

USER'S MANUAL

P710

10.4" XGA TFT Railway Monitor

User's Manual



www.axiomtek.com

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Safety Precautions

Before getting started, read the following important cautions.

1. Be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.
2. Disconnect the power cords from the P710 Series before making any installation. Be sure both the system and the external devices are turned OFF. Sudden surge of power could ruin sensitive components. Make sure the P710 Series is properly grounded.
3. Do not open the system's top cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:
 - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.
 - When handling boards and components, wear a wrist-grounding strap, available from most electronic component stores.

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Chapter 1

Introduction

This chapter contains general information and detailed specifications of the P710. Chapter 1 includes the following sections:



- **General Description**
- **Features**
- **Specifications**
- **Dimensions and Outlines**
- **I/O Outlets**
- **Package List**

1.1 General Description

The P710 is an industrial and rail grade 10.4" LCD monitor with slim, lightweight, and reliable design to replace traditional bulky CRT in the transportation market. Its unique and flat design fit for panel mounting and VESA mounting. The display interface offers DVI-D, HDMI and VGA for different image input sources from computer or multimedia system. That allows you to upgrade the display without changing your current configuration. The rugged LCD monitor is a perfect fit for train and other mobile vehicles.

This LCD monitor builds in color active matrix thin-film-transistor (TFT) liquid crystal display to provide superior display performance. A maximum resolution of 1024x768 is ideal for displaying complex graphics and high-definition images. Other outstanding designs to enhance the LCD monitor user experience include Plug & Play compatibility, OSD (On Screen Display) control pad and remote control. The remote control allows you to make setting adjustments via a computer from a distance.

1.2 Features

- High contrast 10.4" XGA TFT LCD display supports resolution up to 1024x768
- Auto-dimming for changing environmental conditions adaption
- Flat design with front frame IP65-compliant
- Reliable resistive touch
- High brightness and ultra-wide viewing angle with anti-glare feature.
- VESA standard power management conformity
- Advanced OSD control for picture quality adjustment
- Remote OSD function control and management (refer to Appendix C)

1.3 Specifications

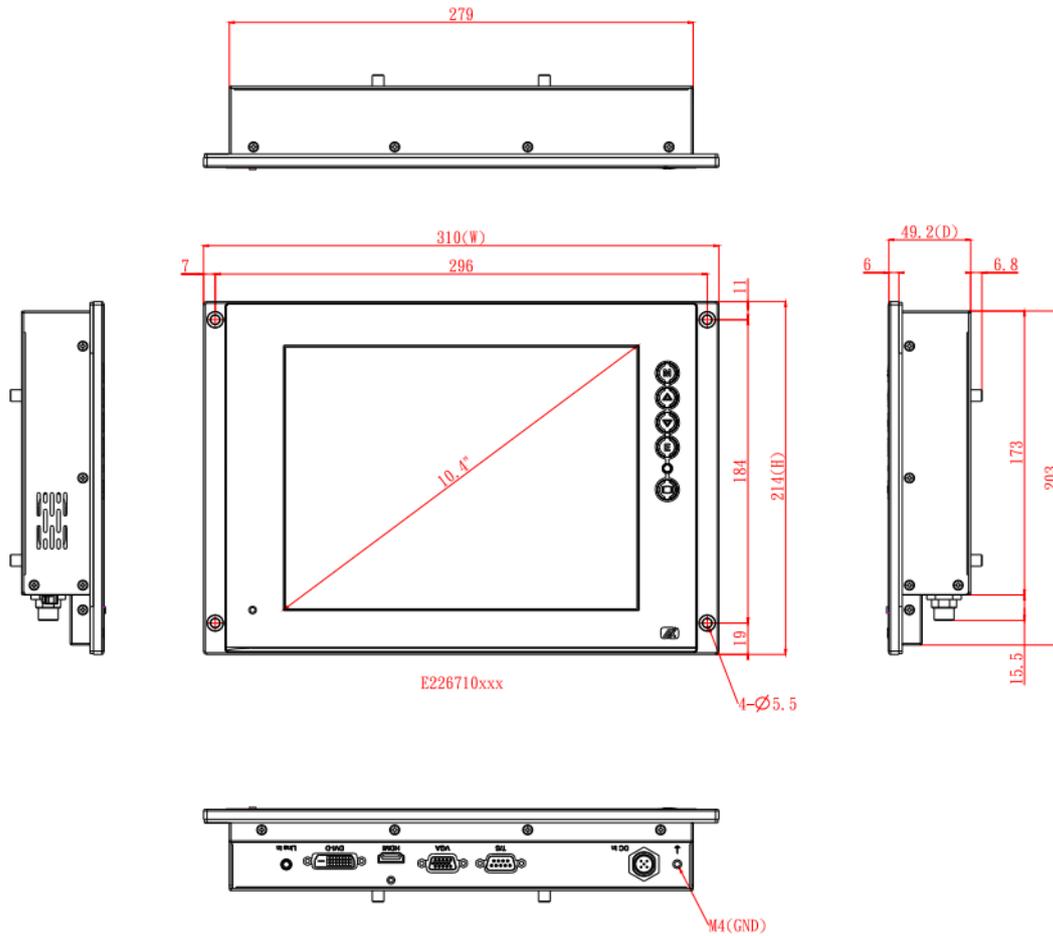
- 10.4" XGA (1024x768) LCD with LED backlight
- Resistive touch
- Front bezel IP65-compliant
- Control: OSD (On Screen Display) control pad
- Mounting: Panel mounting and VESA mounting
- Net Weight
 - P710: 1.85 KGS
- Dimension (Main Body)
 - P710: 310(W)*214(H)*49.2(D) mm
- Operation Temperature
 - -25°C to 55°C
- Relative Humidity
 - 20% to 90% @ 40°C, non-condensing
- Power input
 - M12 A-coded Male 5 pin 24~110VDC power input
- Audio
 - 3W speaker x 1
 - Line-in for VGA / DVI-D



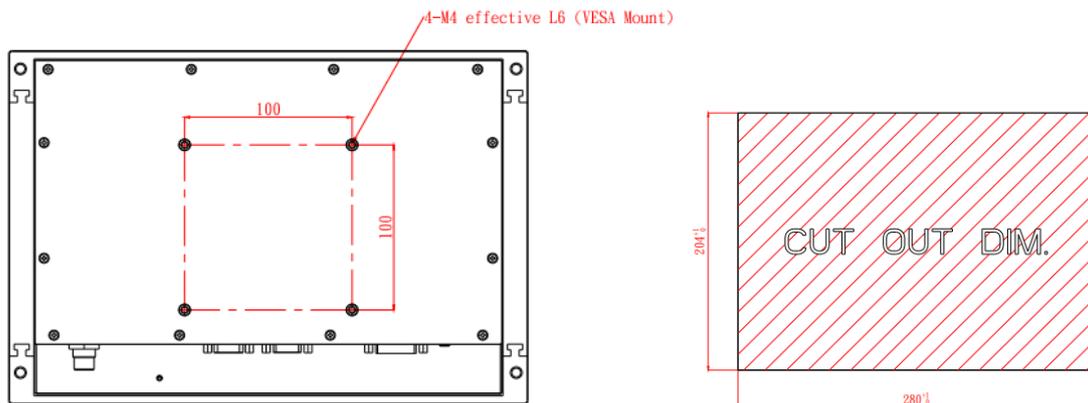
NOTE: All specifications and images are subject to change without notice.

1.4 Dimensions and Outlines

The following diagrams show the dimensions and outlines of P710

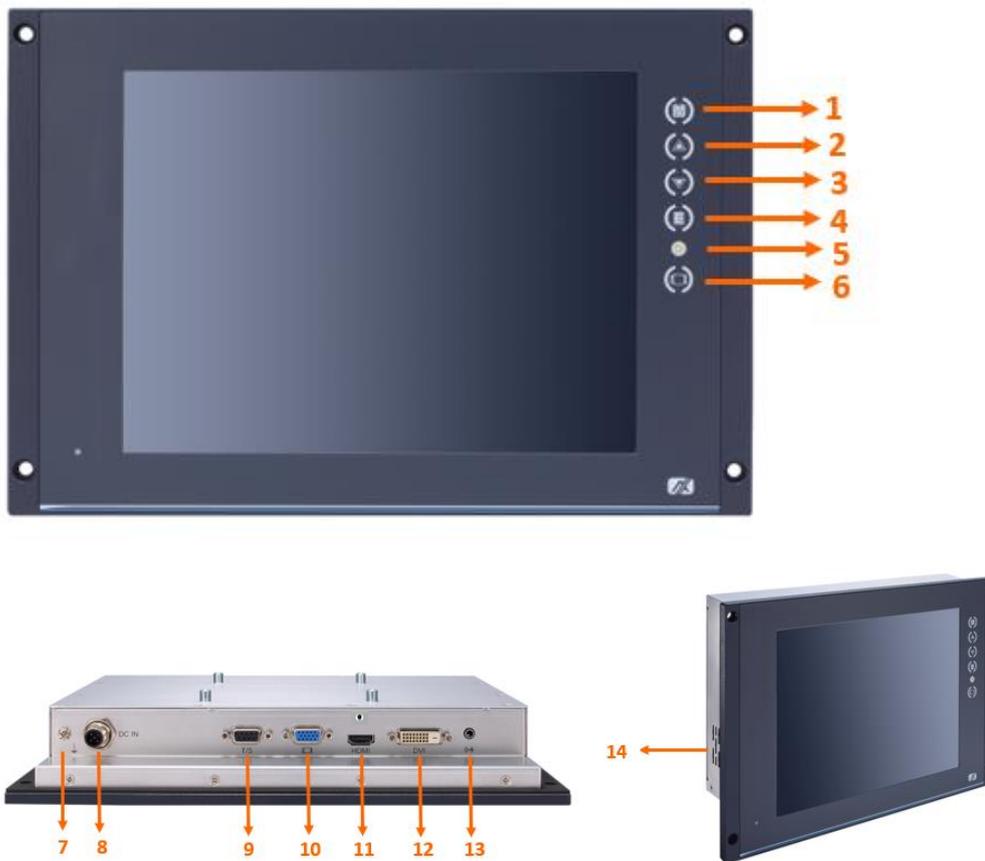


The following diagram shows the VESA mounting and cut-out dimension of P710



1.5 I/O Outlets

The following pictures show the I/O outlets on the P710.



No	Function	No	Function
1	Menu (Enter function)	8	M12 A-coded Male 5 pin DC power input
2	SEL+	9	Multi-function of T/S & remote control
3	SEL-	10	VGA
4	Exit	11	HDMI
5	Power LED	12	DVI-D
6	Power Switch	13	Line-in
7	M4 ground screw hole	14.	Speaker

1.6 Packing List

When you receive the P710, the bundled package should contain the following items:

- **P710 unit x 1**
- **RS-232 cable x1 (for resistive touch)**
- **HDMI bracket x1**
- **Cable tie x1**
- **Cable clamp x1**
- **Screw M3*5L x2**

If you cannot find the package or any items are missing, please contact Axiomtek distributors immediately.

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Chapter 2

System Setup

This chapter details the system parts and components with figures. Sections include:

- **System Configuration**
- **Panel Mounting**
- **VESA Mounting**
- **I/O Pin Assignment**
 - **M12 A-coded Male 5 pin DC power input**
 - **Multi-function of T/S and remote control**
- **HDMI bracket & cable clamp installation**
- **Y cable for T/S and remote control**

2.1 System Configuration

The figure shows the OSD on the side of the monitor.



1. **Menu:**
 - a. Press to turn on/off the OSD main menu.
 - b. Press to execute selected items.
2. **SEL+:**
 - a. Press to scroll up the menu.
 - b. Press to increase the level of the selected item.
 - c. When the menu is not displayed on the screen, press for brightness setting.
3. **SEL-:**
 - a. Press to scroll down the menu.
 - b. Press to decrease the level of the selected item.
 - c. When the menu is not displayed on the screen, press for volume setting.
4. **Exit: menu exit / input switch**
 - a. When the menu is displayed on the screen, short press to exit.
 - b. When the menu is not displayed on the screen, press for Auto Adjust (VGA only).
5. **Status LED:**
 - a. The light turns green when the power is on.
 - b. The green light will be flashing when the monitor goes into standby mode.
6. **Power switch:**

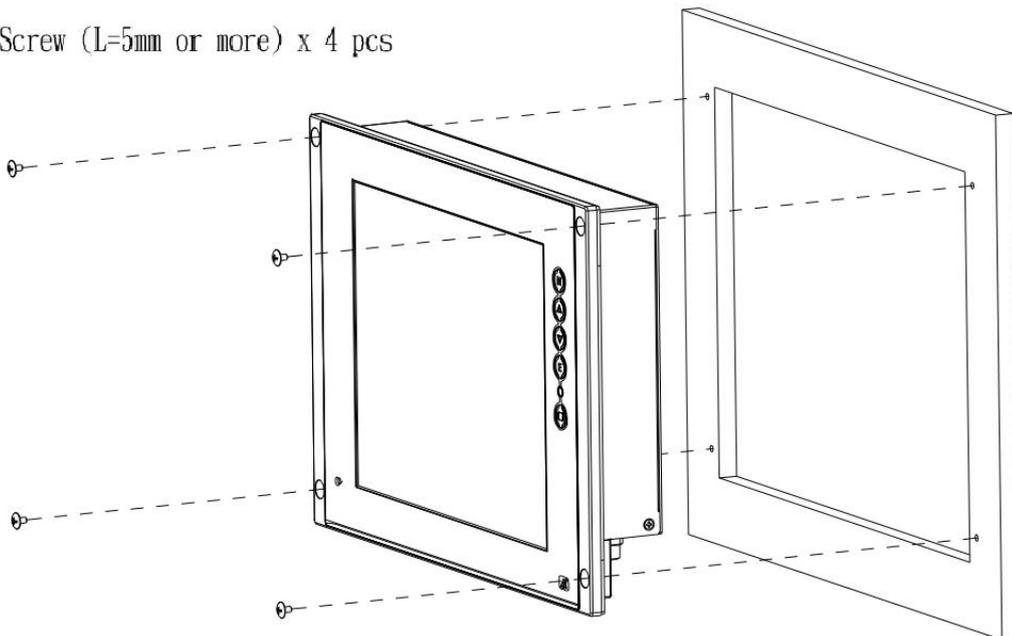
Press to turn on/off the monitor.

2.2 Panel Mounting

The P710 supports panel mounting. To mount the P710, the standard holes are on the front side of the P710.

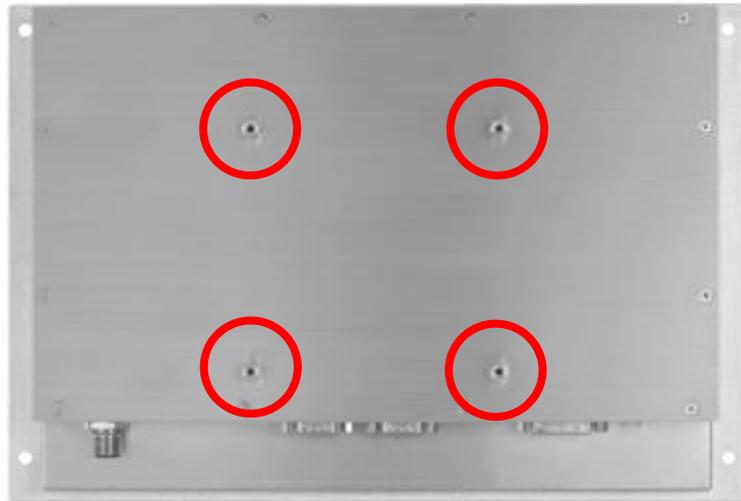


M4 Screw (L=5mm or more) x 4 pcs

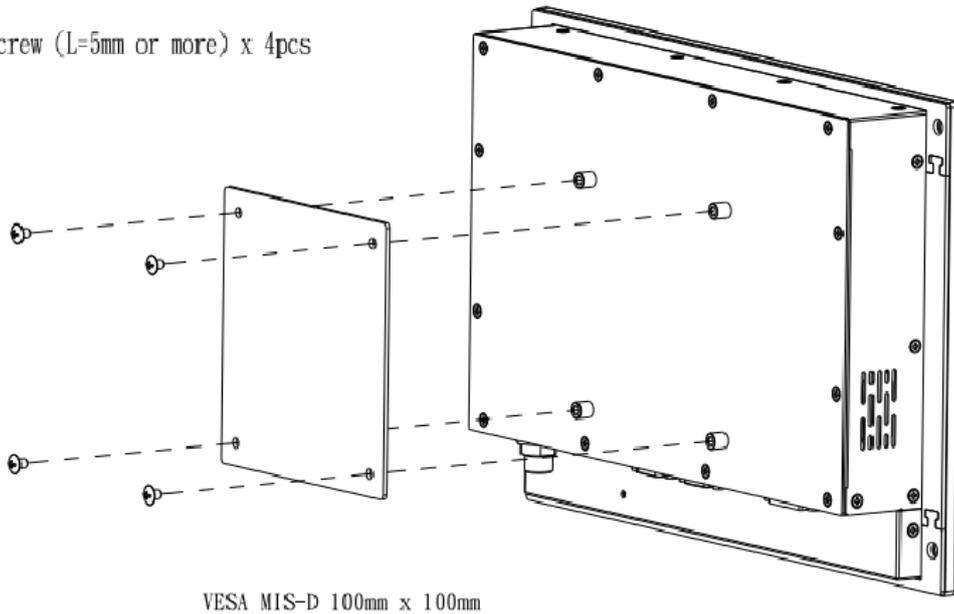


2.3 VESA Mounting

The P710 is VESA compliant. Tighten the four screws firmly to fix the kit on the back chassis.



M4 Screw (L=5mm or more) x 4pcs



2.4 I/O Pin Assignment

The P710 supports M12 A-coded Male 5 pin DC power input connector, multi-function of T/S & remote control, VGA, HDMI, DVI-D, and Line-in. The diagrams below show the detailed pin assignment.

2.4.1 DC power connector

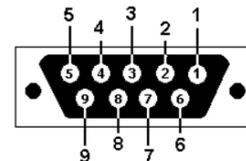
M12 A-coded Male 5 pin power input : 24~110Vdc

Pin	Signal
1.	Power input
2.	Power input
3.	GND
4.	GND
5.	Earth ground



2.4.2 Multi-function of T/S and remote control

Pin	Define	Pin	Define
1	Remote RXD	6	Touch DTR
2	Touch TXD	7	Touch RTS
3	Touch RXD	8	Remote TXD
4	Touch DSR	9	N.C.
5	Ground		



2.5 HDMI bracket & Cable clamp installation

2.5.1 HDMI bracket installation

Step 1 Align the hole on the bracket with the hole on the chassis, insert the M3 screw and fasten the screw tightly to the bracket, as the pictures shown below.

Step 2 Connect the HDMI cable to the port, insert the cable tie through the loop of the cable fixing plate to bind the HDMI connector with the bracket, as the picture shown below.



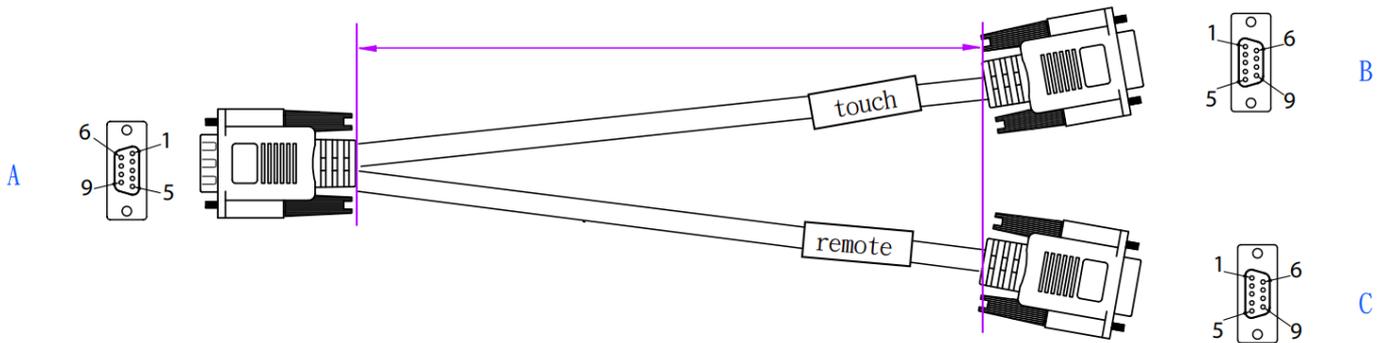
2.5.2 Cable clamp installation

Step 1 Align the hole on the clamp with the hole on the chassis, insert the screw into the hole, then tighten the screw to fix the HDMI cable, as the picture shown below.



2.6 Y cable for T/S and remote control (optional)

Y cable for resistive touch and remote control is optional, also available for self-made by referring to the following correspondence:



Wiring Table

Connector	A	B	C
Type	DB9-male	DB9-female	DB9-female
System	P710	PC-Touch	PC-Remote
Pin	1	N.C.	3 (Remote RXD)
	2	2 (Touch TXD)	N.C.
	3	3 (Touch RXD)	N.C.
	4	4 (Touch DSR)	N.C.
	5	5 (Ground)	5 (Ground)
	6	6 (Touch DTR)	N.C.
	7	7 (Touch RTS)	N.C.
	8	N.C.	2 (Remote TXD)
	9	N.C.	N.C.

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Appendix A

Supported Input Timing Modes

VGA		HDMI		DVI-D	
Resolution	Refresh rate	Resolution	Refresh rate	Resolution	Refresh rate
640 x 480	60 Hz	640 x 480	60 Hz	640 x 480	60 Hz
640 x 480	72 Hz	640 x 480	72 Hz	640 x 480	72 Hz
640 x 480	75 Hz	640 x 480	75 Hz	640 x 480	75 Hz
720 x 400	70 Hz	720 x 400	70 Hz	720 x 400	70 Hz
800 x600	56 Hz	800 x600	56 Hz	800 x600	56 Hz
800 x600	60 Hz	800 x600	60 Hz	800 x600	60 Hz
800 x600	72 Hz	800 x600	72 Hz	800 x600	72 Hz
800 x600	75 Hz	800 x600	75 Hz	800 x600	75 Hz
1024 x 768	60 Hz	1024 x 768	60 Hz	1024 x 768	60 Hz
1024 x 768	70 Hz	1024 x 768	70 Hz	1024 x 768	70 Hz
1024 x 768	75 Hz	1024 x 768	75 Hz	1024 x 768	75 Hz



NOTE: Timing depends on LCD Panel's requirement.

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Appendix B

OSD Operation

Function Description of OSD Menu

※The layout and format of OSD are constructed as below:

Level 0	Level 1	Level 2	Value
Picture	Brightness		0-100
	Contrast		0-100
	Sharpness		1-4
	Ambient Sense	Off/Indoor/Outdoor	Off (default)
Display	Auto Adjust		
	H Position		0-100
	V Position		0-100
	Clock		0-100
	Phase		0-100
	Rotate	0°/180°	0° (default)
Color	Gamma	Off/1.8/2.2/2.2/2.4	Off (default)
	Temperature	5800/6500/7500/9300/User	6500 (default)
	Color Effect	Standard/Game/Move/ Photo/Vivid/User	Standard (default)
	Hue		0-100
	Saturation		0-100
Advance	Aspect Ratio	Full/16:9/4:3/5:4/1:1	Full (default)
	Over Scan	Off/On	Off (default)
	DDCI/CI	Off/On	Off (default)
	Touch on/off	Off/On	Off (default)
Input	Auto select		
	VGA		
	HDMI		
	DVI		
Audio	Volume		0-100
	Mute	Off/On	Off (default)

Other	Reset		
	Menu Time		10-60 (seconds)
	OSD H Position		0-100
	OSD V Position		0-100
	Language	English Spanish France German Italy Portugal Russia Chinese	English (default)
	Transparency		0-255
	OSD Rotate	0°/90°/180°/270°	0° (default)
	Power On Status	On/Off/User	On (default)
	Information	Input Source	
Resolution			
Timing Clock			
FW Version			

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Appendix C

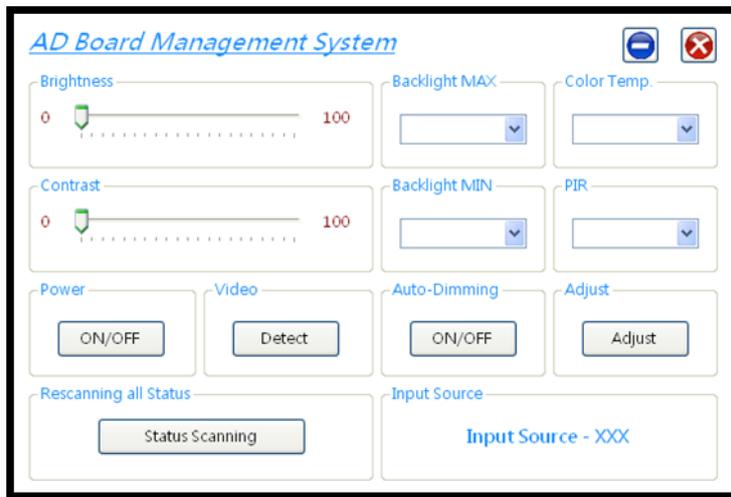
Remote Control Utility

File:

1. ADS_Client.exe: main application
2. ADS_RS-232_x32.dll / ADS_RS-232_x64.dll: library for application reference, have to copy to System Disk(C:)\Windows\System32 or with ADS_Client.exe



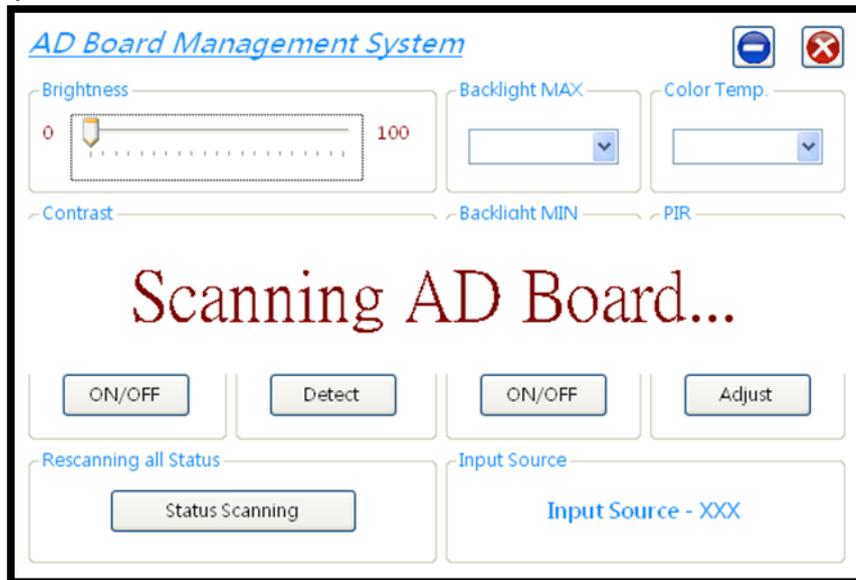
■ UI



- The remote control utility is for adjusting the system setting via multi-function port. The items are:
 1. Brightness scales get and set
 2. Contrast scales get and set
 3. Color Temperature scale get and set
 4. Power on/off set for monitor
 5. Adjust position of frame on the monitor (only works with monitor connecting on VGA)

- **Functions and UI on application**

- When you start the system, it will auto scan all the serial port to find out correct port you connect to.



- **Control Items**

1. **Brightness**

- Control: scroll bar
- Range: 0 ~ 100
- Remark: if the getting or setting fails, it will show "Brightness - Failed"



2. **Contrast**

- Control: scroll bar
- Range: 0 ~ 100
- Remark: if the getting or setting fails, it will show "Contrast - Failed"



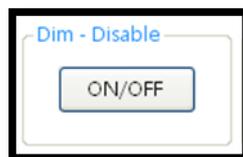
3. Color Temp.:
- Control: drop-down list
 - Range: 6500, 7500 and 9300
 - Remark: if the getting or setting fails, it will show "Color Temp. - Failed"



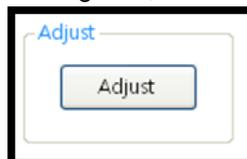
4. Power:
- Control: button
 - Way: set only, ON and OFF
 - Remark: if the setting fails, it will show "Power - Failed"



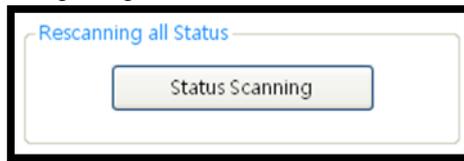
5. Dim: (Option)
- Control: button
 - Way: ON and OFF
 - Remark: if the setting fails, it will show "Auto-Dimming - Failed"
 - Remark: if there is no Auto-Dimming, it will show "Auto-Dimming - Disable"



6. Adjust:
- Control: button
 - Way: set only, Adjust
 - Remark: if the setting fails, it will show "Adjust - Failed"



7. Rescanning all Status
 - Control: button
 - Remark: getting all status



8. Input Source
 - Control: Text box
 - Remark: showing which one is input source (DVI/VGA/HDMI/DP)



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