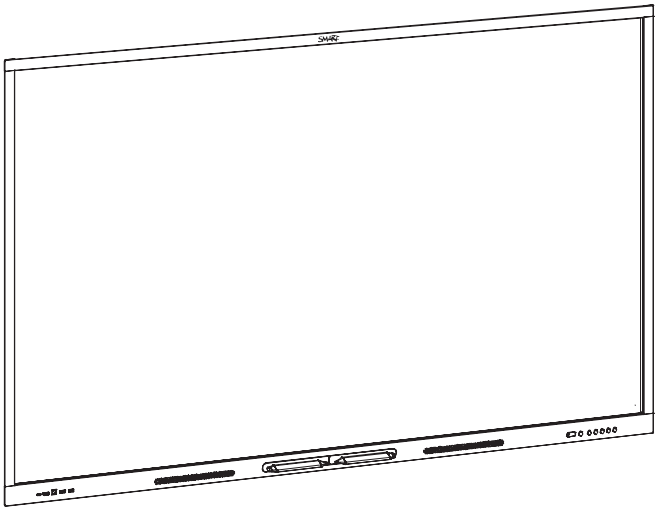

SMART Board® GX series

interactive displays

INSTALLATION AND MAINTENANCE GUIDE

SBID-GX165 | SBID-GX175 | SBID-GX186

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smarttech.com/docfeedback/171744

SMART®

Learn more

This guide and other resources for SMART Board GX series interactive displays are available in the Support section of the SMART website (smarttech.com/support). Scan this QR code to view these resources on your mobile device.

May 24, 2021

Important information

WARNING

- Failure to follow the installation instructions included with the display could result in injury and product damage which may not be covered by the warranty.
- Do not open or disassemble the display. You risk electrical shock from the high voltage inside the casing. Opening the casing also voids the warranty.
- Do not stand (or allow children to stand) on a chair to touch the surface of the display. Rather, mount the product at the appropriate height.
- To reduce the risk of fire or electric shock, do not expose the display to rain or moisture.
- If the display requires replacement parts, make sure the service technician uses replacement parts specified by SMART Technologies or parts with the same characteristics as the original.
- Ensure that any cables that cross the floor to the display are properly bundled and marked to avoid a trip hazard.
- Do not insert objects inside the cabinet ventilation holes, because they could touch dangerous voltage points and cause electric shock, fire, or product damage which may not be covered by the warranty.
- Do not place heavy objects on the power cable. Damage to the cable could cause shock, fire, or product damage which may not be covered by the warranty.
- Use only extension cords and outlets that can fully accommodate the display's polarized plug.
- Use the power cable provided with the display. If a power cable is not supplied, contact your supplier. Use only power cables that match the AC voltage of the power outlet and that comply with your country's safety standards.
- If the glass is broken, do not touch the liquid crystal. To prevent injury, handle glass fragments with care when disposing of them.
- Do not move or mount the display by connecting rope or wire to its handles. The display is heavy, and failure of the rope, wire, or handle could lead to injury.
- Use only VESA-approved mounts.
- Disconnect the display's power cable from the wall outlet and seek assistance from qualified service personnel if any of the following occur:
  - The power cable or plug is damaged
  - Liquid is spilled into the display
  - Objects fall into the display
  - The display is dropped
  - Structural damage, such as cracking, occurs
  - The display behaves unexpectedly when you follow operating instructions

CAUTION

- Turn off the display before cleaning its screen. Otherwise, you may scramble the desktop icons or inadvertently activate applications when you wipe the screen.
- Avoid setting up and using the display in an area with excessive levels of dust, humidity, and smoke.
- Make sure an electrical socket is near the display and remains easily accessible during use.
- In Europe, the display should be used only with European TN and TT power distribution systems.

  It is not suitable for older, IT-type power distribution systems found in some European countries. "This system (IT-type) is widely used isolated from earth, in some installations in France, with impedance to earth, at 230/400V, and in Norway, with voltage limiter, neutral not distributed, at 230V line-to-line."

  Contact qualified personnel if you're uncertain of the type of power system available where you're installing the display.
- The accessory slot's maximum available power is 60 W. The slot is not a limited power source. To reduce the risk of fire, make sure that accessories connecting to the slot satisfy the fire enclosure requirements of IEC 60950-1 and IEC 62368-1.
- You must connect the USB cable that came with the display to a computer that has a USB compliant interface and that bears the USB logo. In addition, the USB source computer must be compliant with IEC 60950-1 and/or IEC 62368-1. The source computer must be CE marked and carry safety certification marks for Canada and USA. This is for operating safety and to avoid damage to the display.

- Wait five minutes before removing accessories from the display's OPS slot to allow the accessory to cool.

IMPORTANT

The following table includes the normal operating power requirements for the display:

Models	Regulatory Models	Power requirements
SBID-GX165	IDGX65-1	100V to 240V AC, 50 Hz to 60 Hz, 117 W
SBID-GX175	IDGX75-1	100V to 240V AC, 50 Hz to 60 Hz, 157 W
SBID-GX186	IDGX86-1	100V to 240V AC, 50 Hz to 60 Hz, 175 W

For additional requirements and other information, refer to the display's specifications (see *More information* on page 15).

ENERGY STAR®

ENERGY STAR is the government-backed symbol for energy efficiency, providing simple, credible, and unbiased information that consumers and businesses rely on to make well-informed decisions. ENERGY STAR-certified products are the simple choice for energy efficiency, making it easy for consumers and businesses to make purchases that save them money and protect the environment. The U.S. EPA ensures that each product that earns the label is independently certified to deliver the quality, performance, and savings that users have come to expect.

As shipped, your display delivers ENERGY STAR performance and savings. However, changing some settings may increase energy consumption beyond the limits required for ENERGY STAR certification. For example, increased brightness and contrast will increase power consumption.

Please consider the environment when you choose non-ENERGY STAR settings.

Federal Communication Commission interference statement

FCC
Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information
Unique Identifier: IDGX65-1, IDGX75-1, IDGX86-1
Responsible Party – U.S. Contact Information
SMART Technologies Inc.
2401 4th Ave, 3rd Floor
Seattle, WA 98121
compliance@smarttech.com

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.

NOTE

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 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.

CAUTION

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

Restriction

Operations in the 5.15-5.25 GHz band are restricted to indoor usage only.

IEEE 802.11b or 802.11g operation of this product in the USA is firmware limited to channels 1 through 13.

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 of 20 cm between the antenna of this device and all nearby persons. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Innovation, Science and Economic Development Canada statement

This device complies with RSS-210 of the Innovation, Science and Economic Development Canada 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.

CAUTION

(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

(ii) the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall comply with the e.i.r.p. limit; and

(iii) the maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.

(iv) Users should also be advised that high-power radars are allocated as primary users (i.e., priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Radiation exposure statement

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the antenna of this device and all nearby persons. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Innovation, Science et Développement économique Déclaration du Canada

Cet appareil est conforme à la norme ISED CNR-210 pour les appareils radio agréés. Son fonctionnement est soumis aux deux conditions suivantes:

1. le dispositif ne doit pas produire de brouillage préjudiciable, et
2. ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

AVERTISSEMENT

(i) les dispositifs fonctionnant dans la bande 5 150-5 250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

(ii) le gain maximal d'antenne permis pour les dispositifs utilisant les bandes 5 250-5 350 MHz et 5 470-5 725 MHz doit se conformer à la limite de p.i.r.e.;

(iii) le gain maximal d'antenne permis (pour les dispositifs utilisant la bande 5 725-5 825 MHz) doit se conformer à la limite de p.i.r.e. spécifiée pour l'exploitation point à point et non point à point, selon le cas.

(iv) De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250-5 350 MHz et 5 650-5 850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps. Cet émetteur ne doit pas être co- implantés ou exploités conjointement avec une autre antenne ou émetteur.

EU Declaration of Conformity

Hereby, SMART Technologies ULC declares that the radio equipment type Interactive Display **IDGX65-1**, **IDGX75-1**, **IDGX86-1** and the **OPS**, **PCM8**, are in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following Internet address: smarttech.com/compliance

WARNING

Operation of this equipment in a residential environment could cause radio interference.

The frequency band and the maximum transmitted power in EU are listed below:

Regulatory models: IDGX65-1, IDGX75-1, IDGX86-1

Transmitting Band (MHz)	Maximum Transmit Power dBm
2402–2483.5	19
5150–5350	20
5470–5725	20
5725–5875	13

Restrictions in:
AT/BE/BG/CZ/DK/EE/FR/DE/IS/IE/IT/EL/ES/CY/LV/LI/LT/LU/HU/MTNL/NO/PL/PT/RO/SI/SK/TR/FI/SE/CH/UK/HR – 5150MHz-5350MHZ is for indoor use only.

Regulatory models: OPS, PCM8

Transmitting Band (MHz)	Maximum Transmit Power dBm
2402–2483.5	20
5150–5350	22
5470–5725	22
5745–5875	13

Restrictions in:
AT/BE/BG/CZ/DK/EE/FR/DE/IS/IE/IT/EL/ES/CY/LV/LI/LT/LU/HU/MTNL/NO/PL/PT/RO/SI/SK/TR/FI/SE/CH/UK/HR – 5150MHz-5350MHZ is for indoor use only.

For optimal performance any support equipment connected to this device must be CE compliant.

Contents

Chapter 1

Welcome

This chapter introduces the SMART Board® GX series interactive displays.

About this guide

This guide explains how to install and maintain a SMART Board GX series interactive display. It includes the following information:

- How to install the display
- How to connect power and devices
- How to turn on the display for the first time

- How to maintain the display for years of use
- How to troubleshoot issues with the display

This guide also includes information about the display's settings and support for remote management.

This guide is intended for those who install and maintain displays in their organizations. Additional documentation and resources are available for users of the display (see *More information* on page 15).

About the display

The SMART Board GX series gives you everything you need to get started with interactivity.

The display includes a comprehensive set of features and components.

Touch

You can do everything on the display that you can do at your computer—open and close applications, meet with others, create new documents or edit existing ones, visit websites, play and manipulate videos, and so on—by touching the display's surface.

You can use an array of gestures within applications, including panning, scaling, rotating, and zooming in and out.

Display

The 4K ultra-high-definition LED display provides optimal image clarity and wide viewing angles.

The display size varies by model:

Models	Size (diagonal)
SBID-GX165	65"
SBID-GX175	75"
SBID-GX186	86"

Mounting hardware

The display does not include mounting hardware. You can use VESA compliant wall mounts, such a SMART's WM-SBID-200 wall mount, to mount the display on a wall (see *Installing the display on a wall* on page 18).

You can also mount the display on a mobile stand (see *Accessories* on page 14).

Front control panel

The front control panel provides buttons for turning the display on and off, controlling the volume, accessing the display's settings or freezing the screen, going one step back in the screen's navigation history, and displaying the Home screen.

Remote control and infrared sensor

You can use the remote control to turn the display on and off, adjust display settings, and quickly open applications.

The display's infrared sensor is located in the bottom-left corner of the display's frame.

Ambient light sensor

The ambient light sensor is located in the bottom-right corner of the display's frame.

The ambient light sensor detects the brightness of the room and adjusts the screen's brightness accordingly.

Power status

The indicator light's color indicates the display's status:

Power button	Display status
Off	Not receiving power
Red (solid)	Standby mode
Red (flashing)	Firmware update in progress
Green	Normal operating mode

Writing, drawing, and erasing

The display comes with two pens you can use to write or draw on the screen. Each end of a pen can be assigned to write or draw in a different color. You can erase digital ink by moving your fist or palm over the digital ink.

With Object Awareness, the display responds automatically to the tool or object you're using, whether it's a pen, finger, or palm.

Audio

The display includes two 15 W integrated speakers, which are designed to provide sound at the front of a room.

Network connectivity

The display requires a network and internet connection for downloading software and firmware updates.

You can connect the display to a network using Wi-Fi or an Ethernet cable.

- The Wi-Fi module supports both 2.4 and 5 GHz bands.
- The two RJ45 jacks allow you to connect the display and an external device, such as a computer, to an Ethernet network.

For more information, see *Connecting to a network* on page 25.

Front connector panel

The front connector panel includes connectors for USB peripherals and a computer or other input source.

For more information, see *Connecting room computers and guest laptops* on page 31 and *Connecting USB drives, peripherals, and other devices* on page 41.

Room computers and guest laptops

You can connect room computers and guest laptops to the display and view and interact with them.

The display comes with SMART software that you can install on connected computers to take full advantage of the display's features.

For more information, see *Connecting room computers and guest laptops* on page 31.

Tools and features

The display's built-in Android™ computing provides access to apps that enable you to browse the web, use a whiteboard, share your screen, and more without using a connected device.

Accessory slot

You can install an OPS-compatible device, such as a SMART OPS PC module, in the accessory slot. SMART OPS PC modules provide a complete Windows® 10 Pro installation.

For more information on SMART OPS PC modules, see *SMART OPS PC module* on the next page.

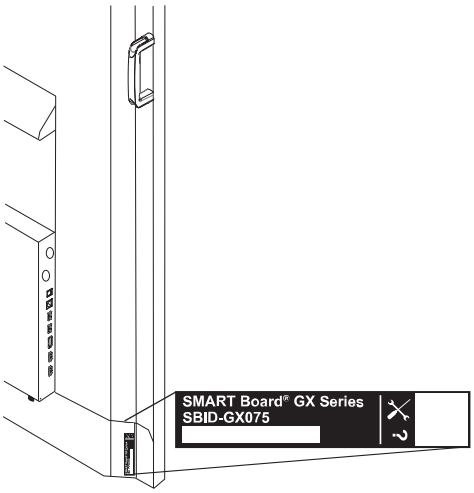
CAUTION

- The accessory slot's maximum available power is 60 W. The slot is not a limited power source. To reduce the risk of fire, make sure that accessories connecting to the slot satisfy the fire enclosure requirements of IEC 60950-1 and/or IEC 62368-1.
- Do not remove the OPS PC or other devices from the accessory slot while they are turned on.

Identifying your specific model

SMART offers several models of the SMART Board GX series interactive display.

For help identifying your model, see the labels on the back or left side of the display.



Model	Screen size (approximate)
SBID-GX165	65" (165 cm)
SBID-GX175	75" (190 cm)
SBID-GX186	86" (218 cm)

Accessories

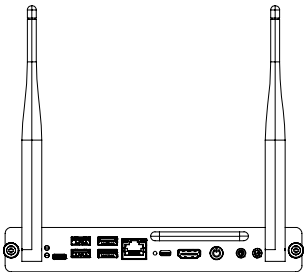
Accessories for the display include:

- SMART OPS PC module
- SMART wall mount (WM-SBID-200) for SMART Board displays
- Stands
- USB extenders

NOTE

For more information about these and other accessories, see smarttech.com/accessories.

SMART OPS PC module



SMART Open Pluggable Specification (OPS) PC modules provide a hassle-free Windows 10 Pro installation based on eighth generation Intel® Core™ processors and are designed specifically to work with a SMART display. All OPS PC modules are WHQL certified and fully licensed with Windows 10 Pro. Install the OPS PC module in a display's OPS slot to provide a complete 4K UHD Windows 10 installation at your fingertips, without the need for an external PC or additional cables.

Install familiar Windows applications, such as SMART Notebook®, SMART TeamWorks™, and SMART Meeting Pro® software, and access the internet directly through your display's network connection. Upgrades and service for the OPS PC module are easy to perform without removing the display from its mounting.

Stands

If you want to move the display from place to place, you can install it on a SMART mobile stand. If you are installing the display on a wall that cannot support the display's full weight, you can install the display on a SMART floor stand.

USB extenders

As noted in the display's specifications, the USB connection between the display and computer should be no longer than 16' (5 m). If you need to connect a computer that is more than 16' (5 m) from the display, use one of the following USB extenders:

Extender	Specifications
USB-XT	smarttech.com/kb/119318
CAT5-XT-1100	smarttech.com/kb/170202

NOTE

For more information about extending USB connections, see USB cable extenders.

More information

SMART provides a variety of other documents for this display in the Support section of the SMART website (smarttech.com/support). Scan the QR code on this guide's cover for links to SMART Board GX series interactive display documents and other support resources.

Chapter 2

Installing the display

SMART recommends that only trained installers install the display.

This chapter is for installers. Installers should read this information along with the installation instructions included with the display before they begin the installation.

WARNING

Improper installation of the display can result in injury and product damage.

Moving the display to the installation site

After your organization receives the display, you need to move it to the place where you plan to install it.

On occasion, you might also need to move the display to another location after initially installing it.

IMPORTANT

- Move the display at your own risk. SMART cannot accept liability for damages or injury that occur during the display's transportation.
- When moving the display:
  - Follow local safety regulations and standards.
  - Pack the display in its original packaging, including the pallet.
  - Move the display so that its top frame faces up.
  - Have at least two people move the display.

TIP

display packaging may be labeled to indicate which side is the front. Look for "FRONT" on the packaging to help orient the box during transportation.

Using transportation aides

You can use the following aides to move the display:

- Cart
- Furniture dolly
- Mechanical lift

Accommodating doorways, hallways, and elevators

In some situations, you might need to remove the display from its packaging to move it through narrow doorways or hallways or onto an elevator. In these situations, keep the foam pieces on the bottom corners of the display. These foam pieces protect the display if you need to set it down during transportation.

You might also need to rotate the display so that its top frame faces to the side. You can do this during transportation, but when you install the display, it must be in landscape orientation (with the top frame facing up).

Dealing with cracked, chipped, or shattered glass

The display contains safety-tempered glass. Although this glass is heat-strengthened to help withstand impacts, the glass can crack, chip or shatter if struck with enough force. (Safety glass is designed to break into small pieces rather than sharp shards if it is broken.) Temperature changes can cause a minor crack or chip to become worse, possibly causing the glass to shatter. See the knowledge base article, Shattered glass on an interactive display, for information about conditions that can cause the display's glass to shatter even when it's not in use.

If the display's glass is cracked or chipped, have it professionally inspected and repaired at a SMART authorized repair center. If the display's glass shatters, carefully clean up the area and have the display repaired or replaced.

WARNING

For safety and to prevent further damage, do not continue to install or use the display if its glass is cracked, chipped or shattered.

Saving the original packaging

Save the original packaging and repack the display with as much of it as possible if you ever need to move the display after installation. This packaging was designed to provide the best possible protection against shock and vibration.

NOTE

If the original packaging isn't available, you can purchase the same packaging directly from your authorized SMART reseller (smarttech.com/where).

CAUTION

Move the display only in the original packaging or replacement packaging purchased from your authorized SMART reseller. Moving the display without correct packaging can lead to product damage and voids the warranty.

Installing the display on a wall

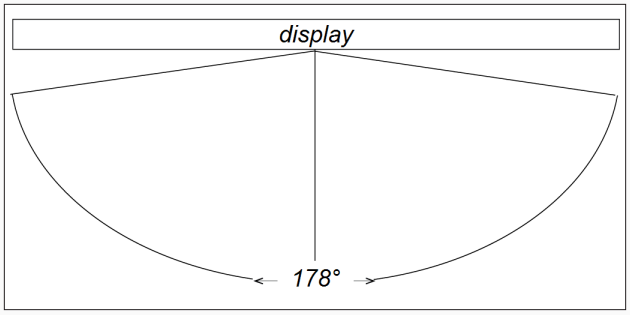
Typically, you install the display on a wall in a classroom or meeting space.

Choosing a location

A display is typically installed at the room's focal point, such as at the front of a classroom or meeting space.

Selecting an appropriate location for the display is crucial for ensuring the best possible experience with the product. Consider the following factors as you choose a location:

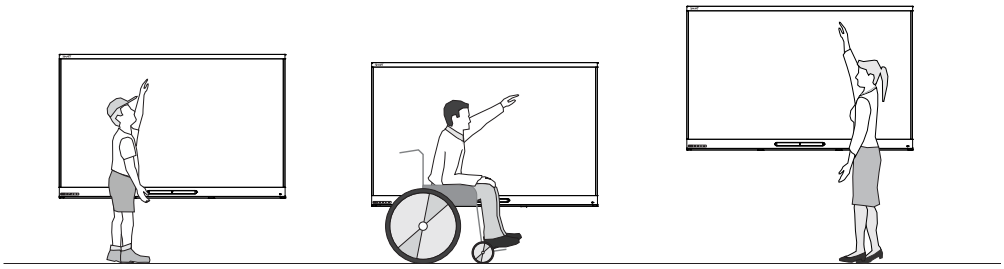
Factor	Considerations
Room setup	• The location allows users, including those in wheelchairs, access to the display. Refer to local regulations regarding accessibility. • The location allows for multiple users to access the display at the same time. • The location accommodates room traffic patterns, and there are no tripping hazards. • The display is not installed where it could be hit by a door or gate. • There are no nearby heat sources directed at the display, such as a radiator or heat vent. • There are no nearby shelving units, desks, or other furniture that has doors or drawers that could hit the display. • Furniture, wall décor, and other room features, such as light switches and thermostats, do not block the display and are not blocked by it. (You might be able to move some of these room features to accommodate the display.)
Power and other connections	• The location is close to: ◦ A power outlet ◦ A network outlet (if you plan to use a wired network connection) ◦ A room computer (if you plan to connect a room computer) ◦ External audio systems and other devices that you want to connect to the display **NOTES** ◦ If the location is not near a power outlet, consult an electrician for the power setup you need. ◦ Determine if you'll need additional equipment, such as power bars, additional cables, or cable extenders. • The location is not where the mains power supply enters the building.

Factor	Considerations
Visibility	The display's screen is clearly visible to all users in the room. SMART recommends users sit within a 178° viewing area:  **NOTE** The viewing area depends on the display's resolution and a variety of other factors. For more information, see the knowledge base article, Recommended viewing distances and viewing angles for SMART Board interactive displays.
Lighting	The location is not near bright light sources, such as windows or strong overhead lighting. Risks of light interference include: ○ **Reduced visibility:** Light sources can cause glare on the display's screen, reducing its visibility. ○ **Touch system interference:** Many displays use infrared (IR) light as a key component of the touch system. Strong light that hits the display's screen directly can cause interference with the touch system and prevent the display from working properly. **TIP** To reduce light interference, install blinds or shades on windows or skylights and install switches to dim or turn off any lights shining directly on the display's screen. Keep in mind that sunlight can come through windows at different angles at different times of the year.
Acoustics	The room has good acoustics.

Factor	Considerations
Environment and ventilation	• The location meets the environmental requirements in the display's specifications. • The display isn't subjected to strong vibrations or dust. • Ventilation systems don't blow air directly on the display. • There is adequate ventilation or air conditioning around the display so that heat can flow away from it and the mounting equipment. SMART recommends at least 2" (5 cm) of space on all sides of the display for proper airflow. • If you plan to install the display in a recessed area, there is at least 4" (10 cm) of space between the display and the recessed walls to enable ventilation and cooling.

Choosing a height

Consider the general height of the user community when you choose the height for the display.



SMART recommends that you mount the display so that its top is 6' 5" (1.9 m) from the floor.

NOTE

If participants will be sitting at a steep angle (such as in a lecture hall), you may have to adjust the installation height or angle.

Assessing the wall

Be sure the wall you're installing the display on can support the weight of the display and mounting equipment. If it can't, consider using a SMART wall stand to transfer some of the weight from the wall to the floor (see smarttech.com/accessories).

NOTE

Refer to the display's specifications for its weight.

In some situations, you may need to request an engineering analysis to determine if the wall can support the display.

Selecting mounting hardware

The mounting hardware required for installation varies according to the type of wall onto which the display is being mounted.

Refer to *Installation best practices for SMART products* (smarttech.com/kb/171035) for the mounting hardware required for the display.

Selecting a wall mount

It is always best to mount the display on a wall. If the wall can't support the display's weight, you can use additional hardware to transfer some of the weight to the floor.

SMART offers the WM-SBID-200 wall mount for mounting the display on a wall. SMART recommends using this wall mount to install the display on a wall. See the *SBID-GX065, SBID-GX075, SBID-GX086 installation instructions* (smarttech.com/kb/171725).

Contact your authorized SMART reseller (smarttech.com/where) for information about SMART's mounting options.

If you choose a third-party option rather than one of SMART's mounting options, be sure the wall mount can accommodate the display's dimensions and support the display's weight as well as the weight of any attached accessories.

Mounting the display

The electrical and mechanical components of a display are designed to work properly when the display is mounted in the orientation described in its installation instructions. Mounting the display in a different orientation can cause malfunctions and will void the display's warranty.

displays are designed for vertical mounting only: 90° relative to the floor, plus or minus 5°–15° for tolerance, depending on the display (consult the display's documentation). SMART doesn't support mounting displays at other angles or in a horizontal orientation (like a tabletop).

There are a number of potential hazards of mounting a display in a non-standard orientation or angle:

- Mounting a display horizontally (like a table) can cause the glass to sag, damaging the display or interfering with the display's touch system.
- Non-standard orientation can affect ventilation, creating hotpots in equipment, premature failures and, in displays that use projectors, exploding projector bulbs.

TIP

The only display that supports a horizontal orientation is the SMART Table interactive learning center.

Installing the display on a stand

If you want to move the display from place to place or if it's not possible to install the display on a wall, you can install it on a stand.

Using SMART mobile stands

SMART mobile stands are designed for SMART interactive displays. They are height-adjustable. Some models include integrated speakers, a locking cabinet to secure equipment, and casters that swivel and lock for easy movement.

For more information about SMART mobile stands, see smarttech.com/accessories.

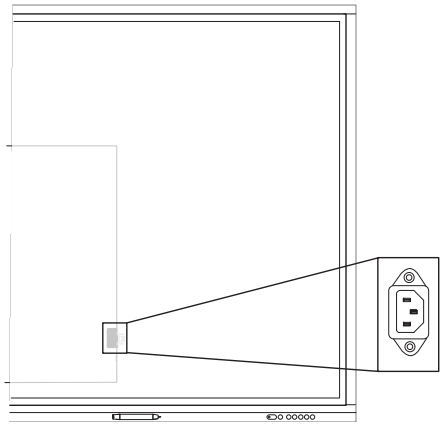
Using a third-party stand

For information about selecting and using a third-party stand, see Installing your SMART Board GX on a stand.

Connecting power and turning on the display for the first time

To connect the display to power

Connect the supplied power cable from the AC power inlet on the back of the display to a power outlet.



NOTE

Refer to the display's specifications for power requirements and power consumption information (see *More information* on page 15).

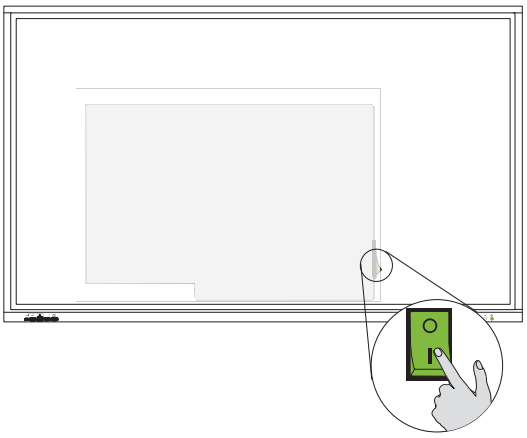
To turn on and set up the display for the first time

IMPORTANT

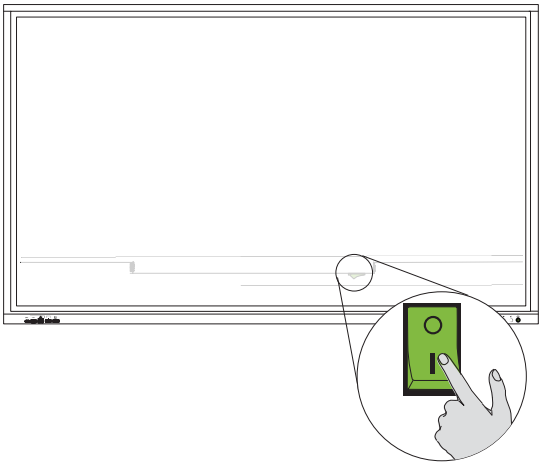
Install the OPS PC module before you turn the display on.

1. Flick the power switch beside the AC power inlet on the rear of the panel to the ON (I) position.

SBID-GX165



SBID-GX175 and *SBID-GX186*



2. Select your preferred language, and then tap the **Next** icon ➡.
3. Select an Ethernet connection or wireless network, and then tap the **Next** icon ➡.

> **IMPORTANT**
>
> The display needs an internet connection for downloading and installing important updates. Ask the network administrator to confirm the display can access the network by verifying the display's built in browser has access to the internet.

4. Set the date and time, and then tap the **Next** icon ➡.

   You can also enable the display's date and time to be set automatically (see *Date, time, and language settings* on page 75).

5. Set a password for the screen lock feature, and then tap **Enter**.

> **IMPORTANT**
>
> Ensure the password is recorded and made available to authorized users of the display. The password must be entered to un-lock the display's screen when the Lock screen feature is enabled.

The Done screen indicates setup is finished.

Connecting to a network

The display requires a network and internet connection for downloading software and firmware updates.

Configuring network settings

Network administrators need to configure the network to enable number of the embedded apps and updates of the system firmware over the air.

NOTE

A 5 GHz wireless or Ethernet network connection may provide a better experience with the EShare app.

To configure the network

1. Open the required TCP/UDP ports:

Protocol	Port range	Feature
TCP	80	System software update
TCP	56789	EShare app
TCP	25123	EShare app
TCP	8121	EShare app
TCP	8000	EShare app
TCP	8001	EShare app
TCP	48689	EShare app
TCP	25123	EShare app

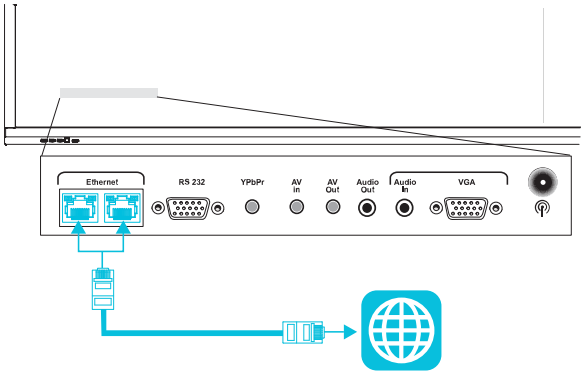
2. Add the following URLs to the to the network allowlist:

URL	Feature
h1.ee-share.com	EShare app
world.syrjb.com: 9900	System software update
sw.syrjb.com: 8081	Whiteboard sharing

3. Configure the network to enable broadcast service.
4. Configure the network to allow mDNS (multicast).

Connecting to a network

The display requires a network and internet connection for downloading software and firmware updates. You can connect to a network using Wi-Fi or one of the RJ45 jacks.



IMPORTANT

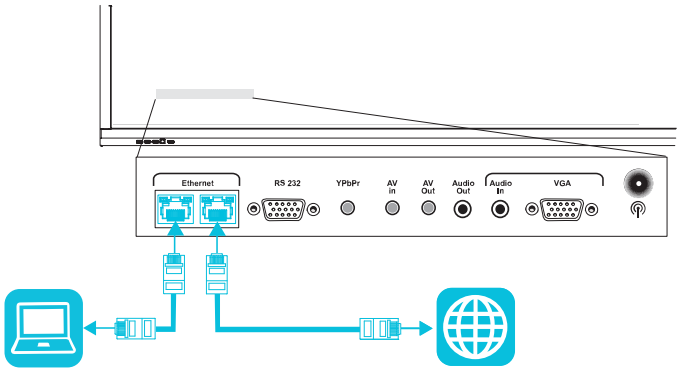
Do not use the RJ45 jack on an OPS PC to connect to a network.

NOTE

The network connection on the display is shared internally with an OPS PC.

TIP

If you're using one of the display's RJ45 jacks to connect to an Ethernet network, you can connect the other RJ45 jack to a computer to provide network access for the computer. This is particularly useful if there is only one wired network connection in the room. (Network access is available when the display is on or in Standby mode but not when it's in Power Save mode).



Connecting the display to a network

The display can connect to a network using either Wi-Fi or an Ethernet connection.

To connect to a Wi-Fi network

1. Press the **Settings** button on the front control panel.
2. Tap the **Network** icon > **WLAN**.

3. Toggle the **Wifi Switch** to on.
4. Select a wireless network.

   If the Wi-Fi network is not password protected, the display connects to the network.

   OR

   If the network requires a password, enter the Wi-Fi password and tap **Connect**.

To connect to an Ethernet network

1. Connect an Ethernet cable to either of the RJ45 jacks on the display.
2. Press the **Settings** button on the front control panel.
3. Tap the **Network** icon > **Ethernet**.
4. Turn on the **Connect** switch.
5. To obtain an IP address automatically, select the **DHCP** checkbox.

   OR

   To configure an IP address manually, select the **Static** checkbox, input the IP address, gateway, network prefix length (netmask bit count), and DNS address, and tap **Save**.

To configure a wireless hotspot

NOTES

- The wireless hotspot feature is available when the display is connected to the network with an Ethernet connection.
- When the wireless hotspot is enabled, the display's Wi-Fi connection is disabled.

1. Press the **Settings** button on the front control panel.
2. Tap the **Network** icon > **Hotspot**.
3. Enable the **Hotspot Switch** option.
4. Type a hotspot name in the *Hotspot Name* text box (or use the default name).
5. In the *Security* field, tap the drop-down list and select a method of encryption.
6. Click **Show Password** and record the system generated (default) password or type your own password. This password will be required when users connect their devices to the wireless hotspot.

7. Select a bandwidth frequency (2.4 GHz or 5 GHz).

   NOTE

   The default setting is 2.4 GHz. Select **5g** to choose a 5 GHz bandwidth frequency. This also enables the channel selection drop-down list from which you can choose from a range of Wi-Fi channels.

8. Tap **Enter**.

To connect to the display's wireless hotspot

1. On a computer or mobile device, view the list of available Wi-Fi networks and select the display's wireless hotspot.
2. Type the password for the display's wireless hotspot.
3. Connect to the display's wireless hotspot.

Chapter 3

Connecting computers and other devices

WARNING

Ensure that any cables that cross the floor to the display are properly bundled and marked to avoid a trip hazard.

Installing SMART software

The display comes with the following software, which you can install on connected computers:

Software	Description	Notes
SMART Notebook basic	Free software designed for use with a SMART Board interactive display. SMART Notebook basic software comes with many features that you can use to create, edit, and deliver engaging lessons for your students.	See Find out more about the basic version of SMART Notebook.
SMART Product Drivers	Software that enables the computer to detect input from the display.	Included with SMART Notebook basic
SMART Ink	Software that enables you to write and draw in digital ink over applications, files, folders, websites, and any other open window.	Included with SMART Notebook basic

The following software is also available but sold separately:

Software	Description	Licensing details
SMART Learning Suite	A suite of desktop and online software that combines lesson delivery, activities, assessments, and collaborative workspaces. Includes SMART Notebook software and SMART Learning Suite Online.	See smarttech.com/smart-learning-suite
SMART Remote Management	Cloud-based mobile device management software for remotely maintaining, supporting, controlling, and securing the display and your other devices	See smarttech.com/products/business-software/smart-remote-management

Contact your authorized SMART reseller (smarttech.com/where) for information about purchasing SMART software.

You can download SMART software from smarttech.com/downloads.

Connecting room computers and guest laptops

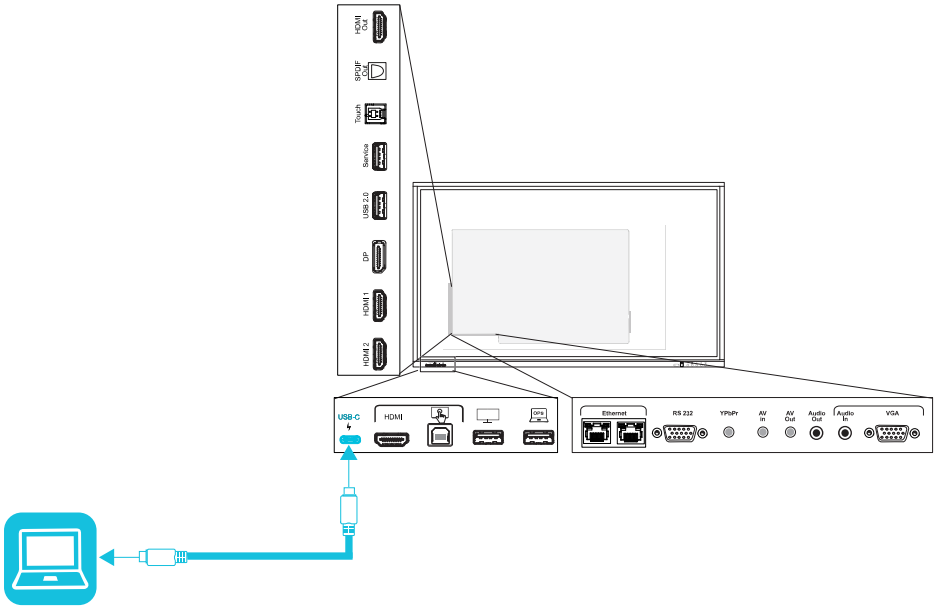
You can connect cables for room computers and guest laptops. By installing cables in advance, you make use of connectors that might not be accessible after the display is mounted on the wall. You can then run the cables across floors or behind walls as needed.

NOTES

- Install SMART software on computers you connect to the display (see *Installing SMART software* on the previous page).
- As shown below, HDMI 1, HDMI 2, VGA, and Display Port share the Touch USB Type-B receptacle on the side connector panel, and HDMI uses the Touch USB Type-B receptacle on the front connector panel (see *Sharing USB Type-B receptacles* on page 40).
- The USB Type-C connector provides 15 W of power for chargeing connected devices.

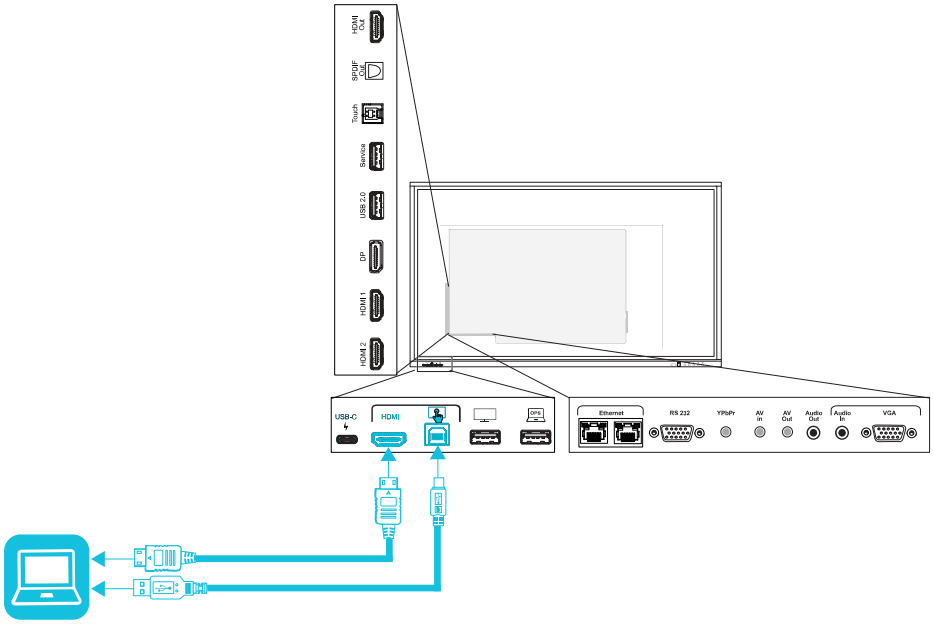
The following are the locations of the connectors and the connector and cable information for the display's input sources.

- **USB Type-C**



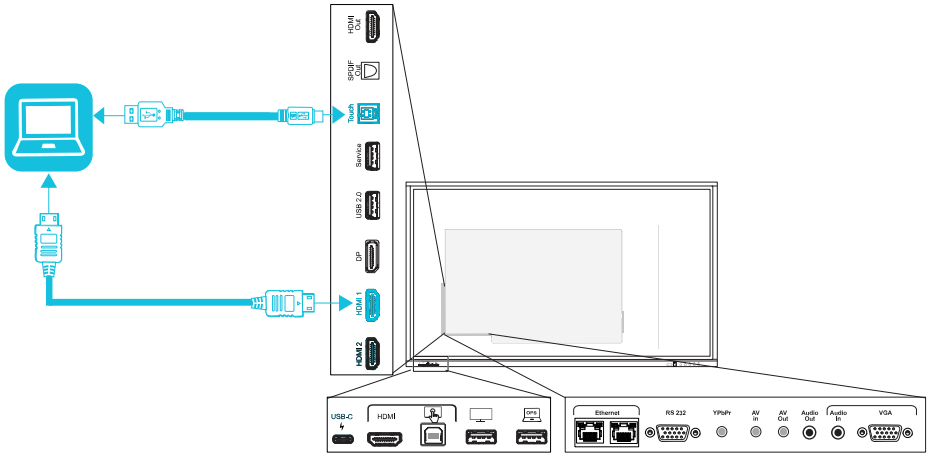
Connector	Standard	Connection type	Cable
USB Type-C	USB 3.2 Gen 1 (SuperSpeed, 5 Gbps)	Video/audio/touch	SuperSpeed USB Type-C

- **HDMI**



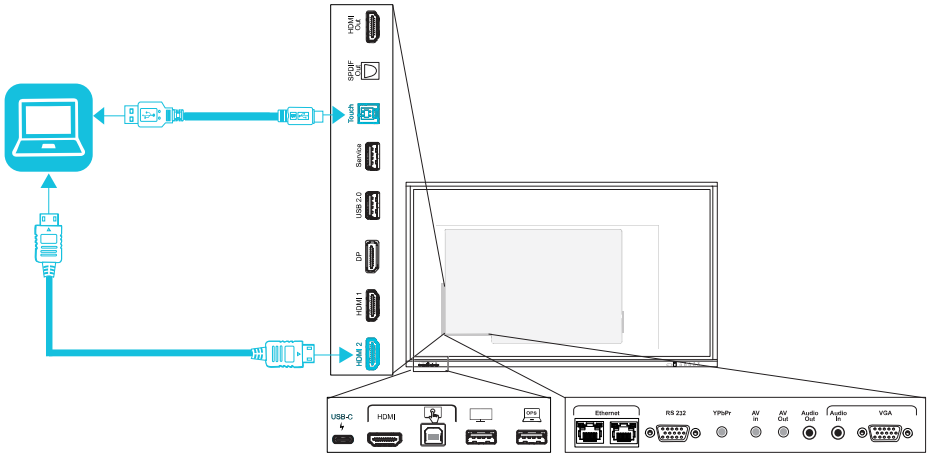
Connector	Standard	Connection type	Cable
HDMI	HDMI 2.0	Video/audio	Premium High Speed HDMI (18 Gbps)
Touch input	USB 2.0 Type-B	Touch	High Speed USB 2.0

- **HDMI 1**



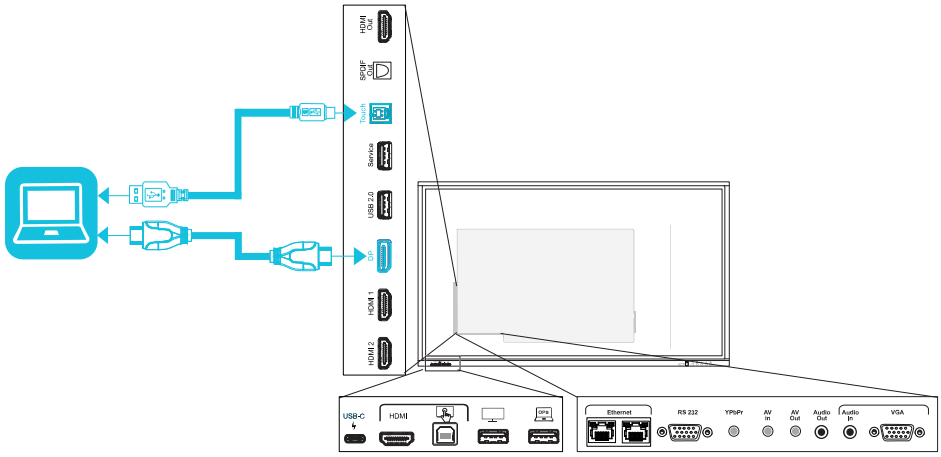
Connector	Standard	Connection type	Cable
HDMI 1	HDMI 2.0	Video/audio	Premium High Speed HDMI (18 Gbps)
Touch	USB 2.0 Type-B	Touch	High Speed USB 2.0

- **HDMI 2**



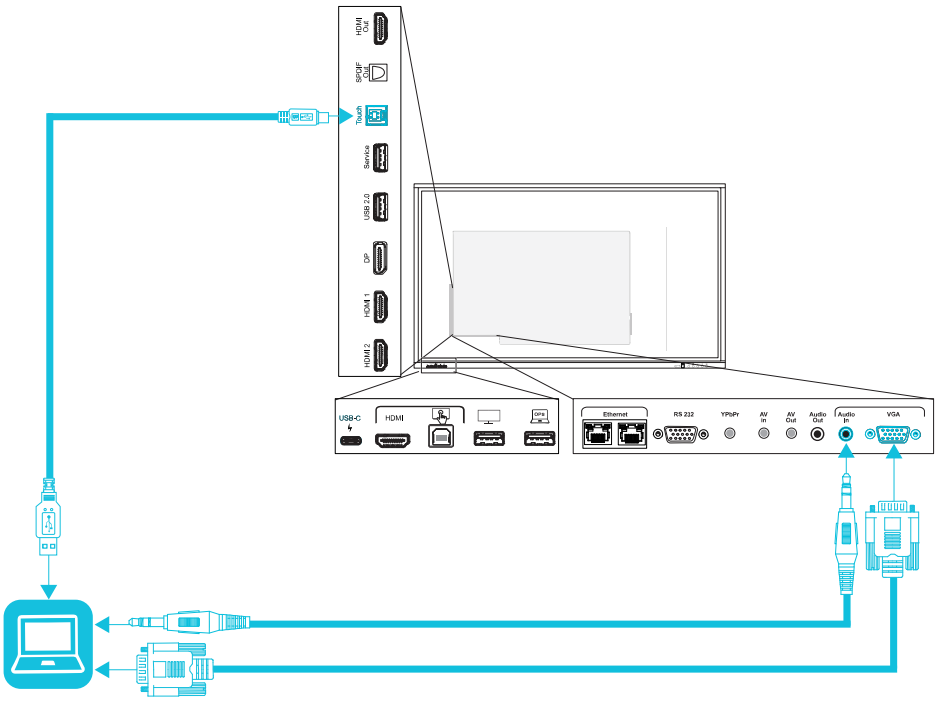
Connector	Standard	Connection type	Cable
HDMI 2	HDMI 2.0	Video/audio	Premium High Speed HDMI (18 Gbps)
Touch	USB 2.0 Type-B	Touch	High Speed USB 2.0

- **Display Port**



Connector	Standard	Connection type	Cable
Display Port	Display Port 1.2	Video/audio	Display Port
Touch	USB 2.0 Type-B	Touch	High Speed USB 2.0

- **VGA**



Connector	Standard	Connection type	Cable
VGA	VGA	Video	VGA
Audio In	Stereo 3.5 mm	Audio	Stereo 3.5 mm
Touch	USB 2.0 type-B	Touch	High Speed USB 2.0

Viewing a connected computer or other device's input

1. Connect a device to the display's USB Type-C, HDMI, HDMI 1, HDMI 2, Display Port, or VGA connectors.

> **NOTE**
>
> To enable touch control of the device, connect a USB cable to the associated USB connector. Devices connected to the USB Type-C connector don't require an additional USB connection to enable touch.

2. Select the source using one of the following methods:

Using the Side Toolbar menu	Using the remote control
a. Open the **Side Toolbar** menu by sliding either of the Side Toolbar menu handles (located on either side of the screen) toward the center of the screen. b. Tap the **Input Select** icon.	Press the **Input Select** button on the remote control.

   The Input Selection dialog box appears.

   NOTE

   Three dots ••• appear below inputs (USB Type-C, HDMI, HDMI 1, HDMI 2, OPS and DP) with a device connected.

3. Tap the computer's input source or use the navigation keys on the remote control to select the input source and then press the **OK** button.

   The device's output appears on the display's screen.

   TIP

   You can configure the display to automatically switch to the newest input, lock the current source, or choose other priorities or input options.

   For more information, see *Source settings* on page 82.

Setting a connected computer's resolution and refresh rate

This table presents the recommend resolutions and refresh rates for the display's inputs:

Input source	Resolution	Refresh rate
USB Type-C, Display Port Alternate Mode	3840 × 2160	60 Hz
HDMI[1]	3840 × 2160	60 Hz
HDMI 1	3840 × 2160	60 Hz
HDMI 2	3840 × 2160	60 Hz
VGA	1920 × 1080	60 Hz
Display Port	3840 × 2160	60 Hz

[1]Located on the display's front connector panel.

Input source	Resolution	Refresh rate
AV	1920 × 1080	60 Hz
YPbPr	1920 × 1080	60 Hz

If possible, set connected computers to these resolutions and refresh rates. See the computers' operating system documentation for instructions.

Using recommended cables

SMART recommends the following varieties of cable:

Cable type	Maximum length	Recommendation
Display Port	23' (7 m)[2]	Use only certified Display Port 1.4 cables that have been tested to support the performance standard you require.
HDMI	23' (7 m)	Use only certified premium high-speed HDMI cables that have been tested to support the performance standard you require.
VGA	23' (7 m)	Use VGA cables with all pins in their connectors fully populated and wired.
Stereo 3.5 mm	20' (6 m)	Use only shielded 3.5 mm cables **IMPORTANT** Use a 3.5 mm stereo jack (15 mm long barrel) only to connect to the display.
USB 2.0	16' (5 m)	Use a Hi-Speed USB 2.0 USB extender if the distance between the computer and the display is greater than 16' (5 m). For more information, see *USB extenders* on page 15.
USB Type-C	6' 6" (2 m) for SuperSpeed 5Gbps cables	USB-IF certified USB 3.2 Gen 1 Type-C cable, SuperSpeed (5 Gbps) support To use a USB Type-C cable for video, you need: ◦ A full-featured cable that supports SuperSpeed 5Gbps (or faster) data rates. ◦ A computer that supports Display Port Alternate Mode via USB Type-C **NOTE** The USB Type-C connector on the display can supply up to 15 W of power to connected devices.

[2]The performance of cables longer than 23' (7 m) is highly dependent on the cable's quality.

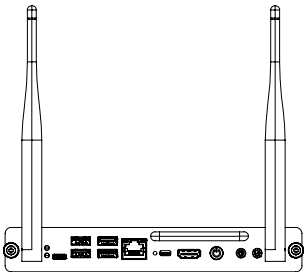
Using cables that exceed these maximum lengths may produce unexpected results, degraded picture quality or degraded USB connectivity.

Sharing USB Type-B receptacles

The HDMI, VGA, and Display Port connectors on the side connector panel (back of the display) all share a single USB Type-B receptacle on this panel. This means the touch system can be used with only one device connected to these video inputs.

USB Type-B receptacle	**Video connectors**
Touch	• HDMI 1 • HDMI 2 • VGA • Display Port

Connecting a SMART OPS PC module



If your organization has purchased a SMART OPS PC module, you or your organization's installers can install the OPS PC module in the display's accessory slot following the OPS PC module's installation instructions (smarttech.com/kb/171544). You can then view the OPS PC module's input on the display.

For more information about SMART OPS PC modules, see the *SMART OPS PC modules user guide* (smarttech.com/kb/171747).

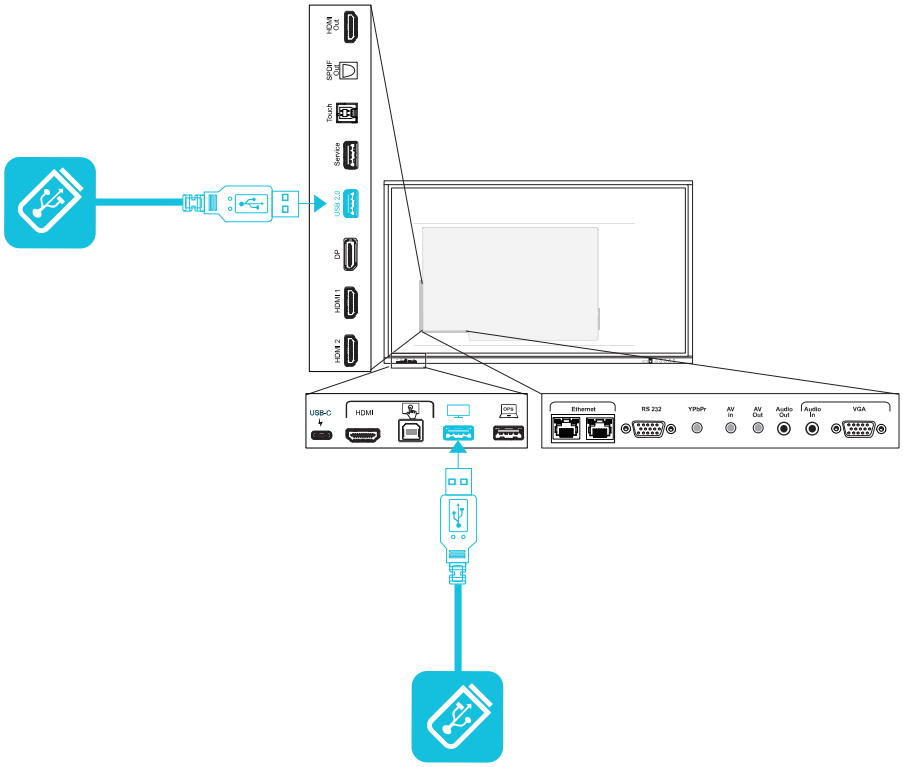
Connecting other devices

In addition to computers, you can connect the following devices to the display:

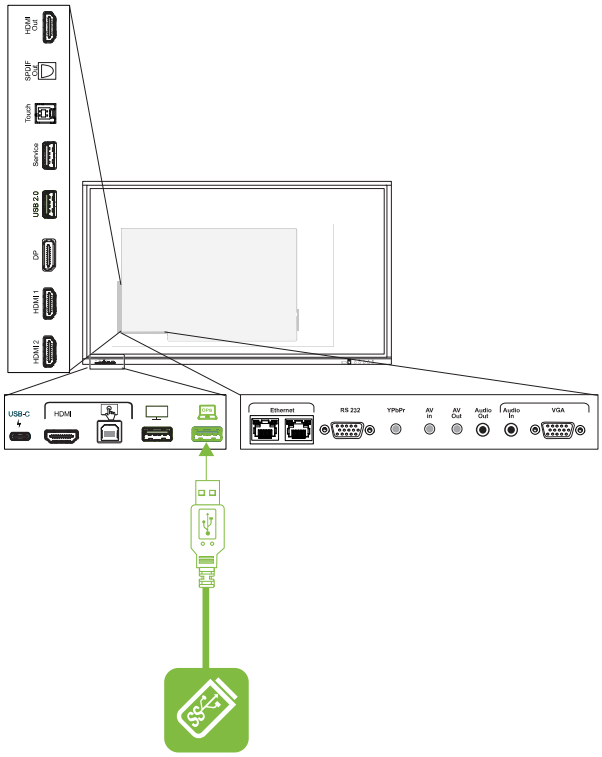
- USB drives, peripherals, and other devices
- External displays
- External audio systems (wired or Bluetooth® enabled)
- Room control systems

Connecting USB drives, peripherals, and other devices

The display includes one USB 2.0 Type-A receptacle on the front connector panel and one USB 2.0 Type-A receptacle on the side connector panel. You can connect USB drives, peripherals (such as keyboards), and other devices to the USB 2.0 Type-A receptacle on the side connector panel and use these devices with the display's Android system. The front USB 2.0 Type-A receptacle will switch to the active input, including the display's Android system, the OPS slot computer, or an externally connected computer.

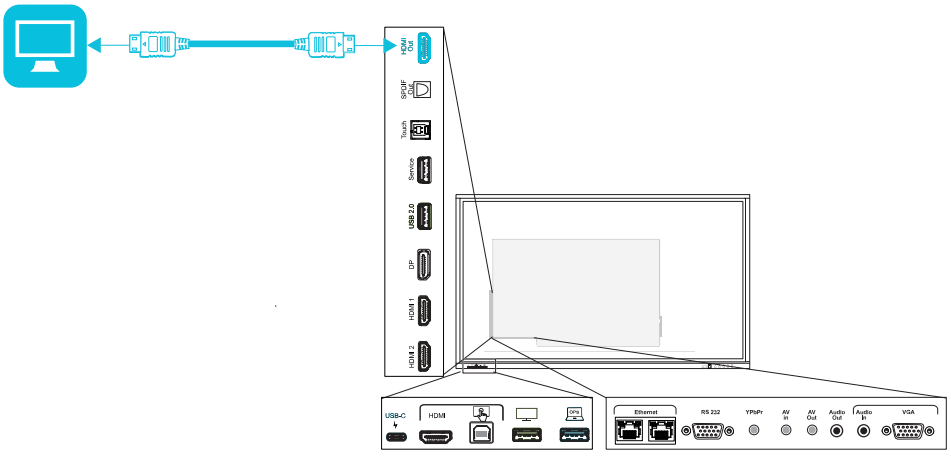


The display also includes one USB 3.0 Type-A receptacle on the front connector panel. You can use this receptacle to connect USB drives, peripherals, and other devices to a device installed in the accessory slot, such as the SMART OPS PC.



Connecting an external display

You can connect an external display using the HDMI 2.0 out connector on the connector panel (pictured). The external display will show the same image as the display. This is useful when you're using the display in an auditorium or other large space where a second display would be beneficial.



IMPORTANT

If the connected external display doesn't support High-bandwidth Digital Content Protection (HDCP), no image will appear on the external display. For full resolution output, connect a display that supports HDCP.

NOTE

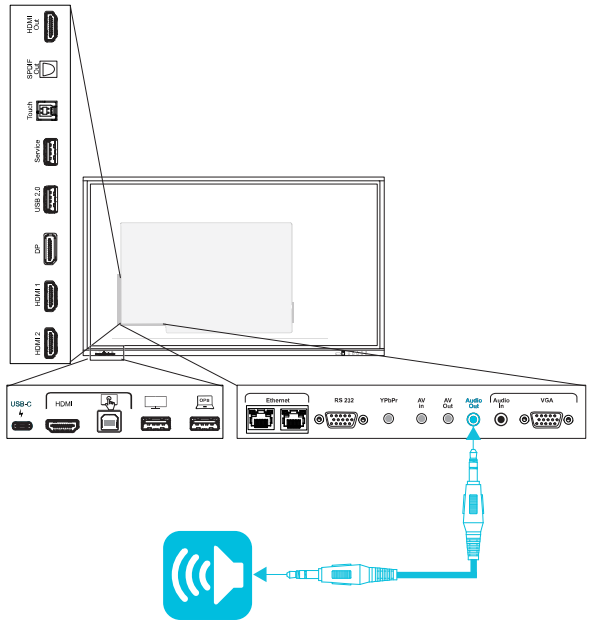
The display's default output resolution is 4K (3840 × 2160). The output resolution can also be set to FHD (1920 × 1080) See *Image, audio, and menu setting* on page 83.

Connecting an external audio system

The display includes two 15 W speakers, which are designed to provide sound at the front of a room. You might want to connect a third-party external audio system if you're providing sound in a larger space.

You can connect an external audio system to the display using the stereo 3.5 mm out connector (pictured). Alternatively, you can connect an external audio system directly to a room computer.

You must enable use of an external audio system in display settings (see *Image, audio, and menu setting* on page 83).



IMPORTANT

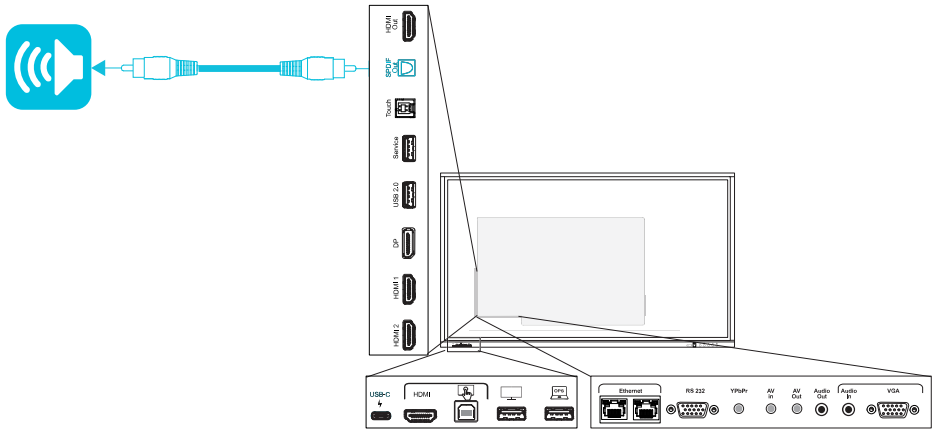
Use a 3.5 mm stereo jack (15 mm long barrel only) to connect to the display's stereo 3.5 mm out connector.

NOTES

- You can use the display's volume controls to adjust volume of an audio system connected to the display's stereo 3.5 mm out connector.

- If there's an echo when the display is connected to an external audio system, try disabling the display's built-in speakers. See *Image, audio, and menu setting* on page 83.

In addition to the stereo 3.5 mm out connector, the display also provides a Sony/Philips Digital Interface (S/PDIF) out connector (pictured). S/PDIF is a digital audio transmission medium. You need an audio receiver that supports S/PDIF to use this connection with an external sound bar or other audio system.

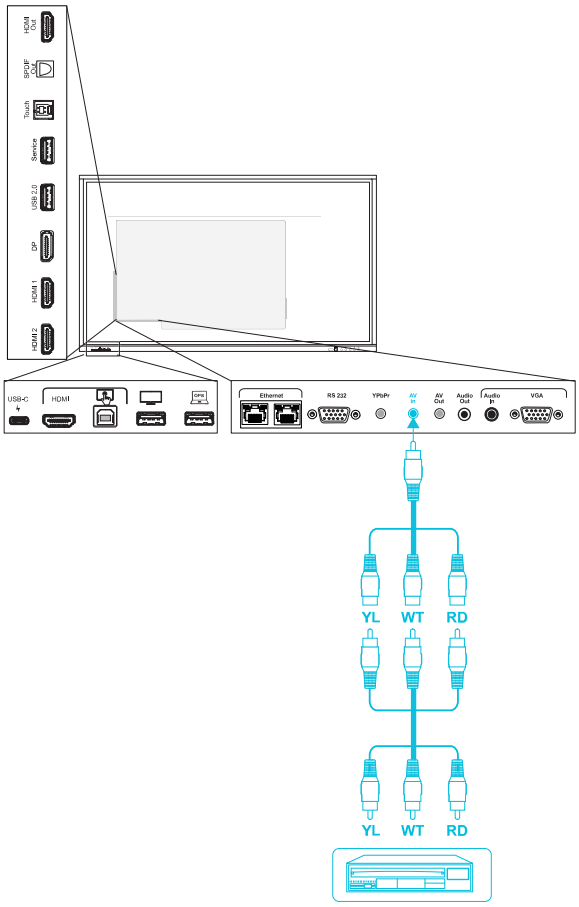


NOTE

When you connect an audio system to the display's S/PDIF out connector, the audio system's volume controls, rather than the display's, adjust the volume.

Connecting analog video inputs and outputs

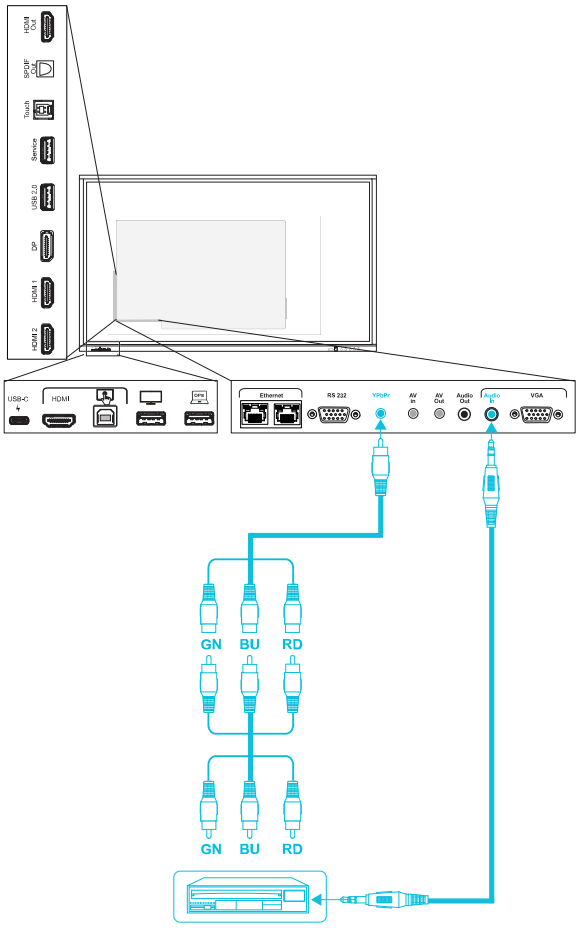
You can connect an external analog video and audio source to the display using the (AV in) connector.



IMPORTANT

Use a composite-to-AV adapter with a 4-conductor 3.5 mm plug. Make sure the adapter cable is no longer than 12" (0.3 m) in length.

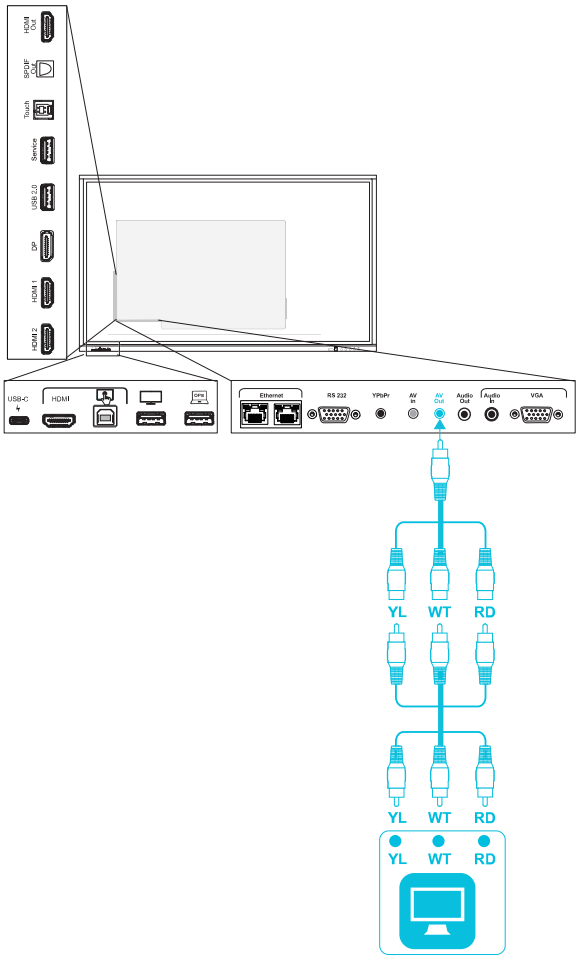
The display also includes a yPbPr analog video connector. When using this connector, audio is supplied with the Audio in connector (pictured).



IMPORTANT

Use a component to AV adapter with a 4-conductor 3.5mm plug which is no longer than 12" (0.3 m) in length.

You can connect an external display using the display's analog video (AV out) connector. The external display will show the same image as shown on the display.



IMPORTANT

Use an AV to composite adapter with a 4-conductor 3.5 mm plug which is no longer than 12" (0.3 m) in length.

Connecting room control systems

A room control system enables users to control a room's lighting, audio system and, possibly, the display. Some installations may require you to integrate the display with a room control system.

You can use the display's RS-232 connector to connect a third-party external control system to the display (see *Appendix C: Managing the display using RS-232* on page 86).

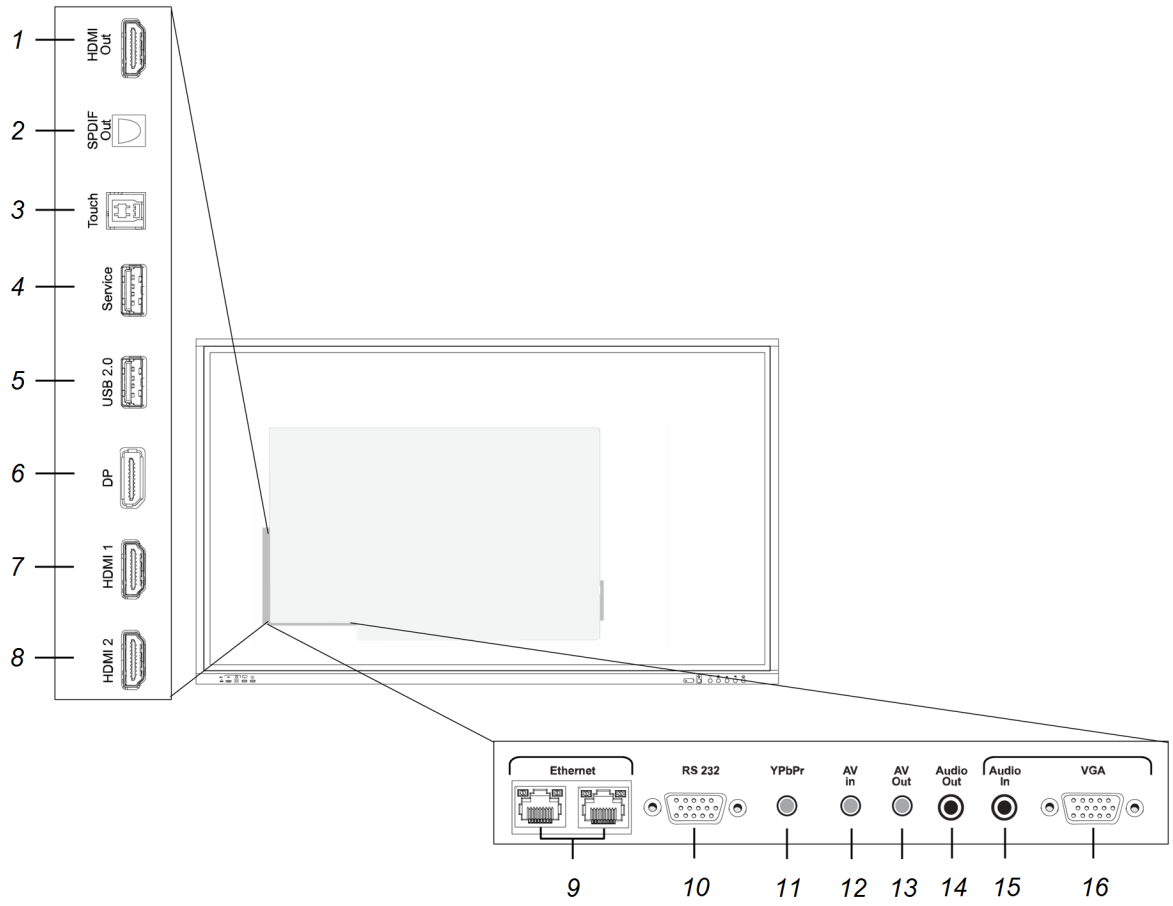
NOTE

displays are not compatible with centralized remote control systems, such as a universal remote control.

Connector diagrams

Side and bottom connector panels

The following diagram and table present the connectors on the display's connector panel:



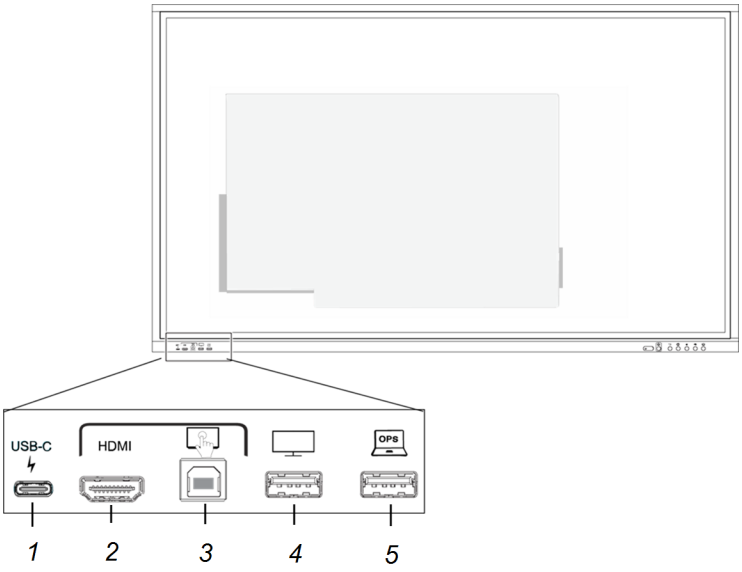
No.	Connector	Connects to	Notes
1	HDMI 2.0 out	External display	See *Connecting an external display* on page 42.
2	S/PDIF out	Digital audio output	See *Connecting an external audio system* on page 43 and Digital audio cables and connectors.
3	USB 2.0 Type-B	Touch	See *Connecting room computers and guest laptops* on page 31 and USB cables and connectors.

No.	Connector	Connects to	Notes
4	USB 2.0 Type-A	[N/A]	This connector is a service port.
5	USB 2.0 Type-A	Supported USB drives, peripherals, and other devices	See *Connecting other devices* on page 40 and USB cables and connectors. This connector is always connected to the display's internal Android system; it can be used to connect peripherals such as a USB mouse, keyboard, or USB memory stick for use with the display's integrated Android system only. **NOTE** Connect a USB mouse to navigate the display's on-screen menu during troubleshooting.
6	Display Port 1.2	Display Port 1.2 input (video and audio)	See *Connecting room computers and guest laptops* on page 31 and Display Port cables and connectors.
7	HDMI 2.0	HDMI 1 input (video and audio)	See page 49.
8	HDMI 2.0	HDMI 2 input (video and audio)	See page 49.
9	RJ45 (×2)	Network	See *Connecting to a network* on page 25 and Ethernet (network) cables and connectors.
10	RS-232	Room control system	See *Appendix C: Managing the display using RS-232* on page 86 and RS-232 cables and connectors.
11	yPbPr	yPbPr 3.5 mm input (video)	See *Connecting analog video inputs and outputs* on page 45.
12	AV in	AV 3.5 mm input (video and audio)	See *Connecting analog video inputs and outputs* on page 45.
13	AV out	AV 3.5 mm output (video)	See *Connecting analog video inputs and outputs* on page 45.
14	Audio out	External audio system	See *Connecting an external audio system* on page 43 and Analog audio cables and connectors.

No.	Connector	Connects to	Notes
15	Audio in (stereo 3.5 mm)	VGA input (audio)	Use this audio input with all analog video sources (VGA, YPbPr, and AV). See *Connecting room computers and guest laptops* on page 31 and Analog audio cables and connectors.
16	VGA in	VGA input (analog video)	Use this video input with Stereo 3.5 mm in. See *Connecting room computers and guest laptops* on page 31 and Analog audio cables and connectors. Use this video input with Touch (USB) connector for touch control.

Front connector panel

The following diagram and table present the connectors on the display's front connector panel:



No.	Connector	Connects to	Notes
1	USB 3.1 Type-C	USB Type-C input (video, audio, and touch)	See *Connecting room computers and guest laptops* on page 31 and USB cables and connectors. **NOTE** The USB 3.1 Type-C connector can also provide 15 W of power to connected devices.
2	HDMI 2.0 in	HDMI 1 input (video and audio)	See *Connecting room computers and guest laptops* on page 31 and HDMI cables and connectors.
3	USB 2.0 Type-B	Touch input	Use this touch input with the HDMI video and audio input on the front of the display. See *Connecting room computers and guest laptops* on page 31 and USB cables and connectors.
4	USB 2.0 Type-A	Supported USB drives, peripherals, embedded OS, and other devices	See *Connecting USB drives, peripherals, and other devices* on page 41 and USB cables and connectors. This connector can be used to connect peripherals such as a USB mouse, keyboard, or a USB drive for use with the currently selected input (such as the internal Android system, a PC in the OPS slot, or an externally connected PC).
5	USB 3.2 Gen 1	Supported SuperSpeed (SS) and USB 2.0 drives, peripherals, and other devices to OPS (if installed)	See *Connecting USB drives, peripherals, and other devices* on page 41 and USB cables and connectors. This connector is always connected to the display's OPS slot. It can connect peripherals (such as a USB mouse, keyboard, or USB drive) only to a PC installed in the display's OPS slot.

Chapter 4

Maintaining the display

With proper maintenance, the display will provide years of use.

Turning the display on or off

In most situations, you can put the display in Standby mode when not using it following the instructions in *SMART Board GX series interactive displays user guide* (smarttech.com/kb/171745).

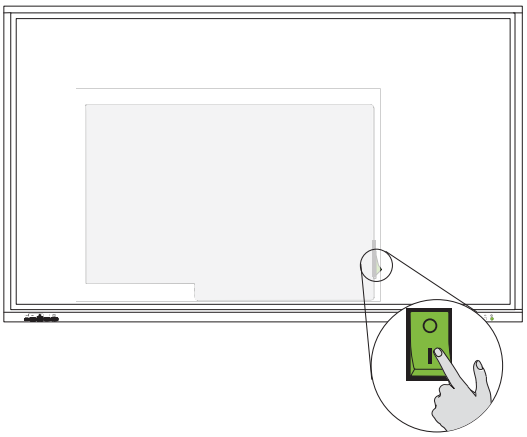
In some situations, such as when you transport the display or clean its screen, you need to turn the display off. You can turn it back on after.

To turn the display off

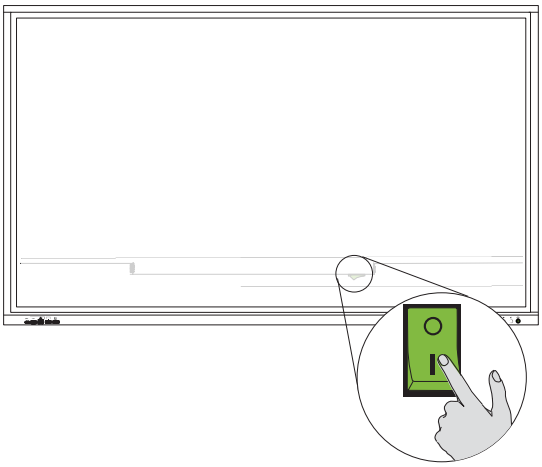
1. Press the Power button ⏻ on the front control panel or the remote control for five seconds and wait for the status light to stop blinking.

2. Flick the power switch (beside the AC power inlet) on the rear bottom of the panel to the OFF (O) position.

SBID-GX165



SBID-GX175 and *SBID-GX186*



To turn the display on

1. Flick the power switch (beside the AC power inlet) on the rear bottom of the panel to the ON (I) position.
2. Press the **Power** button ⏻ on the front control panel or the remote control for five seconds.

To turn the display on or off (with an OPS module installed)

- If OPS is currently set as the *Boot input Source* input source (see *Source settings* on page 82), the OPS module will start automatically when the display is turned on.
- Before turning off the display, turn off the OPS module using the power controls on the OPS module (such as the *Shut down* command in the Windows 10 start menu on the OPS).
- When the OPS module is turned off, it is then safe to turn off the display using the steps listed above in *To turn the display off*.

Cleaning and maintaining the display

Checking the display installation

Inspect the display installation frequently to ensure that the display remains securely installed.

- Check the mounting location for signs of damage or weakness that can occur over time.
- Check for loose screws, gaps, distortions, or other issues that could occur with the mounting hardware.

If you find an issue, contact a trained installer.

Cleaning the screen

Follow these instructions to clean the screen without damaging its anti-glare coating or other product components.

CAUTION

- Do not use permanent or dry-erase markers on the screen. If dry-erase markers are used on the screen, remove the ink as soon as possible with a lint-free, non-abrasive cloth.
- Do not rub the screen with dense or rough material.
- Do not apply pressure to the screen.
- Do not use strong cleaning solutions or glass cleaners on the screen, because they can deteriorate or discolor the screen.

To clean the screen

1. Turn off any connected computers.
2. Turn off the display.
3. Wipe the screen with a lint-free, non-abrasive cloth.

   NOTE

   You can also use a damp cloth with a drop of dish soap.

Cleaning the touch sensors

The display uses infrared (IR) transmitters and sensors around the display's perimeter between the screen and the frame. Dust buildup on the protective plastic can impair touch performance. Inspect these areas for dust and clean them every week.

CAUTION

- Do not use compressed air to clean the sensors or borders.
- Do not use water or cleaning agents to clean the touch sensors.
- Do not apply too much pressure when cleaning the display because you can damage the plastic.

To clean the IR transmitters and sensors

1. With a clean lint-free, non-abrasive cloth, gently wipe the plastic between the screen and the frame around the perimeter of the display's screen.
2. If dirt still remains, use 50% isopropyl alcohol to clean the protective plastic between the screen and the frame.

Maintaining ventilation

The display requires proper ventilation. Dust buildup in the ventilation holes compromises cooling and can lead to product failure.

- Clean accessible ventilation holes monthly with a dry cloth.
- Use a vacuum cleaner with a narrow hose end fitting to clear the back ventilation holes regularly. You might have to remove the display from the wall.

  For more information about removing the display, see *Removing and transporting the display* on the next page.

CAUTION

Avoid setting up or using the display in an area with excessive levels of dust, humidity, or smoke.

Preventing condensation

If the display has been moved from a cold environment to a warmer one (for example, from storage to the installation site), let the display sit for a few hours to allow it to acclimate to the new temperature. Failing to do so can cause humidity to build up in the space between the front glass and the LCD.

If condensation appears under the screen after you turn on the display, select an active video source and leave the display on for 48 hours. If the condensation doesn't dissipate, contact SMART Support if the display is still under warranty.

If there is enough moisture between the layers to cause the moisture to drip and run, remove power immediately and contact SMART Support if the display is still under warranty.

Replacing the pens

To prevent damage to the display's anti-glare coating, replace a pen if its nibs become worn. You can purchase replacement pens from the Store for SMART Parts (see smarttech.com/support/parts-store).

NOTE

For pen part numbers, refer to the service parts diagrams.

Removing and transporting the display

On occasion, you might need to remove the display from its current wall mount and transport it to another location.

To remove the display safely, use two or more trained installers.

WARNING

- Do not attempt to move the display by yourself. The display is very heavy.
- Do not move the display by connecting a rope or wire to the handles on the back. The display can fall and cause injury and product damage.

IMPORTANT

Follow the documentation included with any SMART or third-party mounting hardware.

To remove the display

1. Turn off any connected computers.
2. Turn off the display (see *Turning the display on or off* on page 53).
3. Flick the switch beside the AC power inlet to the OFF (O) position.
4. Remove all accessible cables and connectors.
5. Remove any modules from the OPS slot.
6. Lift the display from its mounting location.

   WARNING

   Do not place the display on a sloping or unstable cart, stand, or table. The display could fall, resulting in injury and severe product damage.

   CAUTION

   Do not leave the display face up, face down or upside down, for an extended period. This could cause permanent damage to the screen.
7. Remove the mounting brackets.

To transport the display

See *Moving the display to the installation site* on page 16.

Updating system firmware

The display checks for firmware updates automatically when its turned on, provided the display is connected to the internet and the *Check for updates automatically* setting is enabled (see *System settings and Apps* on page 76). The display notifies you when a firmware update is available.

To make sure the network is configured properly for firmware updates, see *Configuring network settings* on page 26.

Applying a firmware update

To apply a firmware update

1. After turning on the display, a dialog box appears on the screen asking if you want to update the display's firmware.
2. Tap **OK** to update the display's firmware.

   NOTE

   The display may restart a number of times when a firmware update is applied.

   OR

   Tap **Cancel** to update the firmware later.

To apply a firmware update from settings

1. Press the **Settings** button on the front control panel.
2. Tap the **System Settings** icon and tap **Check for updates**. A message lets you know whether an update is available.

   NOTE

   The display may restart a number of times when a firmware update is applied.

3. If an update is available and you'd like to apply it, tap **OK**. The display applies the firmware update automatically after a short time.

Updating system firmware manually

You can download system firmware updates at smarttech.com/downloads and update the display's firmware manually using a USB drive.

NOTE

Instructions for downloading and installing system firmware updates are provided on the firmware downloads page.

Chapter 5

Troubleshooting the display

This chapter explains how to resolve a variety of common issues with the display and the optional SMART OPS PC module. If the symptoms you're encountering aren't addressed below or the solutions don't work, refer to the SMART knowledge base for additional troubleshooting information.

community.smarttech.com/s/topic/0TOU0000000kAJ0OAM/interactive-displays

Resolving general issues

Symptom	Troubleshooting steps
You've forgotten the lock screen password.	Contact SMART Support.
The display can't connect to a 5 GHz wireless network.	The wireless network may be operating on bands that the display doesn't support. Contact your network administrator. Ensure both antennas are correctly installed on the display. **NOTE** The range of a 5 GHz wireless connection is more limited than that of a 2.4 GHz connection. 5 GHz connections are also more susceptible to interference from obstacles between the access point and the display, such as large metallic objects.
The pen is broken.	Contact SMART Support.
You need to identify the display.	See *Identifying your specific model* on page 13.

Symptom	Troubleshooting steps
An app is missing or not available.	The app might not be included with the SMART Board GX series interactive display. See *SMART Board GX series interactive displays user's guide* (smarttech.com/kb/171745). **NOTE** Apps that require Google Play Services (such as the Google Play store) cannot be used on the display.

The display isn't turning on

Symptom	Troubleshooting steps
The status light isn't lit.	• Make sure the power cable is securely fastened to the power outlet and the display. **NOTE** If the power cable is connected to a power bar, make sure the power bar is securely fastened to the power outlet and turned on. • Make sure the switch beside the AC power inlet is in the ON (I) position. • Make sure the power outlet is working by testing it with a different device. • Make sure the power cable is working by testing it with a different device.
The status light is lit red and the screen is blank.	• Press the **Power** button on the front of the display or on the remote control. • Restart the display. See *Turning the display on or off* on page 53.
The status light is lit green, but the screen is blank.	• Wait up to 30 seconds, or press the **Power** button to determine if the problem is with an external video source. See *The screen is blank or there's a problem with the image on the screen* on the next page. • Press the **Home** button  on the front control panel. If the Home screen is displayed, check the external video source and connecting cables. • Disconnect any cables from the display's HDMI Output connectors (if used) to determine whether equipment connected to the HDMI output port is causing the problem.

The display is turning off when it shouldn’t

Symptom	Troubleshooting steps
The display turns off or enters Standby mode when it shouldn’t.	• Check the power off timer setting to determine whether there’s an issue is with the setting’s configuration. See *Power settings* on page 79. • Check the automatic no-signal setting to determine whether there’s an issue is with the setting's configuration. See *Source settings* on page 82. • If the display is connected to a room control system via the RS-232 connection, disconnect it to determine if the problem is being caused by the room control system.

The screen is blank or there’s a problem with the image on the screen

Symptom	Troubleshooting steps
The screen is blank when the status light is green.	• Make sure the screen is working by pressing the Home button on the front control panel. • Make sure any connected computers are on and not in Standby mode. • Restart the display and any connected computers. See *Turning the display on or off* on page 53. • Replace the video cables that connect any computers to the display to determine if the issue is with the cables. • Ensure video cables that connect any computers to the display meet the recommended specifications. See *Using recommended cables* on page 39. • Ensure that any connected computer’s external video port is enabled, and is set to output a supported display resolution. **NOTE** The following resolutions are recommended: 3840 × 216 or 1920 × 1080.
A computer is connected to the display, but only a “No signal” message appears on the screen.	• Make sure the computer is connected to the currently selected input. • If the currently selected input is a computer, make sure the computer is not in Standby mode. • If the currently selected input is a laptop, make sure that the laptop’s external display port is enabled. • Ensure video cables that connect any computers to the display meet the recommended specifications. See *Using recommended cables* on page 39.

Symptom	Troubleshooting steps
The image on the screen is distorted. OR There are lines, snow or, other visual noise on the screen. OR The image is flickering or flashing. OR The image is dim.	• Press the Home button on the front control panel. If the Home screen appears correctly, the issue is with the video input. • Switch to a different input and then back to the first input. • Make sure any connected computers are on and not in Standby mode. • Restart the display and any connected computers. See *Turning the display on or off* on page 53. • Make sure the computer's display output is configured to a recommended resolution and refresh rate for the display's inputs. **NOTE** The following resolutions are recommended: 3840 × 216 or 1920 × 1080. See *Setting a connected computer's resolution and refresh rate* on page 38. • Replace the video cables that connect any computers to the display to determine if the issue is with the cables. • Ensure video cables that connect any computers to the display meet the recommended specifications. See *Using recommended cables* on page 39.
There are bright spots on the screen.	• Press the Home button on the front control panel. If it appears correctly, the issue is with the video input. • Take a photograph of the screen and send it to SMART support. If SMART support determines that the issue is with the screen and the display is under warranty, you may be eligible for a replacement.
Colors don't appear correctly.	• Check the *Image mode* settings. See *Image, audio, and menu setting* on page 83. • Be aware that if two or more displays are mounted side-by-side, there will be minor differences in colors across the displays. This issue is not unique to SMART products. • If the screen is completely lacking one color or the color problems occur on the Home screen, provide a photo of the screen to SMART support. • If you're using an analog video input, such as VGA, AV, or YPbPr, use a different cable or connect a different source to see if the issue is with the cable or input source.
The image is cut off or shifted to the left or right.	• Adjust any connected computer's video settings, particularly zoom, crop, and underscan. See the computer's operating system documentation. • If any connected computers' desktops are entirely black, change them to dark gray or a different color. • If any connected computers' desktops are extended across multiple screens, duplicate the desktops across the screens or set the display as the only screen.
The image doesn't fill the entire screen.	• Adjust any connected computers' video settings, particularly overscan. See the computer's operating system documentation. • Make sure the connected computer's video connector is configured to output a supported video signal. See No video display output from a laptop.
A persistent image appears on the display.	• See Image persistence or burn in on LCD displays.

Symptom	Troubleshooting steps
The video from a device connected to the display's USB Type-C connector doesn't appear on the display's screen.	• Make sure the connected device supports Display Port Alternate Mode via USB Type-C. If there is no *DP* logo beside the USB Type-C connector on the device, it may not support Display Port Alternate Mode. • Make sure the cable connecting the device to the display supports SuperSpeed USB data speeds of 5 Gbps (or above). The cable should be marked with the SuperSpeed USB logo. The absence of this logo may indicate the cable doesn't support a SuperSpeed USB data connection that's required for Display Port Alternate Mode.

There's no sound or there's a problem with the sound

Symptom	Troubleshooting steps
There's no sound. OR There is sound, but the volume is low. OR The sound is distorted or muffled.	• If you're using an external audio system, make sure it is turned on. Use of an external audio system must also be enabled in display settings. See *Image, audio, and menu setting* on page 83. • Make sure the cables connecting the display to the computer are securely fastened. **NOTES** ◦ The display's stereo 3.5 mm in connector works with the VGA input only. ◦ Connecting an audio cable to the display's stereo 3.5 mm out connector disables the internal speakers. ◦ If you're using the display's S/PDIF out connector to connect a sound bar or receiver for external speakers, see *Connecting an external audio system* on page 43. • If you're using the display's stereo 3.5 mm out connector, adjust the volume on both the display and the connected computer and make sure neither is muted. • If you're using the display's S/PDIF out connector, adjust the volume on the external audio system and make sure the audio system isn't muted. • Adjust the display's audio settings. See *Image, audio, and menu setting* on page 83. • If you're using the integrated speakers, set the volume for the computer and any running applications to 80%, and then adjust the display's volume. OR If you're using an external audio system, set the volume for the computer, any running applications and the display to 80%, and then adjust the external audio system's volume.
There is a whine or buzzing sound coming from the back of the display.	• Be aware that these sounds are normal. All displays emit some electrical noise. Such sounds may be more noticeable with some displays than with others. However, if you hear noise from the front of the display, further investigation is required. • Connect all devices to the same power outlet or power bar.

Touch isn't working as expected

Symptom	Troubleshooting steps

The display doesn't respond to touch on the Home screen with no computer connected.	• If a lock icon appears briefly on the left and right sides of the screen, the Lock screen feature is enabled. To un-lock the screen, try either of the following procedures:
	  ◦ Touch the lock icon when it appears.
	  ◦ Use either the display's remote control or a USB mouse connected to the Service connector on the side connector panel to access **Display Settings > Lock and remote control**, and disable the *Touch lock* setting.
	  See *Side and bottom connector panels* on page 49 and *Appendix A: Adjusting display settings* on page 73.
	• Remove infrared sources, such as incandescent or arc lights, desk lamps, and infrared audio devices, or move the display to another location in the room.
	• Restart the display.
	  See *Turning the display on or off* on page 53.

The display doesn't respond to touch when viewing the input from a connected computer.	• Make sure SMART Product Drivers 12.17 SP1 or later are installed and running on any connected computers. • Make sure the USB cable between the display and the computer doesn't exceed the supported maximum cable length. See *Using recommended cables* on page 39. • Make sure any connected computers have detected the display's USB connection and SMART Product Drivers 12.17 SP1 or later are installed. • For Mac computers with macOS Mojave, see How to resolve issues with installing and using SMART Learning Suite software on macOS Mojave.
When viewing the image from a connected computer, the display responds to touch intermittently. OR When you touch the screen, the pointer doesn't appear in the correct place.	• Restart the display. See *Turning the display on or off* on page 53. • Make sure SMART Product Drivers and SMART Ink are installed and running on any connected computers. • Confirm with the installers that the computer is connected to the display with only a single cable. • Update SMART product drivers. • Remove infrared sources, such as incandescent or arc lights, desk lamps, and infrared audio devices, or move the display to another location in the room. • Remove any USB extenders to help isolate the USB cable. • Update the firmware. • Make sure the video and USB cables that connect any computers to the display are connected using the correct connectors on the display. • Make sure the USB cable between the display and the computer doesn't exceed the supported maximum cable length. See *Using recommended cables* on page 39.

The pens aren't working as expected

Symptom	Troubleshooting steps
The display doesn't respond to touch or writing with a pen when viewing the input from a connected computer.	• Make sure any connected computers have detected the display's USB connection and SMART Product Drivers 12.17 SP1 or later are installed. • Reinstall or update SMART Product Drivers and SMART Ink on any connected computers. • Make sure the video and USB cables connecting any computers to the display are connected using the correct connectors on the display. • Make the sure the touch system is oriented to the correct display by orienting the display. See Orienting your SMART interactive product using SMART Product Drivers 12. • Make sure the USB cable between the display and the computer doesn't exceed the supported maximum cable length. See *Using recommended cables* on page 39.
The display responds to touch but not to writing with a pen when viewing the image from a connected computer.	• Reinstall or update SMART Product Drivers and SMART Ink on any connected computers. • Make sure you are using a SMART Board GX series interactive display pen. • Make sure SMART Product Drivers 12.17 SP1 or later is installed on any connected computers.
When viewing the input from a connected computer and writing on the screen, the ink appears in the wrong place. OR Writing is intermittent. OR Ink disappears as you write.	• Restart the display. See *Turning the display on or off* on page 53. • Make sure SMART Product Drivers 12.17 SP1 or later is installed on any connected computers. • Orient the display. See Orienting your SMART interactive product using SMART Product Drivers 12. • Remove infrared sources, such as incandescent or arc lights, desk lamps, and infrared audio devices, or move the display to another location in the room. • Update the firmware. • Avoid wearing any jewelry or other reflective objects when using the optical touch system. • Make sure that clothing or other objects are not touching the screen where you're touching or writing.
You can't write or draw in Microsoft Office when viewing the input from a connected computer.	• Make sure Microsoft Office 2013 or later is installed. • Reinstall or update SMART Product Drivers and SMART Ink.

SMART software on connected computers isn't working as expected

Symptom	Troubleshooting steps
SMART Notebook software isn't working as expected.	See Troubleshooting SMART Notebook.

Symptom	Troubleshooting steps
SMART Learning Suite Online isn't working as expected.	See Troubleshooting common issues in SMART Learning Suite Online.
SMART Ink isn't working as expected.	See Troubleshooting SMART Ink.
SMART Product Drivers isn't working as expected.	See Troubleshooting SMART Product Drivers.

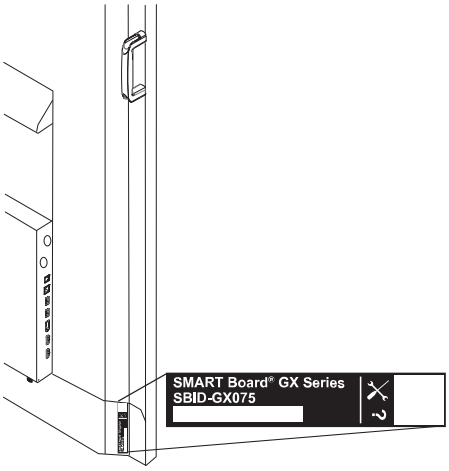
The SMART OPS PC module isn't working as expected

Symptom	Troubleshooting steps
The SMART OPS PC module isn't working as expected.	See the *SMART OPS PC modules user guide* (smarttech.com/kb/171747).

Contacting your reseller for additional support

If an issue you're experiencing with the display persists or isn't addressed in this chapter or the knowledge base, contact your authorized SMART reseller (smarttech.com/where) for support.

Your reseller might ask you for the display's serial number. The serial number is on a label located on the left side of the display.



TIP

Scan the QR code on the label to view the SMART Board GX series interactive display support pages on the SMART website.

Chapter 6

Troubleshooting tools and apps

This appendix explains how to troubleshoot the SMART Board GX series display's tools and apps.

NOTE

For hardware troubleshooting information, see *SMART Board GX series interactive displays installation and maintenance guide* (smarttech.com/kb/171744).

Resolving issues with Whiteboard

Issue	Solutions
The pen doesn't write digital ink.	• If you're using the thick nib end of the pen, ensure the fine erase setting is disabled in the Whiteboard app's pen settings. See *SMART Board GX series interactive displays user's guide* (smarttech.com/kb/171744). • Make sure no other objects (such as your hand or clothing) are touching the screen close to the pen nib. • A worn pen nib may act as a finger rather than a pen. Replacement pens are available from the Store for SMART Parts (see smarttech.com/Support/PartsStore).
Your finger draws ink instead of selecting an object.	Use the selection marquee tool to select objects.
Multiple fingers draw multiple lines instead of performing pan, zoom, or rotate gestures.	Tap the Multi-finger draw icon to switch back to single finger drawing.
You can't set an image as the background.	Make sure the image's file format is .jpg or .png. Other formats are not supported.
The display can't open a saved Whiteboard.	Whiteboards are saved in .iwb format. The file the display is trying to open might not be saved in a Whiteboard file format.

Issue	Solutions
The display can't open a SMART Notebook file.	The Whiteboard app on SMART Board GX series interactive displays don't support SMART Notebook files. Use SMART Notebook software on the connected computer to open a SMART Notebook file.

Resolving issues with Browser

Issue	Solutions
Browser isn't working correctly.	• Make sure the display is connected to a properly configured network and the network is connected to the internet. See *Connecting to a network* on page 25. • Make sure Ethernet or Wi-Fi is enabled in Settings under Network settings. See *Network settings* on page 74. • If Browser can't visit secure (https) websites, ensure the display's date and time are correct. See *Date, time, and language settings* on page 75. • Browser doesn't support Flash or Java applets and will not function correctly if a web page features these objects. • Contact your network administrator.
You can't find your downloads.	• Check the Downloads folder in File Manager. • The display's storage might be full. Delete files or move them to a USB drive for backup.
There is an issue with audio.	• Make sure the volume isn't muted on the display's remote control. See *SMART Board GX series interactive displays user guide* (smarttech.com/kb/171745). • Turn up the volume. See *SMART Board GX series interactive displays user guide* (smarttech.com/kb/171745).

Resolving issues with EShare

Issue	Solutions
The display's name doesn't appear in the list of available devices.	• Make sure the network is configured properly. See *Connecting to a network* on page 25.

Issue	Solutions
Your device or computer can't connect to the display.	• Make sure your computer or device is on the same network as the display. • Make sure the network is configured properly. See *Connecting to a network* on page 25. • Make sure your computer or device is on the same subnet as the display. Contact your network administrator. • Connect your device or computer to the display's Wi-Fi hotspot. a. Connect an RJ45 cable to the display. b. Turn on the display's Wi-Fi hotspot. See *Network settings* on page 74 c. Connect your computer or device to the display's Wi-Fi hotspot d. Open the EShare app on your computer or device. • Make sure the EShare app is installed on your device. See *SMART Board GX series interactive displays user guide* (smarttech.com/kb/171745).
No sound is heard from your shared device.	• Make sure your device isn't muted. • Turn up the device's volume. • Turn up the display's volume. See *SMART Board GX series interactive displays user guide* (smarttech.com/kb/171745). • Make sure that the display's speakers are enabled in the display's settings. See *Image, audio, and menu setting* on page 83.
The EShare app on the display is not activated. **NOTE** *Trial version* appears in the top-right corner of the screen when the app is open.	• Make sure the display is connected to a network that has internet access. a. Restart the display. See *Turning the display on or off* on page 53. b. Open the EShare app. • Make sure the network can contact the activation network.
You can't control the display from your computer.	This feature is only available for iOS and Android devices.

Resolving issues with iMirror

Issue	Solutions
Your device can't connect to the display.	• Make sure the network is configured properly. See *Connecting to a network* on page 25. • Make sure your computer or device is on the same subnet as the display. Contact your network administrator. • The iMirror app is available only for use with the Airplay function on Apple devices.
You can't share video.	Some video content is copyrighted and cannot be streamed.
No sound is heard from your shared device.	• Make sure your Apple device isn't muted. • Turn up the display's volume. See *SMART Board GX series interactive displays user guide* (smarttech.com/kb/171745).

Resolving issues with File Manager

Issue	Solutions
You can't open files using File Manager.	• Make sure an app is installed on the display that supports the file type you're trying to open.
You can't read from, or write to a connected USB drive.	• Connect the drive to the USB port for the display. See *Connecting USB drives, peripherals, and other devices* on page 41. • Make sure the USB drive is FAT formatted. • Make sure the USB drive isn't encrypted or partitioned. • The USB drive is full. Delete files before copying more files onto it.
You can't recover deleted files.	Recovery of deleted files is not supported.

Appendix A

Adjusting display settings

Accessing the display's settings

You can access the display's settings by pressing the **Settings** button on the front control panel.

The settings dialog box features the following menu options for accessing the display's different settings:

Option	Setting	Function	Notes
	Network	Configure network and Wi-Fi settings.	See *Network settings* on the next page.
	Date, time, and language settings	Change the date and time format or language setting.	See *Date, time, and language settings* on page 75.
	System settings and Apps	Configure system settings, app permissions, and access to remote file storage.	See *System settings and Apps* on page 76.
	Lock controls	Disable or enable various controls.	See *Appendix A: Adjusting display settings* above.
	Power settings	Configure when the display turns on or off.	See *Power settings* on page 79.
	About	Information about the display.	See *About* on page 80.

Exiting the display's settings

Press the **Home** button on the front control panel.

Network settings

Option	Values	Function	Notes
▸ **Wi-Fi**			
• Wi-Fi switch	Enable Disable	Enables or disables connecting to a network wirelessly.	Turn on Wi-Fi to discover networks.
• Network list	[N/A]	Shows information about available Wi-Fi networks.	The display will automatically reconnect to a previously connected network unless removed using *Forget*.
• Install certificates	[N/A]	Installs an SSL certificate for wireless network access.	[N/A]
• Add network	SSID Security Password	Manually connect to a hidden wireless network.	For the network you're connecting to: • Add the SSID • Select a security protocol • Enter the password
▸ **Ethernet**			
• Connect	Enable Disable	Enables or disables connecting to a network.	[N/A]
• IP settings	[N/A]	Enables configuration of the display's IP settings.	Displays the IP address DHCP (automatic) or manual (static).
• DHCP	Enable Disable	Enables the display to obtain an IP address automatically	[N/A]
• Static	Enable Disable	Enables the display to be assigned a static IP address	Use the display's pop-up keyboard to type the IP address, Gateway address, Network prefix length, and DNS server address.
• MAC address	[N/A]	Shows information about the network the display is connected to.	[N/A]
• IP address	[N/A]	Displays the unique address of the Ethernet adapter.	[N/A]
• Proxy Settings	None Manual	[N/A]	When *proxy* is set to *manual*, additional settings are displayed to enter the *Host name* of the proxy server, *Port of proxy server*, and *Do not apply proxy to the following websites:*

Option	Values	Function	Notes
▸ **Hotspot**			
• Hotspot switch	Enable Disable	Enables or disables the display's ability to provide a Wi-Fi hotspot.	The display must be connected to an Ethernet network to provide a Wi-Fi hotspot. **NOTE** The display's Wi-Fi connection will be disabled when providing a Wi-Fi hotspot.
• Hotspot name	[N/A]	Sets the hotspot name.	Keep the default hotspot name or use the display's on-screen keyboard to type a new one.
• Security	None WPA2 PSK	Set an encryption method for the display's Wi-Fi hotspot.	WPA2-PSK is the prefered security option.
• Password	[N/A]	Set a password for the display's Wi-Fi hotspot.	Use the display's pop-up keyboard to type a password.
• Show password	[N/A]	[N/A]	Select to view password.
• 5G	5 GHz	Set a frequency band for the display's Wi-Fi hotspot. If *5 GHz* is not selected, a default frequency band of *2.4 GHz* is used.	The display's *5 GHz* and *2.4 GHz* Wi-Fi hotspot frequency bands are not available simultaneously.

Date, time, and language settings

Option	Values	Function	Notes
▸ **Date settings**			
• Set date and time automatically	Enable Disable	Sets the display's date and time automatically.	This is based on your region and time-zone settings. The display connects to network time servers on the Internet to accomplish this.
• 24-hour	Enable Disable	Shows the display's time using the 24-hour clock.	Default setting is *Disable* and shows a 12-hour clock with AM/PM indicators.
• Date settings	[N/A]	Sets the display's date.	Disable **Set date and time automatically** to set the date manually.
• Time settings	[N/A]	Sets the display's time.	Disable **Set date and time automatically** to set the time manually.
• Time zone settings	[N/A]	Sets the display's time zone.	[N/A]

Option	Values	Function	Notes
▸ **Language**			
• Keyboard and input method	[N/A]	Enables you to choose which of the installed keyboards and input methods are active. The Android AOSP keyboard is the default keyboard and the only pre-installed keyboard.	[N/A]
• Current input method	Android Keyboard (AOSP)	Sets the on-screen keyboard option. **NOTE** Android Keyboard (AOSP) is currently the only input method available.	Tap the current input method to access further settings.
• Android Keyboard (AOSP)	[N/A]	Additional settings options for the Android keyboard.	[N/A]
• Language	[Languages]	Sets the language for the display	[N/A]

System settings and Apps

Option	Values	Function	Notes
▸ **System Settings**			
• Wallpaper	[N/A]	Sets the background image on the display	• Only .png files are supported • Save the wallpaper file to a USB drive and insert it into the USB port. See *Front connector panel* on page 51.
• Lock screen background	[N/A]	Sets the background image on the display's Lock screen.	• Only .png files are supported • Save the image file to a USB drive and insert it into the USB port. See *Connecting USB drives, peripherals, and other devices* on page 41.
• No Signal Background	[N/A]	Select a new image to replace the default that appears on the screen when no video signal is present.	• Only .png files are supported • Save the background image file to a USB drive and insert it into the USB port. See *Connecting USB drives, peripherals, and other devices* on page 41.
• Days remaining	Enable Disable	Enable a daily countdown timer to appear in the top-left corner the display's screen.	[N/A]

Option	Values	Function	Notes
• switch	Enable Disable	Enable or disable the countdown timer	[N/A]
• title	[N/A]	Give the countdown timer a title.	[N/A]
• deadline	[N/A]	The date the timer is counting down to.	[N/A]
• save	[N/A]	Save the timer settings.	[N/A]
• Lock Passcode	[N/A]	Set a six-digit passcode to unlock the lock screen.	The passcode is set when turning on the display for the first time. **IMPORTANT** The display's Lock screen feature is enabled only when a passcode is set.
• Bluetooth	Enable Disable	Enables Bluetooth enabled devices to connect to the display.	When enabled, the display searches for available Bluetooth devices.
• Boot lock screen	Enable Disable	Enables or disables display functions on start-up.	When Boot lock screen is enabled, a password must be entered after start-up to enable display functions.
• Restore factory settings	[N/A]	Resets all options to their default values.	Only administrators should reset the display's factory settings.
• Check for updates automatically	Enable Disable	Enables or disables checking for and downloading updates for the display's firmware.	Enabled by default. The display will check for updates at start-up. If this is disabled, check for updates manually. See *Appendix A: Adjusting display settings* on page 73.
• Check for updates	[N/A]	Checks for updates to the display's firmware.	If an update is available, a message appears on screen advising an update is available and asks whether the user wishes to install it. **NOTE** The display must be connected to the internet to check for system software updates. Check the display's network settings. To check the network settings for SMART Board GX series interactive displays, see *Network settings* on page 74.
▸ **Apps**			
• App permissions	[N/A]	Change permissions for the apps installed on the display, such as what an app is permitted to do and access.	[N/A]

Option	Values	Function	Notes
• Disable all app notifications	Enable Disable	Prevent all apps from providing a pop-up message on the screen.	[N/A]
• Disable 3rd party apps from connecting to the internet	Enable Disable	Prevent the WPS office, E-Share, and iMirror apps from connecting to the internet.	The functionality of 3rd party apps maybe reduced such as apps not updating.
• Disable SMART apps from connecting to the internet	Enable Disable	Prevent the Whiteboard, Overlay, and Vote apps from connecting to the internet.	The functionality of SMART apps maybe reduced such as apps not updating.
• Downloaded apps	[N/A]	Provides information about the apps that have been downloaded and installed on the display.	Clicking on each app provides additional information and options, including an option to allow or prevent pop-up notifications from the app. (allowed by default).
• System apps	[N/A]	Provides information about the apps supplied as part of the display's operating system.	Clicking on each app provides additional information and options, including an option to allow or prevent pop-up notifications from the app. (allowed by default).
▸ **Accounts**			
• Google Drive	Add Delete	Configure the display to save or retrieve items from a Google Drive account. Requires a Google account.	[N/A]
• OneDrive	Add delete	Configure the display to save or retrieve items from OneDrive account. Requires a OneDrive account.	[N/A]

Lock control

Option	Values	Function	Notes
▸ **Lock control**			
• Remote lock	Enable Disable	Enables or disables the remote control.	An on-screen message appears if a user attempts to use the remote control when the *Remote Lock* option is enabled.
• Touch lock	Enable Disable	Enables or disables the display's touch recognition.	Lock icon appears on the display when touch recognition is disabled.
• Keypad lock	Enable Disable	Enable or disables all buttons on the display's front control panel.	An on-screen message will appear if user attempts to use the front control panel buttons when the *Keypad Lock* option is enabled.

Option	Values	Function	Notes
• Intelligent screen saver	Enable Disable	Sets a timer to enable a dynamic screen saver designed to reduce the risk of image burn-in.	[N/A]
• Toolbar Controls	[N/A]	Drop-down menu.	[N/A]
• Side Toolbar	Enable Disable	Enable or disable the gesture commands for accessing the side bar menu.	[N/A]
• Bottom Toolbar	Enable Disable	Enable or disable the gesture commands for accessing the bottom toolbar menus and float menus.	[N/A]
• Floating Toolbar	Enable Disable	Enable or disable the gesture commands for accessing the side bar menu, bottom bar menus and float menus.	[N/A]
• Room Control Lock	Enable Disable	When enabled, the display can not be controlled remotely using an RS-232 connection.	[N/A]

Power settings

Option	Values	Function	Notes
• Wake On LAN	Enable Disable	Enables or disables waking the display when it receives a Magic Packet via the network. **NOTE** The display's power consumption may increase when *Wake On Lan* is enabled.	[N/A]
• Timer for shutdown	Enable Disable	Enable or disable an automatic standby timer.	[N/A]
• Shutdown time	Time of day Day(s) of week	Set a time of day, and specific day(s) of the week the display will shut down. A 30-second countdown appears before the display shuts down.	Only enabled when the *Timer for shutdown* option is also enabled.

About

Option	Values	Function	Notes
• Device name	[N/A]	Displays the device name.	[N/A]
• Serial number	[N/A]	Shows the display's serial number.	[N/A]
• Running memory	[N/A]	Shows how much RAM is installed in the display and how much is currently in use.	Close or un-install third party applications if available RAM gets too close to zero.
• Storage space	[N/A]	Shows how much storage memory is available and how much is currently in use.	Delete saved documents, image, or video files, or un-install third party applications if available storage memory gets too close to zero.
• Screen resolution	[N/A]	Shows the display's current screen resolution.	[N/A]
• Android version	[N/A]	Shows the current version of the display's Android operating system.	[N/A]
• System version	[N/A]	Shows the current version of the display's firmware.	[N/A]
• Touch frame version	[N/A]	Shows the current version of the touch system firmware.	[N/A]

Appendix B

Adjusting source, image mode, audio mode, and menu settings

Opening the display's source, image mode, audio mode and menu settings

1. Open the **Side Toolbar** menu by sliding either of the Side Toolbar menu handles  (located either side of the screen) toward the center of the screen.

   The Side Toolbar menu opens.

2. Tap the **Input Select**  icon.

   The Source Settings dialog box appears.

Exiting the display's source, image mode, audio mode, and menu settings

Press the **Home**  button on the front control panel.

Source settings

Option	Values	Function	Notes
▸ **All Source**			
• Select an input source	VGA AV YPBPR OPS DP HDMI HDMI1 HDMI2 USB-C	Select a connected computer or other device's input source to view on the display.	Three dots ••• appear below inputs (USB Type-C, HDMI, HDMI 1, HDMI 2, OPS and DP) with a device connected. **NOTE** Input sources that are locked and prevented from being selected will be disabled.
▸ **Source setting**			
• Automatic source switch	Enable Disable	Enables or disables automatic connection to an active source or switching automatically when a new source is connected.	[N/A]
• Source Priority	1, 2, 3, 4, 5, or 6	Sets the priority of input sources. A new input source will only become the primary source if it has a priority higher or equal to the current input source.	This option is only available when *Automatic Source Switch* is enabled.
• Source Lock	Locked Unlocked	Prevent selection of an input source.	Locked sources appear disabled.
• Boot source	Last Source VGA AV YPBPR OPS DP HDMI HDMI 1 HDMI 2 TYPEC ANDROID USB-C	Select which input appears on the screen on startup.	The Android Home screen is the default input.
• Automatic no-signal shutdown	Disabled 5 minutes 15 minutes 30 minutes	Set how long the display waits before shutting down when there is no input signal.	The display's EcoStar capability will turn the display off after one hour even when the "No Signal Automatic Shutdown" feature is disabled.

Image, audio, and menu setting

Access the *Image mode*, *Voice mode*, and *Menu* settings by tapping the icon in the lower right corner of the *All Source* or *Source Setting* menu screen.

Use the and icons to move through the menu pages.

Option	Values	Function	Notes
▸ **Image mode**			
• Image mode	ECO PC Eye Pro Standard Bright room Soft	Sets the color properties of the screen image for the currently active input source. Does not apply to the 'Android' input source (Home screen). **NOTE** ECO is the only value that enables further adjustment of color settings.	ECO is the default setting and is adjustable.
• Contrast ratio	1 to 50	Sets the difference in brightness between the lightest and darkest parts of the image.	Only adjustable if the Image mode is set to *ECO*.
• Brightness	1 to 50	Sets the overall brightness of the image.	Only adjustable if the Image mode is set to *ECO*.
• Tone	1 to 50	Sets the color tone of the image.	Only adjustable if the Image mode is set to *ECO*.
• Sharpness	1 to 50	Sets the sharpness of the image.	Only adjustable if the Image mode is set to *ECO*.
• Saturation	1 to 50	Set the color saturation of the image.	[N/A]
• Color temperature	Standard Warm Cool	Sets the color temperature of the image.	Warm color temperatures will appear more reddish, while cool color temperatures appear more blueish.
• Zoom mode	16:9 4:3	Sets the image's aspect ratio.	The display's native aspect ratio is 16:9. Selecting a 4:3 aspect ratio will result in unused black areas on the left and right sides of the displayed image.
▸ **Audio mode**			
• Volume	[N/A]	Sets the display's volume	[N/A]
• Sound equalization	1 to 50	Sets the L/R balance of the display's built-in speakers.	[N/A]
• Bass	1 to 50	Sets the bass level.	[N/A]
• Treble	1 to 50	Sets the treble level.	[N/A]

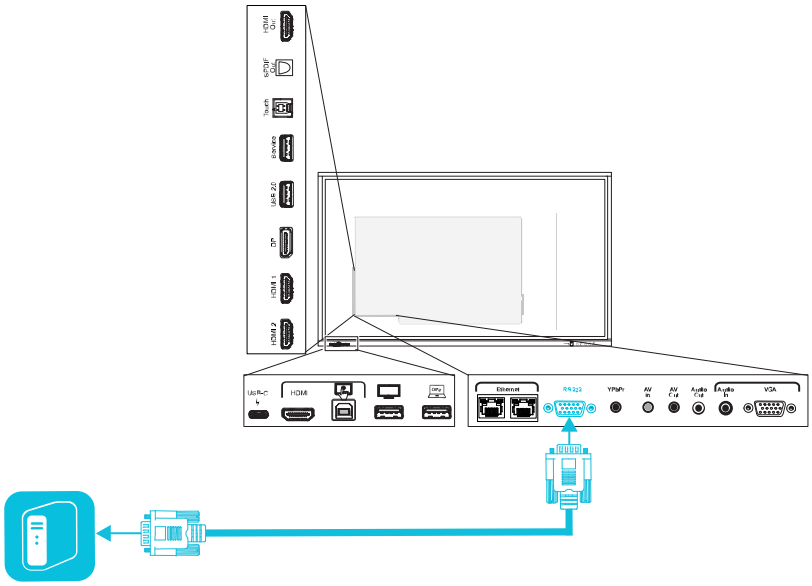
Option	Values	Function	Notes
• Audio output	Speakers External device	Sets the display's audio output source.	*Speakers* is the default setting and enables audio output from the display's built-in speakers. When *External device* is enabled, the display's built-in speakers are disabled and audio out from the display's *Audio Out* connector is enabled. Fixed digital audio out is also enabled on the S/PDIF out port.
▸ **Menu setting**			
• Backlight	1 to 100	Sets the backlight level.	[N/A]
• Auto backlight	Enable Disable	Enables or disables the display's automatic backlight feature.	The ambient light sensor can detect the room brightness and adjust the display's screen brightness. **TIP** If your display's brightness continues changing unexpectedly, disable the *Auto backlight* option.
• HDMI CEC	Enable Disable	Enables or disables the display's HDMI-CEC (HDMI Consumer Electronics Control) feature.	[N/A]
• HDMI EDID	EDID 1.4 EDID 2.0	Sets the HDMI-EDID version of the display's active HDMI connector to EDID 1.4 or EDID 2.0. **NOTE** EDID 1.4 is the default.	When EDID 1.4 is selected, the display will present itself as an HDMI 1.4 compliant device. When EDID 2.0 is selected, the display will present itself as an HDMI 2.0 compliant device. **NOTE** This setting can be applied differently to each HDMI input source.
• HDR	Auto Low Middle High Reference mode	Enable or disable High Dynamic Range display information when connected to external display.	If the source device also supports HDR, changes to the HDR option can increase the variance between dark and bright images.

Option	Values	Function	Notes
• HDMI OUT	1920 × 1080 3840 × 2160	Sets the HDMI out resolution.	Ensure the device that receives the display's HDMI out signal matches the selected output resolution. For best results, make sure the device that receives the display's HDMI out signal uses the same resolution settings as the display. **TIP** Use 1920 × 1080 if the screen resolution of the connected device isn't known.
• Eco Reset	[N/A]	Resets the display's settings to the most energy efficient modes.	[N/A]

Appendix C

Managing the display using RS-232

You can connect an RS-232 cable from a computer or a control system's serial output to the display's RS-232 in connector to remotely select video inputs, turn the display on or off, and get information about the display's current settings, such as volume and power state.



IMPORTANT

Use only a standard RS-232 cable. Do not use a null modem cable. Null modem cables typically have ends of the same type.

TIP

SMART also offers SMART Remote Management cloud-based device-management software, which you can use to manage SMART Board interactive displays with iQ and devices running Windows, Chrome™ OS, Android™, and iOS operating systems. For more information, see SMART Remote Management.

Enabling room control on the display

You must enable room control on the display before sending commands to the display.

1. Turn on the display.
2. Press the **Settings** button on the front control panel.

   The settings menu appears.
3. Tap the **Lock control** icon and disable **Room Control Lock**.
4. To exit the settings menu, tap the screen.

Configuring the computer's serial interface settings

Configure the computer's serial interface before sending commands to the display.

To configure the computer's serial interface

1. Turn on the display.
2. Turn on the computer, and then start the serial communications program or terminal emulation program.
3. Activate local echo.
4. Configure the serial interface settings using the following values, and then press ENTER.

Baud rate	38400
Data length	8
Parity bit	None
Stop bit	1

5. Send a carriage return character (<CR>) to the display. An error message should appear.

NOTE

If no message appears, the serial interface isn't configured correctly. Repeat steps 3 and 4.

Commands and responses

To access display information or to adjust display settings using the room control system, type commands and send a carriage return (<CR>) character or press ENTER, and then wait for a response from the display.

A valid command will return `k01y<CR>` and an invalid command will return `k01n<CR>`.

If you type a command that the room control system doesn't recognize, you receive an invalid command response.

CORRECT

```
k01gi000<CR>

Now ON<CR>
k01y<CR>

>
```

If you type a command that the room control system doesn't recognize, you receive an invalid command response.

In the example below, the user typed `k01gi00<CR>` instead of `k01gi000<CR>`.

INCORRECT

```
k01gi00<CR>

Now ON<CR>
k01n<CR>

>
```

NOTES

- Use ASCII formatted commands.
- Commands aren't case-sensitive and extra spacing is ignored.

- In many terminal applications on a computer, you can use the BACKSPACE key when typing commands.
- Review each entry carefully before sending a command to the display.
- Don’t send another command until you receive a response. If there is no response, send a carriage return character (<CR>) to the display. If the display is ready to receive commands, it will show a valid or invalid response after receiving the carriage return.

To retrieve a setting’s current value

Use a query command such as the following example that gets the display’s power state.

Response when the display is on:

```
k01gi000<CR>

Now ON

>
```

Response when the display is in Standby mode:

```
k01gi000<CR>

Now Standby

>
```

To increase or decrease the value of a setting

Use this command to increase the volume in steps.

This example increases the volume by 1 (repeat to increase further):

```
k01sP201<CR>

k01y<CR>

>
```

This example decreases the volume by 1 (repeat to decrease further):

```
k01sP200<CR>

k01y<CR>

>
```

Power states

The display has three power states:

Power state	Description
ON	The display is in normal operating mode.
READY	The screen is off, but the display is ready to turn on when: a user presses the **Power** button ⏻ on the convenience panel or the remote control.
STANDBY	The screen is off, and the display is in a low power state. The display enters READY or ON state when: a user presses the **Power** button ⏻ on the convenience panel or the remote control.

Commands

Function	Set command	Get command	Response
Power state	`k01sA00[Value]<CR>` Where `[Value]` is one of the following: • `0` (standby) • `1` (on)	`k01gi000<CR>`	`Now [Value]<CR>` Where `[Value]` is one of the following: • `ON` • `Standby`
Input	`k01sB0[Value]<CR>` Where `[Value]` is one of the following: • `00` (ATV) • `01` (AV) • `03` (YPBPR) • `04` (HDMI) • `06` (VGA) • `07` (OPS1) • `09` (Display Port) • `10` (DTV) • `0A` (Home) • `0C` USB-C • `14` (HDMI1) • `24` (HDMI2)	`k01gh000<CR>`	`k01rh[Value]<CR>` Where `[Value]` is one of the following: • `X01` (AV input) • `X03` (YPBPR) • `X04` (HDMI) • `X14` (HDMI1) • `X24` (HDMI2) • `X07` (OPS1) • `X09` (Display Port) • `10A` (Home screen) • `X1C` (USB-C) The “X” in the response can be either “0” or “1”. “0” indicates that the video input does NOT have a video signal. “1” indicates that the video input DOES have a video signal.
Picture size	`k01sM004<CR>`	`[N/A]`	`[N/A]`
Volume	`k01sP[Value]<CR>` Where `[Value]` is one of the following: • `0–100` **NOTE** Volume level is set by entering a number between 0 and 100 • `200` (-1 level) • `201` (+1 level)	`k01gf000<CR>`	`k01rf[Value]<CR>` Where Value is a number between 0 and 100.

Function	Set command	Get command	Response
Mute	`k01sQ[Value]<CR>` Where `[Value]` is one of the following: • `0` (off) • `1` (on)	`k01gg000<CR>`	`k01rg[Value]<CR>` Where `[Value]` is one of the following: • `000` (off) • `001` (on)
Number	`k01sT[Value]<CR>` Where `[Value]` is one of the following: • `0–009` **NOTE** Number value is set by entering a number between 0 and 009.	`[N/A]`	`[N/A]`
Key	`k01sU[Value]<CR>` Where `[Value]` is one of the following: • `000` (up) • `001` (down) • `002` (left) • `003` (right)	`[N/A]`	`[N/A]`
Freeze	`k01s_[Value]<CR>` Where `[Value]` is one of the following: • `000` (off) • `001` (on)	`[N/A]`	`[N/A]`
Device name	`[N/A]`	`k01gr000<CR>`	`k01rr[Value]<CR>` Where `[Value]` is one of the following with “XX” representing the separate characters for a device name: • `1XX` • `2XX` • `3XX`

Function	Set command	Get command	Response
Mac address	[N/A]	k01gs000<CR>	k01rs[Value]<CR> Where [Value] is one of the following with “XX” representing the six separate hexadecimal bytes for a MAC address (e.g. “XX:XX:XX:XX:XX:XX”): • 1XX • 2XX • 3XX • 3XX • 3XX • 3XX

Appendix D

Enrolling the display in SMART Remote Management

Your SMART Board GX has a built-in feature that enables you to enroll the display with your organization's SMART Remote Management account. When you enroll one of these displays, you can use SMART Remote Management to centrally control features and settings for the display, such as:

- blocklists and allowlists
- Wi-Fi
- wallpaper
- certificates
- lock screen
- available apps

To learn how to enroll your display, see Enrolling a SMART Board interactive display in SMART Remote Management.

Appendix E

Hardware environmental compliance

SMART Technologies supports global efforts to ensure that electronic equipment is manufactured, sold, and disposed of in a safe and environmentally friendly manner.

Waste Electrical and Electronic Equipment (WEEE)

Electrical and electronic equipment and batteries contain substances that can be harmful to the environment and to human health. The crossed-out wheeled bin symbol indicates that products should be disposed of in the appropriate recycling stream and not as regular waste.

Batteries

The remote contains two AAA batteries. Recycle or dispose of batteries properly.

More information

See smarttech.com/compliance for more information.

SMART TECHNOLOGIES

smarttech.com/support

smarttech.com/contactsupport

smarttech.com/kb/171744