

dedicated LCD display solutions

User Manual 27" FHD 1920 x 1080 LCD



LCD-AP-W27 Aluminum front bezel

LCD-NAP-W27 Front NEMA4 / IP65



LCD-OP-W27 **Universal Mounting Open Frame**

F© (E ROHS

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 damage 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 damaged 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 invalidate 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.

Caution: Do not spray or apply any liquids directly onto the monitor. Always apply the solution to your

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:

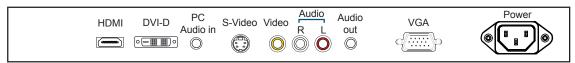
- ① Disconnect the power cord.
- 2 Spray a small amount of non-abrasive cleanser on a microfiber cloth.
- microfiber cloth first, not directly on the parts you are cleaning.
- Gently wipe the surface. Use as little pressure as possible.
- Wait until your monitor is completely dry before plugging it in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

LCD-AP-W27 / LCD-NAP-W27

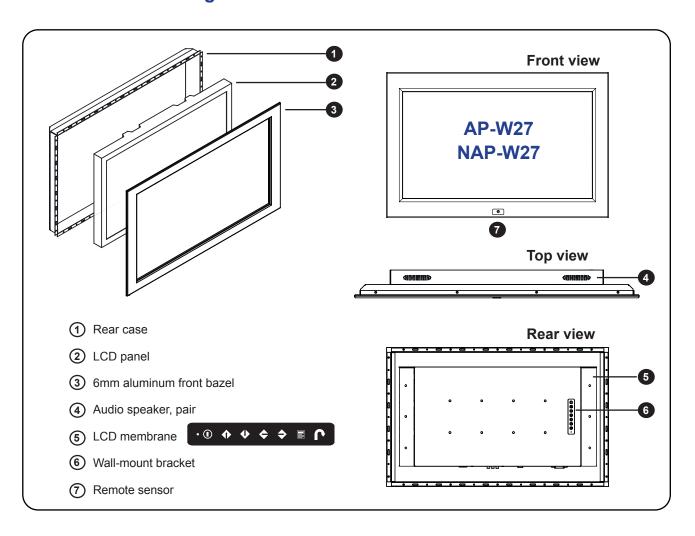


27" FHD LCD display X 1 6ft VGA cable X 1 Power cord X1 Remote controller X 1 Wall-mount bracket set X 1

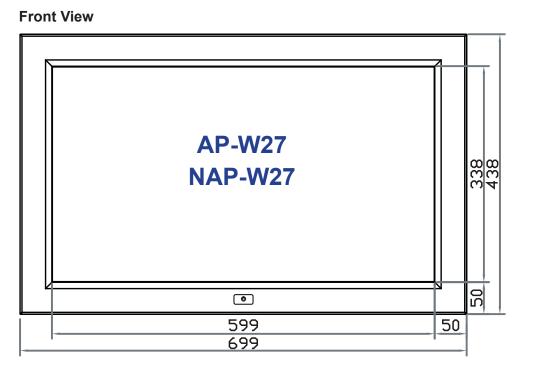
Basic I/O

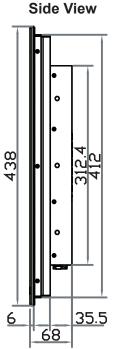


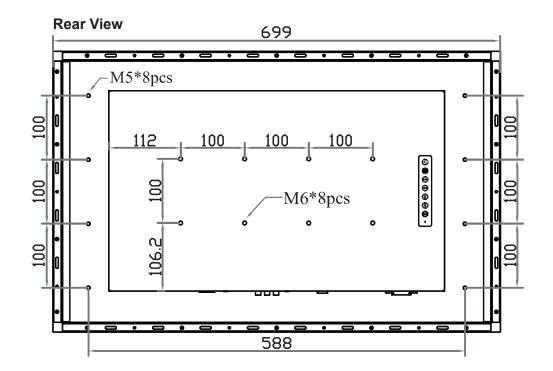
< 1.2 > Structure Diagram - LCD-AP / NAP-W27



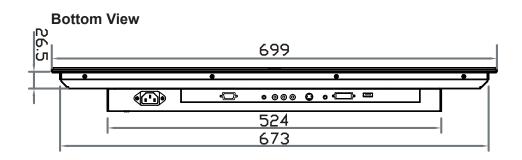
Model	Product Dimension	Packing Dimension	Net	Gross
	(W x D x H)	(W x D x H)	Weight	Weight
LCD-AP-W27	699 x 68 x 438 mm	785 x 175 x 527 mm	16.8 kg	20.4 kg
	27.5 x 2.7 x 17.2 inch	30.9 x 6.9 x 20.7 inch	37 lbs	45 lbs
LCD-NAP-W27	LCD-NAP-W27 699 x 68 x 438 mm 785 x 27.5 x 2.7 x 17.2 inch 30.9 x		18.6 kg 40.9 lbs	22.2 kg 48.8 lbs



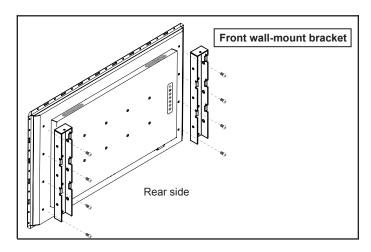




UNIT : mm 1mm = 0.03937 inch

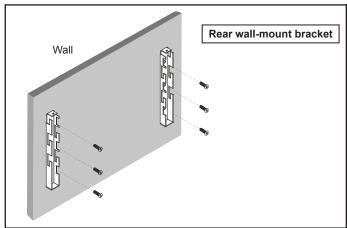


< 1.3 > Wall-mount Installation - AP / NAP-W27



Step 1

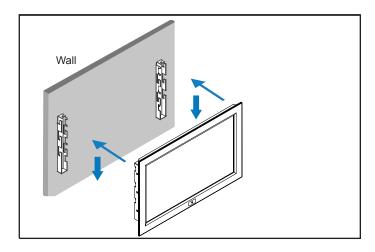
- Install left & right front wall-mount brackets at the rear side of the LCD shown above.
- M5 screw x 8 pcs included (Left & right side).

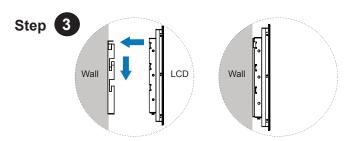


Step 2

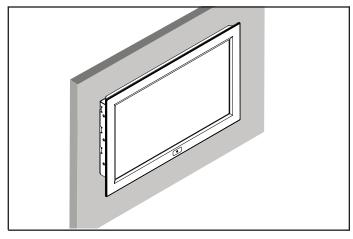
- Install left & right rear wall-mount brackets on the wall shown above.
- 6 x M10 screws required (Left & right side).

M10 screw sets are not provided.

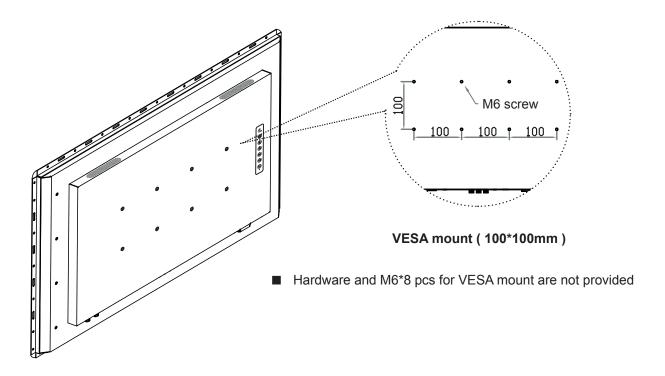




Attach the LCD to the rear wall-mount brackets on the wall.



Step 4
Installation Completed.

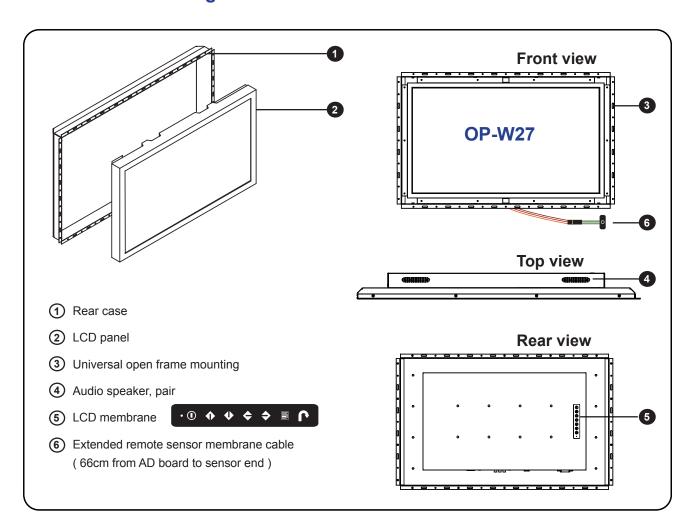


< 2.1 > Package Content - OP-W27



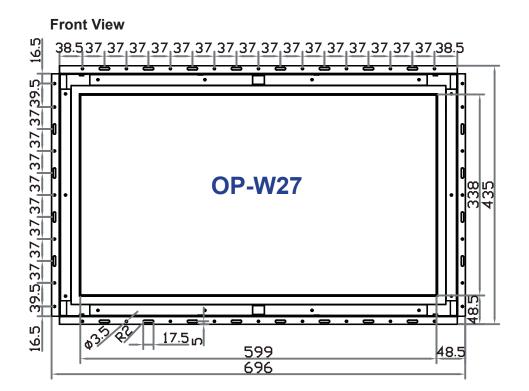
Basic I/O

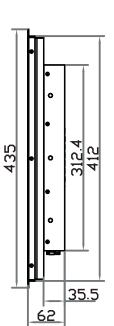




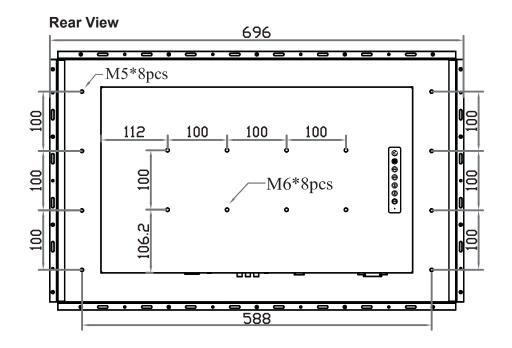
Model	Product Dimension (W x D x H)			Gross Weight
OP-W27	696 x 62 x 435 mm	785 x 175 x 527 mm	12.7 kg	16.3 kg
	27.4 x 2.4 x 17.1 inch	30.9 x 6.9 x 20.7 inch	27.9 lbs	35.9 lbs

< 2.3 > Dimension - OP-W27

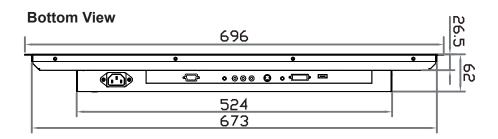




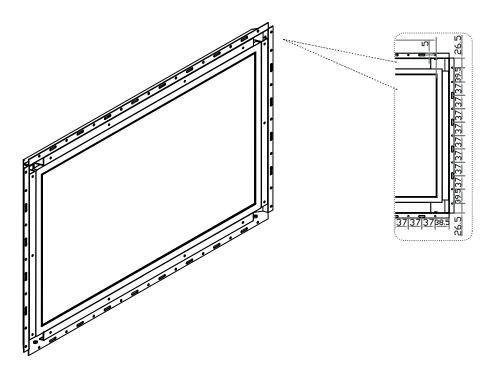
Side View



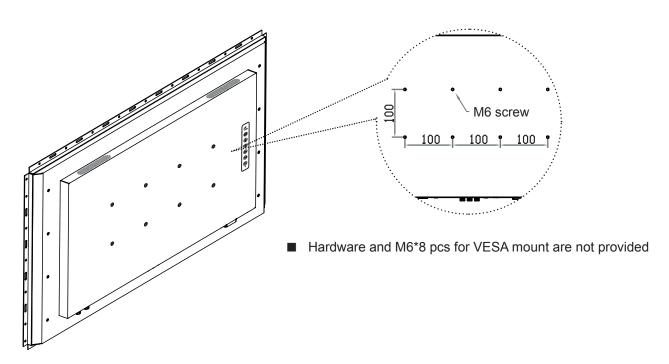
UNIT : mm 1mm = 0.03937 inch



(I) Universal mount



(II) VESA mount (100*100mm)



< 3.1 > Product Specifications

Mechanical		LCD-AP/NAP-W27	LCD-OP-W27
Design	Front Panel	Black, RAL 9005	-
	Rear Casing	Black, RAL 9005	Black, RAL 9005
	VESA Mounting	100 x 100mm	100 x 100mm
	Other Mounting	Panel mount	Universal mount
	Protection	3mm protective glass	-

LCD	Manufacturer	(LG
Panel	Panel Size (diagonal)	27-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)	89/89/89
	Response Time (ms)	9
	Dot pitch (mm)	0.3114
	Display Area (mm)	597.888H x 336.312V
	Surface treatment	Anti-glare, Hard-coating
	Surface hardness	3H
	Backlight Type	LED
	MTBF (hrs)	30,000

Video	Digital	HDMI	HDMI 1.3, 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	Dual Stereo Speaker	10W x 2

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

Power	Power Supply	Range	Auto-sensing 100 to 240VAC, 50 / 60Hz
	Power Consumption	Screen ON	Max. 44W
		Power saving mode	Max. 9W
		Power button OFF	Max. 2W

< 3.1 > Product Specifications

27" FHD LCD Display

Regulatory	Safety	FCC & CE certified
Environmental		RoHS2 & REACH compliant

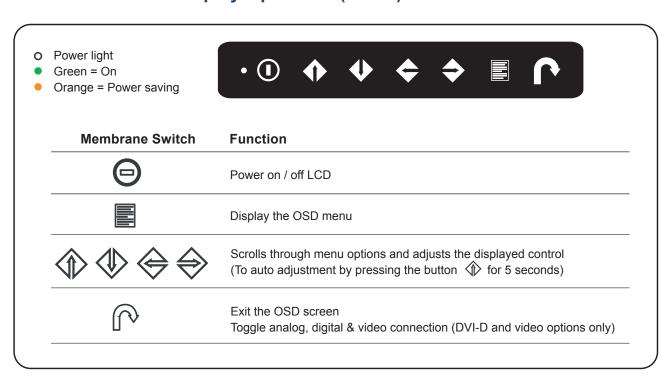
Environmental	Operating	Temperature	0 to 55°C degree
Conditions	Storage / Non-operating	Humidity	20~90%, non-condensing
		Altitude	16,000 ft
		Temperature	-20 to 60°C degree
		Humidity	5~90%, non-condensing
		Altitude	40,000 ft
		Shock	10G acceleration (11ms duration)
		Vibration	5~500Hz 1G RMS random

Physical		AP-W27	NAP-W27	OP-W27
Specification	Product (WxDxH)			
	mm	699 x 68 x 438	699 x 68 x 438	696 x 62 x 435
	inch	27.5 x 2.7 x 17.2	27.5 x 2.7 x 17.2	27.4 x 2.4 x 17.1
	Packing (WxDxH)			
	mm	785 x 175 x 527	785 x 175 x 527	785 x 175 x 527
	inch	30.9 x 6.9 x 20.7	30.9 x 6.9 x 20.7	30.9 x 6.9 x 20.7
	Net Weight	16.8 kgs / 37 lbs	18.6 kgs / 40.9 lbs	12.7 kgs / 27.9 lbs
	Gross Weight	20.4 kgs / 45 lbs	22.2 kgs / 48.8 lbs	16.3 kgs / 35.9 lbs

Applicable	DVI-D / VGA Input	PC Signal	1920 x 1080 x 60Hz
Format			1360 x 768 x 60Hz
			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	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

^{*}In some circumstances, if the user connects the LCD to PC via HDMI port for video and audio signals, the LCD may display incorrectly on a full screen. If so, please adjust the display card setting on display size to fix the issue.

< 3.2 > On-screen Display Operation (OSD)



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)

Hue: Adjust the screen hue value

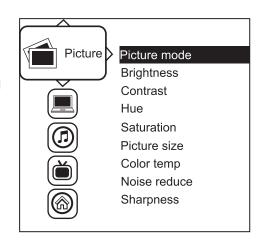
Saturation: Adjust the saturation of the image color

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

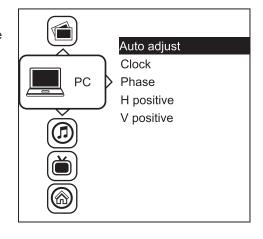
Auto adjust: Automatically adjust sizes, centers and fine tunes the

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



< 3.2 > On-screen Display Operation (OSD)

27" FHD LCD Display

3 Audio

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

Volume : Adjust the volume of sound

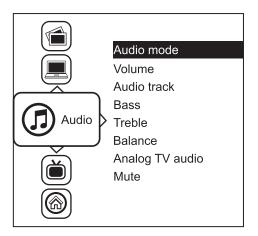
Bass : Set the value of bass sound

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



4 TV

Auto search:

Manual search:

Search the TV manual

Fine tune:

Fine tune the TV signal

Color system:

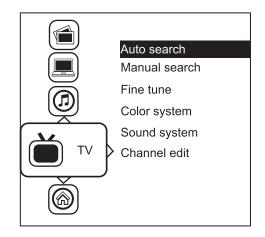
Adjust the TV color

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

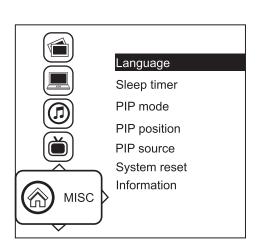
Sleep timer : Set the off time

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

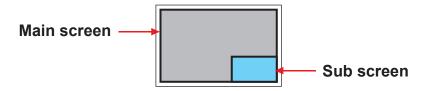


< 3.3 > How to Use Picture In Picture (PIP) / Picture By Picture (PBP)

< 3.3.1 > Picture in Picture (PIP)

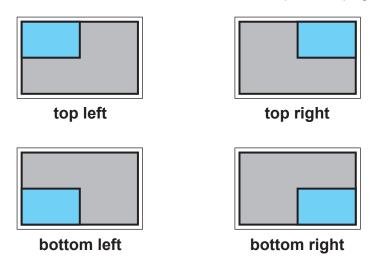
Mode

Display the Sub screen in the Main screen. OSD Menu \to MISC \to PIP Mode \to Large / Small / OFF



Position

Adjust the position of the Sub screen (top left, bottom left, top right, bottom right) OSD Menu \rightarrow MISC \rightarrow PIP Position \rightarrow top left / top right / bottom left / bottom right



Size

Adjust the size of the Sub screen (Large / Small) OSD Menu \rightarrow MISC \rightarrow PIP Mode \rightarrow Large / Small

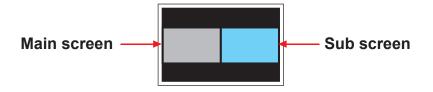
Size of Sub screen

LCD Monitor	Large Sub screen	Small Sub screen
1920 x 1200	552 x 414	480 x 360
1920 x 1080	552 x 414	480 x 360
1440 x 900	414 x 310	360 x 270
1366 x 768	392 x 294	340 x 254
1280 x 1024	368 x 276	320 x 240

< 3.3.2 > Picture By Picture (PBP)

Mode

Display the Sub screen next to the Main screen. OSD Menu \rightarrow MISC \rightarrow PIP Mode \rightarrow PBP



Size

LCD Monitor	Main / Sub screen
1920 x 1200	955 x 716
1920 x 1080	955 x 716
1440 x 900	715 x 536
1366 x 768	678 x 508
1280 x 1024	635 x 476

< 3.3.3 > PIP / PBP Source

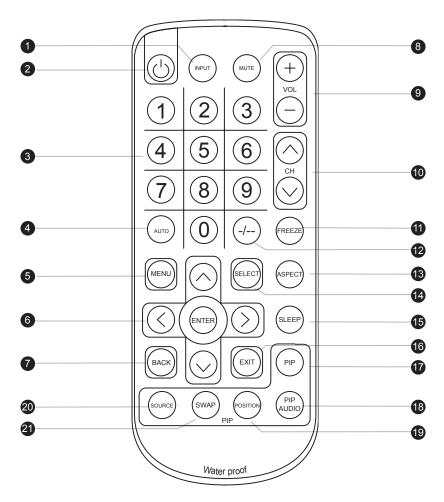
To select an input signal for PIP / PBP Sub screen.

 $\mathsf{OSD}\;\mathsf{Menu}\;\rightarrow\;\mathsf{MISC}\;\rightarrow\;\mathsf{PIP}\;\mathsf{Source}\;\rightarrow\;\mathsf{VGA}\;\;/\;\;\mathsf{S-Video}\;\;/\;\;\mathsf{Composite}\;\;/\;\;\mathsf{DVI}\;\;/\;\;\mathsf{HDMI}\;\;/\;\;\mathsf{SDI}\;\;/\;\;\mathsf{YPbPr}\;\;/\;\;\mathsf{TV}$

The PIP / PBP is operable in the following table :

Sub Main	VGA	S-Video	Composite	DVI-D	HDMI	SDI	YPbPr	TV
VGA	Х	0	0	0	0	0	0	0
S-Video	0	х	Х	0	0	0	0	х
Composite	0	х	Х	0	0	0	0	х
DVI	0	0	0	Х	Х	0	0	0
НОМІ	0	0	0	Х	х	0	0	0
SDI	0	0	0	0	0	Х	х	0
YPbPr	0	0	0	0	0	Х	Х	0
TV	0	х	Х	0	0	0	О	х

< 3.4 > Remote Controller (RC-2)



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	
\bigcirc	PIP	Picture in picture
18	PIP AUDIO	To set the audio of in PIP mode
19	POSITION	To set the screen position in PIP mode
20	SOURCE	PIP Source
20	SWAP	Swap screen in PIP mode

< 4.1 > Option Table

Options	AP / NAP	ОР
SDI	✓	✓
Touchscreen	✓	✓
MCS multi-screen control	✓	✓
MIL-type / lockable connector	✓	✓
DC Power	✓	✓
TV	✓	✓

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



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

Designed for use with UltraView displays, a SDI input module can support up to 1080p @60Hz resolution without using additional space or power and it comes standard with a 2-year warranty.

SDI



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 : MCS

27" FHD LCD Display

MCS (Multi-display Control)

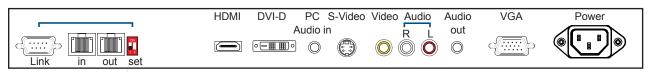


More control is always good. Especially when it is necessary and easy. Austin Hughes provides MCS solution to control the **OSD** of various UltraView LCD display up to 64 units.

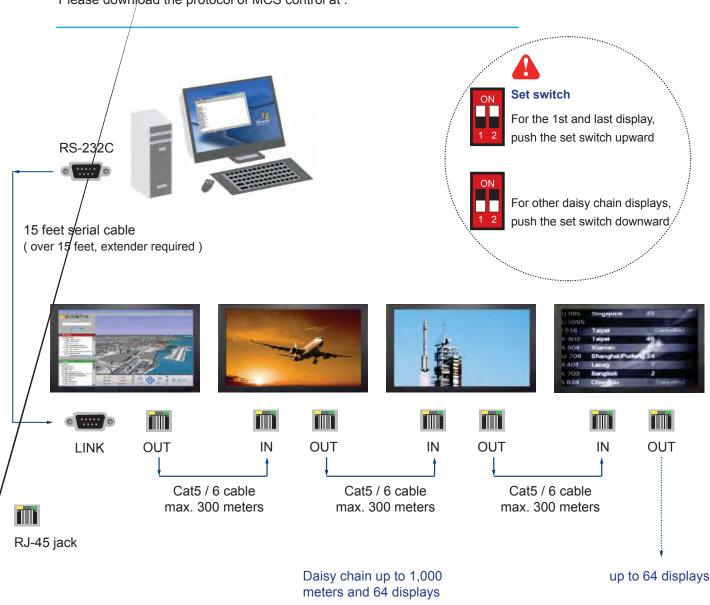
The RS-232C is used for the communication between the PC and the first display via a 15 feet serial cable while the CAN bus is used for the various LCD displays cascade together via CAT 5/6 cable, and daisy chain up to 1,000 meters.

Designed for use with UltraView LCD displays, Austin Hughes provides a MCS input module without using additional space or power and it comes standard with a 2-year warranty.

MCS



*** Please download the protocol of MCS control at :



< 4.4 > Options : Touchscreen & driver

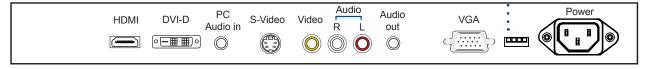


W27" USB Touchscreen Specification

Model	W27TPC-10 Multi-touch			
Technology	Projected Capacitive			
Touch Point	10			
Input Type	Finger or Capacitive Stylus			
Resolution	2048 x 2048			
Touch Point Accuracy	± 25 mm offset			
Response Speed	Max. 20 ms			
Activation Force	≤ 10 g			
Surface Hardness	7H			
Light Transmission	≥ 88%			
Haze	≤ 2%			
Durability	> 100 million touches			
Top Layer	1.8 mm Tempered Glass			
Bottom Layer	Film			
Thickness	2.4 mm			
Connector	USB Type A			
Compatibility	Windows 7			

- Dimension will be changed if Multi-touch required
- 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





Model	24V	48V	125V	250V
Input rating				
Input voltage:	24-Volt	48-Volt	110-Volt	300-Volt
Input range:	18 ~ 36V	36 ~ 75V	66 ~ 160V	180 ~ 425V
Input current				
- No load	180 mA	90 mA	80 mA	10 mA
- Full load	8396 mA	4198 mA	2467 mA	600 mA
Output rating				
Output voltage:	24-Volt	24-Volt	12-Volt / 24-Volt	12-Volt
Output current:	9.0A	9.0A	12.5A / 8.4A	12.5A
Efficiency	88%	89%	92%	86%

*** For DC power option :

(1) If the unit with LCD, earthing may be required



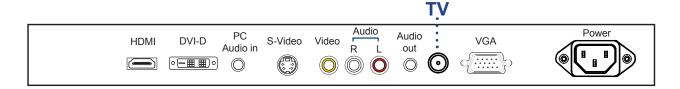
< 4.6 > Options : MIL-type or Lockable Connector

	Input	Part no.	MIL Standard
MIL - type Connector	DC Power *** (Male)	MS3470W8-33P	MIL - DTL - 26482
	VGA *** (Male)	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)	YM-Ext-461CP001	D-type 3W3
	USB	LUSB - A111 - 00	-

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



For RC-2 remote controller specifications, please refer to P.16

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UM-UV-621-W27-Q317V3