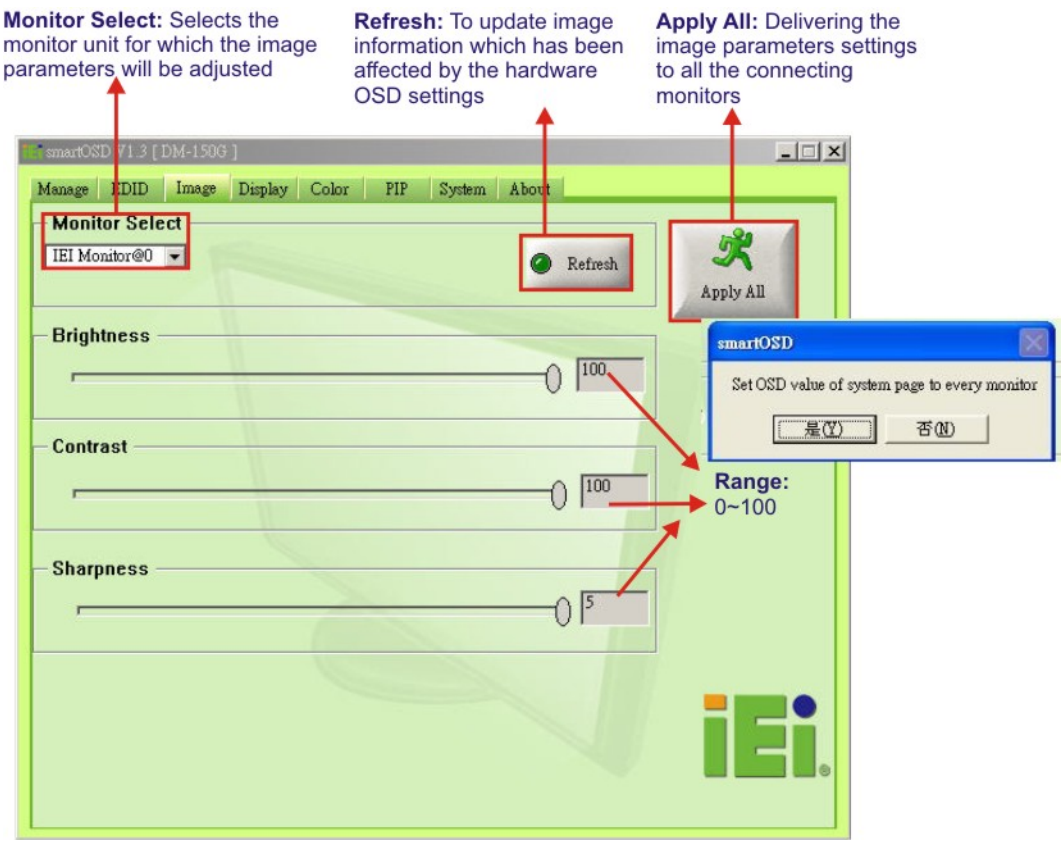


Figure C-7: Manage Page

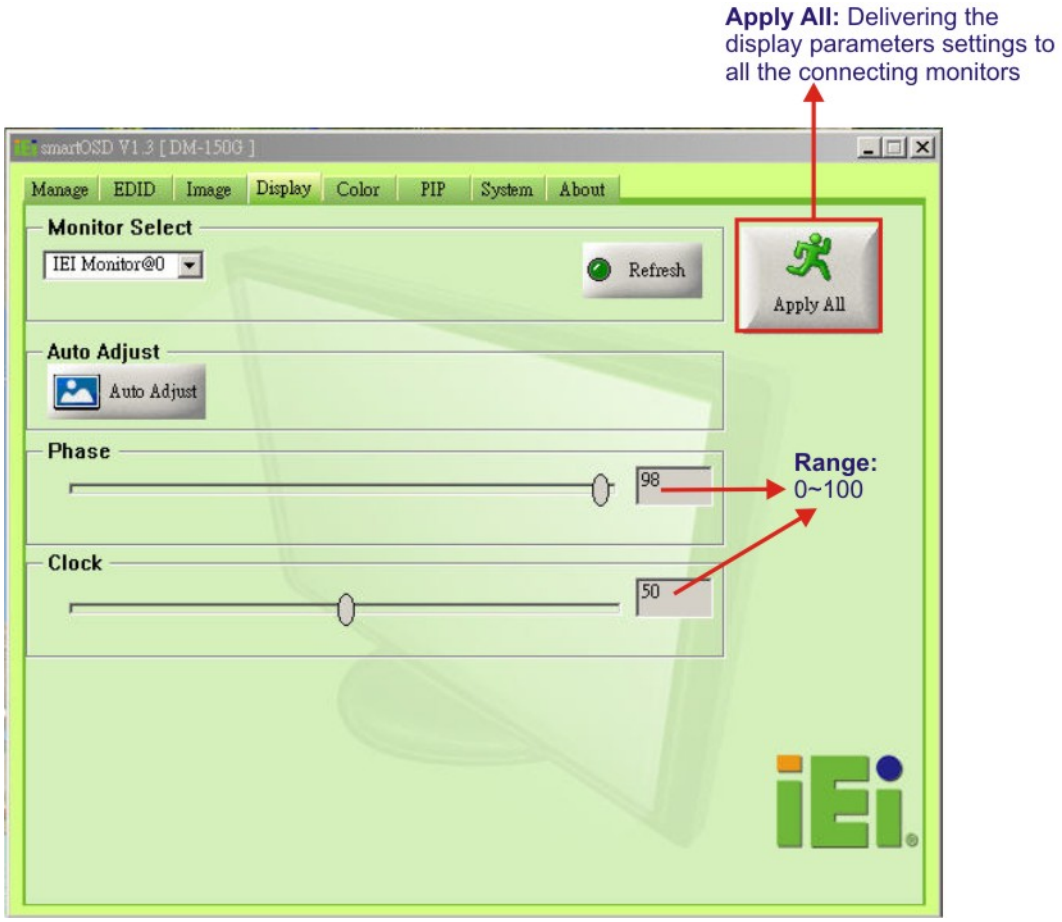
C.4.2 EDID Page



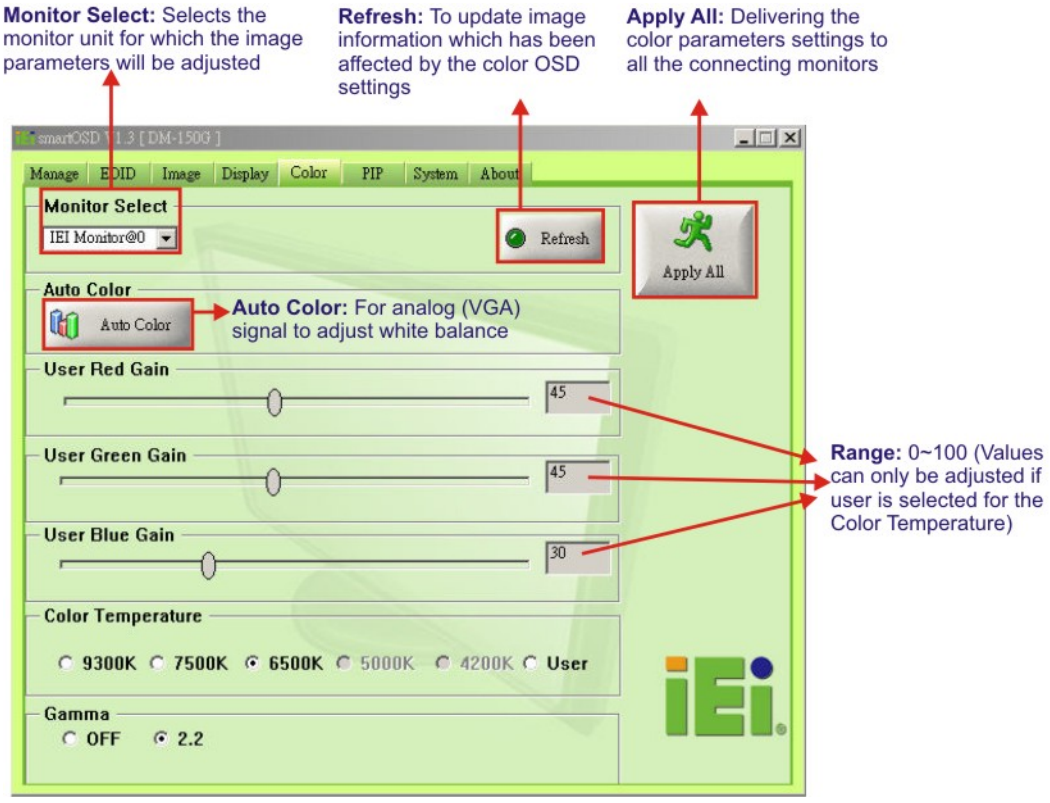
C.4.3 Image Page



C.4.4 Display Page (for analog signal)



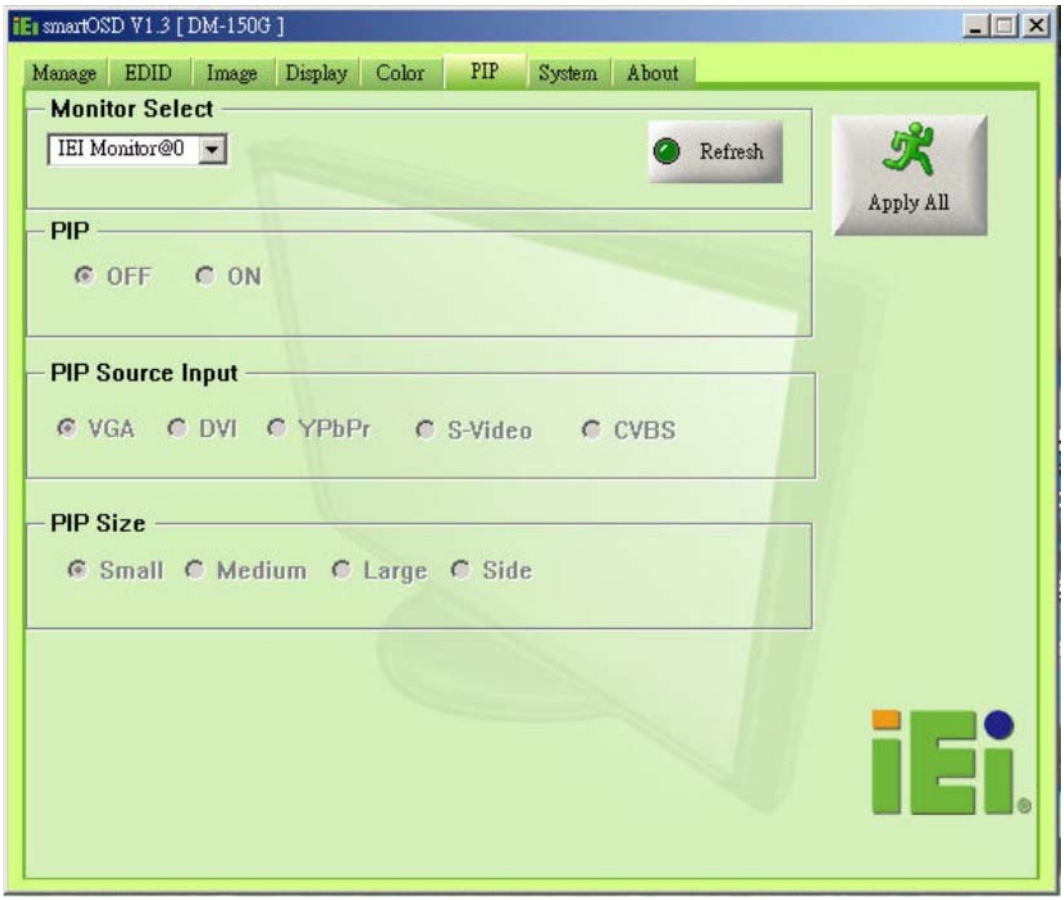
C.4.5 Color Page



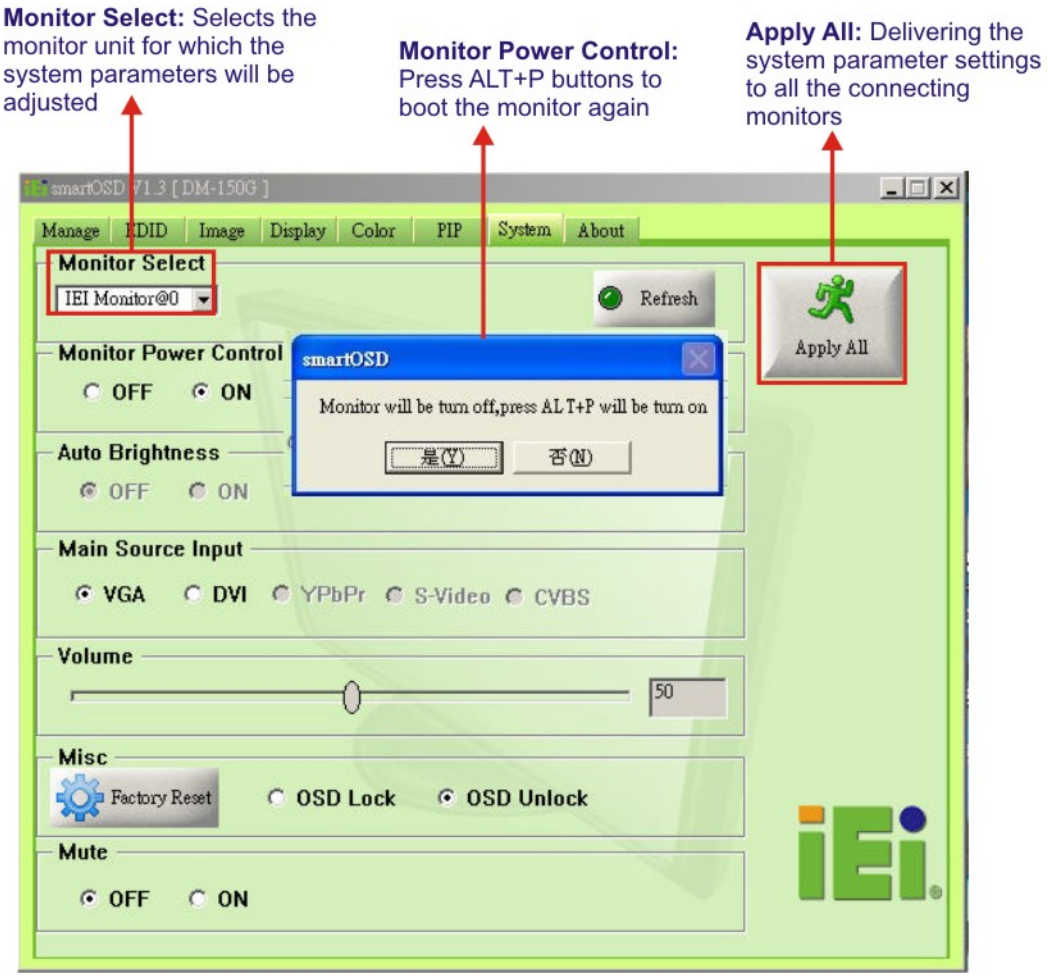
C.4.6 PIP Page

NOTE:

The functions in the PIP page are only available in the MDM Series and AFOLUX Series monitors.



C.4.7 System Page



NOTE:

Some of the functions in the System Page are only available to some of the IEI LCD series as following:

- **Auto Brightness**: SRM, MDM and AFOLUX series only
- **Main Source Input**: MDM and AFOLUX series only
- **Volume:** AFOLUX series only
- **Mute:** AFOLUX series only

C.4.8 About Page

C.5 smartOSD FAQ

For troubleshooting, please see the steps below:

C.5.1 Windows 2000 Installation Failure

Installation fails under Windows 2000 and shows the following image:

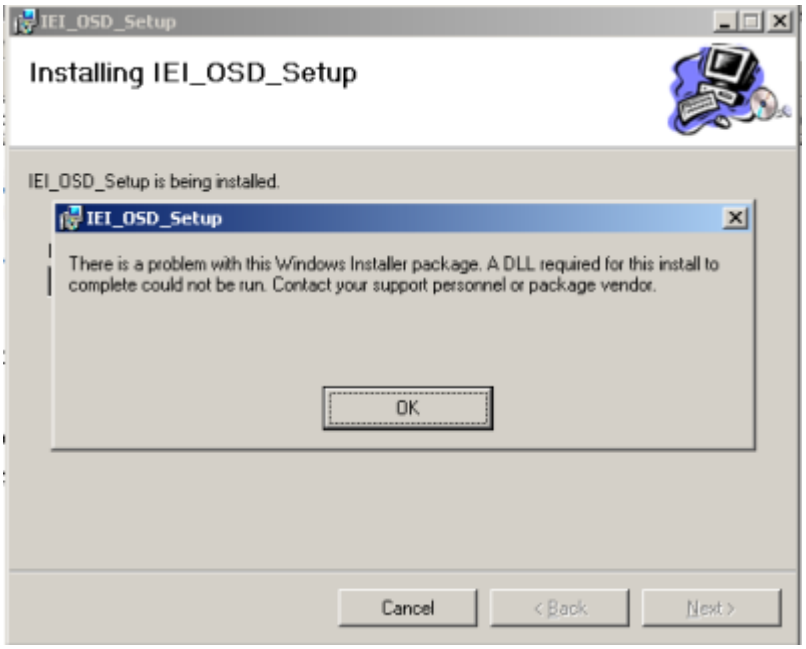


Figure C-8: DLL Missing

Solution: Download and install service pack Windows Installer 3.1

C.5.2 Vista Installation Failure

Installation fail under Vista while showing following image:

Figure C-9: Windows Vista Error

Solution: Install SmartOSD.exe as the administrator authority

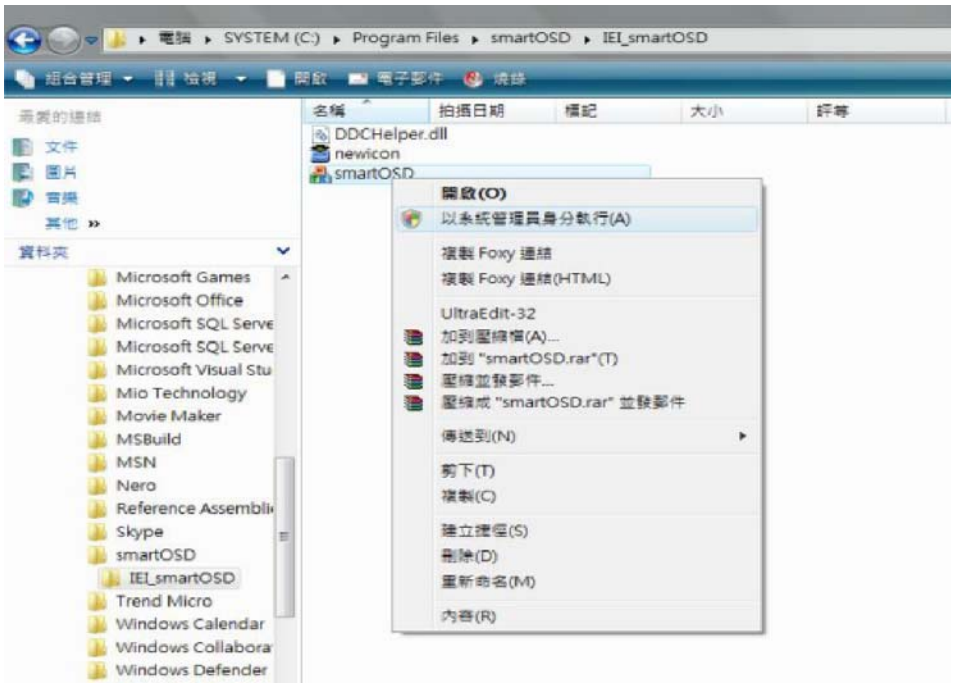


Figure C-10: Install as Administrator

C.5.3 Model Failure

The Model Fail error message shown below appears.

Figure C-11: Firmware Incompatibility

Solution: SmartOSD only supports firmware version 2.0 and following versions.

C.5.4 DCC Port Failure

The DDC port fail error message shown below appears.

Figure C-12: DCC Port Failure

Solutions:

- Check VGA or DVI cable
- Check an IEI monitor is being used
- Make sure the version is version 2.3 for the AFOLUX/MDM series and version 1.5 for the DM/ISDM/TDM/SRM/LCD-KIT series that have the SmartOSD functions
- Check if the OSD control status is busy. A busy signal may cause the signal message for a short time.