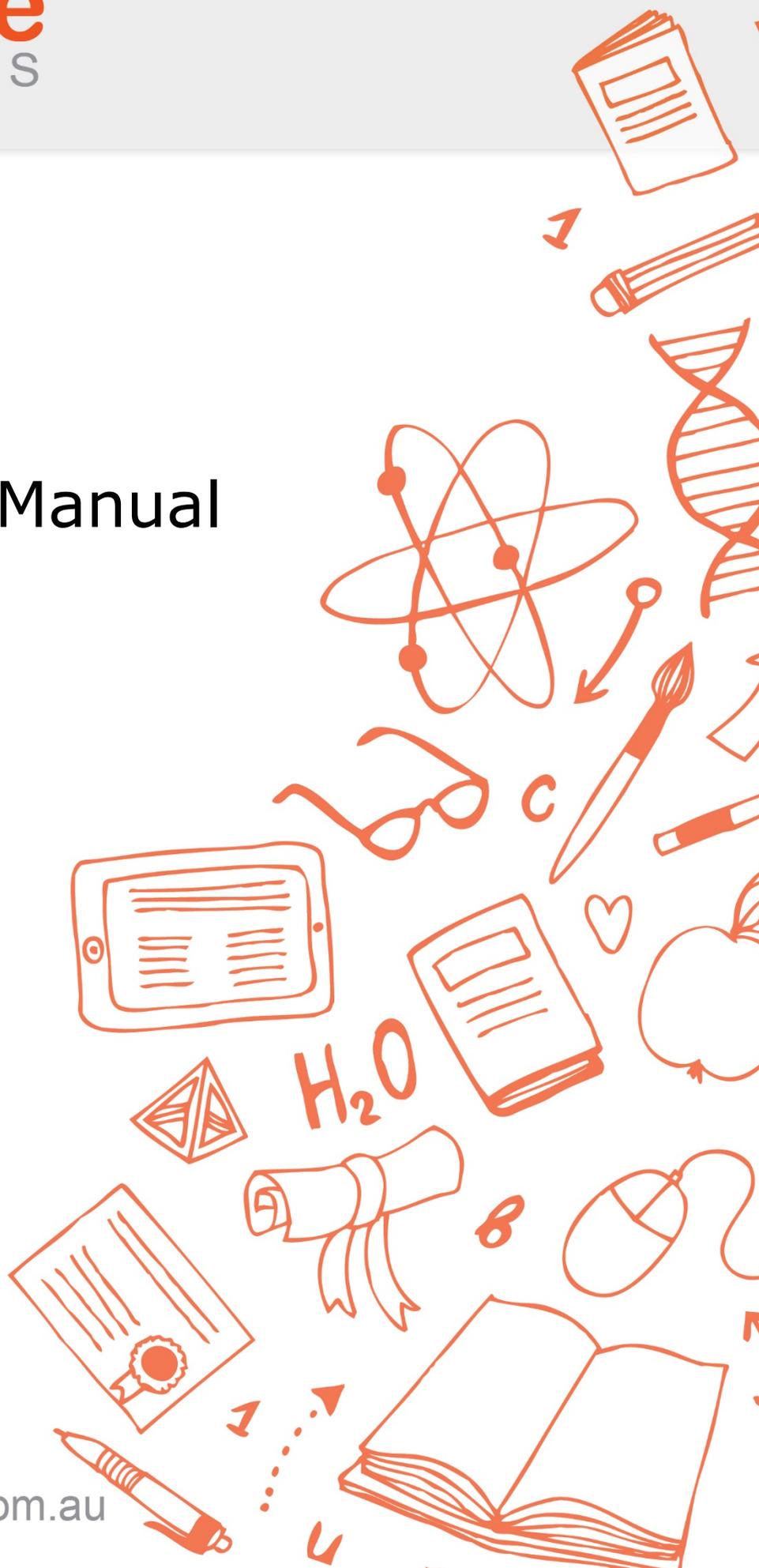


Touchscreen Manual

October 2018



NOTICES

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General

Every effort has been made to ensure accuracy, however in some cases changes in the products or availability could occur which may not be reflected in this document. We reserve the right to make changes to specifications at any time without notice. Performance specifications are typical but may vary depending on conditions beyond our control such as maintenance of the product in proper working conditions. Performance specifications are based on information available at the time of printing. We make no warranty of any kind with regards to this material, including, but not limited to, implied warranties of fitness for a particular purpose. We will not be liable for errors contained herein or for incidental or consequential damages in connection with the performance or use of this material. Our manufacturing facility is ISO 9001 and 14001 certified.

REGULATORY

The product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part of KC, CE, CB, FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a commercial environment. The product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's own expense.

Environmental

The product is designed and manufactured with high-quality materials and components that can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from regular waste. Please dispose of the product appropriately and according to local regulations. In the European Union, there are separate collection systems for used electrical and electronic products. Please help us to conserve the environment we live in!

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1 Before using the product

- Before installing or using the product, to avoid damaging the product, read and follow as the guidelines of the user manual for your safety.
- The color, design and specification may change without notice to enhance the function.

1.1 Safety Precautions

Precautions are divided into two "Warning" and "Caution", the meaning of the each is as follows.



Warning: If you do not follow, it could result in serious injury or death.



Caution: If you do not follow, it could result in minor injury or product damage.

Please keep users to access **USER MANUAL** easily.



This illustration below is for reference only.

Warning



Do not use a damaged power cable or plug which does not meet the standard.
- This may cause a fire or an electric shock.



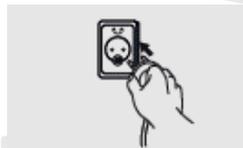
If you are using a power strip, do not use several devices at the same time.
- Due to the heat generated by the multi-outlet, it may cause fire.



Do not touch the power plug with wet hands.
- This may cause an electric shock.



Plug in the outlet end exactly.
- If the connection is not stable, it may cause fire.



Connect the power cable to a grounded outlet.
- This can cause electric shock when the ground is broken or shorted.
- When installing on a place that cannot be grounded, connect to the outlet by using a circuit breaker to protect the product from electric shock.



Do not pull or bend the power cable forcibly.
Avoid placing heavy objects on the cables.
- If the cable is damaged, it may result in electric shock or a fire.



Do not use the power cable near heating appliances and products.
- This may cause a fire or electric shock.



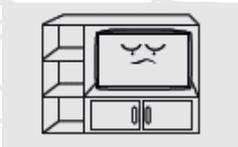
In case of contamination around the power plug or outlet, wipe clean with a dry cloth.
- This may cause a fire.



Do not place flammable objects near the product.
- This may cause a fire.



If you want to install by using the wall mount, make the product be installed by a trained technician. Refer to the User Guide Wall Mounting.
- This may cause injury.



Do not install the product in poorly ventilated places such as a bookshelf or closet.
- Otherwise it may affect internal temperature to be increased and cause a fire.



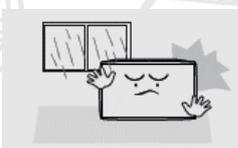
Install the product at least 10 cm far from the wall.
- Otherwise it may affect internal temperature to be increased and cause a fire.



After unpacking the product, packaging vinyl should be kept away from the hands of young children.
- If a child uses it incorrectly, it may cause a choking accident.



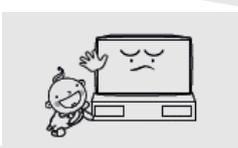
Do not install in locations where has vibration or in an unstable position.
- Product fall may occur, and it might cause damage.
- This may cause a fire.



Do not install in places which dirt, moisture, smoke, much water or rain water can reach.
Do not install under the air conditioner that could fall water drops.
- This may result in electric shock or fire.



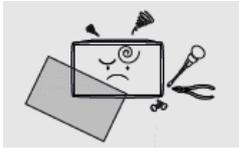
Avoid exposure to direct sunlight and do not place near hot objects such as a fire or heater heat.
- This may cause a fire or shortening the product life.



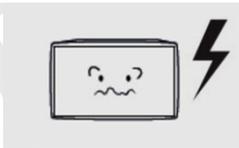
Do not install in the low place where a child can touch.
- A child may be injured while playing and touching the product.



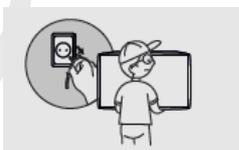
Do not install near any kitchen or kitchen counter because it may cause damage or deformation of the product by the vapor or oil.
- This may cause a fire.



Do not try to repair or transform the product because the high voltage can flow inside the product.
- This may cause a fire or electric shock.
- When problem is found in the product, contact a service center.



Do not use electrical equipment which uses high-voltage around the product.
- This may result in poor quality of display or cause amblyopia.
- This may cause a fire or electric shock.



When moving the product, turn off the power and remove all of the cables including power cables connected to the product.
- If the cable is damaged, it may cause a fire or electric shock.



When smelling something burning or hearing strange sound from the product, disconnect the power cable immediately and contact a service center.
- This may cause a fire or electric shock.



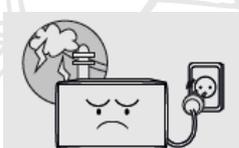
Do not allow a child to get on or hang on the product.
- If the product falls off, a child may result in injury or death.



Do not place heavy object, toy or sweets that a child can play with on the product.
- If a child hangs the product and fall, it may cause personal injury or death.



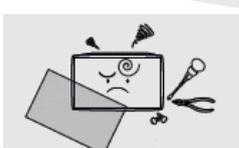
When the product is damaged or falls off, disconnect the power cable immediately and contact a service center.
- This may cause a fire or electric shock.



When lightning occurs, turn off the power switch and disconnect the power cable.
- This may cause a fire or electric shock.



Do not drop the product or throw something to the product.
- This may cause a fire or electric shock.



Do not give a shock or scratch to the screen with sharp objects.
- This may cause damage to the product.



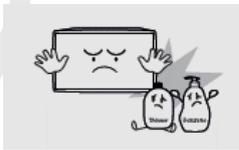
Do not pull the power cable or signal cables connected to the product when moving the product.
- Cable damage may cause a malfunction or an electric shock or fire.



Do not shake or uplift a product by holding only the power cable and signal cable.
- Cable damage may cause a malfunction or an electric shock or fire.



If you smell a gas around the place of the product or there is a risk of a gas leakage,
Do not plug in or turn on the product. Make sure to ventilate.
- A spark in the appliance power can cause an explosion or fire.



Do not store or use flammable material and flammable sprays near the product.
- This may cause an explosion or fire.



Please do not block a vent with the curtain or cloth, etc.
- The rise of internal temperature may cause a fire.

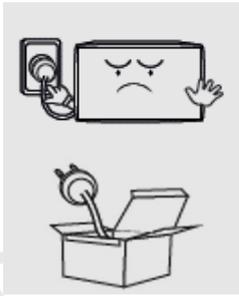


Do not put a steel rod, coin, hair pin etc. in the vent and input/output terminals of the product.
Also, do not put a flammable object such as papers.
- When a strange substance enters into the product, turn off the power of the product. Please contact the Service Center after unplugging the power cable.
- This may cause a malfunction or an electric shock or fire.

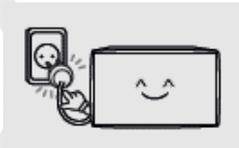


Do not place anything containing liquid or metals on the product.
- When a strange substance enters into the product, turn off the power of the product. Please contact the Service Center after unplugging the power cable.
- This may cause a malfunction or an electric shock or fire.

⚠Caution



Do not unplug the power cable while using the product.
- This may cause a fire or electric shock.



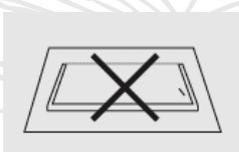
Use only the power cable qualified for the standard.
- This may cause a fire or electric shock.



Connect the power cable to the nearest outlet.
- If having a problem with the product, unplug the power cable completely.



When disconnecting the power cable from the outlet, do not pull the cable wire.
Please be sure to hold the plug and separate it.
- This may cause a fire or electric shock.



Please move the product carefully not to occur the twist and drop.
- This may cause a malfunction or injury.



Put the product's screen faces upwards.
- The screen may be damaged.



Work together more than one person if the product is heavy.
- This may cause a malfunction or injury.



When installing the product on a cabinet or shelf, use the larger size of the tray than the product to use and maintain the horizon.
- The product may fall and cause damage or injury.



Please do not shock when installing the product.
- This may cause a malfunction.

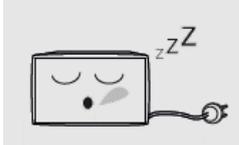


When installing the product in a special place, contact a dealer or a service center because the peculiar environment can be affected to the event of a problem with the
- This may cause a malfunction or fire.



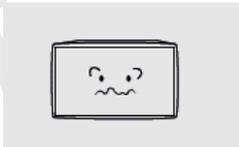
Turning on the product in the condition of the fixed screen or 4:3 screen for a long time may also cause an afterimage or stain on the screen.

- When using the product for a long time, set a screen saver of the connected computer or signaling equipment products or set it in sleep mode.



When you are not using the product for a long time, after unplugging the power cable and take action to prevent the product from a dust.

- Dust accumulation, heat generation or sparks can occur and cause fire.



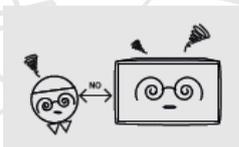
Set a resolution and frequency appropriately to the product.

- The state of the screen can result in poor or blurred vision.



For products with a stand, do not move the product by holding only the stand or lift the product upside down.

- The stand might be split from the product and it may cause damage or injury.



Look at the screen from a distance of about longer 2.5 times than the screen diagonal length.

- Looking at the screen for a long time can lead to vision loss.

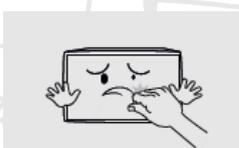


Do not use anything that causes the water vapor near the product. (Moisturizers, etc.).

- This may cause a malfunction or an electric shock or fire.



After 1 hours use, rest your eyes for more than 5 minutes.



If the product is turned on for a long time, do not touch the screen surface or vent because it may be hot.

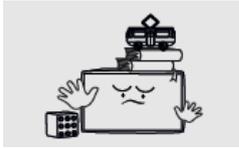


Keep the accessories of the products out of reach of children.

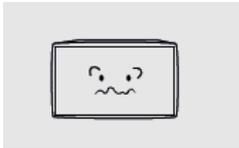


For products with a stand, be careful when adjusting the angle and height of the stand of the product.

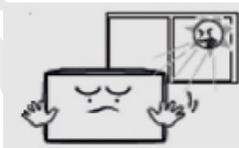
- Tilting severely the product may cause the product to fall off and injury.
- Stuck a finger or hand may cause an injury.



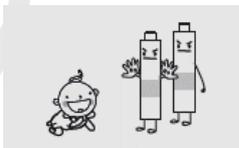
Do not place heavy objects on the product.
- This may result in a malfunction or an injury.



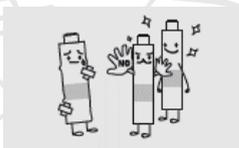
Please put obstacles away from the space between the remote controller and the product.
- The product may not be operated by remote controller.



The remote control may not be good in this operation under the sun or strong light.
Please change the location of the product in this case.



Make sure that a child does not eat the battery and keep it out of a child's reach.
- If a child eats the battery, please consult a doctor immediately.



When replacing the battery, insert it to the correct polarities (+, -).
- If it is different from the polarity of the battery, it may cause a fire or injury to break or leak.
- This may also contaminate the surrounding.



Use a standard battery; do not mix old batteries with new one.
- If it is different from the polarity of the battery, it may cause a fire or injury to break or leak.
- This may also contaminate the surrounding.



The depleted Battery and rechargeable batteries must be handled separately from the general waste and it needs to be collected for recycling.
- If the end-of-life battery, please bring your nearest recycling center or battery dealer
- This may cause an explosion or fire.

Cleaning



After disconnecting the power cable, wipe contaminated parts and each part of the product screen lightly with a dry and soft cloth.

Do not clean the product directly with a wet cloth or wet spray water.
- There is a risk of fire or an electric shock.

When washing by various cleaning agents, brighteners, abrasives, waxes, benzene, alcohol, solvent, surface active agent, the surface of the product may be damaged.



If cleaning inside the product is required, please contact your dealer or service center.
- This may result in fire or electric shock.

2 Preparations

2.1 Parts List

 If these items are missing, contact your dealer or service center.

 The following images may differ from the image shown.

 Other parts not packed in contents may cause performance degradation or problem during use.



HDMI Cable



Power Cable



Remote Control



AAA 1.5V Battery x 2

IFPD touch pen

2.2 Control product

 The following images may differ from the image shown.

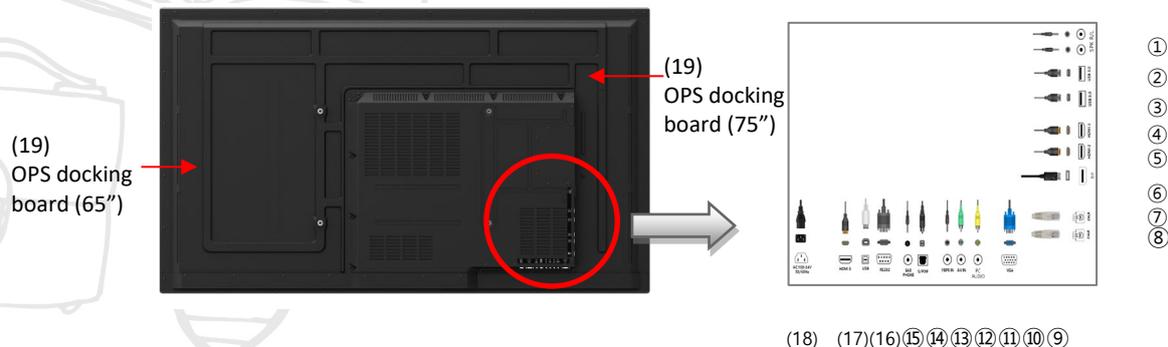
- You can control the product by using the control buttons on the rear side of the product.



1) The OPS docking board of 65 inch is located in right side back. It's opposite from Ad board

2.3 Input/output connection

 The items may differ from the image shown. (AD board: AD51UN).



Connector name and description

No.	Connector	Description	Input/output
①	SPK R/L	Speaker out for left and right	Output
②	USB3.0	USB3.0 A Type	Input/output
③	USB3.0	USB3.0 A Type	Input/output
④	HDMI1	A type	Input
⑤	HDMI2	A type	Input
⑥	DP	Display port	Input
⑦	RJ45	Standard Type	Input/output
⑧	RJ45	Standard Type	Input/output
⑨	VGA	DB15 Type	Input
⑩	VGA AUDIO IN	Standard Type	Input
⑪	AV IN	Mini jack	Output
⑫	YPBPR IN	Mini jack	Input
⑬	S/PDIF	Optical fiber jack	Output

(14)	EARPHONE	Standard Type	Output
(15)	RS232 UART	DB9 Type	Input/output
(16)	Touch USB(BACK)	USB2.0B Type (comparable with HDMI2,3)	Input/output
(17)	HDMI3	A type	Input
(18)	AC 100-240V 50/60Hz	Power connector (AC 100-240V, 50/60Hz)	Input
19	OPS docking board	Standard 30Hz 75" : it is posited upper I/O ports 65" : It is posited the opposite side of I/O ports UHD @ 60Hz, optional item.	Input

2.4

Supported formats and resolutions

USB Multi media playback formats;
3GP, 3G2, AVI, FLV, F4V, OGG, MP4, MOV, TS, M2TS, M2T, MTS, TP, TRP, M2P, MKV, VOB, DAT, M4V, ASF, WEBM, 3GP, MP3, WAV, WMA, MPEG, PCM H264, H265, MPEG2, VC1, VP6, VP8, VP9, MVC, MJPEG, AVS, AVS+ WMA, MP3, WAV, AAC, AC3, Vorbis, FLAC, APE http, https, rtsp, mms, rtmp, hls jpeg, png, gif, bmp

Video Singal_ Format

ATV	Receive Range	48.25MHz – 863.25MHz
	Input Impedance	75Ω
	Color System	PAL, NTSC, SECAM
	Sound System	M/N, B/G, D/K, I, L
	Channels	99CH
DTV	Receive Range	VHF (52.5MHz~219MHz) UHF (474MHz~866MHz)
	Input Impedance	75Ω
	Channel Bandwidth	6MHz,7MHz,8MHz
	Modulation	DTMB
	Video System	MPEG-2, MPEG-4, H.264, AVS
	Sound System	MPEG-1 layer1/2, MPEG-2 layer2
	Basic Functions	EPG, Subtitle
	Max Storage Channels	≥400CH (dynamic)
AV	Color System	PAL, NTSC, SECAM
	Video Level	1.0Vp-p±5%
PC-RGB	Format	Max Resolution1920×1080@60Hz
HDMI	480i, 480p, 576i, 576p, 720p, 1080i, 1080p, 4K2K	
YPbPr	480i, 480p, 576i, 576p, 720p, 1080i, 1080p	

File format	Video format	Highest bit rate	Frame rate	REsolution	Audio format
MPEG-2	MPEG-2MP@HL,	80Mbps	30FPS	1920x1088	MP3

TS Transport Stream (.ts)	MPEG-4 SP@L0-3, ASP@L0-5,	50Mbps	30FPS	1920x1088	AAC AC3 PCM
	H.264 MP, HP@Level, 4.1	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	
	AVS @6.0,	50Mbps	30FPS	1920x1088	
	VC1 (AP),	45Mbps	30FPS	1920x1088	
	H265	100Mbps	60FPS(V600) /30FPS(V500)	3840x2160	
MPEG File Format (.mpeg)	MPEG-1,	80Mbps	30FPS	1920x1088	PCM, AC3, MP3
	MPEG-2 MP@HL,	80Mbps	30FPS	1920x1088	
	H.264 MP, HP@Level4.1	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	
MPEG-4 Part 14 (.mp4)	H.264 MP, HP@Level4.1,	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	AAC
	MPEG-4 SP@L0-3, ASP@L0-5,	50Mbps	30FPS	1920x1088	
	H265	100Mbps	60FPS(V600) /30FPS(V500)	3840x2160	
QuickTime (.mov)	H.264 MP, HP@Level 4.1,	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	ACC
	MPEG-4 SP@L0-3, ASP @L0-5,	50Mbps	30FPS	1920x1088	
	MJPEG,		30FPS	1920x1088	
	H265	100Mbps	60FPS(V600) /30FPS(V500)	3840x2160	

File format	Video format	Highest bit rate	Frame rate	REsolution	Audio format
BDV MPEG-2 transport stream (.m2ts)	H.264 MP, HP@Level4.1	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	AC3, AAC,
	VC1 (AP),	45Mbps	30FPS	1920x1088	
	MPEG-2MP@HL,	80Mbps	30FPS	1920x1088	
Matroska (.mkv)	H.264 MP, HP@Level4.1	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	AAC, AC3, MP3
	VC1 (AP)	45Mbps	30FPS	1920x1088	
	VP9	4Mbps	30FPS	1920x720	
Flash Video (.flv)	H265	100Mbps	100Mbps (VCL) 120Mbps (NAL)	3840x2160	AAC, MP3
	H.264 MP, HP@Level,4.1	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	
	H263,	5Mbps	30FPS	1920x720	
MPEG-2TS Transport Stream	VP6,	40Mbps	30FPS	1920x1088	AAC, MP3
	MPEG-2 MP@HL,	80Mbps	30FPS	1920x1088	

(.m2t)					
Transport Stream(.mts)	H.264 MP, HP@Level4.1	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	AC3
Video Object (.vob)	MPEG-2 MP@HL,	80Mbps	30FPS	1920x1088	AC3 PCM MP3
DAT(.dat)	MPEG-1,	80Mbps	30FPS	1920x1088	PCM MP3
Advanced Stream Format (.asf)	VC1 (AP),	45Mbps	30FPS	1920x1088	mp3, PCM, WMA
	H.264 MP,HP@Level4.1,	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	
	MPEG-4 SP@L0-3, ASP@L0-5,	50Mbps	30FPS	3840x2160	

File format	Video format	Highest bit rate	Frame rate	REsolution	Audio format
ISO(Bluray)	H.264 MP, HP @Level 4.1,	100Mbps (VCL) 120Mbps (NAL)	30FPS	3840x2160	AC3, LPCM, AAC, MPEG-1
	VC1 (AP),	45Mbps	30FPS	1920x1088	
	MVC	60Mbps	30FPS	1920x1088	
BDMV (Bluray)	H.264 MP, HP@Level 4.1,	100Mbps (VCL) 120Mbps (NAL)	30FPS	1920x1088	AC3, LPCM, AAC,
	VC1 (AP),	45Mbps	30FPS	1920x1088	

Audio file	Audio format	Sampling rate	Code rate
Windows Media Audio(.wma)	WMA WMAPro	8kHz ~ 48kHz	128bps ~ 320Kbps
MPEG Audio Layer III(.mp3)	MPEG	32kHz ~ 48kHz	32kbps ~ 320kbps
Wave Audio Files (.wav)	PCM	max 48kHz	max 320Kbps
	ADPCM	8kHz ~ 48kHz	384Kbps
Matroska Audio (.mka)	MPEG	32kHz ~ 48kHz	32kbps ~ 320kbps
	AAC	16kHz ~ 48kHz	24kbps ~ 384kbps
	AC3	32kHz, 44.1kHz, 48kHz	32kbps ~ 640kbps
	PCM	max 48kHz	max 320Kbps
Advanced Audio Coding(.aac)	AAC	16kHz ~ 48kHz	24kbps ~ 384kbps
AC3(.ac3)	AC3	32kHz, 44.1kHz, 48kHz	32kbps ~ 640kbps
	EAC3	32kHz, 44.1kHz, 48kHz	32kbps ~ 6kbps
TS	TrueHD	32kHz, 44.1kHz, 48kHz	max 18Mbps
MPEG-4, Audio(.m4a)	AAC	16kHz ~ 48kHz	24kbps ~ 384kbps
OGG Vorbis(.ogg)	Vorbis	8kHz~48kHz max	max 320Kbps
Free Lossless Audio Codec(.flac)	FLAC	max 48kHz	max 320Kbps

APE(.ape)	APE	max 48kHz	max 320Kbps
mid(*.mid)	MID	max 48kHz	max 320Kbps
NA	DRA	8kHz~192kHz	max 320Kbps

Image format	Max. resolution	Min.resolution
png	8K*8K	4*4
jpeg	baseline 8K*8K progressive , 4K*4K	4*4
bmp	8K*8K	4*4
gif	8K*8K	4*4

Note) The above refers to some specifications of the patent license, which requires the customer to be a member to support.

2.5

Android Contents

Android configuration	
CPU	64bit Quad-core Cortex-A53
GPU	Hexa-core ARM Mali-450 + Dual-core VPU
CPU clock speed	1.2GHz
DDR3/RAM	2GB
eMMC/Flash	8GB
Android	5.1.1
kernel	Linux 3.10.0

2.6

RemoteController Button Description

Button Description

The following images may differ from the actual items.



No.	Menu	Description
1	Power	power on or off
2	SOURCE	select input source
3	OK ▲▼◀▶	confirm your selection adjust or select display menu, or select APP under Android system
3	OSD	display the setting on the screen
4	Menu	menu screen for various optional adjustable setting
5	Mute	mute or restore sound.
6	Volume-	volume level down
7	Volume+	volume level up or down

3 Installation Guide

3.1 Caution before installation

 **Caution:** Installation must be performed by a qualified custom video installation specialist under the conditional installation environment as below.

Ambient Lighting

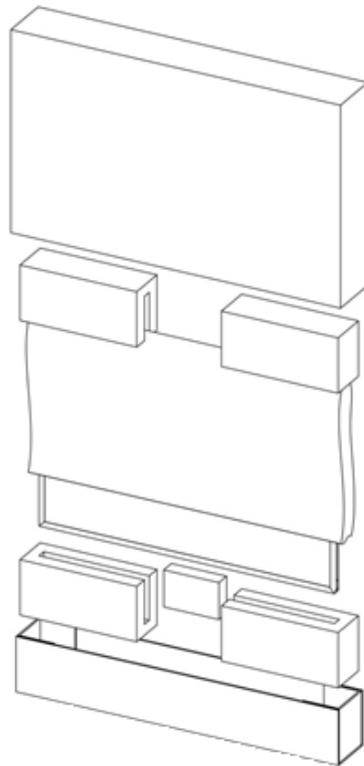
- When the sun or strong light shines on the front screen of the product, image contrast can be seen as it is decreased conspicuously or the image is fading.
- If direct sunlight or strong artificial light (halogen lamps, etc.) shines on the front screen of the product (if the product has touch function, it may cause malfunction of touch.), install the product in the shady environments or in the opposite direction of the source of the sunshine or the artificial light.

Ambient temperature

- Install the product in the well-ventilated place with maintaining the ambient temperature of below 35° C (95° F).

3.2 Unpacking Process

 The following images may differ from the actual items.
Before unpacking the box, refer to the diagram below.



1. Remove the outer packing box.

2. Remove the top foam.

3. Lower down or remove the wrapping.

4. Three or more people, remove the packing from the product.

3.3 Handling Guide

 The following images may differ from the actual items.

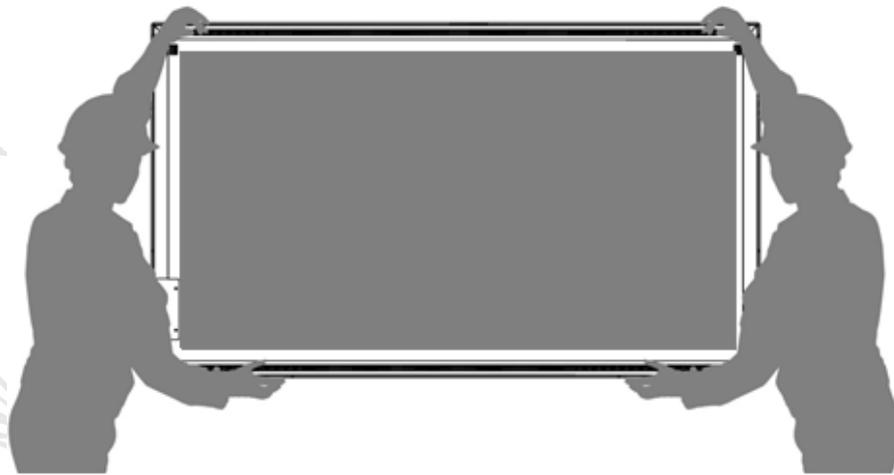
Handling a product

1. Right way

At least two persons are required to handle the product during transportation.

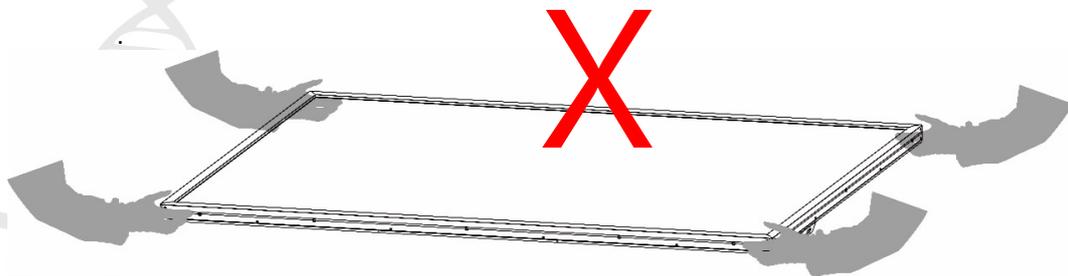
Two persons should hold the left and right handle of the backside of the product with one hand of each person and with the other hand, grip the bottom portion of the rear side of the product to move.

(The illustration below may differ from the actual items.)



2. Wrong way

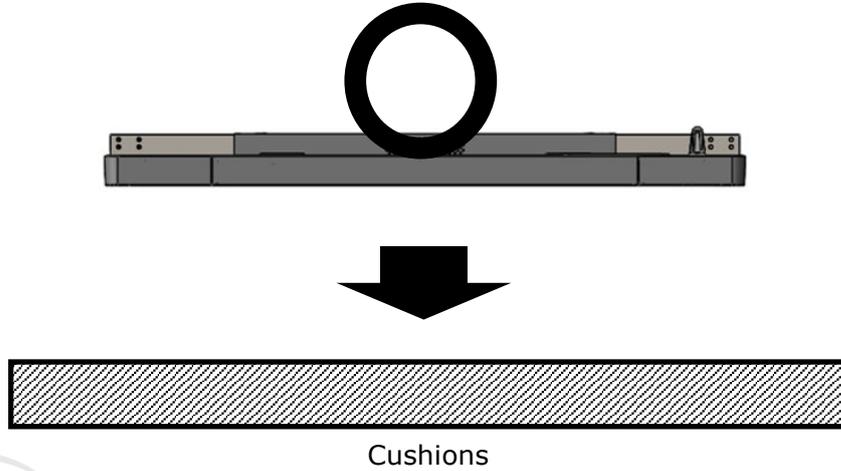
Do not use or touch any part of the front screen of the product during transportation



Putting a product

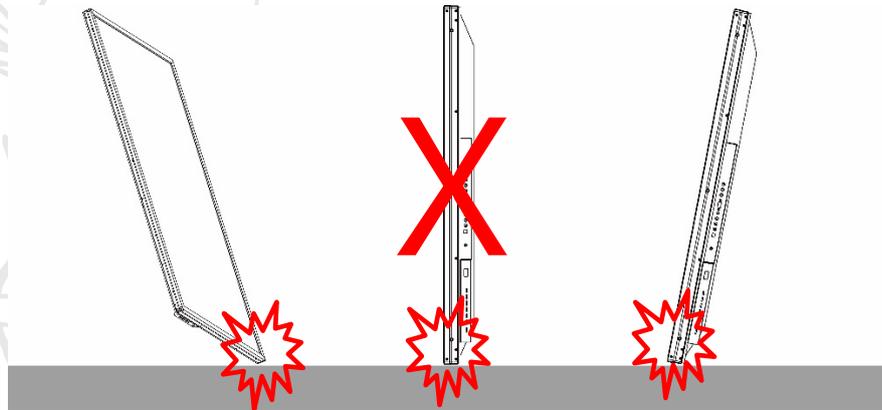
1. Right Way

Before putting the product on the floor, prepare flat and soft cushions. Place the product horizontally and slowly on the floor. If firstly laying the edge of the bezel of the product, the screen panel of the product may be fragile or damaged.



2. Wrong way

Put down carefully not to damage the outside of the product. If the corner part of the product is placed first, the bezel may be damaged easily.

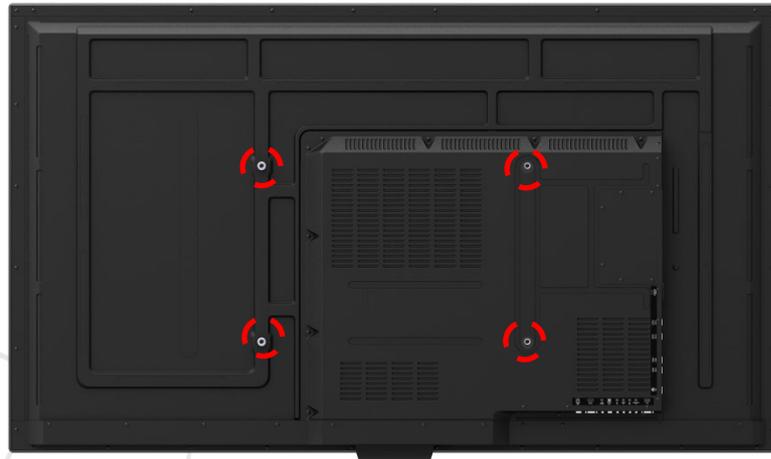


3.4 Product Installation

When installing the product with wall mount, make the product installed by a well-trained technician. Please refer to the User Guide of Wall Mounting.

 The product has VESA standard of 400X400 MM for wall mounting, and of M8 (Maximum length 35mm) of the screws by size.

 **Warning:** We are not responsible for the product damage or personal injury caused by user's own installation.

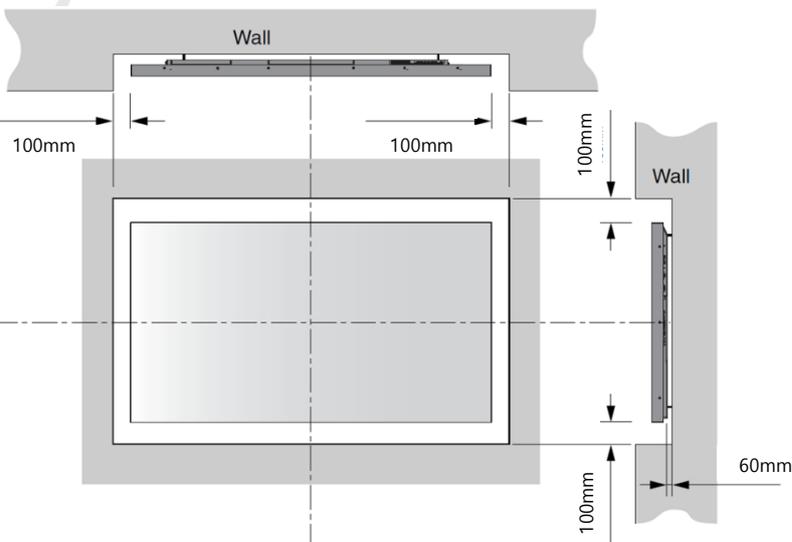


3.5

Wall mounting Installation

Install the product only on the robust and vertical wall. When installing inside the wall or cabinet, install the product with the space behind between the product and the wall as the illustration below.

Ambient temperature is kept below 35 °C.



3.6

Remote Controller

Inserting batteries in the remote controller

- Press the tab on the battery case and open it.
- Insert the battery (1.5V AAA) into the battery case.
- Insert the battery case until clack sounds.

⚠ Notice on battery

- When loading the battery, check if the polarity of the batteries is correct.
- If not using the remote controller for long time, remove the batteries to prevent damage caused by battery fluid leak.
- Don't expose the battery to direct sunlight or excessive heat such as a fire.

⚠ Notes on the remote controller

- If anything interrupts in front of IR receiver or between IR receiver and remote controller, the remote controller may not work.
- If the receiving distance of the remote controller becomes narrow or does not work, replace the battery with new one.
- In case of the product is exposed to direct sunlight or fluorescent light, it may not operate.

3.7

Setup

Turning on the power

1. Connect the power cable of the product into outlet with AC 100-240V 50 / 60Hz.
2. Turn on the main AC power switch.
3. If the power indicator is green, the screen turns on automatically.
4. If the power light is red not green, press the power key on the remote controller or operate to turn on the power.

Changing language of the menu

- The language of the menu is basically English as the default set.
- Users can select a language
- To change the menu language,
 1. Press the Menu button to go to the menu.
 2. Select the OSD from the main menu.
 3. Select the language of the OSD setup menu.
 4. Select the language you want to select, and then exit the menu.

4 Remote Control

4.1 RS-232Cconnection

Connector on the display: DB9 Male, configured as DTE.

Pin	Function	Comments
2	RxD	Data input to the display. Connects to TxD on the Controller
3	TxD	Data output from the display. Connects to RxD on the Controller.
5	GND	Ground. Connects to GND on the Controller

Communication Parameter

Baud Rate	115200
Data Length	8 bit
Parity Bit	None
Stop Bit	1 bit
Communication code	Hex code
Cable	Use a crossed cable

Serial Command List

Function	Required Commands(Hex)	Reply
Power ON	21 31 50 4F 57 52 20 31 0D	
Power OFF	21 31 50 4F 57 52 20 30 0D	
MENU	21 31 52 45 4D 4F 20 33 30 0D	
UP	21 31 52 45 4D 4F 20 32 35 0D	
DOWN	21 31 52 45 4D 4F 20 32 36 0D	
OK	21 31 52 45 4D 4F 20 32 39 0D	
LEFT	21 31 52 45 4D 4F 20 32 37 0D	
RIGHT	21 31 52 45 4D 4F 20 32 38 0D	
EXIT	21 31 52 45 4D 4F 20 33 31 0D	
MUTE	21 31 52 45 4D 4F 20 33 34 0D	
Source change to HDMI1	21 31 49 4E 50 54 20 32 31 31 0D	
Source change to HDMI2	21 31 49 4E 50 54 20 32 31 32 0D	
Source change to HDMI3	21 31 49 4E 50 54 20 32 31 33 0D	
Source change to OPS	21 31 49 4E 50 54 20 32 31 35 0D	
Source change to VGA	21 31 49 4E 50 54 20 31 31 31 0D	
Source change to AV	21 31 49 4E 50 54 20 31 33 31 0D	
Source change to YPBPR	21 31 49 4E 50 54 20 31 35 31 0D	
Source change to USB	21 31 49 4E 50 54 20 33 31 31 0D	
Source change to FRONT HDMI	21 31 49 4E 50 54 20 32 31 34 0D	
Source change to HOME(ANDROID)	21 31 49 4E 50 54 20 34 31 31 0D	
Volume Up	21 31 56 4F 4C 4D 20 2B 0D	
Volume Down	21 31 56 4F 4C 4D 20 2D 0D	

5 Connect the external device

5.1 HDMI Connection

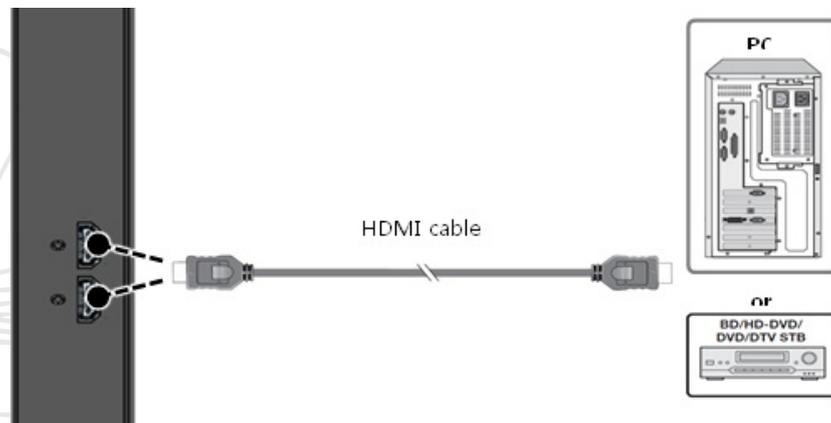
- HDMI input is recommended because it receives a digital signal input from an external device with HDMI output to ensure high quality of digital signal.

* Use the cable provided with the product. Otherwise, no image may be shown on the screen or normal display may not be shown.

- If connecting the product to the PC, it supports the VESA Display Data Channel (DDC) standard. This standard supports "plug and play" function which helps the PC recognize the product automatically to output the optimal resolution.

In order to operate the 'plug and play' after connecting the product, connect the video cable of the PC to the product before turning on your PC, and turn on the power of this product first and then turn on the power of the PC.

- When the incompatible resolution of the input signal is input to the product no image is shown on the screen or normal display is not shown. As for the supported resolutions, refer to page 31.



 If you receive a 3840 x 2160 60Hz input HDMI cable, please use the 4K, 2K certified products. The screen may look strange.

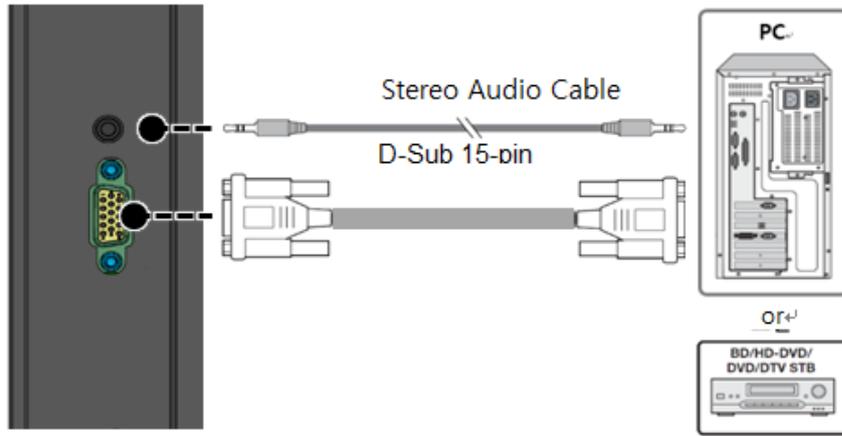
5.2 VGA Connection

- To see the video, connect D-Sub 15P cable of the PC to the VGA In port of the product.

- If connecting the product to the PC, it supports the VESA Display Data Channel (DDC) standard. This standard supports "plug and play" function which helps the PC recognize the product automatically to output the optimal resolution.

In order to operate the 'plug and play' after connecting the product, connect the video cable of the PC to the product before turning on your PC, and turn on the power of this product first and then turn on the power of the PC.

- When the incompatible resolution of the input signal is input to the product no image is shown on the screen or normal display is not shown. As for the supported resolutions, refer to page 31.



6 Touch Requirements

6.1 Touch Requirements

Computer Configuration (Recommended):

- 3.0 GHz quad-core processor
- 8 GB RAM
- 10 GB available hard disk space
- 1 GB NVidia GTX330 graphics card

OS	Windows						
Sub-OS	Windows 2000	Windows XP	Windows Vista	Windows7	Windows 8/8.1	Windows 10	Windows CE6.0
Support	√	√	√	√	√	√	√
Multi-touch	single	single	single	√	√	√	single
Driver	HID compliance , not need any drive						need driver
Notice :	.Performance will be impacted if mentioned systems do not support multi-touch functions or .have no copyrights.And Windows8 must be non OEM version						

OS	Linux			
Sub-OS	Fedora 10 or above	Ubuntu 10.04 or above	RedFlag 6.2 or above	OpenSuse 11.4 or above
Support	√	√	√	√
Multi-touch	.kernelversion3.0+ , can support multi-touch by adding patch .Kernal version3.5+ , HD compliance support multi-touch			
Driver	HID compliance			

For

OS	Mac OS X	
Sub-OS	10.9 or lower	10.10 or lower
Support	√	√
Multi-touch	.Supported UPDD drive	
Driver	.HID compliance support single touch .Multi-touch supported by UPDD drive	

multi touch in Mac OS, please contact us. We provide the UPDD driver.

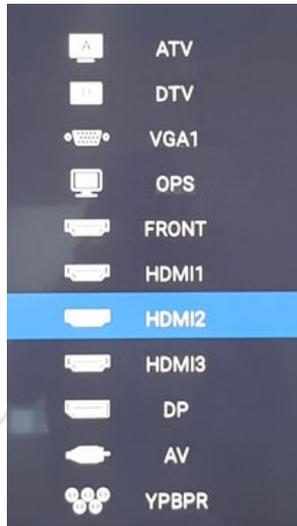
OS	Android
Sub-OS	5.1.1
Support	√
Driver	HID compliance
Multi-touch	.kernal version2.6.32+,we can provide patch .version 3.5+ , HID compliance support Multi-touch

*) Note, ChromOs supports. The version is 39 or above

7 Menu Control

7.1 Input selection / Touched OSD menu

Press the Input button and then select ▲ or ▼, or the input you want to select, and then press the ► (+) button.

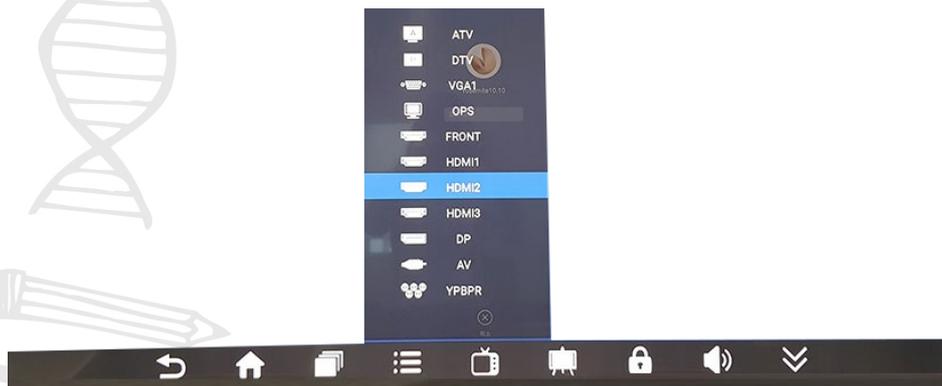


Input	Description
ATV	ATV input (N/A)
DTV	DTV input (N/A)
VGA	VGA input
OPS	OPS input 2)
Front	HDMI (it is blocked)
HDMI1	HDMI1 input
HDMI2	HDMI2 input
HDMI3	HDMI3 input
DP	Display input
AV	AV input
YPBPR	YPBPR input

- 1) AVT /DVT : N/A.
- 2) Front HDMI is blocked.

7.2 Touched OSD menu

You can use the ods menu by touching on the screed of bottom side .



Back Home Windows Input Current status Lock Volume Hide

7.3 User function

Upper	Lower	Value	Note
Picture Setup	Picture mode	Standard/Dynamic/Soft/User	(Default: Standard)
	Brightness	0-100	(Default: 50)
	Contrast	0-100	(Default: 55)
	Satauation	0-100	(Default: 50)
	Sharpness	0-100	(Default: 50)
	Color Temp	Standard /Cool/Warm	(Default: Standard)
	Display Mode	16:9/4:3/Zoom1/Zoom2/ point to point/Auto/	(Default: 16:9)
	HDMI Mode	Auto Mode/PC Mode/Video Mode	(Default:AUTO)
Sound Setup	Sound Mode	Standard /Movie / Meeting/Classroom/Custom	(Default: Standard)
	Treble	0-100	(Default: 50)
	Bass	0-100	(Default: 50)
	Balance	-50~50	(Default: 0)
	SPDIF	Off, PCM, RAW	(Default: PCM)
Time Setup	Sleep Timer	Off,15,30,45,60,90,120,240Min	(Default: Off)
	Menu Display Time	5,10,15,20,25,30,off	(Default: 10seconds)
Advanced	Language	English / 中文	English
	Input Method	Remote controller IME	
	Boot channel	Android/Force input Source/ Remember Input Source	Android
	Boot OPS	On/Off	(Defaul:on)
	Menu Hidden	Close/5s/10s/15s	(Defaul:close)
	System Time		
	Wallpaper		
	System Info		

8 Trouble Shooting

The table below provides some general guidelines for trouble shooting problems you may encounter with your product. If the suggested solutions fail to resolve the problem or if you encounter an issue not described here, please contact your dealer or service centre.

Symptom	Checklist & Solution
The power is not turned on. (When the LED light indication is red or orange.)	<ul style="list-style-type: none"> • Turn on power switch of the product or by using remote controller, check if the product is in power saving mode for no input of video signal.
The power is not turned on. (LED indication that the light is off)	<ul style="list-style-type: none"> • Ensure that the product is plugged in and that the AC outlet is active. • Set the main power switch to the on position. • Try to connect other electric equipment to AC outlet to check if there is no problem in power source.
The remote controller does not work.	<ul style="list-style-type: none"> • Replace the batteries in the remote controller. • If the remote controller receiver of the product is prevented by any object, delete the object and try to operate again. • If the remote controller receiver of the product is exposed to direct sunlight or strong light, try to block the light and operate again. • Check the control buttons (OSD buttons) work properly.
The power is on only, but the screen does not appear.	<p>When the LED indicator of the product is green, video displays on the screen. Turn on the power of the product by using the power switch or remote controller.</p> <ul style="list-style-type: none"> • Turn off the AC power, and then turn it on again.
A message of 'Input out of range' is displayed.	<ul style="list-style-type: none"> • Check if a signal with other resolution which the product does not support is input to the product and refer to the details in the page 31.
Images are not displayed correctly, or noise is shown on the screen.	<ul style="list-style-type: none"> • Ensure the cables are connected in and video signal is active. • Change the cable. • Check if a signal with other resolution which the product does not support is input to the product and refer to the details in the page 31. • Connect another product to check if there is no problem, considering the possibility of problem in outer video signal equipment. • Ensure the input windows resolution and ratio(16:9) • When mirroring or duplicate displays can only be as high as the device screen will go. Hold Windows key and press P to Display only

'No Signal' message is displayed.	<ul style="list-style-type: none"> • Check to see if the external signal device is turned on. • Check if computer is on power saving mode by handling the mouse or pressing keyboard to wake. • Check to see if the external signal devices and cables are connected. • Check to see if the cable connections are loose or missing out. • Try changing the cable. • Check if the input selection of products is correctly set to an external device by using the SOURCE button on the remote controller.
HDMI screen is not displayed. Or screen appears strange.	<ul style="list-style-type: none"> • Check to see if the cable connections are loose or missing out. • Try changing the cable. • If you use an HDMI cable not certified, it may result in a problem.
HDMI display is small or large visible.	<ul style="list-style-type: none"> • Try adjusting video output size of the graphic card in case of computer.
The color of VGA screen is strange.	<ul style="list-style-type: none"> • Check to see if the cable connections are loose or missing out. • Try changing the cable. • Connect another product to check if there is no problem, considering the possibility of problem in outer video signal equipment.
The position of VGA screen is strange.	<ul style="list-style-type: none"> • Try adjusting the automatic position by using the menu on the remote controller.
The screen is too bright, and the image is not separated.	<ul style="list-style-type: none"> • From the menu, try making the value of the black level lower on the screen menu setting. • Or try to initialize the screen menu settings.
The dark area of the screen is too bright	<ul style="list-style-type: none"> • From the menu, try making the value of the contrast lower on the screen menu settings. • Or try to initialize the PICTURE settings.
Screen looks too dark.	<ul style="list-style-type: none"> • Try to initialize the PICTURE settings.
Touch doesn't work	<ul style="list-style-type: none"> • See Connecting the Touch Screen Controller Host Computer to the Display
Touch Alignment	<ul style="list-style-type: none"> • Ensure the output resolution of the attached device is set to a 16:9
No Sound on VGA	<ul style="list-style-type: none"> • Install into the "Sound" socket or check the Audio setting in the computer
No Sound on internal speaker	<ul style="list-style-type: none"> • Increase the volume level on both the CommBox interactive display, Media Player and Device e.g laptop or PC
No Sound on External Speakers	<ul style="list-style-type: none"> • Ensure the external speakers are connected to the correct jacks. • Check for any shorts on the wires connecting to the speakers.

	<ul style="list-style-type: none"> • Power down the touchscreen, remove any external speaker connection, wait for 30 seconds, reapply power and test internal speakers only.
UD@60Hz is not displayed.	<ul style="list-style-type: none"> • UD@60Hz is optional. If you want to display this resolution, contact us. We will provide the 60Hz docking board package. • Connect directly from HDMI 2.0 of PC to HDMI port of the screen. Screen has to be set HDMI 2.0 in OSD setting menu. • Use the below's gender of DP and HDMI port if your computer has only DP port for UD@60Hz.
What kind of computer or specification do I need for 4K@60Hz?	<ul style="list-style-type: none"> • Video output must be 4K@60Hz • Memory and graphic card: 8GB above and NVIDIA® GeForce® GTX 745 (included 4GB DDR3) • HDD : 1TB(64MB cash)7200RPM SATA 6Gb/S <p>Same or above specification (※ e.g Gaming desktop is normally suitable for this specifications : Dell Alienware X51 series)</p>

9 Product Specification

※Please contact to the IFPD supplier.

※ Product design and specification can be changed for quality improvement without prior notice.



10 Required information

10.1 Prevent image sticking

⚠ The fixed image (title, menu image, picture, motionless movie etc.) on the screen is maintained for a long time, image sticking may occur. Image sticking may be subject to operating time of still picture. Since the image sticking is not defect but a characteristic of the product, it is restricted from the product warranty.

Thus, please refer to the following information for the prevention of image sticking.

- When external device (PC) is not used for a long time, please use screensavers. (The screensaver should be monochrome or moving image.)
- If 4:3 aspect ratio is used for a long time, image sticking might occur. So, it is recommended to use the full screen.
- In case of displaying still picture for long time, change pictures a certain time.

If image sticking is shown, turn off the unit for a while and turn it on again. Turn off time may be required.