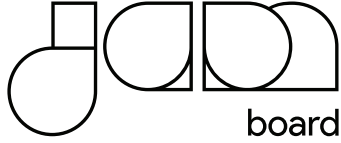


User Manual (English)

Safety Instructions

Safety precautions and maintenance

WARNING: Use of controls, adjustments or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards and/or mechanical hazards.

Read and follow these instructions when connecting and using your display:

Operation:

- Keep the Jamboard out of direct sunlight and away from stoves or any other heat sources.
- Remove any object that could fall into ventilation holes or prevent proper cooling of the display's electronics.
- Do not block the ventilation holes on the cabinet.
- When positioning the display, make sure the power plug and outlet are easily accessible.
- When turning off the display by detaching the power cord, wait 6 seconds before re-attaching the power cord for normal operation.
- Ensure the use of an approved power cord provided by Google at all times. If your power cord is missing, please contact your local service center.
- Do not subject the display to severe vibration or high impact conditions during operation.
- Do not knock or drop the display during operation or transportation.

Maintenance:

- To protect your display from possible damage, do not put excessive pressure on the LCD panel. When moving your display, grasp the frame to lift; do not lift the display by placing your hand or fingers on the LCD panel.
- Unplug the display if you are not going to use it for an extensive period of time.
- The screen may be wiped with a dry cloth. However, never use organic solvent, such as, alcohol, or ammonia-based liquids to clean your display.
- To avoid the risk of shock or permanent damage to the set, do not expose the display to dust, rain, water or an excessively moist environment.
- If your display becomes wet, wipe it with dry cloth as soon as possible.
- If a foreign substance or water gets in your display, turn the power off immediately and disconnect the power cord. Then remove the foreign substance or water, and send the unit to the maintenance center.
- Do not store or use the display in locations exposed to heat, direct sunlight or extreme cold.
- In order to maintain the best performance of your display and ensure a longer lifetime, we strongly recommend using the display in a location that falls within the following temperature and humidity ranges.

  -- Temperature: 0-40˚C 32-104˚F
  -- Humidity: 20-80% RH

IMPORTANT: Always activate a moving screen saver program when you leave your display unattended. Always activate a periodic screen refresh application if the unit will display unchanging static content. Uninterrupted display of still or static images over an extended period may cause "burn in", also known as "after-imaging" or "ghost imaging", on your screen. This is a well-known phenomenon in LCD panel technology. In most cases, the "burned in" or "after-imaging" or "ghost imaging" will disappear gradually over a period of time after the power has been switched off.

WARNING: Severe "burn-in" or "after-image" or "ghost image" symptoms will not disappear and cannot be repaired. This is also not covered under the terms of your warranty.

Service:

- The casing cover should be opened only by qualified service personnel.
- If there is any need for repair or integration, please contact your local service center.
- Do not leave your display under direct sunlight.

If your display does not operate normally, having followed the instructions set out in this document, please contact a technician or your local service center.

Read and follow these instructions when connecting and using your display:

- Unplug the display if you are not going to use it for an extensive period of time.
- Unplug the display if you need to clean it with a slightly damp cloth. The screen many be wiped with a dry cloth when the power is off. However, never use alcohol, solvents or ammonia-based liquids.
- Consult a service technician if the display does not operate normally when you have followed the instructions in this manual.
- The casing cover should be opened only by qualified service personnel.
- Keep the Jamboard out of direct sunlight and away from stoves or any other heat sources.
- Remove any object that could fall into the vents or prevent proper cooling of the display's electronics.
- Do not block the ventilation holes on the cabinet.
- Keep the display dry. To avoid electric shock, do not expose it to rain or excessive moisture.
- When turning off the display by detaching the power cable or DC power cord, wait for 6 seconds before re-attaching the power cable or DC power cord for normal operation.
- To avoid the risk of shock or permanent damage to the set do not expose the display to rain or excessive moisture.
- When positioning the display, make sure the power plug and outlet are easily accessible.

For doors or covers intended to be removed by operator for installation of accessory devices, instructions shall be provided for the correct removal and reinstallation of the door

IMPORTANT: Always activate a screen saver program during your application. If a still image in high contrast remains on the screen for an extended period of time, it may leave an 'after-image' or 'ghost image' on the front of the screen. This is a well-known phenomenon that is caused by the short comings inherent in LCD technology. In most cases the afterimage will disappear gradually over a period of time after the power has been switched off. Be aware that the after-image symptom cannot be repaired and is not covered under warranty.

Federal Communications Commission (FCC) Notice (U.S. Only):

NOTE: This equipment has been tested and found to comply with the limits for a Class A digita device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment 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 this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Use only an RF shielded cable that was supplied with the display when connecting this display to a computer device.
To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or excessive moisture

RF Warning:

Federal Communication Commission Interference Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.
Additional compliance requirements required with this module installed.

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling
This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: ARS-SMMTN28C01". The grantee's FCC ID can be used only when all FCC compliance requirements are met.

Manual Information To the End User
The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.
The end user manual shall include all required regulatory information/warning as show in this manual

End-of-Life Disposal

Your new Public Information Display contains materials that can be recycled and reused. Specialized companies can recycle your product to increase the amount of reusable materials and to minimize the amount to be disposed of.

Please find out about the local regulations on how to dispose of your old display from your local dealer.

(For customers in Canada and U.S.A .)

This product may contain lead and/or mercury. Dispose of in accordance to local-state and federal regulations. For additional information on recycling contact www.eia.org (Consumer Education Initiative)

As an ENERGY STAR Partner. we have determined that this product meets the ENERGY STAR guidelines for energy efficiency.

Table Of Contents

1. Unpacking and Installation....1
- 1.1. Unpacking....1
- 1.2. Package Contents....1

2. Functions....3

3. Operation....6
- 3.1. OSD Keypads....6
- 3.2. OSD functions....6
- 3.3. Touch Operation....7
- 3.4. Tools Operation....9

4. Pixel Defect Policy....10
- 4.1. Pixels and Sub-Pixels....10
- 4.2. Types of Pixel Defects + Dot Definition....11
- 4.3. Dark Dot Defects....12
- 4.4. Proximity of Pixel Defects....12
- 4.5. Pixel Defect Tolerances....13
- 4.6. MURA....13

5. Cleaning and Troubleshooting....15
- 5.1. Cleaning....15
- 5.2. Troubleshooting....16

6. Technical Specifications....17

1. Unpacking

1.1 Unpacking

- This product is packed in a carton, together with the standard accessories.
- Any other optional accessories will be packed separately.
- Due to the size and weight of this display it is recommended for two people to move it.
- After opening the carton, ensure that the contents are complete and in good condition.

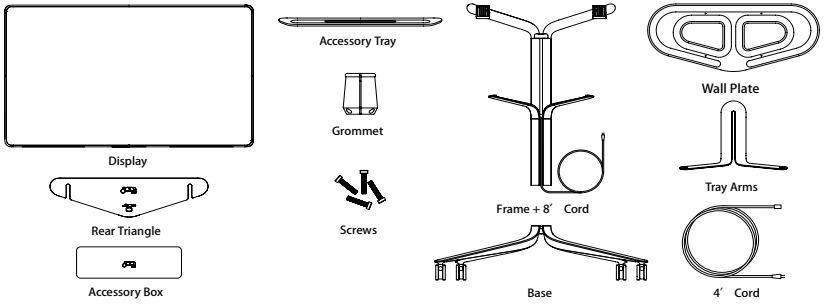
1.2 Package Contents

Floor Standing

- Display
- Triangle Cover
- Frame
- Base
- Accessory Tray
- Eraser
- Cleaning Cloth
- Power Cord (10.5 ft)
- Power Cord Grommet
- Installation Screws
- Stylus

Wall Mounted

- Display
- Triangle Cover
- Wall Plate
- Tray Arms
- Accessory Tray
- Eraser
- Accessory Box
- Cleaning Cloth
- Power Cord (5.9 ft)
- Installation Screws
- Stylus

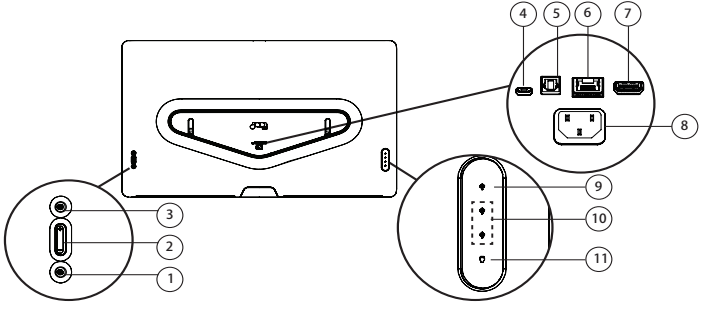


NOTES:

- For all other regions, apply a power cord that conforms to the AC voltage of the power socket and has been approved by and complies with the safety regulations of the particular country.
- You might like to save the package box and packing material for shipping the display.

2. Functions

a.Rear Control Panel



1. **POWER BUTTON**
   Switch the main power on/off.

2. **VOLUME [+/-]**
   Control volume output.

3. **INPUT**
   Use this button to select the input source.

4. **MICRO USB**
   Update Android flash only.

5. **SPDIF OUT**
   SPDIF 2.1 channel Output.

6. **RJ-45**
   support 1000BaseT.

7. **HDMI 2.0**
   HDMI video/audio input.

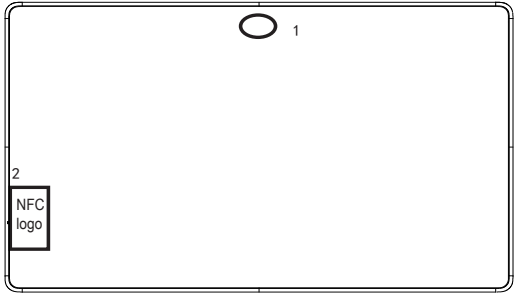
8. **AC IN**
   AC power input from the wall outlet.

9. **USB Type C**
   Support power delivery/ USB storage/ DP input.

10. **USB 3.0 Port 1 / USB 3.0 Port 2**
    Connect your USB storage device.

11. **HDMI 1.4**
    HDMI video/audio input.

b.Front Control Panel



1. Camera/1080P resolution input
2.NFC reader/Support NFC card to access

3. Operation

3.1 OSD Keypads

Power Key:
DC off/on controller.

Source Key:
Source selection.

Vol+ Key:
Up adjuster.

Vol- Key:
Down adjuster.

3.2 OSD functions

Power off/on:
Press "Power" to switch the power state.

Source selection:
Press "Source" to switch to next source.
The source selection sequence is HDMI1 > HDMI2 > DP > Android.

Brightness:
Press "Vol-" to pop out the "Brightness adjuster" menu.
And then use "Vol+" and "Vol-" to adjust it.

Volume:
Press "Vol+" to pop out the "Volume adjuster" menu.
And then use "Vol+" and "Vol-" to adjust it.

3.3 Touch Operation

This display is equipped with a touch-sensitive screen and supports the **Jamboard** features either by singletouch or multitouch operation. You can touch the pictures or words on the display gently with your fingers, and your Jamboard will react.

The following description illustrate some typical touch operation behavior. For further detail on how to run the touch operation, please refer to the on screen instruction.

Single Tap

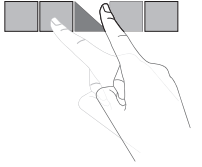
Touch the target on the screen with one fingertip for one quick tap.then release.

Pan

Touch the target on the screen with one fingertip and move across the target without losing direct contact, then release.

Flick

Touch the target on the screen with one fingertip and move across the target without losing direct contact, then release



Zoom IN

Touch the target on the screen with one fingertip and move across the target then release

Zoom Out

Touch the target on the screen with one fingertip and move across the target without losing direct contact, then release.

3.4 Stylus and Eraser Operation

This **Jamboard** display is equipped with a touch-sensitive screen and supports the use of the JAM stylus or eraser. You can touch the pictures or words on the display gently with your accessories, and your JAM Board will react.

The following description illustrate some typical touch operation behavior. For further detail on how to run the touch operation, please refer to the on screen instruction.

Write

Use the stylus to write anywhere on the screen. The stylus is pressure sensitive and changes depending on how hard you press on the screen.

Erase

Use the eraser (microfiber side down) to erase marks and gestures on the screen.

Avoid

- Avoid scratching with sharp object on the screen. Only your fingertips and JAM accessories are allowed to do the touch control.
- Avoid intensive light, spotlight, or wide-spread light from direct beaming on the screen.
- Avoid installation location close to the windows or glass-doors as the direct sunlight may affect the touch-control performance.

4. Pixel Defect Policy

We strive to deliver the highest quality products and use some of the industry's most advanced manufacturing processes whilst practicing stringent quality control. However, pixel or sub-pixel defects on the PDP / TFT panels used in Plasma- & LCD- displays are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but guarantees that any Plasma- & LCD- displays with an unacceptable number of defects will be repaired during the warranty period in line with your local guarantee conditions.

This notice explains the different types of pixel defects and defines the acceptable defect level for the LCD screen. In order to qualify for repair under warranty, the number of pixel defects must exceed a certain level as shown in the reference table. If the LCD screen is within specification a warranty exchange / claim back will be refused. Additionally, because some types or combinations of pixel defects are more noticeable than others, sets even higher quality standards for those.

4.1 Pixels and Subpixels

A pixel, or picture element, is composed of three sub-pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub-pixels of a pixel are lit, the three colored sub-pixels together appear as a single white pixel. When all are dark, the three colored sub-pixels together appear as a single black pixel. Other combinations of lit and dark sub-pixels appear as single pixels of other colors.

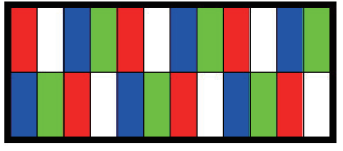
4.2 Types of Pixel Defects + Dot Definition

Pixel and sub-pixel defects appear on the screen in different ways. There are three categories of pixel defects and several types of sub-pixel defects within each category.

Dot definition = What is a defective "Dot"?

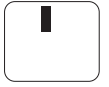
One or more defective, adjacent sub-pixel are defined as one "dot". The no. of defective sub-pixels are not relevant to define a defective dot. This means that a defective dot can consist of one, two or three defective sub-pixels which can be dark or lit.

One dot = One Pixel; consists of three sub-pixels of Red, Green, and Blue.

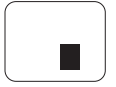


4.3 Dark Dot Defects

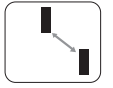
Black dot defects appear as pixels or sub-pixels that are always dark or "off ". These are the examples of black dot defects:



One dark dot



Two adjacent dark dots = 1 pair of dark dots



Two dark dots, specifcations defnes the minimum distance between dark dots

4.4 Proximity of Pixel Defects

Because pixel and sub-pixels defects of the same type that are nearby one another may be more noticeable, specifies tolerances for the proximity of pixeldefects. In the table below you can find specifications about:

- Allowed amount of adjacent dark dots = (adjacent dark dots =1 pair of dark dots)
- Minimum distance between dark dots
- Total no. of all defective dots

4.5 Pixel Defect Tolerances

In order to qualify for repair due to pixel defects during the warranty period, a PDP / TFT panel in a Plasma / LCD- display must have pixel or sub-pixel defects exceeding the tolerances listed in the following table

BRIGHT DOT EFFECT	ACCEPTABLE LEVEL
1 lit sub pivel	2
BLACK DOT EFFECT	ACCEPTABLE LEVEL
1 dark sub pixel	10
TOTAL DOT DEFECTS	12

4.6 MURA

Dark spots or patches may occasionally appear on some liquid crystal display (LCD) panels. This is known within the industry as Mura, which is a Japanese term for "unevenness." It is used to describe an irregular pattern or area in which uneven screen uniformity appears under certain conditions. Mura is a result of the deterioration of the liquid crystal alignment layer and is most commonly caused by long-term operation under high ambient temperatures. It is an industry- wide phenomenon and Mura is not repairable. It is also not covered by our warranty terms. Mura has been around since the introduction of LCD technology and with screens getting bigger and in operation 24/7, many displays are running in low light conditions. This all adds to the possibility of Mura affecting displays.

HOW TO SPOT MURA

There are many symptoms of Mura and also multiple causes. Several of these are listed below:

- Impurities or foreign particles in the crystal matrix
- Uneven distribution of LCD matrix during manufacturing
- Non-uniform luminance distribution of the backlight
- Panel assembly induced stress
- Flaws within the LCD cells
- Thermal induced stress - high temperature operation over long periods of time

HOW TO AVOID MURA

Although we can not guarantee the complete eradication of Mura every time, in general the appearance of Mura can be minimized by these methods:

- Lower the backlight brightness
- Use a screen saver
- Reduce the ambient temperature around the unit

5. Cleaning and Troubleshooting

5.1 Cleaning

Caution when using the display

- Do not bring your hands, face or objects close to the ventilation holes of the display. The top of the display is usually very hot due to the high temperature of exhaust air being released through the ventilation holes. Burns or personal injuries may occur if any body parts are brought too close. Placing any object near the top of the display could also result in heat related damage to the object as well as the display itself.
- Be sure to disconnect all cables before moving the display. Moving the display with its cables attached may damage the cables and thus cause fire or electric shock.
- Disconnect the power plug from the wall outlet as a safety precaution before carrying out any type of cleaning or maintenance procedure.

Front Panel Cleaning Instructions

- The front of the display has been specially treated. Wipe the surface gently using only a cleaning cloth or a soft, lint-free cloth.
- If the surface becomes dirty, soak a soft, lint-free cloth in a mild detergent solution. Wring the cloth to remove excess liquid. Wipe the surface of the display to remove dirt. Then use a dry cloth of the same type to dry.

- Do not scratch or hit the surface of the panel with fingers or hard objects of any kind.
- Do not use volatile substances such as insert sprays, solvents and thinners.

5.2 Troubleshooting

Symptom	Possible Cause	Remedy
No picture is displayed	1. The power cord is disconnected 2. The power switch is not switched on 3. The display is in standby mode	1. Plug in the power cord 2. Make sure the power switch is on 3. Touch the display to exit standby
Interference displayed on the display or audible noise is heard	Caused by surrounding electrical appliances or flurescent lights.	Move the display to another location to see if the interference is reduced.
Can see picture but no sound is heard	1. Volume is turned all the way down 2. Mute is turned on.	1. Press [+] or [-] button to hear sound. 2. Switch MUTE off
After-images can still be seen on the display after ht edisplay is turned off.	A still picture is displaued for an over extended period of time	Do not allow a still image to be displayed for an extended period of time as this can cause a permanent after-image to remain on the display.

6. Technical Specifications

Display

Item	Specifications
Screen Size (Active Area)	54.64" (138.8 cm) LED
Aspect Ratio	16:9
Number of pixels	3840 (H) x 2160 (V)
Pixel pitch	0.315 mm x 0.315 mm
Color Depth	10 bits, 1.07billion colors
Brightness	400 cd/m² (Center 1 point, Typical)
Contrast Ratio	800:1 (Min.)
Viewing angle	178 (H) / 178 (V)

In/Out Terminals

Item		Specifications
SPDIF Output	SPDIF Port	Serial digital audio output when input is HDMI
RJ-45	RJ-45 Jack x 1 (8 Pin)	1000BaseT
HDMI Input	HDMI Jack x 2 (Type A) (19 Pin)	Digital RGB:TMDS (Video + Audio) MAX: Video - 720p, 1080p, 1920 x 1080/60 Hz (WUXGA), 4K/2K 30/60Hz (HDMI2.0 only) Audio - 48 KHz/ 2 Channel (L+R) Separate to HDMI 1.4 and HDMI 2.0
USB Input	USB x 2 (Type A)	USB 3.0
USB Input	USB x 1 (Type C)	USB Type C@3A/storage/DP 1.2 input

General:	
Item	**Specifications**
Power Supply	AC 100 - 240V, 50 - 60Hz
Power Consumption	200 W (Max.)
	130 W (Typ.)
	NA (EPA 6.1)
	<0.5W (standby mode)
Dimensions	1352(W) x 1817.4(H) x 1019.5(D) mm (Floor standing) 1352(W) x 978.7(H) x 211.5(D) mm (Wall mounted)
Weight	TBD (Floor Standing)
	TBD (Wall mounted)
Gross Weight	
Tilt	0°~18°

Environmental Condition:

Item		Specifications
Temperature	Operational	0 ~ 40˚C
	Storage	-20 ~ 60˚C
Humidity	Operational	20 ~ 80% (without condensation)
	Storage	5 ~ 95% (without condensation)
Altitude	Operational	0 ~ 3,000 m
	Storage / Shipment	0 ~ 9,000 m