

Toll Free: 1-888-865-6888

Tel: 510-226-8368 Fax: 510-226-8968

Email: sales@RackmountMart.com

User Manual 21.5" Full HD LCD



ID-E21Aw
Aluminum front bezel





ID-E21Pw & ID-2-E21Pw Universal Mounting Open Frame

F© C€

Legal Information

First English printing, October 2002

Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40° Celsius (104° Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing dam age to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labeled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being dam aged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invali date its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:

Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or
failure to follow instructions supplied with the product.
Repair or attempted repair by anyone not authorized by us.
Any damage of the product due to shipment.
Removal or installation of the product.
Causes external to the product, such as electric power fluctuation or failure.

- ☐ Use of supplies or parts not meeting our specifications.
- □ Normal wear and tear.
- ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. 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 radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-position or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

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Before Installation

- It is very important to mount the equipment in a suitable cabinet or on a stable surface.
- Make sure the place has a good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.

Unpacking

The equipment comes with the standard parts shown in package content. Check and make sure they are included and in good condition. If anything is missing, or damaged, contact the supplier immediately.

How To Clean Your LCD Monitor



Caution :

- To avoid the risk of electric shock, make sure your hands are dry before unplugging your monitor from or plugging your monitor into an electrical outlet.
- When you clean your monitor, do not press down on the LCD screen. Pressing down on the screen can scratch or damage your display. Pressure damage is not covered under warranty.
- Use only cleansers made specifically for cleaning monitors and monitor screens. Cleansers not made to clean monitors and monitor screens can scratch the LCD display or strip off the finish.
- Do not spray any kind of liquid directly onto the screen or case of your monitor. Spraying liquids directly onto the screen or case can cause damage which is not covered under warranty.
- Do not use paper towels or abrasive pads to clean your monitor. Using an abrasive pad or any wood based paper product such as paper towels can scratch your LCD screen.

Cleaning Your Monitor

To clean your LCD safely, please follow these steps:

- ① Disconnect the power cord.
- ② Gently wipe the surface using a clean, dry microfiber cloth. Use as little pressure as possible.

Cleaning Tough Marks and Smudges

To remove tough marks and smudges, please follow these steps:

- ① Disconnect the power cord.
- 2 Spray a small amount of non-abrasive cleanser on a microfiber cloth.
- Caution: Do not spray or apply any liquids directly onto the monitor. Always apply the solution to your microfiber cloth first, not directly on the parts you are cleaning.
- Gently wipe the surface. Use as little pressure as possible.
- Wait until your monitor is completely dry before plugging it in and powering it up.

< 1.1 > Package Content - ID-E21Aw / ID-E21AwN

ID-E21Aw / ID-E21AwN

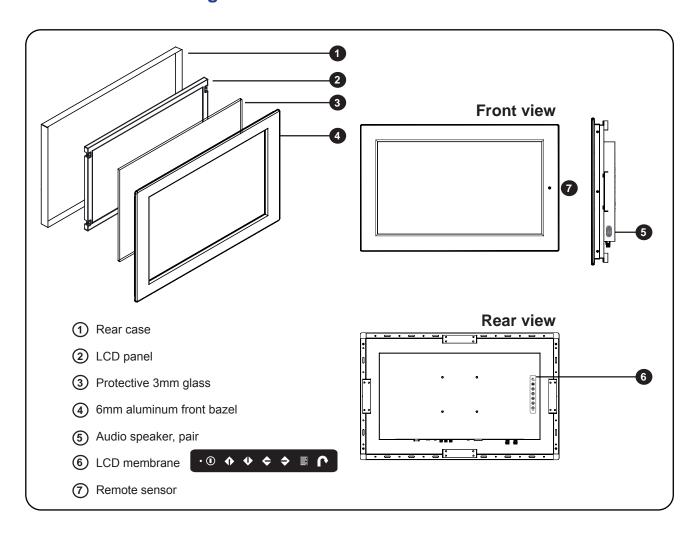


21.5" Full-HD LCD display X 1
6ft VGA cable X 1
Power adapter X 1
Power cord X 1

Mounting hardware X 1 pack

- Mounting bracket x 4 pcs
- M4* 6mm screw x 8 pcs
- M4* 50mm screw x 8 pcs

< 1.2 > Structure Diagram - ID-E21Aw / ID-E21AwN





Standard I/O: VGA and DVI-D

Options I/O : HDMI, Audio, S-Video + RCA with remote controller

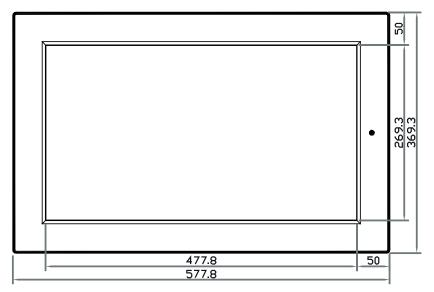
TV, USB for touchscreen SDI or MC (either one)

Model Product Dimension (W x D x H)		Net Weight
ID-E21Aw	578 x 59 x 369 mm	5 kg
ID-E21AwN	22.7 x 2.3 x 14.5 inch	11 lbs

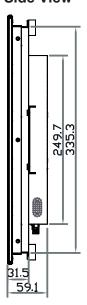
< 1.2 > Dimension - ID-E21Aw / ID-E21AwN

Front View

Rear View

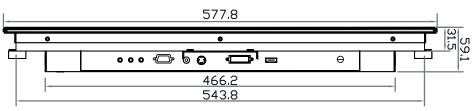


Side View



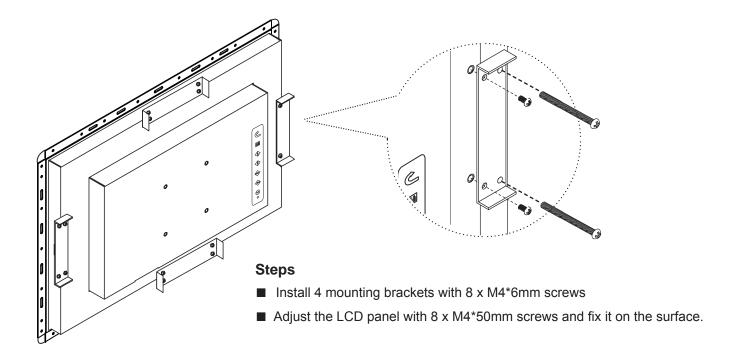
80 543.8 UNIT : mm 1mm = 0.03937 inch

Bottom View

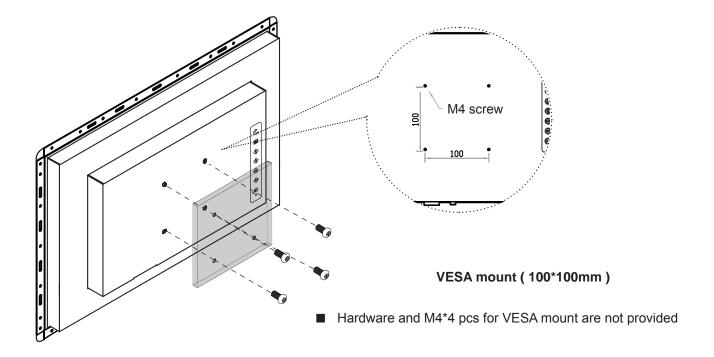


< 1.3 > Panel Mount Installation - ID-E21Aw / ID-E21AwN





< 1.3 > VESA mount Installation - ID-E21Aw / ID-E21AwN

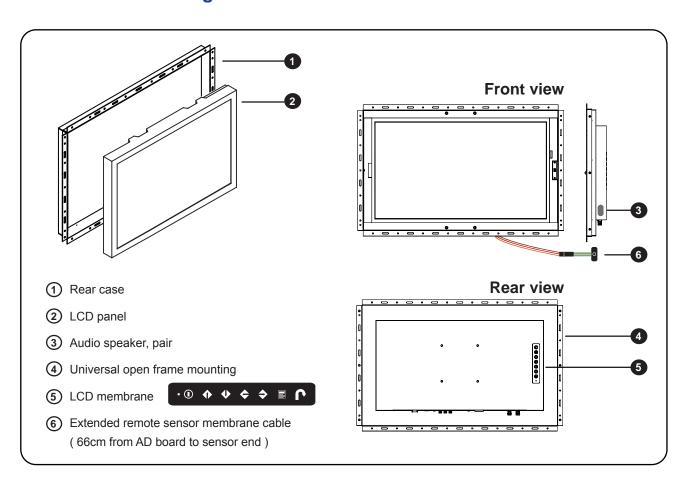


ID-E21Pw



21.5" Full-HD LCD display X 1
6ft VGA cable X 1
Power adapter X 1
Power cord X 1

< 2.2 > Structure Diagram - ID-E21Pw





Standard I/O: VGA and DVI-D

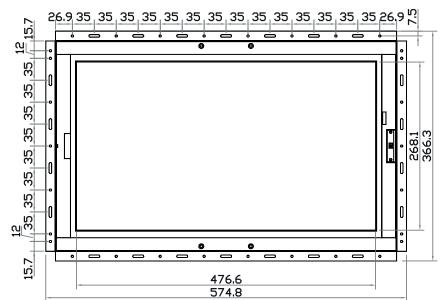
Options I/O : HDMI, Audio, S-Video + RCA with remote controller

TV, USB for touchscreen SDI or MC (either one)

Model	Model Product Dimension (W x D x H)	
ID-E21Pw	575 x 53 x 366 mm 22.6 x 2.1 x 14.4 inch	5 kg 11 lbs

< 2.2 > Dimension - ID-E21Pw

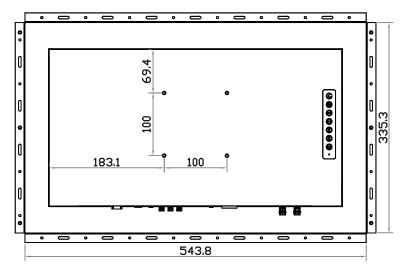
Front View



Side View

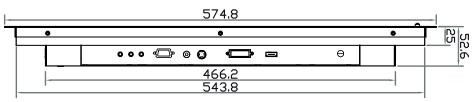


Rear View



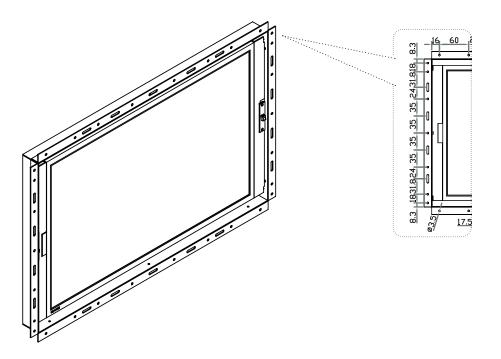
UNIT : mm 1mm = 0.03937 inch

Bottom View

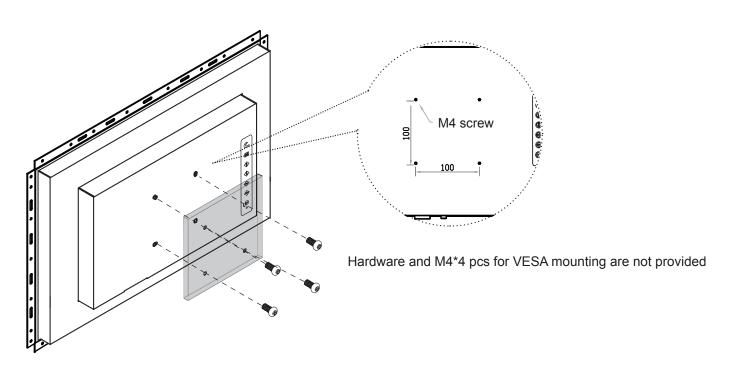


< 2.3 > Installation - ID-E21Pw

(I) Universal mount



(II) VESA mount (100*100mm)



< 3.1 > Product Specifications

Mechanical		ID-E21Aw/ID-E21AwN	ID-E21Pw
Design	Front Panel	Black, RAL 9005	-
	Rear Casing	Dark grey, RAL 7037	Dark grey, RAL 7037
	VESA Mounting	100 x 100mm	100 x 100mm
	Other Mounting	Panel mount	Universal mount
	Protection	3mm protective glass	

LCD	Manufacturer	SAMSUNG
Panel	Panel Size (diagonal)	21.5-inch Widescreen TFT color LCD
	Display pixel (dots x lines)	1920 x 1080
	Brightness (typ.)	250
	Contrast Ratio (typ.)	1000:1
	Color	16.7 M
	Viewing Angle (L/R/U/D)	85/85/80/80
	Response Time (ms)	5
	Dot pitch (mm)	0.248
	Display Area (mm)	476.64H x 268.11V
	Surface treatment	Haze 25%, Hard-coating
	Surface hardness	3H
	Backlight Type	LED
	MTBF (hrs)	30,000

Video	Digital	HDMI	HDMI 1.1, CEA-861-D
Connectivity		DVI	DVI-D, TMDS single link
	Analog	VGA	Analog 0.7Vp-p
		Composite (RCA)	NTSC & PAL
		S-Video (4-pin)	NTSC & PAL
	Plug & Play	DVI / VGA	VESA EDID structure 1.3
	Synchronization	VGA	Separate, Composite & SOG

Audio	Audio Input	Connector	3.5mm stereo jack
Connectivity		Impedance / Power level	30kΩ / 750mV
	Audio Output	Connector	3.5mm stereo jack
		Resistance / Power level	30kΩ / 2.8V
	Speaker Output	Power	2 x 2W

 $^{{}^{*}}$ When the audio output is connected, speaker output is OFF

Power	Power Supply	Range	Auto-sensing 100 to 240VAC, 50 / 60Hz
	Power Consumption	Screen display ON	32W or less
		Power saving mode	4W or less
		Power button OFF	1W or less

Regulatory Safety Approval FCC & CE		
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Environmental Conditions	Operating	Temperature Humidity	0 to 50°C degree 20~90%, non-condensing
	Storage	Temperature	-5 to 60°C degree
		Humidity	5~90%, non-condensing
		Shock	10G acceleration (11ms duration)
		Vibration	5~500Hz 1G RMS random

Physical		ID-E21Aw/ID-E21AwN	ID-E21Pw
Specification	Product (WxDxH)	578 x 59 x 369 mm	575 x 53 x 366 mm
		22.7 x 2.3 x 14.5 inch	22.6 x 2.1 x 14.4 inch
	Net Weight	5 kgs / 11 lbs	5 kgs / 11 lbs

Applicable	DVI-D / VGA Input	PC Signal	1920 x 1080 x 60Hz
Format			1280 x 1024 x 60 / 75Hz
			1280 x 960 x 60Hz
			1280 x 768 x 60 / 75Hz
			1152 x 864 x 75Hz
			1024 x 768 x 60 / 70 / 75Hz
			848 x 480 x 60Hz
			800 x 600 x 60 / 72 / 75Hz
			720 x 400 x 70Hz
			640 x 480 x 60 / 72 / 75Hz
			640 x 400 x 70Hz
			640 x 350 x 70Hz
	HDMI Input	PC Signal	Same as VGA
		Video Signal	1080p : 50 / 60Hz
			1080i : 50 / 60Hz
			720p : 50 / 60Hz
			480p : 60Hz
			576p : 50Hz
		Audio Signal	2ch Linear PCM (32 / 44.1 / 48 KHz)
	Composite / S-Video	NTSC	525 lines, 60 fields / sec
	Input	PAL	625 lines, 50 fields / sec

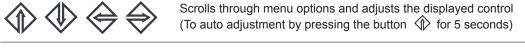
< 3.2 > OSD for Basic Inputs (VGA + DVI-D, for AD board 2.1)

O Power light
Green = On
Orange = Power saving

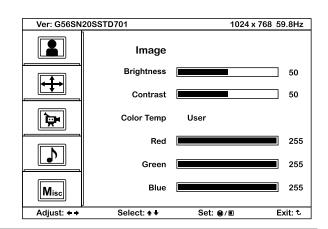
Membrane Switch
Function

Power on / off LCD

Display the OSD menu



Exit the OSD screen
Toggle analog, digital & video connection (DVI-D and video options only)



OSD Configuration Page



Image:

for the brightness, contrast, color temp, red, green, and blue



Geometry:

for the auto adjust, H position, V position, phase and clock



Video:

for the colour, tint, sharpness, noise reduction, DCDi and TV Setup



Audio:

for volume, bass, treble, balance, AVL and mute



Misc:

for the language, OSD position, graphic mode, ratio, reset and timer

< 3.2 > OSD for Upgrade Inputs

(VGA, DVI-D, HDMI, AV and Audio, for AD board 3.0)

1 Picture

Picture mode : Standard / Vivid / Soft / User mode to choose

Brightness : Adjust background black level of the screen image

Contrast : Adjust the difference between the image background

(black level) and the foreground (white level)

(black level) and the foreground (white level)

Hue: Adjust the screen hue value

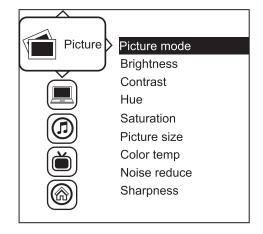
Saturation: Adjust the saturation of the image color

Picture size : Adjust the image size

Color temp: Standard / Cool / Warm / User to choose

Noise reduce : Reduce the noise of the image

Sharpness : Adjust the image from weak to sharp



(2) PC

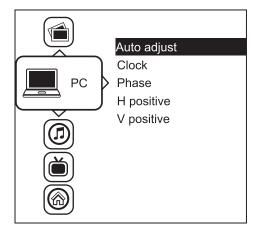
Auto adjust: Automatically adjust sizes, centers and fine tunes the

video signal to eliminate waviness and distortion.

Clock : Adjust the clock value

Phase : Adjust the phase value

H. Position : Align the screen image left or rightV. Position : Align the screen image up or down



(3) Audio

Audio mode: Movie / Voice / Normal / Music mode to choose

Volume : Adjust the volume of sound

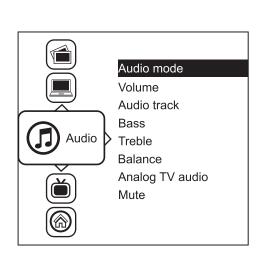
Bass : Set the value of bass sound

Treble : Set the value of treble sound

Balance: Set the balance value of treble and bass sound

Analog TV audio: Set the value of analog TV audio sound

Mute: Turn off the surrounding sound



< 3.2 > OSD for Upgrade Inputs

(VGA, DVI-D, HDMI, AV and Audio, for AD board 3.0)

(4) TV

Auto search: Automatically search

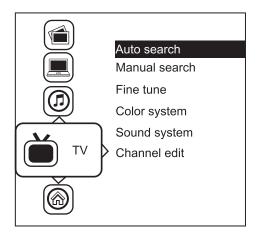
Manual search: Search the TV manual

Fine tune: Fine tune the TV signal

Color system: Adjust the TV color

Sound system: Adjust the TV sound

Channel edit: Edit the channel



(5) MISC

Language: Select the language in which the OSD menu is

displayed - English

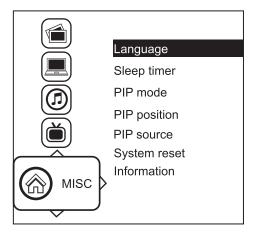
Sleep timer: Set the off time

PIP mode: Adjust picture in picture setting

PIP position : Enter into PIP position

PIP source : Enter into the Sub source and sound source System reset : Return the adjustment back to factory setting

Information: Select for Help



< Part 4 > Options

< 4.1 > Option Table

Basic Option	Aw / AwN	Pw
SDI ***	✓	✓
HDMI	✓	✓
S-Video + RCA	✓	✓
Audio	✓	✓
Touchscreen	✓	✓
MC multi-display control ***	✓	✓
DC Power	✓	✓
MIL-type / lockable connector	✓	✓
Quad display	✓	✓
TV *	✓	✓



- (1) The user can only select either SDI or MC inputs.
- (2) For SDI or MC input, the AD board will be upgraded to version 3.0, and this comes standard with HDMI, DVI-D, VGA, S-Video, RCA, audio inputs and remote controller.

*

For TV option , this comes with remote controller.

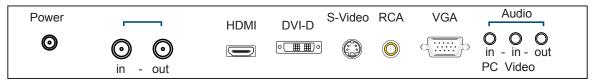
< 4.2 > Options : 3G / HD / SD-SDI input



Our SDI input is an ideal solution for the broadcast-grade video and high resolution CCTV market.

Designed for use with Full HD 1080p and ultra high resolution 1920 x 1200 LCD displays, we provide a SDI input module without using additional space or power.

SDI



^{***} For **SDI** input, the AD board will be upgraded to version 3.0, and this comes standard with HDMI, DVI-D, VGA, S-Video, RCA, audio inputs and remote controller (please refer to P.24)

INPUT	3G-SDI IN	BNC x 1 / 0.8Vp-p (75 ohm)
	3G-SDI OUT	BNC x 1 / Active through, equalized & relocked

Standard Compliance	Video	SMPTE 425M / 274M / 296M / 125M ITU-R BT.656
	Audio	SMPTE 299M / 272M-C

Compatible Video Format	3G-SDI	1080p 1080p 1080i 720p	@60 / 50Hz, 4:2:2 @30 / 25 / 24Hz, 4:4:4 @60 / 50Hz, 4:4:4 @60 / 50Hz, 4:4:4
	HD-SDI	1080p 1080i 720p	@30 / 25 / 24Hz, 4:2:2 @60 / 50Hz, 4:2:2 @60 / 50Hz, 4:2:2
	SD-SDI	480i	@60Hz, 4:2:2
	ITU-R BT.656	576i	@50Hz, 4:2:2

Compatible Audio Format	3G-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	HD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	SD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized / Asynchronized Video

Max. Transmission Distance	3G-SDI	150m at 2.97Gb/s
75 ohm coaxial cable	HD-SDI	250m at 1.485Gb/s
	SD-SDI	480m at 270Mb/s

< 4.3 > Options : MC

MC (Multi-display Controller)

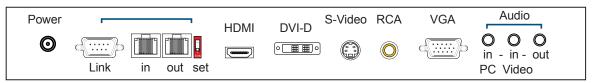


More control is always good. Especially when it is necessary and easy. Synergy Global Technology provides MC solution to control the OSD of various Industrial LCD displays up to 64 units.

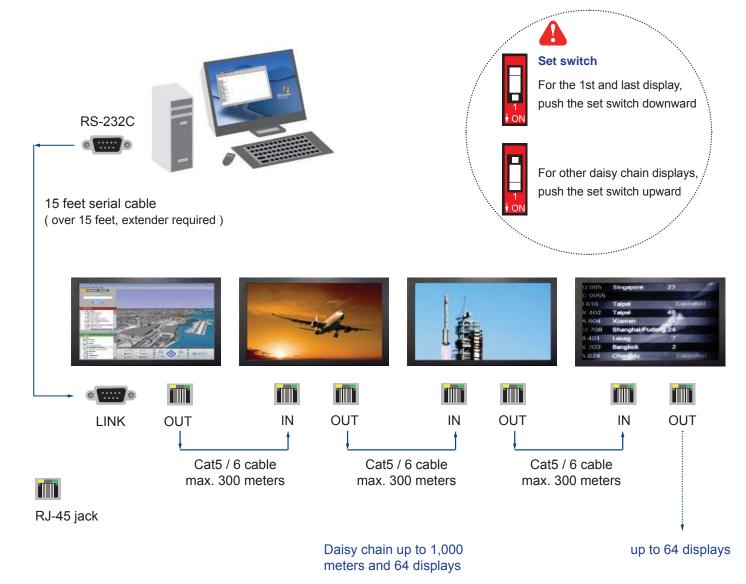
The RS-232C is used for the communication between the PC and the first display via a 15 feet serial cable while the CAN bus is used for the various LCD displays cascade together via CAT 5/6 cable, and daisy chain up to 1,000 meters.

Designed for use with our Industrial LCD displays, we provide a MC input module without using additional space or power.

MC



*** For **MC** input, the AD board will be upgraded to version 3.0, and this comes standard with HDMI, DVI-D, VGA, S-Video, RCA, audio inputs and remote controller (please refer to P.24)



< 4.4 > Options : Touchscreen & driver



21" USB Touchscreen Specification

Model	TRB	ТСВ	TMC Multi-touch
Technology	5-Wire Resistive	Capacitive	Projected Capacitive
Touch Point	Single	Single	Dual
Method	Stylus or Finger	Finger	Finger
Activation Force	≤ 50g / Stylus=R0.8	≤ 50g	≤ 50g
Durability	10 million touches	300 million touches	100 million touches
Response Time	15 ms	20 ms	20 ms
Optical Transmittance	80% ± 3%	87% ±2%	90% ±2%
Surface Hardness	3H	9H	7H
Haze	8% ± 3%	7%	3%
Glass	3.2 ±0.2 mm 2.8 mm ±10%		2.4 ±0.15 mm
Connector	USB	USB Type A	
Compatibility	Windows 7 / XP / Vista, Linux Windows 7		

- USB touchscreen package includes 1 x 6ft USB cable, quick reference guideline and CD disc
- For detailed information, please refer to the attached CD disc
- As the touchscreen unit is not made of toughened glass, please handle it carefully

USB Touchscreen



TRB & TCB Driver

Please follow the below steps to setup the touch screen:-

- **Step 1.** Run the bundled CD disc or download the driver from the link below : http://www.rackmountmart.com/downloads.html
- Step 2. Double click the Setup.exe
- Step 3. Follow the installation instruction to finish the setup
- Step 4. After installation, run the TouchKit program & the "4 point calibration"



Please do the initial calibration after the first setup



< 4.4 > Options : Touchscreen & driver



TMC Driver



Connect the USB cable from the USB port on the LCD to a computer. The touch screen supports easy Plug-and-Play operations. There is no need to install additional drivers on the computer.

< 4.5 > Options : DC Power ○ □ □ ○



Model	12V	24V	48V
Input rating			
Input voltage:	12-Volt	24-Volt	48-Volt
Input range:	9 ~ 18V	18 ~ 36V	36 ~ 75V
Input current			
- No load	50 mA	50 mA	50 mA
- Full load	4950 mA	2450 mA	1220 mA
Output rating			
Output voltage:	12-Volt	12-Volt	12-Volt
Output current:	4.16A	4.16A	4.16A
Efficiency	84%	85%	85%

< 4.6 > Options : MIL-type or Lockable Connector

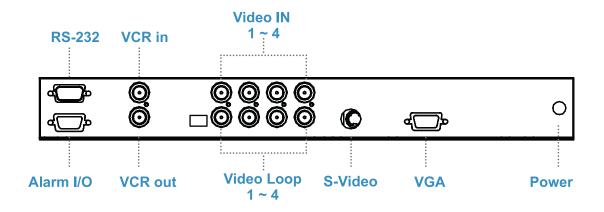
	Input	Part no.	MIL Standard
MIL - type Connector	DC Power *** (Male)	-MD (MS3470W8-33P)	MIL - DTL - 26482
	VGA *** (Male)	-MA (MS3470W14-15P)	MIL - DTL - 26482

^{***} There are several additional MIL DC and VGA connector types with varying design characteristics to meet cost considerations and to provide users with the most design flexibility possible. For more information, please contact us.

	Input	Part no.	Standard
Lockable Connector	DC Power (Male)	-LD	D-type 3W3
	USB	-LS	

^{***} MIL - type or Lockable connectors above can be integrated with our LCD displays. Sale service just for connectors not provided.

< 4.7 > Options : Quad Display

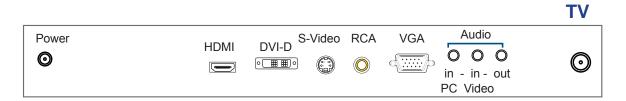


QD Specification

	Item	Description	
Model Number		QD (NTSC) QD (PAL)	
Number of Colo	r	16.7 M	
Imaging System	1	NTSC	PAL
Resolution		1024 x 525	1024 x 625
Refresh Rate		60	50
Video Input	Camera Input	1.0 Vpp, 75	Ohm x 4
video iriput	VCR Input	1.0 Vpp, 75	Ohm x 1
	Live Monitor	1.0 Vpp, 75	Ohm x 1
Video Output	Loop Through Out	1.0 Vpp, 75	Ohm x 4
	VCR Output	1.0 Vpp, 75	Ohm x 1
Auto Gain Cont	rol	Yes	
Time / Date		Yes	
On Screen Disp	olay	Yes	
Camera Title		8 Characte	er Title
	2 x Zoom On Playback	Yes	
Display Format	QUAD	Yes	
	FULL	Yes	
	SEQUENCY	Yes	
Dwell Time		0 to 99 Sec A	djustable
Alarm Inputs	Selectable NO/NC Contacts x 4		Contacts x 4
Relay Outputs		NO/NC contacts x 1: 1A @DC24V Max.	
Alarm Hold Tim	Hold Time 1 Sec to Non-stop		on-stop
Built-in Buzzer	er Yes		
Key Lock	Yes		

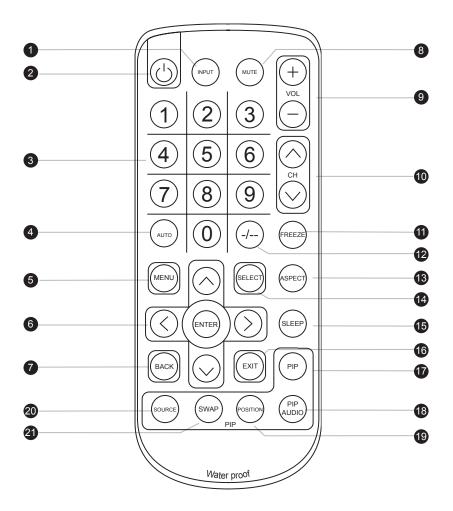
^{***} For QD option, the casing dimensions will be changed.

< 4.8 > Options : TV (Analog)



- (1) For TV option, the AD board will be upgraded to version 3.0, and this comes standard with HDMI, DVI-D, VGA, S-Video, RCA, audio inputs and remote controller.
- (2) For TV option, casing dimensions will be changed.

How to Use RC-2 Remote Controller



1	INPUT	Select the source
2	ტ	Switches on or off the TV
3	0 - 9	Only use in TV mode. Select channels. For channel numbers 10 and above, enter the second digit within two seconds.
4	AUTO	Auto adjust
(5)	MENU	Display the menu on the screen or go to the previous menu
6	▲ / ▼ / ◄ / ▶ / ENTER	Go to the upper menu or select the previous value / Go to the next menu or select the next value / Decrease the setting value / Increase the setting value or enter to the select item setting Enter to the select item settings or excude the setting
7	BACK	Back to previous value
8	MUTE	Turn on or off the speaker
9	Vol + / -	Increase or decrease the speaker volume
10	CH + / -	For TV model only, increase or decrease the channel number
11)	FREEZE	Reserve for OEM model
12	- /	For setting input single or double digits
13	ASPECT	Adjust the screen size
14)	SELECT	To select the existing item
15	SLEEP	Select the sleeping time
16	EXIT	Exit the menu or cancel
	PIP functions	
17	PIP	Picture in picture
18	PIP AUDIO	To set the audio of in PIP mode
(19) (20)	POSITION	To set the screen position in PIP mode
20	SOURCE	PIP Source
20	SWAP	Swap screen in PIP mode

