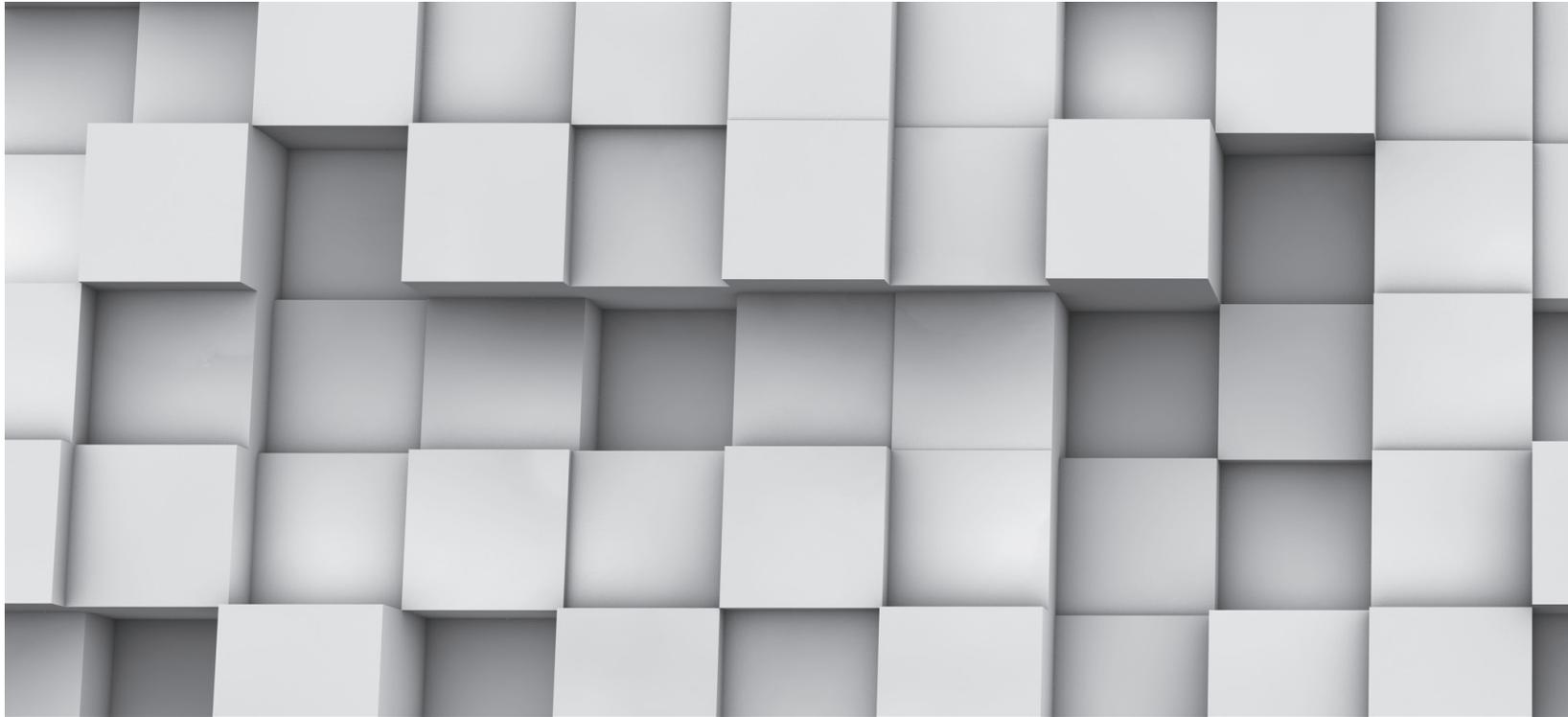


Digital Information Display



ORION CO.,LTD.

www.oriondisplay.net

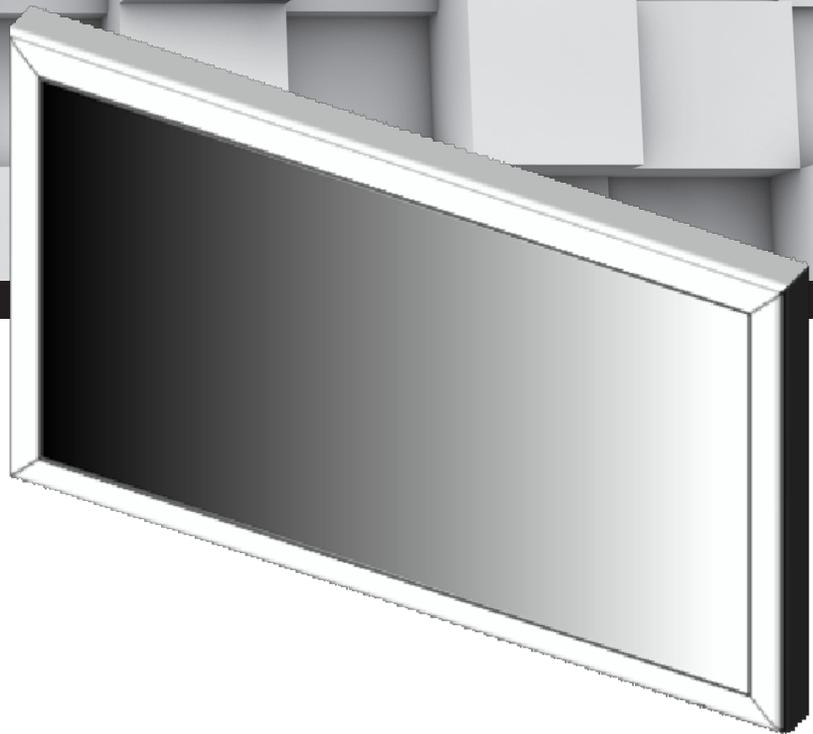
* H/Q FACTORY : 257-6, GONGDAN-DONG, GUMI-SI, GYEONGSANGBUK-DO, KOREA

TEL : +82-54-460-5700 / FAX : +82-54-461-3284

* SEOUL OFFICE : 4F, ILSHIN BLDG, 15-15 YEOUIDO-DONG, YEONGDONGPO-GU, SEOUL, KOREA

TEL : +82-2-6678-8505 / FAX : +82-2-6678-8599

8][]hU`≠bZcfa Uh]cb`8]gd`Um



User's Manual

Thank you for purchasing our DID LCD.
Please read through this user's manual for safety before installing this product.
This manual is manufactured for DID LCD model only.

Features

- ▶ Enjoy a wide flat screen with high brightness and high quality.
- ▶ Easy to install and move due to its thin design

Thank you for purchasing our DID LCD monitor.

This manual describes how to use the product and notes in use.

Please read the manual carefully before using it.

After reading this manual, please retain for future reference.

If you have any questions or a problem occurs, please contact either the company you purchased this product from or an authorized service center.

※ **Displaying static picture for an extended period of time may cause a burn-in effect.**



Warning

If you fail to comply with the regulations for safety and proper use, fire or injury may be caused.



Warning

To prevent electric shock, Do not remove cover.
No user serviceable part inside
Refer servicing to qualified service personal.

Supplied Accessories

User's Manual



DVI-D Cable



Power Cable



VGA Cable



Remote Control



Battery
(AAA-2ea)



Wall Bracket



USB Cable
(Option)



Notice to users

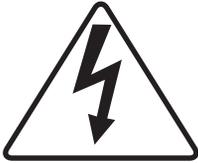
Class A digital device

It is a device designed for business purpose with a safety certificate for electromagnetic interference, which user should be mindful of.

" Important Safety Instructions"

- 1) Read these instructions.
 - 2) Keep these instructions.
 - 3) Heed all warnings.
 - 4) Follow all instructions.
 - 5) Do not use this apparatus near water.
 - 6) Clean only with dry cloth.
 - 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
 - 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
 - 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
 - 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
 - 11) Only use attachments/accessories specified by the manufacturer.
 - 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
 - 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
 - 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- The symbol in figure 21 shall be shown adjacent to the text of item 12 above.



	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the appliance.

NOTICE

1. To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable
2. WARNING - To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Appliance To Rain Or Moisture.
3. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
4. Use only a properly grounded plug and receptacle
5. "Warning" CAUTION – These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.
6. "Warning" CAUTION – These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Contents

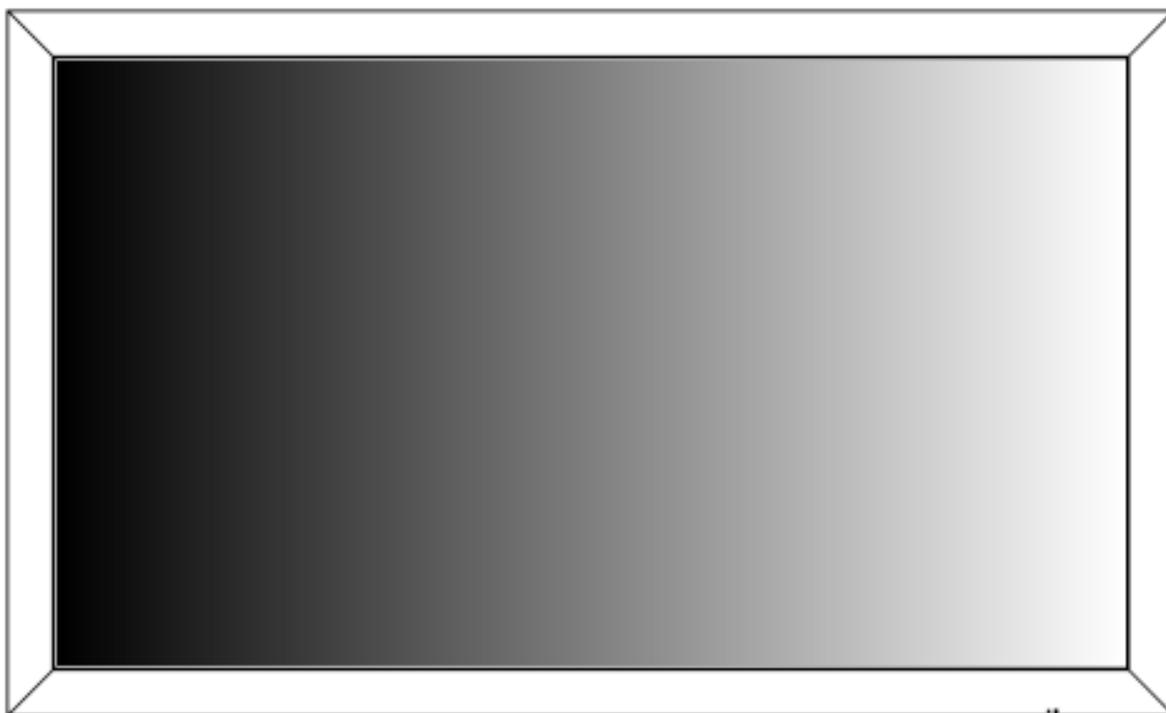
1. Safety Precautions.....	4
2. Guidance for Users	5
3. Connection	10
4. OSD(On Screen Display) Control	11
5. Protocol	15
6. Before calling for service	21
7. Applicable signals	22
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1. Safety Precautions

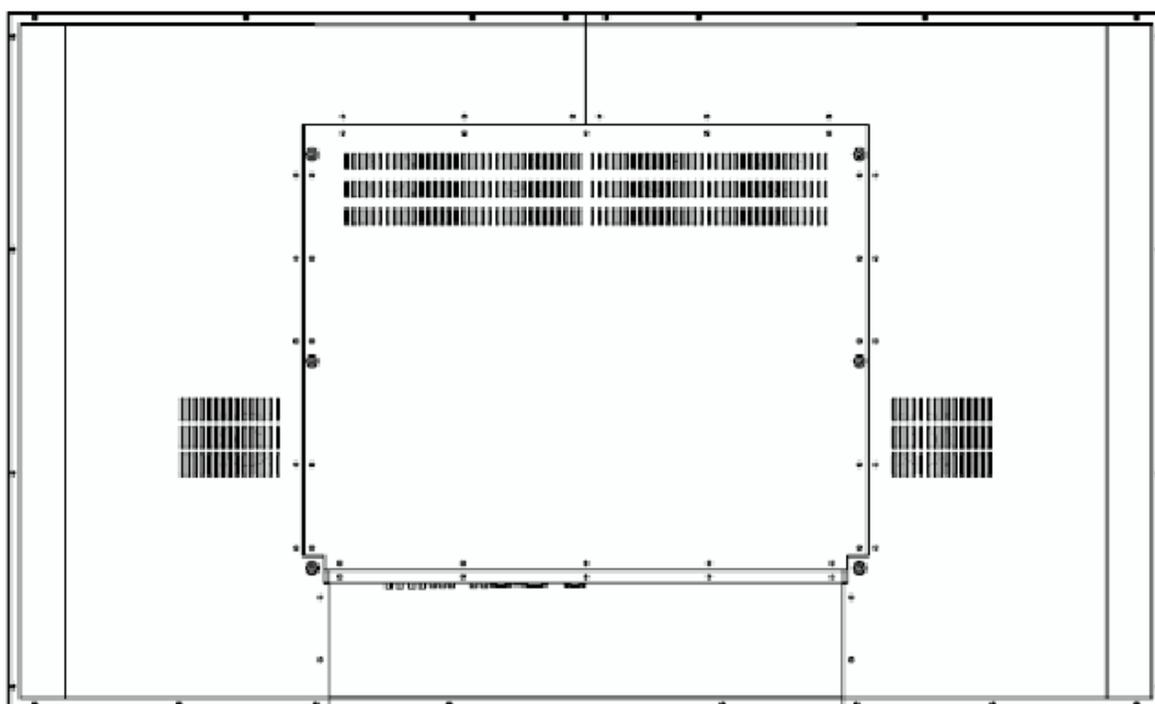
- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • If it operates abnormally, stop using it immediately. | <ul style="list-style-type: none"> • Do not place any liquid-containing container on it. If the inside is wet, it may cause electric shock or fire. | <ul style="list-style-type: none"> • Do not put any foreign material into the product. It may cause a failure or shorten the life span. |
| <ul style="list-style-type: none"> • Please refer to a specialized construction company for installing stand or wall mount unit. Otherwise, damage or injury may be caused. | <ul style="list-style-type: none"> • Do not touch the device when lightning strikes. | <ul style="list-style-type: none"> • Do not install in an unstable location. It may cause injury. |
| <ul style="list-style-type: none"> • Avoid any action to damage the power cord or power plug. It may cause fire or electric shock. | <ul style="list-style-type: none"> • Do not pull out the power plug with a wet hand. It may cause electric shock. | <ul style="list-style-type: none"> • Do not exceed ratings of AC outlet or extension cords. It may cause failure. |
| <ul style="list-style-type: none"> • Do not alter (or disassemble) the product. It may cause electric shock since high voltage is flowing inside. | <ul style="list-style-type: none"> • Do not install the product where it may be exposed to direct sunlight or near any heating device. It may shorten the product's life span or cause failure. | <ul style="list-style-type: none"> • Make sure the product is not covered with any object. If the ventilation hole is blocked, the inside temperature may rise to cause overheating resulting in fire. |
| <ul style="list-style-type: none"> • Do not pull out or hang down the connection cable. It may damage the cord to cause fire or electric shock. | <ul style="list-style-type: none"> • Do not lean against the product or keep it leaned. It may cause injury or failure. | <ul style="list-style-type: none"> • Do not put it at any place with much humidity, dust, oil, smoke or steam. It may cause failure. |
| <ul style="list-style-type: none"> • Pull out the power plug by holding the plug. Otherwise, it may damage the power cord to cause fire or electric shock. | <ul style="list-style-type: none"> • If you do not want to use the product for a long time, keep the power plug unplugged to save electricity. • The socket-outlet should be installed near the equipment and be easily accessible. | <ul style="list-style-type: none"> • Do not put any heavy object on it. It may cause failure. |
| <ul style="list-style-type: none"> • Install the product on safe and flat surface. | <ul style="list-style-type: none"> • Do not ride or step on the product. It may cause breakage when fallen down. | <ul style="list-style-type: none"> • When moving it, disconnect the connecting cable. Otherwise, it may damage the cable to cause fire or electric shock. |
| <ul style="list-style-type: none"> • Do not put candles on the product. If the liquid flows inside the product. It may cause electric shock or fire. | <ul style="list-style-type: none"> • Do not touch product's front surface with hand. Otherwise, the image quality can be lowered. | <ul style="list-style-type: none"> • Do not poke the front screen with sharp material. It may damage the screen and may cause malfunction of the product. |

2. Guidance for Users

Front View

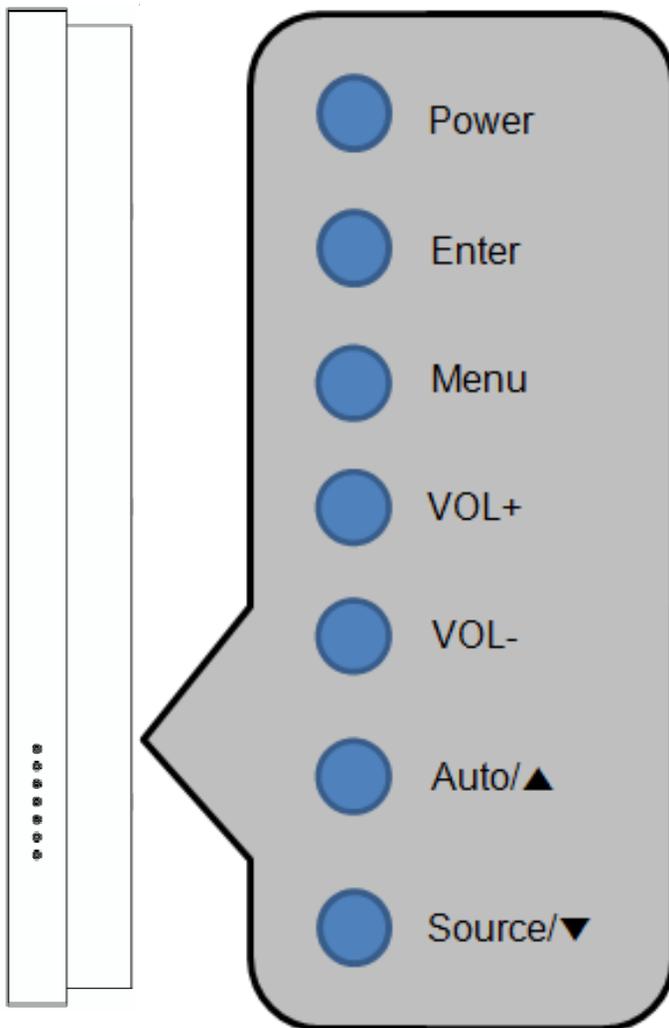


Rear View



※ The product shape may vary depending on the model.

Side View(Keypad)



- * Power : Turn on or off.
- * Enter : Select the highlighted OSD.
- * Menu : Displays an on-screen menu
- * VOL+ : Increase the adjustment with OSD menu.
Increases the audio output level when the OSD menu is turned off.
- * VOL- : Decrease the adjustment with OSD menu.
Decreases the audio output level when the OSD menu is turned off.
- * Auto/+ : Move the highlighted area up to select adjustment items within OSD menu.
Adjusts the screen display automatically in VGA mode.
- * Source/- : Move the highlighted area down to select adjustment items within OSD menu.
Select the input source.

Bottom View(Input / Output Terminal)



-  1. AV1 (Video)
-  2. AV2 (Video)
-  3. Speaker Out (R)
-  4. Speaker Out (L)
-  5. AV1 Audio Input L, R
-  6. AV2 Audio Input L, R
-  7. Component, S-Video Audio Input L, R

-  8. Component Y, Pb
-  9. S-Video, Component Pr

-  10. VGA
-  11. VGA Audio Input

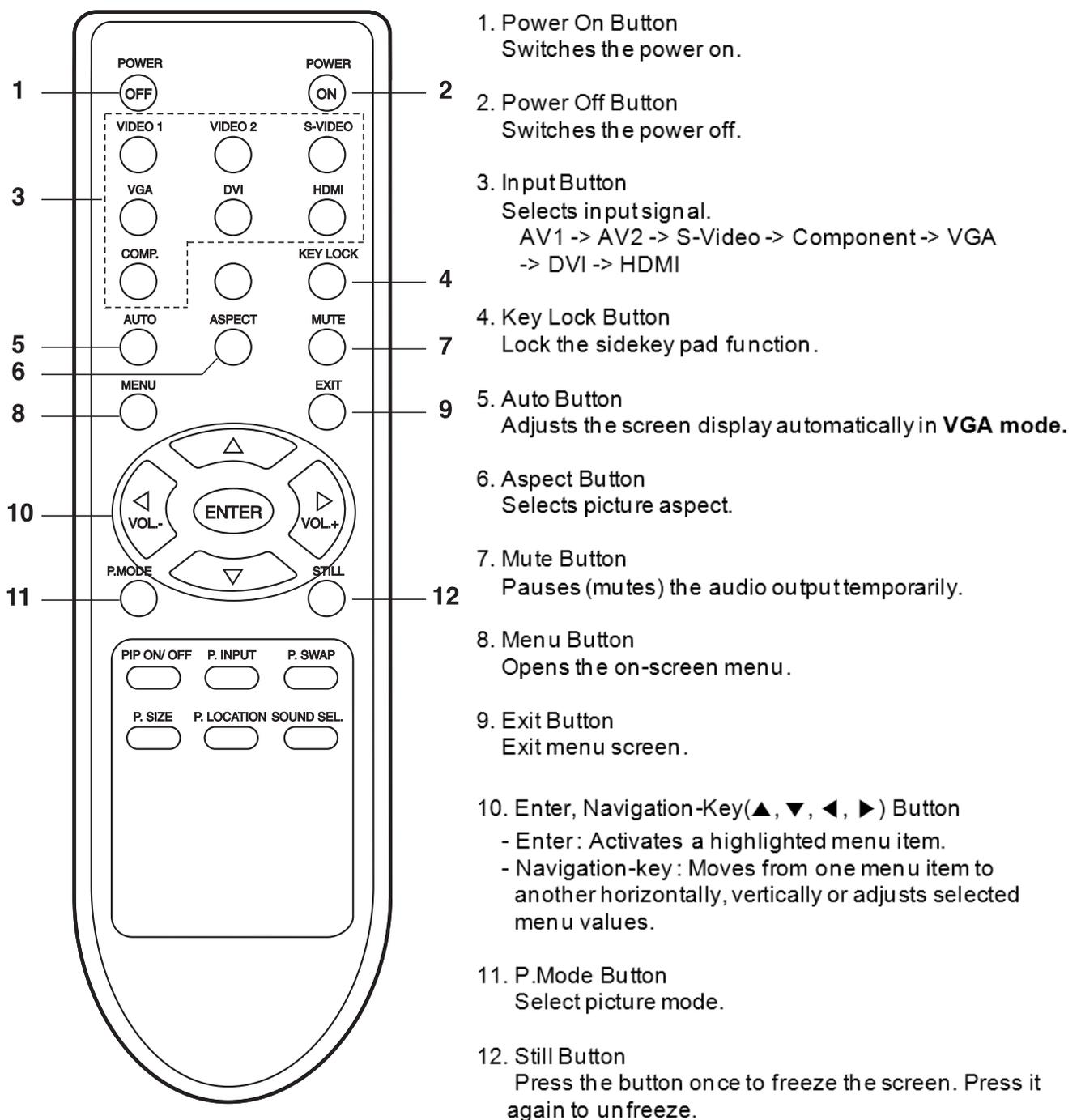
-  12. DVI

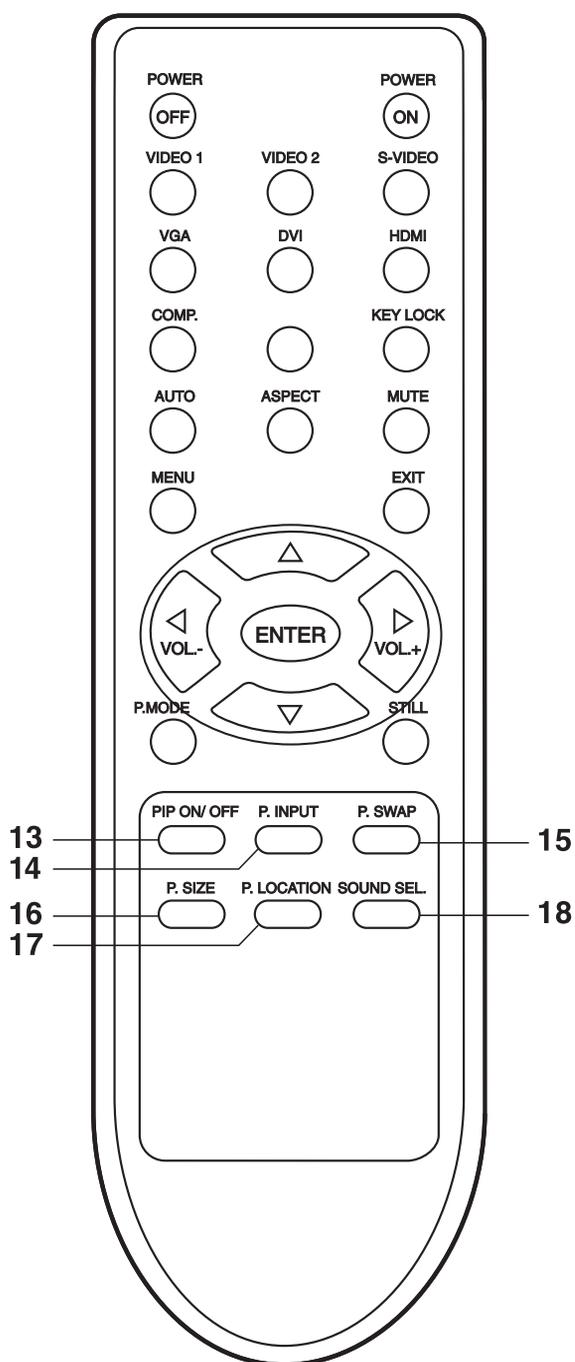
-  13. HDMI

-  14. RS-232C

Remote Control

* Use the remote control within a distance of about 7m from remote control sensor or at a horizontal and vertical angle of within 30° With in a distance of about 3.5m.

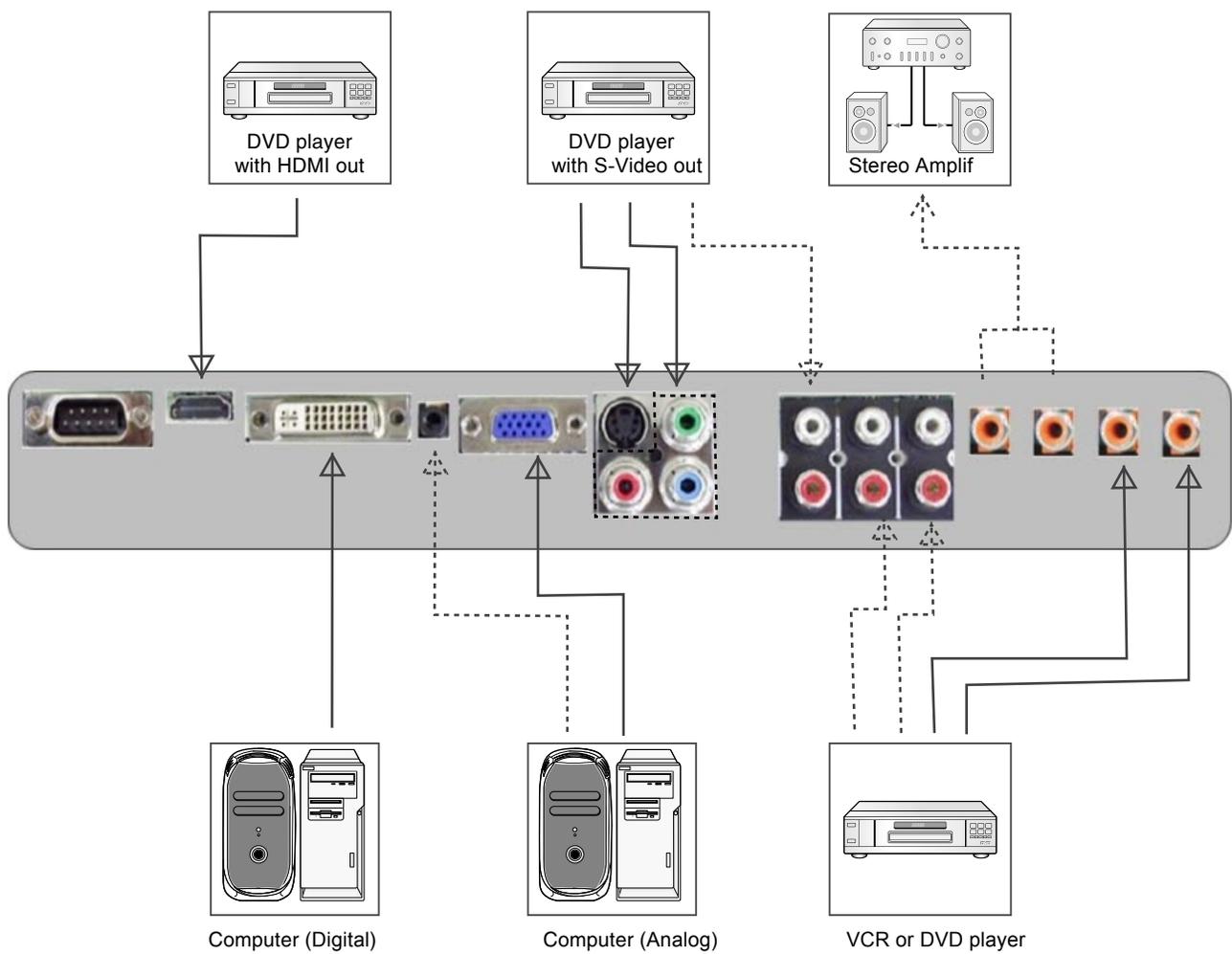




- 13. PIP On/Off Button
Every time you press the button, a PIP screen appears.
- 14. P.Input Button
Changes the source of the PIP window signal.
- 15. P.Swap Button
Swaps the contents of the PIP and main image.
The image in the PIP window will appear on the main screen, and the main screen image will appear in the PIP window.
- 16. P.Size Button
Switches the PIP Picture
- 17. P.Location Button
Select the PIP window size.
- 18. Sound sel Button
Select the PIP Sound input.

3. Connection

- * Do not connect/disconnect cables while product or other external equipments are turned on.
- * First turn off the power all the attached equipment and make connections.



4. OSD (On Screen Display) Control

4.1. Picture Menu

- Picture Mode : Select your preferred picture type
(Dynamic, Standard, Daytime, Nighttime, User)
- Brightness : Adjust the overall image and background brightness
- Contrast : Adjust the image brightness in relationship to the background
- Color : Adjust the color depth of the screen
- Sharpness : Adjust the crispness of the image
- Tint : Adjust the tint of the screen
- Backlight : Adjust the backlight of the LCD Module.
- Colour Temperature : Select the color temperature of the entire screen
(Cool, Normal, Warm, User)
- Adaptive Luminance : Select the adaptive luminance (Low, Medium, High)
- Aspect Ratio : Select the aspect ratio
(Normal, 4:3, Full Screen, Under Scan, Over Scan)
- Noise Reduction : Select the amount of noise reduction (Off, Normal, Strong)
- Edge Enhancement : Adjust the sharpness of image edge
- Advanced Control : Adjust the picture quality
(White Balance, Color Balance, Tint Balance)

4.2. PC Menu

*** This menu is activated in VGA Input only.**

- H.Position : Controls the horizontal position of the image within the Display area of the LCD
- V.Position : Controls the vertical position of the image within the Display area of the LCD
- Frequency : Adjust the width of the image
- Phase : Adjust the visual “noise” on the image
- Auto Adjust : Automatically adjusts Screen Size, H position, V position, Clock,
Clock Phase
- Reset : Resets the following settings within the PC menu back to factory setting
- Auto Position Override : Select the position of specified resolution
(1024x768, 1280x768, 1360x768, 1366x768)

4.3. Setup Menu

- Input Source : Select the input source
(AV1, AV2, S-Video, Component, VGA, DVI, HDMI)
- Language : Select the language used by the OSD
- OSD Setting : Setup the OSD setting
- ISM : Reduce the risk of Image Persistence
- Blue Screen : Display a blue screen when there is no signal
- Key Lock : Lock the keypad of side
- Set ID : Sets the monitor ID number
- Factory Reset : Reset the settings within the OSD menu back to factory setting

4.4. PIP Menu

- PIP Mode : Select the PIP Mode
(off, PIP, POP, DW1, DW2)
- PIP Input : Select the source of the PIP window signal
(AV1, AV2, S-VIDEO)
- PIP Size : Select the size of the sub-picture used in Picture-in-Picture (PIP) mode
(Small, Medium, Large)
- PIP Position : Determines where the PIP appears on the screen
(Right Bottom, Left Bottom, Left Top, Right Top)
- Audio Output : Select the PIP Sound input (Main, Sub)

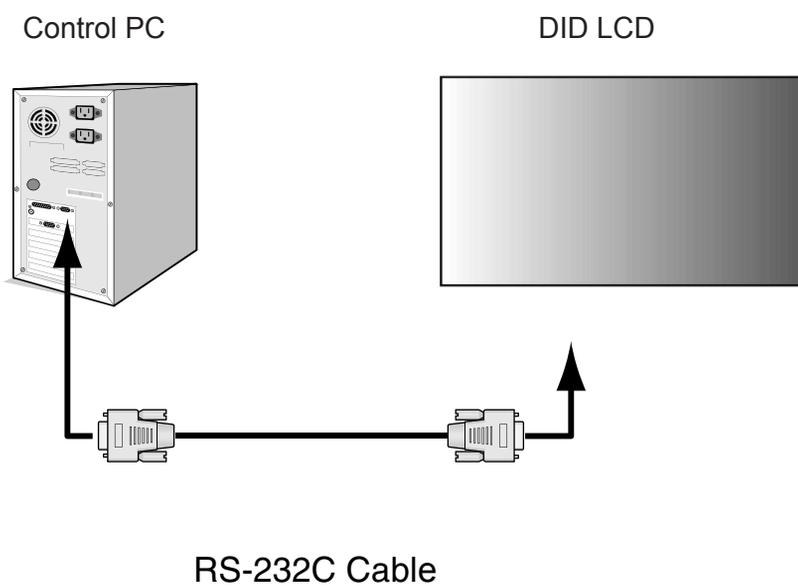
* PIP Table

Main Sub	AV1	AV2	S-VIDEO	Component	VGA	DVI	HDMI
AV1	X	O	O	O	O	O	O
AV2	O	X	O	O	O	O	O
S-VIDEO	O	O	X	O	O	O	O

5. Protocol

This DID LCD monitor can be controlled by connecting a personal computer with a RS-232C terminal.

5.1. Connection



5.2. Communication Parameters

- Baud Rate : 9600bps
- Data Length : 8bits
- Parity : None
- Stop Bit : 1bit
- Flow Control : None
- Communication Code : HEX Code

5.3. Command List

No.	Command Name	Command 1	Command 2	DATA(HEX)
1	Power	k	a	0~1
2	Input Select	k	b	0~8(32"), 0~9(40", 46")
3	Aspect Ratio	k	c	0~5(TV~Svideo), 0~1(DTV, Com~HDMI3)
4	Volume Mute	k	d	0~1
5	Screen Mute	k	e	0~1
6	Contrast	k	f	0~64
7	Brightness	k	g	0~64
8	Color	k	h	0~64
9	Tint	k	i	0~64
10	Sharpness	k	j	0~64
11	CSM	k	k	0~3
12	PSM	k	l	0~4
13	SSM	k	m	0~4
14	PIP Mode (PIP, POP, DW1, DW2)	k	n	0~4
15	PIP input source	k	o	0~4
16	PIP Position	k	p	0~3
17	Volume Control	k	q	0~64
18	Balance	k	r	0~64
19	AvL	k	s	0~1
20	SRS	k	t	0~1
21	TV Speaker	k	u	0~1
22	PC Auto	k	v	0
23	PC Reset	k	w	0
24	reserved commend	k	x	*
25	reserved commend	k	y	*
26	reserved commend	k	z	*
27	Channel up/down (DTV)	r	a	0~1 (0 : Up, 1 : Down)
28	Channel up/down (AnalogTV)	r	b	0~1 (0 : Up, 1 : Down)

06. Contrast (Command 2 : f)

- ▶ To adjust screen contrast.
You can also adjust contrast in the PICTURE menu.

Transmission

[k][f][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping'. See page 52.

OK Acknowledgement

[f][][Set ID][][OK][Data][x]

07. Brightness (Command 2 : g)

- ▶ To adjust screen brightness.
You can also adjust brightness in the PICTURE menu.

Transmission

[k][g][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping'. See page 52.

OK Acknowledgement

[g][][Set ID][][OK][Data][x]

08. Color (Command 2 : h)

- ▶ To adjust screen color.
You can also adjust color in the PICTURE menu.

Transmission

[k][h][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping'. See page 52.

OK Acknowledgement

[h][][Set ID][][OK][Data][x]

09. Tint (Command 2 : i) (option)

- ▶ To adjust the screen tint.
You can also adjust tint in the PICTURE menu.

Transmission

[k][i][][Set ID][][Data][Cr]

Data Red : 0 ~ Green : 64

* Refer to 'Real data mapping'. See page 52.

OK Acknowledgement

[i][][Set ID][][OK][Data][x]

10. Sharpness (Command 2 : j)

- ▶ To adjust screen sharpness.
You can also adjust sharpness in the PICTURE menu.

Transmission

[k][j][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping'. See page 52.

OK Acknowledgement

[j][][Set ID][][OK][Data][x]

11. CSM (Command 2 : k)

- ▶ To adjust colour temperature.
You can also adjust CSM in the PICTURE menu.

Transmission

[k][k][][Set ID][][Data][Cr]

Data 0 : Cool	1 : Warm
2 : Normal	3 : User

OK Acknowledgement

[k][][Set ID][][OK][Data][x]

12. PSM (Command 2 : l)

- ▶ To select picture mode.
You can also adjust PSM in the PICTURE menu.

Transmission

[k][l][][Set ID][][Data][Cr]

Data 0 : Dynamic	1 : Standard
2 : Mild	3 : Game
4 : User	

OK Acknowledgement

[l][][Set ID][][OK][Data][x]

13. SSM (Command 2 : m)

- ▶ To select sound mode.
You can also adjust SSM in the SOUND menu.

Transmission

[k][m][][Set ID][][Data][Cr]

Data 0 : Flat	1 : Music
2 : Movie	3 : Speech
4 : User	

OK Acknowledgement

[m][][Set ID][][OK][Data][x]

14. PIP Mode (Command 2 : n)

- ▶ To select PIP mode.
You can also adjust PIP Mode in the Main/PIP menu.

Transmission

[k][n][][Set ID][][Data][Cr]

Data 0 : Off 1 : PIP
2 : POP 3 : DW1
4 : DW2

* Refer to 'Real data mapping'. See page 52.

OK Acknowledgement

[n][][Set ID][][OK][Data][x]

15. PIP Input (Command 2 : o)

- ▶ To select PIP Input.
You can also adjust PIP Input in the Main/PIP menu.

Transmission

[k][o][][Set ID][][Data][Cr]

Data 0 : TV 1 : AV1
2 : AV2 3 : AV3
4 : S-Video

OK Acknowledgement

[o][][Set ID][][OK][Data][x]

16. PIP Position (Command 2 : p)

- ▶ To select sub picture position for PIP.
You can also adjust the sub picture position using POSITION button on the remote control or in the PIP/DW menu.

Transmission

[k][p][][Set ID][][Data][Cr]

Data 0 : Right down on screen 1 : Left down on screen
2 : Left up on screen 3 : Right up on screen

OK Acknowledgement

[p][][Set ID][][OK][Data][x]

17. Volume Control (Command 2 : q)

- ▶ To adjust volume.
You can also adjust volume with the volume buttons on remote control.

Transmission

[k][q][][Set ID][][Data][Cr]

OK Acknowledgement

[q][][Set ID][][OK][Data][x]

18. Balance (Command 2 : r)

- ▶ To adjust sound balance.
You can also adjust balance in the SOUND menu.

Transmission

[k][r][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping'. See page 52.

OK Acknowledgement

[r][][Set ID][][OK][Data][x]

19. AVL (Command 2 : s)

- ▶ To control AVL On/Off of the set.

Transmission

[k][s][][Set ID][][Data][Cr]

Data 0 : Off 1 : On

* Refer to 'Real data mapping'. See page 52.

OK Acknowledgement

[s][][Set ID][][OK][Data][x]

20. SRS (Command 2 : t)

- ▶ To select SRS mode.
You can also adjust SRS in the SOUND menu.

Transmission

[k][t][][Set ID][][Data][Cr]

Data 0 : Off 1 : On

OK Acknowledgement

[t][][Set ID][][OK][Data][x]

21. TV Speaker (Command 2 : u)

- ▶ To control TV Speaker On/Off of the set.
You can also adjust TV Speaker in the SOUND menu.

Transmission

[k][u][][Set ID][][Data][Cr]

Data 0 : Off 1 : On

OK Acknowledgement

[u][][Set ID][][OK][Data][x]

22. PC Auto (Command 1 : k, Command 2 : v)

- ▶ To adjust picture position and minimize image shaking automatically. It works only in RGB (PC) mode.

Transmission

[k][v][][Set ID][][Data][Cr]

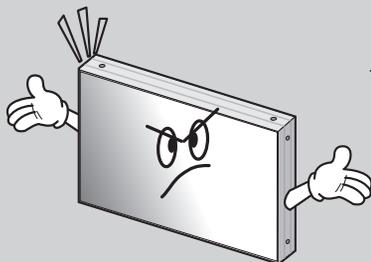
Data 0 : Execute

OK Acknowledgement

[v][][Set ID][][OK][Data][x]

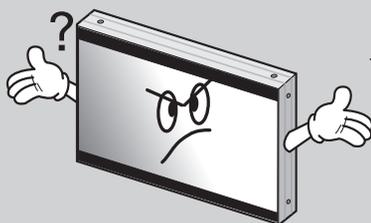
6. Before calling for service

- Before calling for any repair, check the following and then refer to a near A/S center.



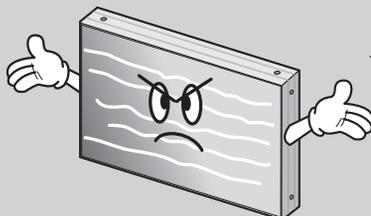
▶ "Tick" sound from the main body.

- If there is no problem with the screen or sound, the "tick" sound is likely to result from the cabinet lightly shrinking with the change of room temperature. The sound does not affect product's performance.



▶ No image at upper and lower part of the screen.

- As for a screen which is over 16:9 in width (such as cinema-sized one), no image may be displayed at upper and bottom part of the screen.



▶ Speckles or white lines on the screen

- Check whether the problem is caused by vehicle, streetcar, high-voltage cable or neon sign, which emitting interference wave or electromagnetic induction. Avoid any interfering object.

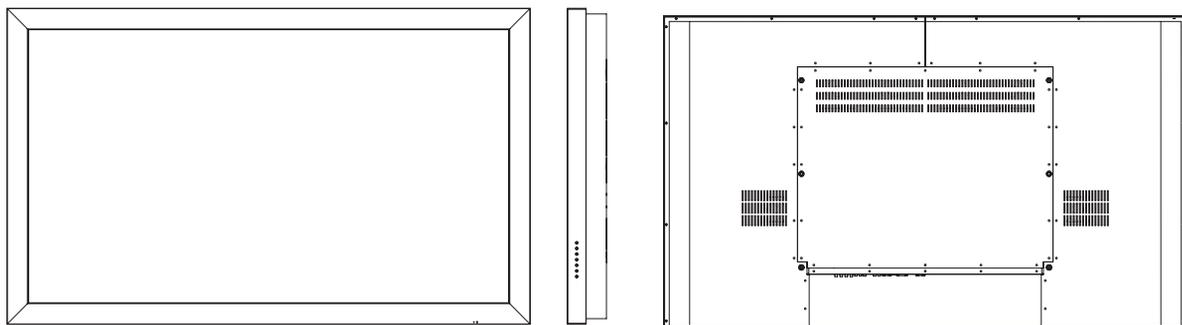
7. Applicable signals

Input	No	Resolution	V-freq.(Hz)	Proposed
HDMI/DVI	1	720*480	60	SDTV 480p
	2	720*576	50	SDTV 576p
	3	1280*720	50	HDTV 720p 50Hz
	4	1280*720	60	HDTV 720p 60Hz
	5	1920*1080	50	HDTV 1080i 50Hz
	6	1920*1080	60	HDTV 1080i 60Hz
	7	1920*1080	24	HDTV 1080p 24Hz
	8	1920*1080	50	HDTV 1080p 50Hz
	9	1920*1080	60	HDTV 1080p 60Hz
PC-RGB	1	640*350	70	
	2	720*400	70	
	3	720*400	85	
	4	640*480	60	
	5	640*480	72	
	6	640*480	75	
	7	640*480	85	
	8	800*600	56	
	9	800*600	60	
	10	800*600	72	
	11	800*600	75	
	12	800*600	85	
	13	1024*768	60	
	14	1024*768	70	
	15	1024*768	75	
	16	1024*768	85	
	17	1280*1024	60	
	18	1280*768	60	
	19	1280*768	75	
	20	1360*768	60	
	21	1600*1200	60	
	22	1920*1080	60	
Component	1	720*480	60	SDTV 480i
	2	720*576	50	SDTV 576i
	3	720*480	60	SDTV 480p
	4	720*576	50	SDTV 576p
	5	1280*720	50	HDTV 720p 50Hz
	6	1280*720	60	HDTV 720p 60Hz
	7	1920*1080	50	HDTV 1080i 50Hz
	8	1920*1080	60	HDTV 1080i 60Hz
	9	1920*1080	24	HDTV 1080p 24Hz
	10	1920*1080	50	HDTV 1080p 50Hz
	11	1920*1080	60	HDTV 1080p 60Hz
S-VIDEO, VIDEO	1	NTSC		
	2	PAL-BG		
	3	SECAM		

8. Specification

8.1. DID LCD

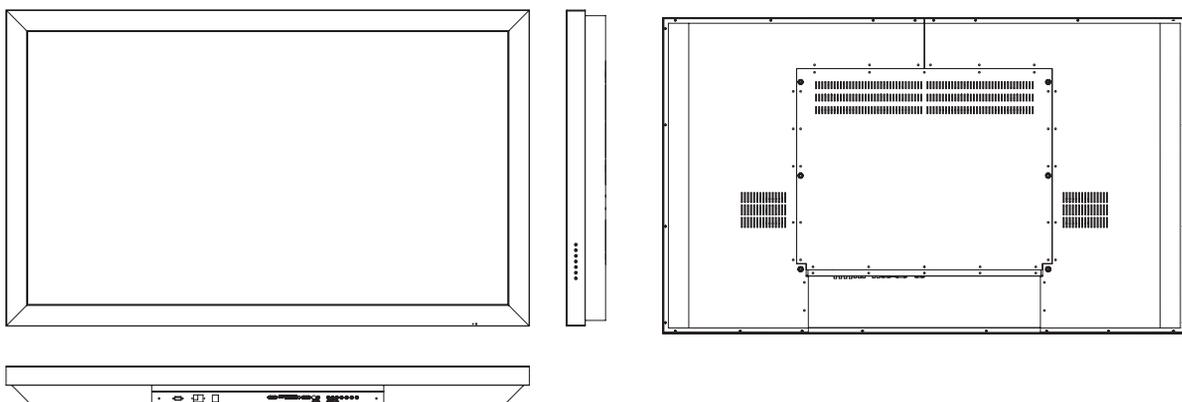
Model Name		OLS-400NOP	OLS-400TOP
LCD Panel		40" Samsung DID LCD Panel (CCFL Back Light)	
Resolution (H x V)		Full HD 1920 x 1080 (16 : 9)	
Brightness		700cd/m ²	
Contrast Ratio		3,000 : 1 (Typ.)	
Viewing Angle		Horizontal : > 178°, Vertical : > 178°	
Response Time		6ms (G to G)	
Refresh Frequency		60Hz	
Lamp Lift Time		Min. 50,000Hrs	
Input Signal	AV	Video : 2 Port (RCA), Audio : 2 Port (RCA)	
	S-Video	Video : 1 Port (Mini DIN 4Pin)	
	Component	Video : 1 Port (RCA), Audio : 1 Port (RCA)	
	VGA	Video : 1 Port (D-Sub 15Pin), Audio : 1 Port (Stereo Phone Jack)	
	DVI	Video : 1 Port (Single link DVI-I with HDCP)	
	HDMI	1 Port (HDMI Type A with HDCP)	
	RS-232C	1 Port (D-Sub 9Pin Female)	
Functions	Remote Control	Included	
	Wall Mountable	Yes (800mm x 400mm)	
	Touch		Infrared Rays
Power	Input Source	AC 100 - 240~, 50/60Hz	
	Consumption	160W	
OSD Language		Korea, English, French, Spanish	
Operating Temperature		0°C ~ 35°C	
Dimension (W x H x D)		1010 x 610 x 95.2mm	1010 x 610 x 113.2mm
Weight		35Kg ± 1kg	39kg ± 1kg



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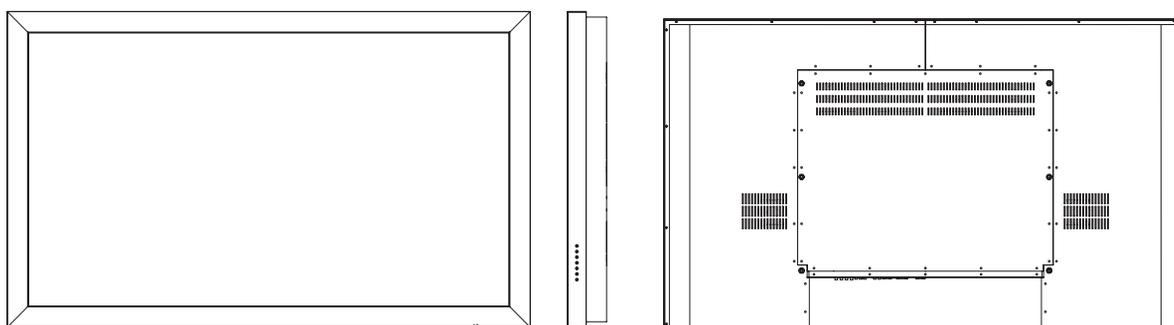
ORION

Model Name		OLS-460NOP	OLS-460TOP
LCD Panel		46" Samsung DID LCD Panel (CCFL Back Light)	
Resolution (H x V)		Full HD 1920 x 1080 (16 : 9)	
Brightness		700cd/m ²	
Contrast Ratio		3,000 : 1 (Typ.)	
Viewing Angle		Horizontal : > 178°, Vertical : > 178°	
Response Time		6ms (G to G)	
Refresh Frequency		60Hz	
Lamp Life Time		Min. 50,000Hrs	
Input Signal	AV	Video : 2 Port (RCA), Audio : 2 Port (RCA)	
	S-Video	Video : 1 Port (Mini DIN 4Pin)	
	Component	Video : 1 Port (RCA), Audio : 1 Port (RCA)	
	VGA	Video : 1 Port (D-Sub 15Pin), Audio : 1 Port (Stereo Phone Jack)	
	DVI	Video : 1 Port (Single link DVI-I with HDCP)	
	HDMI	1 Port (HDMI Type A with HDCP)	
	RS-232C	1 Port (D-Sub 9Pin Female)	
Functions	Remote Control	Included	
	Wall Mountable	Yes (800mm x 400mm)	
	Touch		Infrared Rays
Power	Input Source	AC 100 - 240~, 50/60Hz	
	Consumption	190W	
OSD Language		Korea, English, French, Spanish	
Operating Temperature		0°C ~ 35°C	
Dimension (W x H x D)		1150 x 710 x 112mm	1150 x 710 x 129.2mm
Weight		43Kg ± 1kg	56kg ± 1kg



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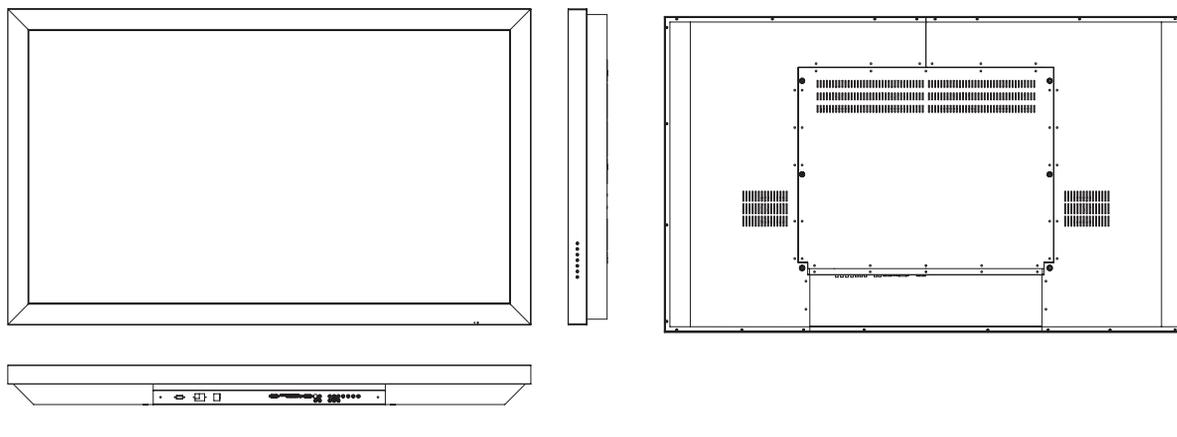
Model Name		OLS-550NOP	OLS-550TOP
LCD Panel		55" Samsung DID LCD Panel (CCFL Back Light)	
Resolution (H x V)		Full HD 1920 x 1080 (16 : 9)	
Brightness		700cd/m ²	
Contrast Ratio		3,000 : 1 (Typ.)	
Viewing Angle		Horizontal : > 178°, Vertical : > 178°	
Response Time		6ms (G to G)	
Refresh Frequency		60Hz	
Lamp Lift Time		Min. 50,000Hrs	
Input Signal	AV	Video : 2 Port (RCA), Audio : 2 Port (RCA)	
	S-Video	Video : 1 Port (Mini DIN 4Pin)	
	Component	Video : 1 Port (RCA), Audio : 1 Port (RCA)	
	VGA	Video : 1 Port (D-Sub 15Pin), Audio : 1 Port (Stereo Phone Jack)	
	DVI	Video : 1 Port (Single link DVI-I with HDCP)	
	HDMI	1 Port (HDMI Type A with HDCP)	
	RS-232C	1 Port (D-Sub 9Pin Female)	
Functions	Remote Control	Included	
	Wall Mountable	Yes (800mm x 400mm)	
	Touch		Infrared Rays
Power	Input Source	AC 100 - 240~, 50/60Hz	
	Consumption	330W	
OSD Language		Korea, English, French, Spanish	
Operating Temperature		0°C ~ 35°C	
Dimension (W x H x D)		1350 x 820 x 116.5mm	1350 x 820 x 130mm
Weight		48Kg ± 1kg	65kg ± 1kg



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Model Name		OLS-700NOP	OLS-700TOP
LCD Panel		70" Samsung DID LCD Panel (CCFL Back Light)	
Resolution (H x V)		Full HD 1920 x 1080 (16 : 9)	
Brightness		600cd/m ²	
Contrast Ratio		2,000 : 1 (Typ.)	
Viewing Angle		Horizontal : > 178°, Vertical : > 178°	
Response Time		6ms (G to G)	
Refresh Frequency		60Hz	
Lamp Life Time		Min. 50,000Hrs	
Input Signal	AV	Video : 2 Port (RCA), Audio : 2 Port (RCA)	
	S-Video	Video : 1 Port (Mini DIN 4Pin)	
	Component	Video : 1 Port (RCA), Audio : 1 Port (RCA)	
	VGA	Video : 1 Port (D-Sub 15Pin), Audio : 1 Port (Stereo Phone Jack)	
	DVI	Video : 1 Port (Single link DVI-I with HDCP)	
	HDMI	1 Port (HDMI Type A with HDCP)	
	RS-232C	1 Port (D-Sub 9Pin Female)	
Functions	Remote Control	Included	
	Wall Mountable	Yes (800mm x 400mm)	
	Touch		Infrared Rays
Power	Input Source	AC 100 - 240~, 50/60Hz	
	Consumption	700W	
OSD Language		Korea, English, French, Spanish	
Operating Temperature		0°C ~ 35°C	
Dimension (W x H x D)		1690.9 x 1012.7 x 126.2mm	1690.9 x 1012.7 x 135.7mm
Weight		95Kg ± 1kg	105kg ± 1kg



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Model Name		OLS-820NOP	OLS-820TOP
LCD Panel		82" Samsung DID LCD Panel (CCFL Back Light)	
Resolution (H x V)		Full HD 1920 x 1080 (16 : 9)	
Brightness		600cd/m ²	
Contrast Ratio		2,000 : 1 (Typ.)	
Viewing Angle		Horizontal : > 178°, Vertical : > 178°	
Response Time		6ms (G to G)	
Refresh Frequency		60Hz	
Lamp Lift Time		Min. 50,000Hrs	
Input Signal	AV	Video : 2 Port (RCA), Audio : 2 Port (RCA)	
	S-Video	Video : 1 Port (Mini DIN 4Pin)	
	Component	Video : 1 Port (RCA), Audio : 1 Port (RCA)	
	VGA	Video : 1 Port (D-Sub 15Pin), Audio : 1 Port (Stereo Phone Jack)	
	DVI	Video : 1 Port (Single link DVI-I with HDCP)	
	HDMI	1 Port (HDMI Type A with HDCP)	
	RS-232C	1 Port (D-Sub 9Pin Female)	
Functions	Remote Control	Included	
	Wall Mountable	Yes (800mm x 400mm)	
	Touch		Infrared Rays
Power	Input Source	AC 100 - 240~, 50/60Hz	
	Consumption	1,000W	
OSD Language		Korea, English, French, Spanish	
Operating Temperature		0°C ~ 35°C	
Dimension (W x H x D)		1958 x 1178 x 129mm	1958 x 1178 x 155.5mm
Weight		135Kg ± 1kg	185kg ± 1kg

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8.2. Touch

Item	Description
Touch Technology	Pluse IR Technology
Touch Method	Finger, gloved hand or Any other pointer, Stylus minimum $\Phi 6\text{mm}$
Touch Activation Force	No pressure required
Position Accuracy	Typical centroid accuracy 2mm
Resolution	16,383(W) x 16,383(D)
Response Time	5ms to 15ms depending on configuration (Typical : 13ms)
Glass	Transmission : $\geq 90\%$ with glass, Thickness : 5mm Tempered Glass
Optics Quantity	544(H) x 306(V) pcs
Touch Intensity	Over 60,000,000 single point touch
Operating Voltage	DC 4.6 ~ 5V (USB)
Power	USB from powered hub, 2W(360mA at DC 5V) with no touch point
Interface	USB1.1(Full speed), Plug & Play Compatible, HID Compatible

Memo