mimio®

MimioDisplay Installation Guide

mimio.com

Contents

mimio

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions carefully and keep them for later reference.

1. Follow all warnings and instructions marked on the MimioDisplay™ touch display.
2. Unplug the MimioDisplay device from the wall outlet before cleaning. Use a clean, soft, lint-free cloth, dampened with clean water, to clean the screen. To achieve maximum cleaning, you may apply a small amount of non-ammonia, non-alcohol-based glass cleanser.
3. To avoid damage or harm to people or to the MimioDisplay device, do not place it on an unstable cart, stand, or surface.
4. Slots and openings on the back cover and bottom of the MimioDisplay device are for ventilation, which ensures reliable operation and prevents overheating. These openings must not be blocked or covered at any time. The openings should never be placed near or over a radiator or heat register. Avoid a built-in installation unless proper ventilation space (minimum gap of 2 in./5 cm) is provided.
5. The MimioDisplay device must be operated using the type of power indicated on the marking label. If you are not sure of the type of power available, consult Mimio Tech Support at 877-864-3721 or customercare@mimio.com.
6. This product is equipped with a 3-wire grounding type power plug (a plug having a third pin for grounding). This plug will only fit into a grounding-type power outlet. This is a safety feature. If you do not have the proper outlet to insert the plug, have your electrician replace your obsolete outlet. Do not break the ground pin and defeat the purpose of the grounding.
7. Use only a qualified and safety-approved AC power cord.
8. Do not allow anything to rest on the power cord, and do not let people walk on it.
9. If an extension cord is used with this product, make sure that the total ampere rating plugged into the extension cord does not exceed the maximum ampere rating of the extension cord.
10. Never thrust any object/tool of any kind through the ventilation slots of the MimioDisplay device, as it may touch dangerous voltage or short out parts, which could result in fire or electric shock. Never spill liquids of any kind on the product.
11. Do not use any sharp object on the display surface.
12. Do not attempt to service the MimioDisplay device yourself; consult Mimio Tech Support at 877-864-3721 or customercare@mimio.com.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged, frayed, or broken.
    b. When liquid has been spilled on the product.
14. Caution: When fixed patterns are displayed on the screen for a long time, remnant image (retention) is likely to occur.

If the unit does not operate normally when the operating instructions are followed, adjust only those controls that are described in the operating instructions.

DISCLAIMER
Please visit http://mimio.com/userguide.

INTRODUCTION

Packing Checklist

Please make sure that all the items listed below are present:

1. HDMI Cable ×1 (1.8 M)
2. VGA Cable ×1 (1.8 M)
3. Power Cord ×1 (1.8 M)
4. USB Cable ×1 (1.8 M)
5. 3.5-mm Stereo Audio Cable ×1 (1.8 M)
6. Remote Control ×1, Batteries Included
7. Passive Stylus Pen ×2
8. Bolts ×4
9. Spring Washers ×4
10. Product Warranty Card
11. MimioStudio™ Software Download Card
12. Cleaning Fabric
13. CD – Installation Guide / User Guide

If any items are missing or damaged, please contact your dealer immediately.

Adapter/Converter Advisory

Should a specific adapter/converter be required (for example, for tablet PCs) in order to connect to this monitor, please use the original adapter/converter recommended by the original brand. The length of cables should not be longer than 2 meters (6.6 ft) each.

About the Product

The MimioDisplay device consists of an LCD panel with touch capability.

General
③ Display type: TFT-LCD
③ Resolution: (See below)

Model	550T	650T	700T	840T
Native Resolution	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	1920 x 1080 (Full HD)	3840 x 2160 (UHD-1)

mimio®

Audio/Video Signal Connections
⑤ Input:
o HDMI 1
o HDMI 2
o HDMI 3
o VGA
o Audio (3.5-mm stereo)

Output:
o VGA (sometimes called "Pass Through" or "Loop Through")
o Audio (3.5-mm stereo)
o HDMI (for HDMI 1, HDMI 2, HDMI 3)

Data Connections
⑤ USB
o USB 1 (A type)/ USB player – supports formats listed in section 3, under "USB Player Support Formats."
o USB 2 (A type)/ USB player – supports formats listed in section 3, under "USB Player Support Formats."
o Primary USB "For Touch Only" (B type) – only for connecting touch control using a PC with the following video sources:
⑤ HDMI 1
⑤ HDMI 2
⑤ VGA
⑤ Secondary USB "For Touch Only" (B type) – only for connecting touch control using a PC with an HDMI 3 video source.

Control
o RS-232

Ambient Light Detect: See details in "Contents of OSD Menu" (Option: Light Sensor).

Native Aspect Ratio 16:9

INSTALLING MIMIODISPLAY

Get to Know MimioDisplay

The MimioDisplay connectors are located on the rear, as shown below. Please note that connectors vary in some models.

POWER CONNECTOR   SIGNAL CONNECTOR   WALL MOUNT HOLES
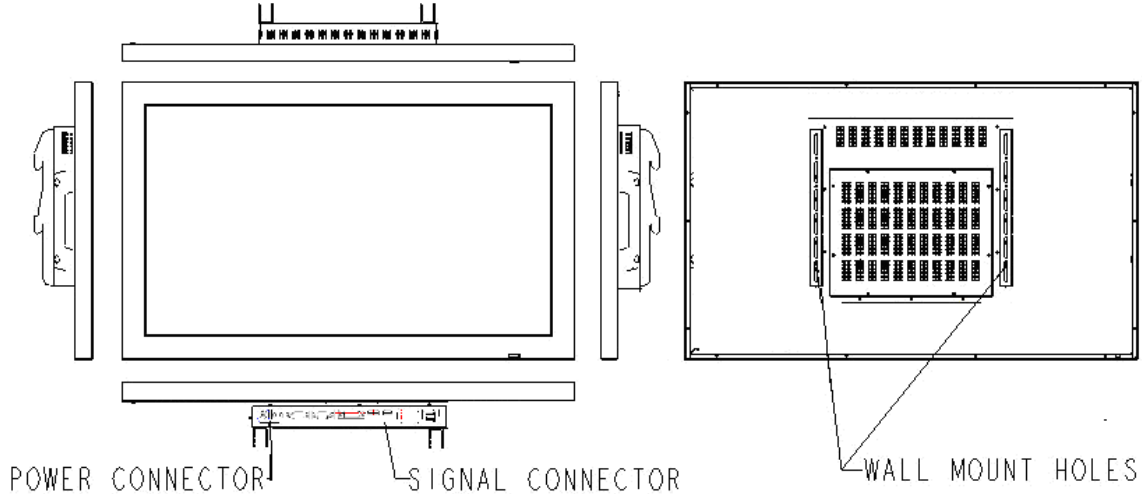
Rear Panel Connection Ports

MimioDisplay 550T, 650T, and 700T rear panel connection ports:
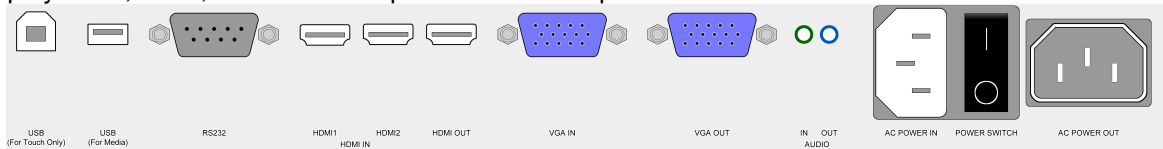
MimioDisplay 840T has additional connections on the rear panel:
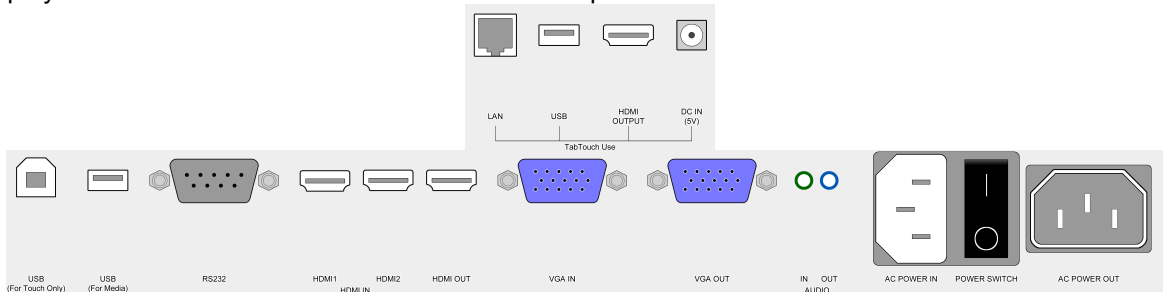
The USB type B port on the rear panel is for use with VGA, HDMI 1, or HDMI 2 video signal connections.

Side Connection Ports

All MimioDisplay models have connection ports on the lower-left-edge of the MimioDisplay screen for easy access to HDMI 3, USB type B touch (for use with HDMI 3), and USB 2 type A ("For Media Only"):

USB (For Touch Only)
USB (For Media)
HDMI3 IN
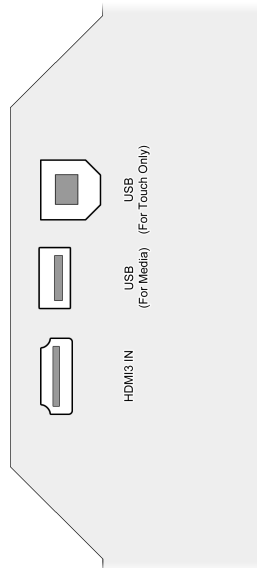
Example Installation

1) Plug AC power cable into MimioDisplay device.

| USB (For Touch Only) | USB (For Media) | RS232 | HDMI1 / HDMI IN | HDMI2 | HDMI OUT | VGA IN | VGA OUT | IN OUT AUDIO | AC POWER IN | POWER SWITCH | AC POWER OUT |
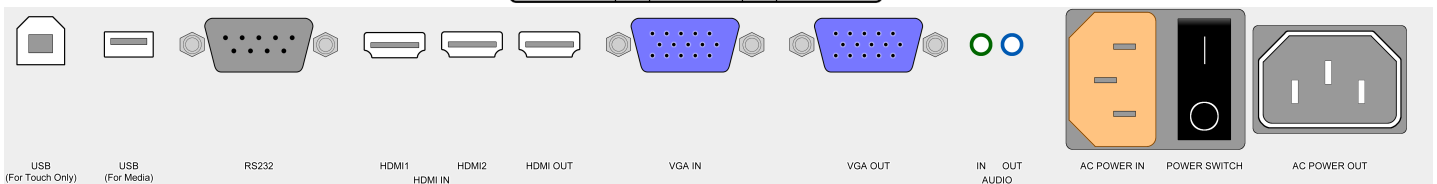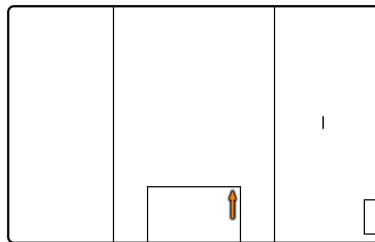
2) Plug AC power cable into wall power socket.

3) Press rocker switch in rear panel ON ("–" not "O").

USB (For Touch Only)　USB (For Media)　RS232　HDMI1　HDMI2　HDMI OUT　VGA IN　VGA OUT　IN OUT AUDIO　AC POWER IN　POWER SWITCH　AC POWER OUT

HDMI IN
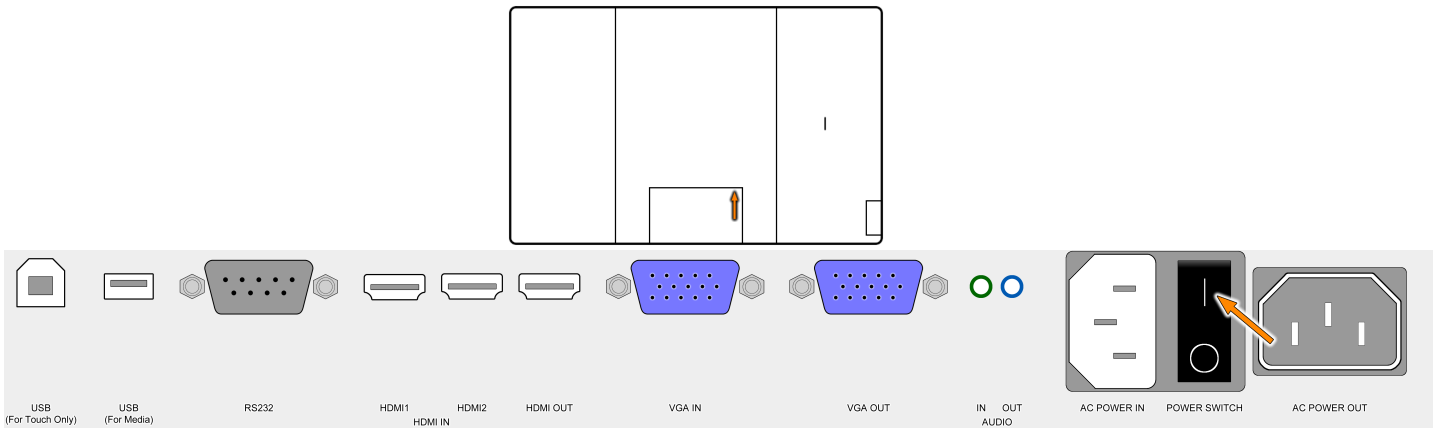
4) Plug HDMI cable into MimioDisplay port on rear panel labeled "HDMI1."

USB (For Touch Only)　USB (For Media)　RS232　HDMI1　HDMI2　HDMI OUT　VGA IN　VGA OUT　IN OUT AUDIO　AC POWER IN　POWER SWITCH　AC POWER OUT

HDMI IN
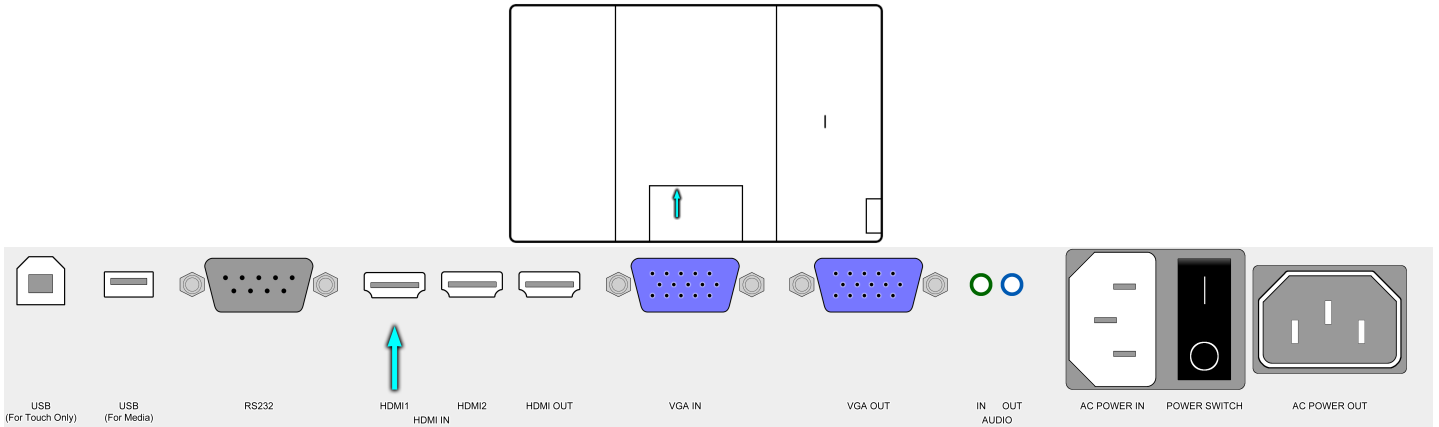
5) Plug other end of HDMI cable into PC.

6) Plug USB cable into USB type B port on rear panel labeled "For Touch Only."

USB (For Touch Only)　USB (For Media)　RS232　HDMI1　HDMI2　HDMI OUT　VGA IN　VGA OUT　IN OUT AUDIO　AC POWER IN　POWER SWITCH　AC POWER OUT

HDMI IN
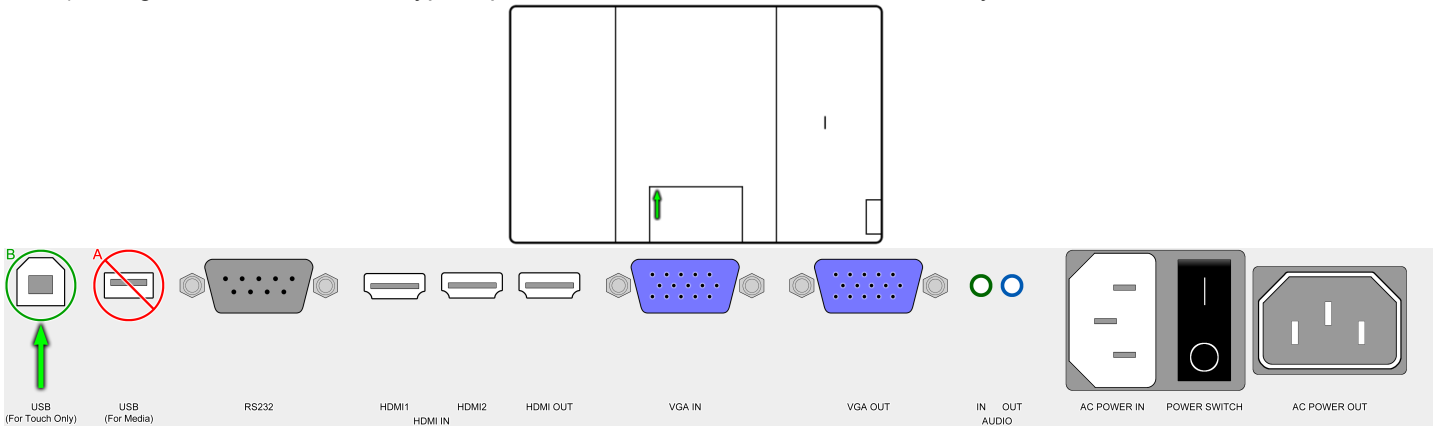
7) Plug other end of USB cable into USB type A port on PC.
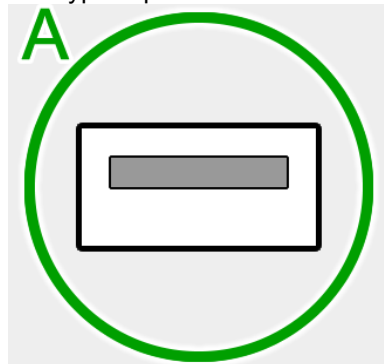
8) ⏻ Press power button on remote control.

Signal source will automatically switch to HDMI 1 after a few seconds.

USING MIMIODISPLAY

Remote Control
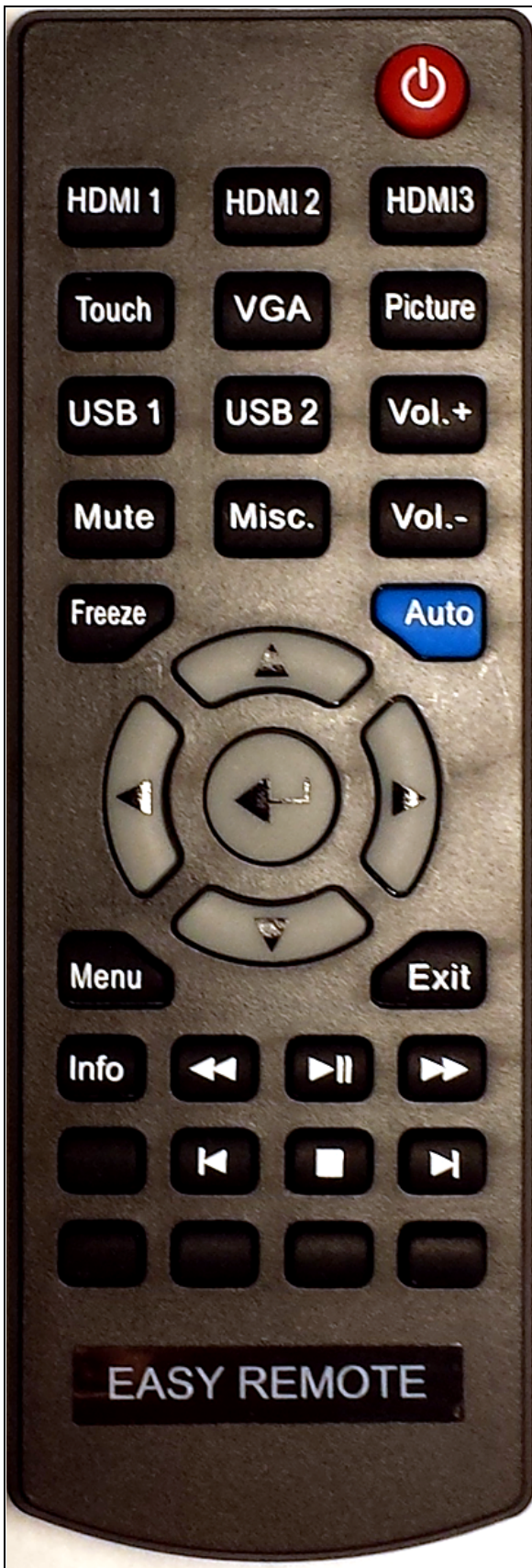
Power	**Power:** Turns MimioDisplay unit on and off.	
HDMI 1	**HDMI 1:** Selects the HDMI 1 signal source.	
HDMI 2	**HDMI 2:** Selects the HDMI 2 signal source.	
HDMI3	**HDMI 3:** Selects the HDMI 3 signal source.	
Touch	**Touch:** Toggles the touch function on and off.	
VGA	**VGA:** Selects the VGA signal source. Source default is at VGA source.	
Picture	**Picture:** Selects the zoom mode.	
USB 1	**USB 1:** Selects the USB 1 signal source. Input is located on the rear panel.	
USB 2	**USB 2:** Selects the USB 2 signal source. Input is located on the lower-left-edge of MimioDisplay unit.	
Vol.+	**Vol.+/ Vol.-:** Adjusts audio volume up/down.	
Mute	**Mute:** Toggles audio mute on and off.	
Misc.	**Misc.:** Reserved.	
Freeze	**Freeze:** Toggles screen picture freeze on and off.	
Auto	**Auto:** Auto-adjusts and optimizes MimioDisplay screen image.	
Directional Arrows	Directional Arrows and Select: Scrolls through OSD menu.	
Menu	**Menu:** Toggles the OSD menu on and off.	
Exit	**Exit:** Exits settings or the OSD menu.	
Info	**Info:** Displays screen picture timing and resolution.	
Rewind / Play/Pause / Fast-Forward	Rewind, Play/Pause, Fast-Forward, Back, Stop, Next: Controls USB media playback.	

Size: 197.2 mm x 47.1 mm x 23.2 mm
(7.7 in. x 1.85 in. x 0.9 in.)
Operation Distance: < 10 meters (32 ft)
Working Angle: Not more than +/- 40 degrees
CAUTION: RISK OF EXPLOSION IF BATTERY IS
REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES CORRECTLY.

Buttons on MimioDisplay

VOL.− VOL.+ LEFT RIGHT SOURCE MENU   POWER
                                  (Down)

Front View

Bottom View

VOL. −   VOL. +   LEFT   RIGHT   SOURCE   MENU   POWER
                                    (Down)

![mimio](mimio logo)
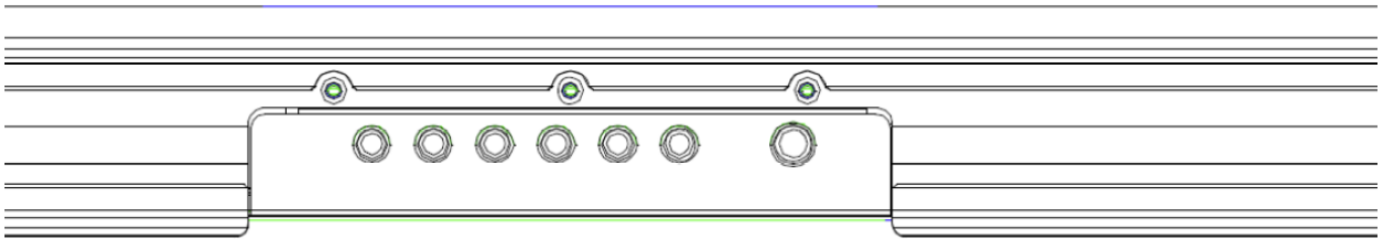
Contents of OSD Menu
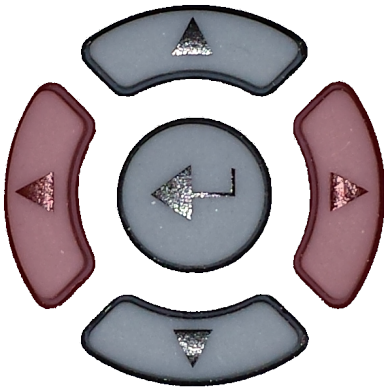
Press Left and Right to move between pages (Picture, Sound, and Option).
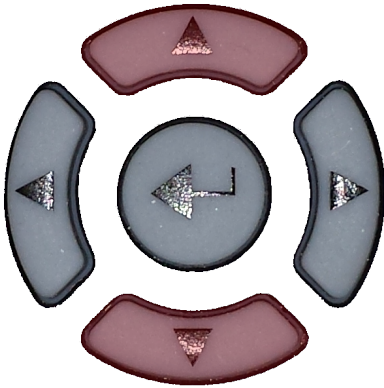
Press Up and Down to enter sub-menu and highlight items.

OSD menus and sub-menus:
 Picture
- ③ Picture Mode
  - Contrast
  - Brightness
  - Color
  - Sharpness
  - Tint
- ③ Color Temperature
  - Standard
  - Cool
  - Medium
  - Warm
- ③ Aspect Ratio
  - Auto
  - 16:9
  - 16:10
  - 4:3
- ③ Noise Reduction
- ③ PC Setup

Auto-Adjust
- ③ Backlight

 Sound

③   Sound Mode
        User
            Treble
            Bass
        Standard
        Music
        Movie
        Sports

③   Balance

③   Auto Volume
        Volume Up
        Volume Down
        Option

③   OSD Language
        English
        Français
        Español
        Português
        Arabic
        中文(Simplified Chinese)

③   Restore Factory Default

③   Blending (OSD Transparency)

③   Light Sensor ON/ OFF

When this function has been turned ON, the MimioDisplay device will automatically adjust the backlight (luminance).
The light sensor is located with the IR sensor.

③   OSD Duration
        OFF
        5 sec.
        10 sec.
        15 sec.

USB Player Supported Formats

The following table lists the video, audio, and picture formats that will play directly from a Flash drive plugged into USB 1 or USB 2 (A-type connector).

Video (1080p)	Audio	Image	Text
MP4	MP3	JPEG	TXT
RMVB/RM	AAC	BMP	
MOV	WMA	PNG	
MPEG-2	M4A		
MPEG-1			

Note:
- It will take a while to load data from USB media drives. The more data in the hard disk, the longer it takes to load.
- If video plays without audio, it may be because the audio bit-rate is not supported.
- Use the remote control for USB media playback.

CLEANING THE MIMIODISPLAY SCREEN

When cleaning the MimioDisplay screen, please observe the following:

- Make sure the MimioDisplay device is powered off.
- Never spray or pour any liquid directly onto the screen or case (depending on the model).
- Do not use chemical solvents, alcohol, or ammonia-based cleansers to clean the unit or panel. They could cause permanent damage to the unit or panel.
- Use a clean, soft, lint-free cloth, dampened with clean water, to clean the screen. To achieve maximum cleaning, you may apply a small amount of non-ammonia, non-alcohol-based glass cleanser.

TROUBLESHOOTING

Please refer to the MimioDisplay Troubleshooting Guide, available at mimio.com/userguide, for detailed troubleshooting tips.

RESOLUTIONS AND REFRESH RATES

The MimioDisplay is designed to meet the following VESA standards for resolution and timing.

Analog Timing Support		
Resolution	fV (Hz)	fH (KHz)
640x350	85	37.9
640x400	85	37.9
640x480	60	31.5
640x480	72	37.9
640x480	75	37.5
640x480	85	43.3
720x400	85	37.9
800x600	56	35.1
800x600	60	37.9
800x600	72	48.1
800x600	75	46.9
800x600	85	53.7
1024x768	60	48.4
1024x768	70	56.5
1024x768	75	60
1024x768	85	68.7
1280x768	60	47.4
1280x768	75	60.3
1280x768	85	68.6
1280x960	60	60
1280x960	85	85.9
1280x1024	60	64
1280x1024	75	80
1280x1024	85	91.1
1366x768	60	47.7
1440x900	60	55.5
1440x900	75	70.6
1600x1200	60	75
1600x1200	65	81.3
1600x1200	70	87.5
1600x1200	75	93.8
1680x1050	60	64.7
1680x1050	75	82.3
1920x1080	60	67.2

Digital Timing Support
480p60
480i60
576p50
576i50
720p60
720i60
1080p50
1080i50
1080p60
1080i60

Timing modes not listed here may result in a picture that is abnormal, off-center, disproportionate, or no-signal. Adjust video source or graphic card output in these circumstances.

Appendix A: Dimensional Drawings

MimioDisplay 550T
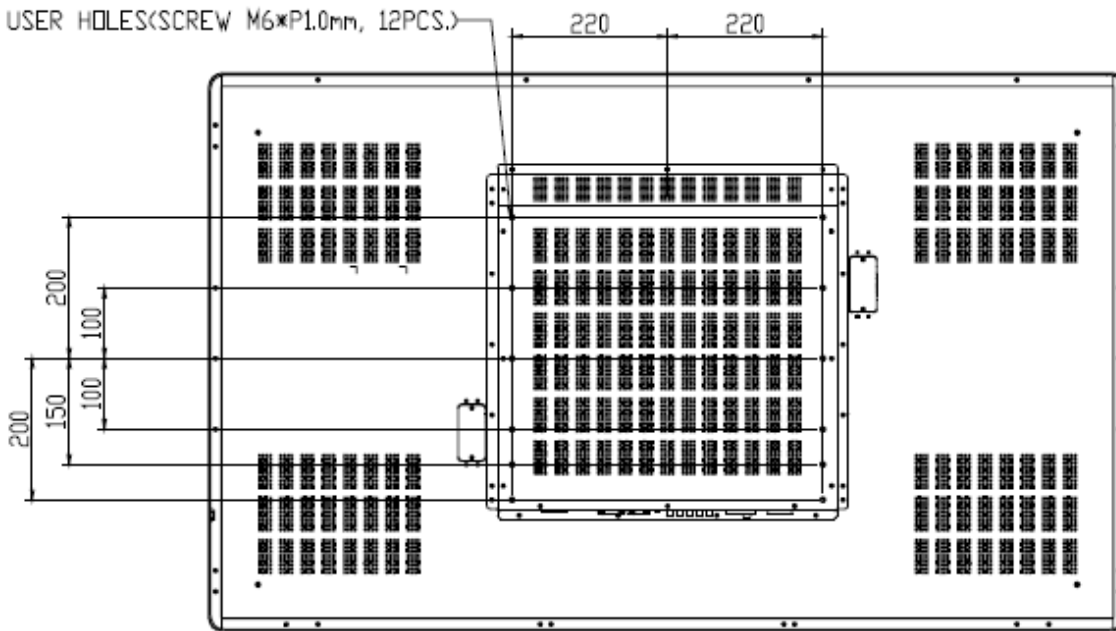
MimioDisplay 650T

MimioDisplay 700T

USER HOLES(M10*P1.5mm, 12PCS)

MimioDisplay 840T

USER HOLES(M10*P1.5mm, 2*6PCS)

Appendix B: RS-232 Control

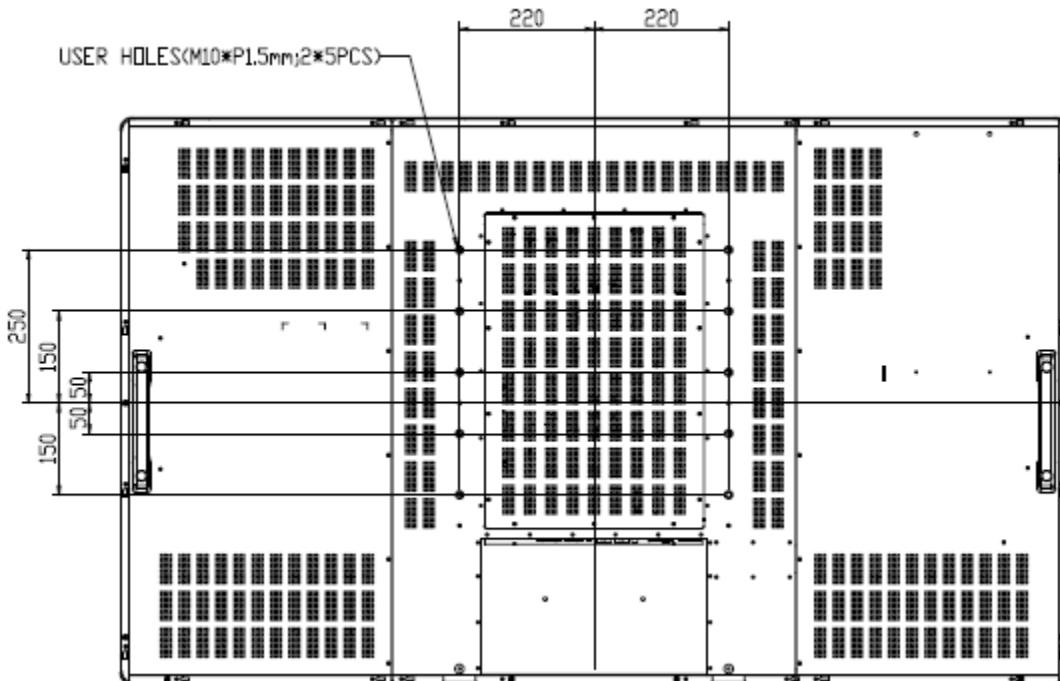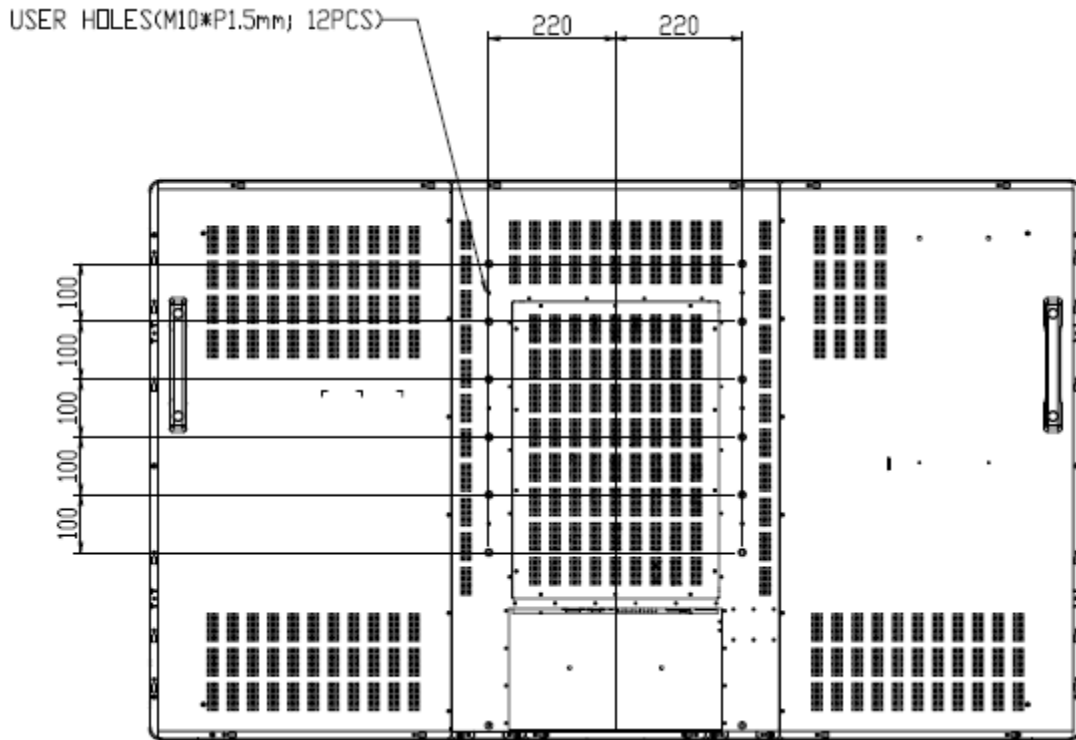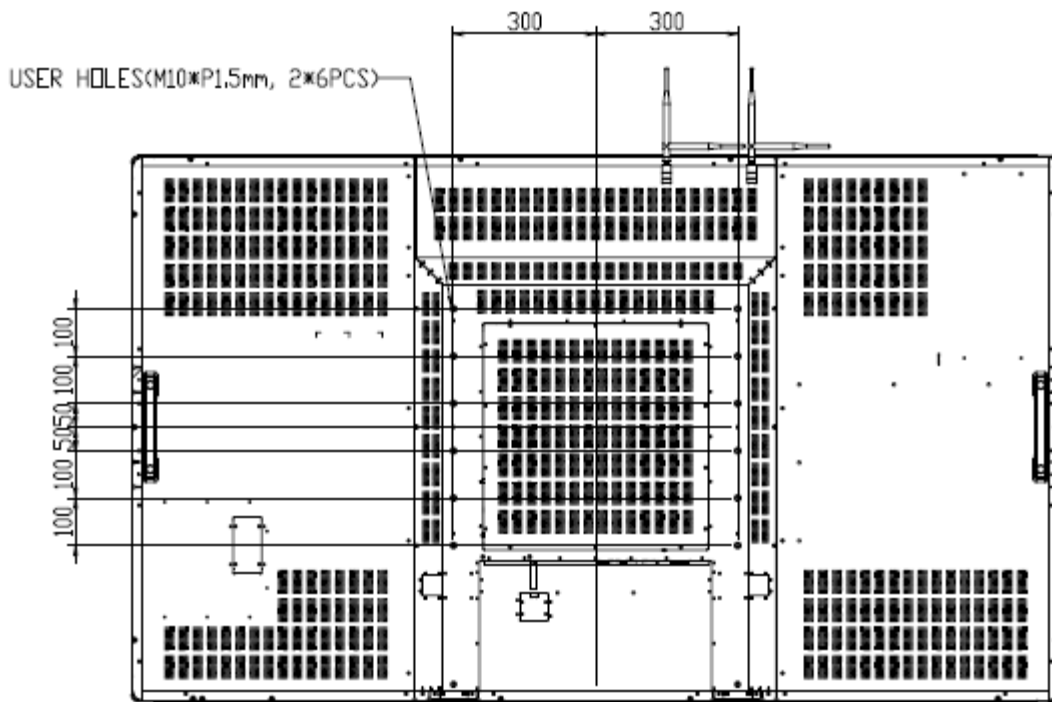This section describes the MimioDisplay communication connection and protocol via RS-232.

Data Format

Data will be transferred serially, according to RS-232 protocol, using the following settings. Connections are as specified in the RS-232 standard. The recommended data rate is 9600 baud.

Baud Rates	9600
Data Bits	8
Stop Bits	1
Parity	No

Data Structure

Note
- All numbers shown in the protocol description are in string, unless indicated otherwise.
- Percentages are shown in decimals.

General Command Form
- STX. The first character is the standard Start of Text (STX) character 'S.'
- Address. The second character is the device address. If a device does not support addressing, the second character should be 0, or 9 to act as the global address.
- Type. The third character is the command type. There are four types of commands:
  - o Command0
  - o Ack1
  - o Nak2 (option)
  - o Notification 3 (option)

- Property ID. The four and fifth characters are the property identifier. By using one byte, we have 256.
- Data Length. The sixth character is the number of characters in the parameter data section.
- Data. Following the sixth character is the parameter data section, which is as many characters long as the sixth character indicates. If the sixth character is 00 (as with the Reset command, for example), then there are no characters in the parameter section. This parameter section contains the value (hexadecimal) for the property.
- ETX. The last character is the standard End of Text (ETX) 'EN.'

Sample:

STX	Address	Type	Property ID		Length	Data	ETX
S	0	0	0	1	1	1	EN

In this example (Power On to everything), the Address character is 0, which is the global address for all devices connected to the serial port. The Type character is 0 to indicate the transmission is a command. The Property ID characters indicate a property identifier of 1, which, in this protocol, is the value for power. The Length character is 1, which indicates that there is one character of data associated with this command. The Data has a value of 1, which is the value for ON. The ETX is command End code.

3-6-4 Command code
3-6-4-1 User Command
In the following samples, the global device address of 0 is used.
The numbers in brackets are the string value that is associated with the property or the property value.
Note that these values are used in the command string.
For the properties that support ranges such as brightness and volume, examples are provided for low and high.

Any intervening values can be deduced from these.

This section covers only the commands sent from the computer to the device. For responses from the device, see the section below, ACKs Notification.

Command		1	3	4	5	6	7	8	9	Note
Power	OFF	S	0	0	0	1	1	0	EN	
	ON							1		
InputSource	VGA	S	0	0	0	2	1	0	EN	
	HDMI 1							1		
	HDMI 2							2		
	HDMI 3							3		
	USB 1							4		
	USB 2							5		
Brightness	0%	S	0	0	0	3	2	00	EN	
	100%							64		
	Plus							65		
	Minus							66		
Contrast	0%	S	0	0	0	4	2	00	EN	
	100%							64		
	Plus							65		
	Minus							66		
Clock	0%	S	0	0	0	5	2	00	EN	
	100%							64		
Phase	0%	S	0	0	0	6	2	00	EN	
	100%							64		
Sharpness	0	S	0	0	0	7	2	00	EN	
	100%							64		
Horizontal Position	Minus	S	0	0	0	8	1	0	EN	
	Plus							1		
Vertical Position	Minus	S	0	0	0	9	1	0	EN	
	Plus							1		
OSDTime	5secs	S	0	0	0	C	1	0		
	Never							3		

Name	Option	S						Value	EN	Note
Color Temperature		S	0	0	1	0	1	0	EN	
								4		
Language		S	0	0	1	1	1	0	EN	
								5		
Volume	0%	S	0	0	1	2	2	00	EN	
	100%							64		
	Plus							65		
	Minus							66		
Mute	OFF	S	0	0	1	3	1	0	EN	
	ON							1		
Zoom(Aspect Ratio)		S	0	0	1	4	0		EN	
Set Value of Volume (User)	5%	S	0	0	1	5	2	5	EN	Note*
	80%							50		
Touch	OFF	S	0	0	1	6	1	0	EN	
	ON							1		
Freeze	OFF	S	0	0	1	7	0		EN	
	ON									
AutoColor		S	0	0	2	0	0		EN	
Auto Processing		S	0	0	2	1	0		EN	
Auto AmbientLight	OFF	S	0	0	2	2	1	00	EN	
	ON							01		
Auto Notification	OFF	S	0	0	2	3	1	0	EN	
	ON							1		
Serial Exclusive	OFF	S	0	0	3	0	1	0	EN	
	ON							1		
OnScreen Menu		S	0	0	3	1	0		EN	
FW_VERSION for ISP		S	0	0	3	3	0		EN	PS: ISP F/W
Auto Detect Source	OFF	S	0	0	3	D	1	0	EN	
	ON							1		
Internal SPK	OFF	S	0	0	3	E	1	0	EN	
	ON							1		
FW_VERSION for USB		S	0	0	6	0	0		EN	PS: USB F/W

MonitorID		S	0	0	F	F	1	0	EN	
								F		
Ping		**S**	**1**	**0**	**5**	**0**	**0**		**EN**	**Note****
Query		S	1	0	5	1	2	00	EN	Note**
								FF		Note***
Reset		**S**	**0**	**0**	**F**	**0**	**0**		**EN**	
Engineer		**S**	**0**	**0**	**F**	**2**	**2**	**0**	**EN**	
Mode								FF		

Note* Default value 15.
Note** Only one device may be "Ping/Query" at a time.
Note*** If your system need "Query" function, please contact Mimio technical support at 877-864-3721, or customercare@mimio.com.

ACKs Notification

The device should return an acknowledgement for a "Ping and Query" command.
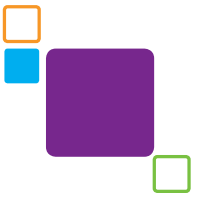
The structure of an ACK is just like a command. The only thing that changes is the Type character, which is **01** (Column 3) for an ACK. The ACK includes the address of the device, the property ID, data length, and a property value the same as the command.

A sample is provided of the ACK string from a successful Power command:

The command Query Power form MimioDisplay ID 01(02 01 00 00 51 02 00 01 03)
02 01 01 00 51 03 00 01 01 03.
(Numbers in blue are ACK for Power status.)

mimio®

mimio.com