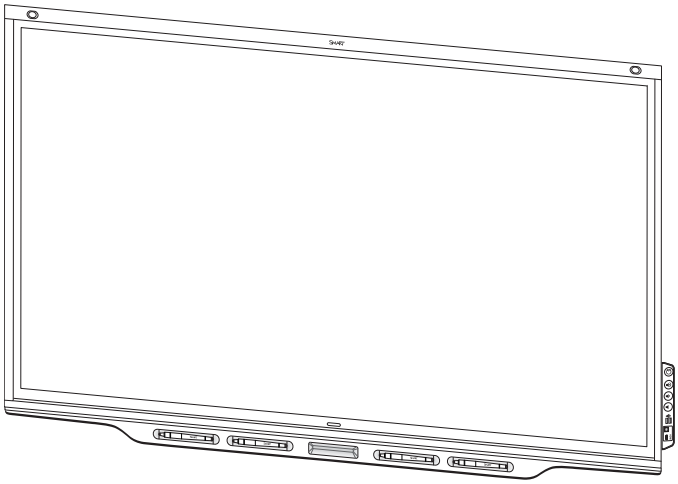
Was this document helpful?
smarttech.com/docfeedback/171164



SMART Board® 7000 series
interactive displays

INSTALLATION AND MAINTENANCE GUIDE

FOR MODELS:

- SBID-7075
- SBID-7086
- SBID-7275
- SBID-7286
- SBID-7075P
- SBID-7086P
- SBID-7275P
- SBID-7286P

DRAFT

DRAFT

Licenses

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

The Bluetooth word mark is owned by the Bluetooth SIG, Inc. and any use of such marks by SMART Technologies ULC is under license.

Trademark notice

SMART Board, SMART Notebook, SMART Meeting Pro, SMART Ink, SMART kapp, SMART kapp iQ, HyPr Touch, Pen ID, smarttech, the SMART logo and all SMART taglines are trademarks or registered trademarks of SMART Technologies ULC in the U.S. and/or other countries. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Apple, Mac, OS X, iPhone, iPad, iPod touch, iTunes, AirPlay and Bonjour are trademarks of Apple Inc., registered in the U.S. and other countries. Google, Google Cast, Google Play, Android, Chrome, Chromebook and Chromecast are trademarks of Google Inc. AirParrot is a trademark of Squirrels LLC registered in the United States and other countries. All other third-party product and company names may be trademarks of their respective owners.

Copyright notice

© 2017 SMART Technologies ULC. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system or translated into any language in any form by any means without the prior written consent of SMART Technologies ULC. Information in this manual is subject to change without notice and does not represent a commitment on the part of SMART.

This product and/or use thereof is covered by one or more of the following U.S. patents:

www.smarttech.com/patents

09/2017

Important information

IMPORTANT

There are critical software updates for the display that you need to install to ensure the display is fully functional and provides the best experience. Connect to a wired or wireless network to automatically download and apply these updates as well as future updates.

WARNING

- Failure to follow the installation instructions shipped 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.

DRAFT

- 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 mounting hardware.
- Disconnect all of the display's power cables 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.
- 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.

DRAFT

- 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 CSA/UL/EN 60950 and bear the CE mark and CSA and/or UL Mark(s) for CSA/UL 60950. This is for operating safety and to avoid damage to the display.

IMPORTANT

- The following are the normal operating power requirements for the display:

Model	Power requirements
SBID-7075	100V to 240V AC, 50 Hz to 60 Hz, 147 W
SBID-7086	100V to 240V AC, 50 Hz to 60 Hz, 172 W
SBID-7275	100V to 240V AC, 50 Hz to 60 Hz, 162 W
SBID-7286	100V to 240V AC, 50 Hz to 60 Hz, 187 W
SBID-7075P	100V to 240V AC, 50 Hz to 60 Hz, 147 W
SBID-7086P	100V to 240V AC, 50 Hz to 60 Hz, 172 W
SBID-7275P	100V to 240V AC, 50 Hz to 60 Hz, 162 W
SBID-7286P	100V to 240V AC, 50 Hz to 60 Hz, 187 W

- For additional requirements and other information, refer to the display's specifications (see *More information* on page 10).

Federal Communication Commission interference statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

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.

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.

DRAFT

Innovation, Science and Economic Development Canada statement

This device complies with RSS-247 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.

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.

Cet appareil est conforme à la norme ISED CNR-247 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.

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 SBID-7075, SBID-7075P, SBID-7086, SBID-7086P and the interactive pen, SBID-7000-PEN, 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

This equipment is compliant with Class A of CISPR 32. In a residential environment, this equipment may cause radio interference.

Radio frequency band and maximum power level:

Transmitting Band (MHz)	Maximum Transmit Power EIRP (dBm)
2402–2483.5	5.0

DRAFT

EU declaration of conformity: AM40

Hereby, SMART Technologies ULC declares that the radio equipment type OPS, AM40 is 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

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

Transmitting Band (MHz)	Maximum Transmit Power EIRP (dBm)
2400–2483.5	19
5150–5350	16
5470–5725	16

Restrictions in

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

CAUTION: EXPOSURE TO RADIO FREQUENCY RADIATION

This equipment complies with EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

DRAFT

Contents

Important information ..... **i**

Federal Communication Commission interference statement iii
Innovation, Science and Economic Development Canada statement v
EU declaration of conformity v
EU declaration of conformity: AM40 vi

Chapter 1: Welcome **1**

About this guide 1
About the display 2
Components 4
Related products 9
More information 10

Chapter 2: Installing the display **13**

Transporting the display 13
Installing the display on a wall 16
Installing the display on a stand 20

Chapter 3: Connecting power and devices **21**

Connecting power 22
Connecting to a network 22
Connecting cables for room computers, guest laptops and other input sources 23
Connecting external speakers 25
Connecting other devices 26
Connector reference 27

Chapter 4: Configuring the display **31**

Turning on the display for the first time 32
Connecting to a network 33
Updating system software 39
Switching to the Beta channel 40
Adding or removing apps from the launcher 42
Enabling the Whiteboard Library 42

Chapter 5: Configuring connected computers **43**

Installing SMART software on connected computers 43
Setting connected computers' resolutions and refresh rates 44

Chapter 6: Maintaining the display **45**

Checking the display installation 45

DRAFT

Cleaning the display 45
Maintaining ventilation 46
Preventing condensation 46
Replacing the pens and eraser 47
Turning the display off and back on 47
Resetting the display 48
Removing and transporting the display 48

Chapter 7: Troubleshooting 51

Troubleshooting the display 51
Troubleshooting the display's software 57
Referring to the SMART knowledge base for additional troubleshooting information 70
Contacting your reseller for additional support 70

Appendix A: Using settings 73

iQ appliance (AM30) 73
iQ appliance (AM40) 79

Appendix B: Remotely managing the display 85

Connecting a computer to the display 86
Connecting multiple displays 87
Configuring the computer's serial interface settings 87
Power states 88
Commands and responses 89
Command inventory 91
Resolving issues with remote management 94

Appendix C: Hardware environmental compliance 95

Waste Electrical and Electronic Equipment (WEEE) 95
Batteries 95
More information 95

DRAFT

Chapter 1

Welcome

About this guide 1
About the display 2
Features 2
Identifying your SMART Board 7000 series interactive display model 3
Identifying your iQ appliance model 3
Components 4
iQ appliance 5
Screen 5
Home button 5
Pens 6
Eraser 7
Convenience panel 8
Presence detection sensors 9
Internal speakers 9
Related products 9
SBA-100 projection audio system 9
SMART Audio 400 classroom amplification system 10
USB extenders 10
More information 10

DRAFT

This chapter introduces the SMART Board® 7000 series interactive display.

About this guide

This guide explains how to install and maintain a SMART Board 7000 series interactive display with iQ. 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 and configure the iQ appliance
- How to maintain the display for years of use
- How to troubleshoot issues with the display

In addition, this guide includes information on the display's settings and remote management support.

This guide is intended for those who install and maintain displays in their organizations. Other documentation and resources are available for those who use displays (see *More information* on page 10).

About the display

The SMART Board 7000 series interactive display is the hub of your classroom or meeting room. PC-free embedded computing provides one-touch access to collaborative tools, including a whiteboard, wireless screen sharing and a web browser. There's no need for wires, cables or manual software and firmware updates.

Features

The display includes the following features:

Feature	Description
iQ technology	The display's iQ appliance provides one-touch access to collaborative tools, including a whiteboard, wireless screen sharing and a web browser.
Touch support	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. The display's support for up to 10 simultaneous touch, writing and erase points enables you and other users to interact with objects on the screen at the same time.
Writing and drawing support	You can write over applications in digital ink using one of the supplied pens, and then erase the digital ink using your palm, the eraser or the erasers on the pens. Up to four users can write or draw digital ink on the screen at the same time. Each pen writes and draws in its own color. The Pen ID™ feature enables you to assign different ink appearances to each pen.
Audio support	The display includes integrated speakers for presenting audio from connected input sources.

Identifying your SMART Board 7000 series interactive display model

The following models of SMART Board 7000 series interactive display are available:

Model	Frame style	Screen size (approximate)	iQ
SBID-7075	White	75" (190 cm)	No
SBID-7086	White	86" (218 cm)	NO
SBID-7275	White	75" (190 cm)	Yes
SBID-7286	White	86" (218 cm)	Yes
SBID-7075P	Black	75" (190 cm)	No
SBID-7086P	Black	86" (218 cm)	No
SBID-7275P	Black	75" (190 cm)	Yes
SBID-7286P	Black	86" (218 cm)	Yes

Refer to the specifications for detailed technical information for this model, including product dimensions and weights (see *More information* on page 10).

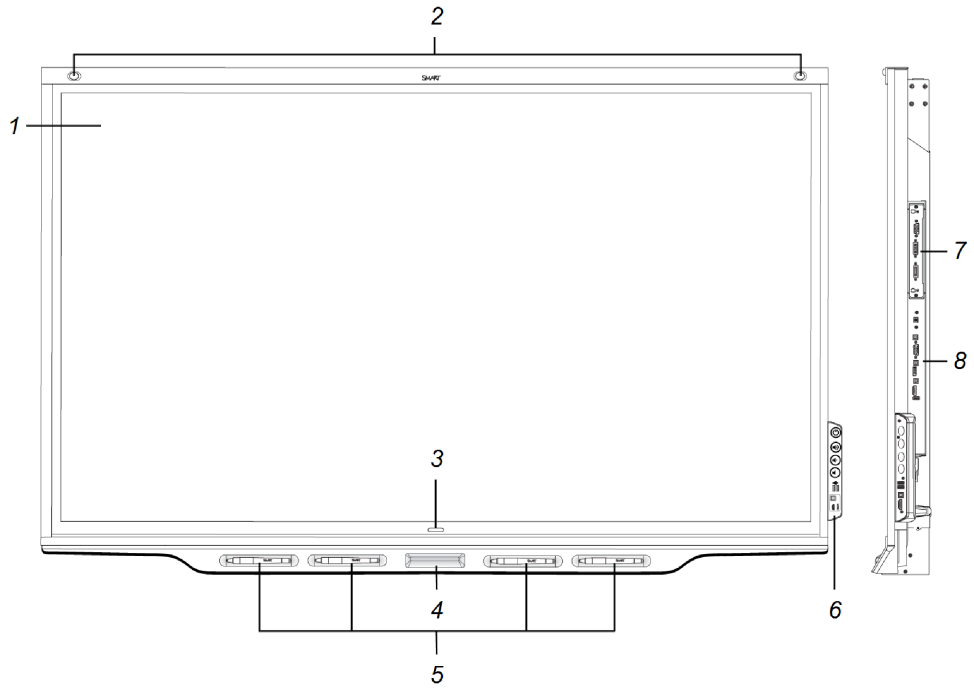
Identifying your iQ appliance model

The iQ appliance is installed in the accessory slot of some interactive display models to enable iQ functionality in those models. SMART offers several different iQ appliance models. Use the Identifying your iQ appliance model wizard to identify the specific model of iQ appliance installed in your display.

DRAFT

Components

The display consists of the following components:



No.	Name	More information
Pictured		
1	Screen	Page 5
2	Presence detection sensor (×2)	Page 9
3	Home button	Page 5
4	Eraser	Page 7
5	Pen (×4)	Page 6
6	Convenience panel	Page 8
7	iQ appliance	Page 5
8	Connector panel	Page 27
Not pictured		
9	AC power inlet, outlet and switch	Page 32
10	RS-232 connectors	Page 20 Page 85
11	Speakers	Page 9

iQ appliance

The iQ appliance is installed in the accessory slot on the back of the SBID-7275, SBID-7286, SBID-7275P and SBID-7286P models. Take advantage of iQ technology and access collaborative tools.

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.

TIP

Use the Identifying your iQ appliance model wizard on the SMART support site to identify your model of iQ appliance.

Screen

The following are the dimensions for the display:

Model	Diagonal	Width	Height
SBID-7075	75" (190.5 cm)	65" (165.2 cm)	38 5/8" (93 cm)
SBID-7086	86" (218.4 cm)	74 7/8" (190.3 cm)	42" (107 cm)
SBID-7275	75" (190.5 cm)	65" (165.2 cm)	38 5/8" (93 cm)
SBID-7286	86" (218.4 cm)	74 7/8" (190.3 cm)	42" (107 cm)
SBID-7075P	75" (190.5 cm)	65" (165.2 cm)	38 5/8" (93 cm)
SBID-7086P	86" (218.4 cm)	74 7/8" (190.3 cm)	42" (107 cm)
SBID-7275P	75" (190.5 cm)	65" (165.2 cm)	38 5/8" (93 cm)
SBID-7286P	86" (218.4 cm)	74 7/8" (190.3 cm)	42" (107 cm)

The display's HyPr Touch™ (Hybrid Precision Touch) technology enables you to interact with objects on the screen and write and draw in digital ink.

Home button

Tap the Home button to open the launcher. From the launcher, you can open the iQ appliance's apps as well as the settings.

Pens

The display comes with black, red, blue and green pens. Each pen has an attached eraser and an indicator light.

The display's bottom frame includes magnetic holders for the pens. Removing a pen from its holder activates it, and you can use the pen to draw or erase digital ink. Replace the pen when you're done using it to charge it.

When you first turn on the display or pick up a pen from the magnetic holder, the pen's light turns on to indicate the pen's status:

Light	Pen status	Action
Solid green	The pen is charging slowly and can be used for at least two hours.	Pick up the pen and use it to write on the display. Return the pen to the magnetic holder when you're done.
Solid amber	The pen is charging quickly and can be used for less than two hours.	Use the pen for up to two hours. Return the pen to the magnetic holder when done. **NOTE** It is normal for pens to be warm to the touch when charging quickly.
Solid red	The pen needs to be charged within 30 minutes.	Finish using the pen and return it to the magnetic holder when done.
Flashing red	The pen needs to be charged within 10 minutes.	Return the pen to the magnetic holder as soon as possible.
Flashing green or amber (while the pen is in the magnetic holder)	The pen's firmware is updating.	Wait for the light to stop flashing. This indicates the pen's firmware has completed updating.

CAUTION

When you return a pen to the magnetic holder, make sure it's centered in its holder to keep it from falling and being damaged. The pen's light turns on to indicate that it's properly positioned in the holder.

IMPORTANT

- Use only pens designed for SMART Board 7000 series interactive displays (see smarttech.com/kb/171230).
- After you install the display and turn it on for the first time, place the pens in the holders for at least five minutes. This pairs the pens with the display and charges them for testing purposes.
- If you previously paired a pen with a SMART Board 7000 series interactive display, you must pair it with another display to use it with that display. When you do this, the pen's firmware may be updated to align with the other display's software.
- To fully charge the pens, keep them in the holders for at least four hours before users start using the display.

Eraser

In addition to the pens, the display includes an eraser, which you can use when you want to erase a large area on the screen.

The display's bottom frame includes a magnetic holder for the eraser. Replace the eraser when you're done with it.

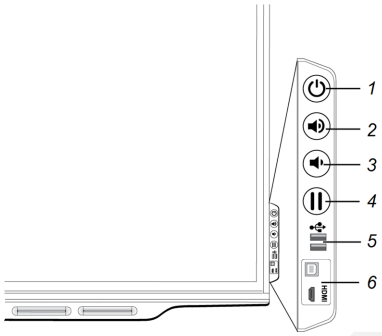
CAUTION

When you return the eraser to the magnetic holder, make sure it's centered in its holder to keep it from falling and being damaged.

DRAFT

Convenience panel

The convenience panel contains buttons for turning the display on and off and controlling the volume. It also includes connectors for USB peripherals and a computer or other input source.



No.	Name	Procedure
1	Power	• Press to enter or exit Standby mode. • Press and hold for four seconds to turn off the display. • Press and hold for 10 seconds to reset the display.
2	Volume increase	Press to increase the volume.
3	Volume decrease	Press to decrease the volume.
4	Freeze	Press to freeze and unfreeze the screen.
5	USB Type A connector (×2)	Connect USB drives and other devices that you want to use with the iQ appliance or a connected computer.
6	HDMI 2 input connectors	Connect a computer or other input source to use with the display (see page 23).

NOTE

The Power button indicates the display's status:

Power button	Display status
Off	Not receiving power
Amber	Standby mode
White	Normal operating mode

Presence detection sensors

The display has two presence detection sensors on its top frame that can detect people up to 16' (5 m) away when the display is in Standby mode.

When the sensors detect people in the room, the display is ready to turn on. To turn on the display, press the **Power** button ⏻ or pick up a pen or eraser.

If the room is empty for a specified period, the display returns to Standby mode.

Internal speakers

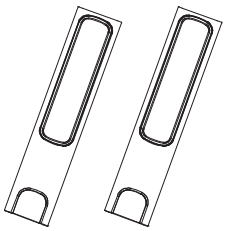
The display includes two 10 W integrated speakers. You can also connect external speakers (see *Connecting external speakers* on page 25).

Related products

Related products for the display include the following:

- SBA-100 projection audio system
- SMART Audio 400 classroom amplification system
- USB extenders

SBA-100 projection audio system

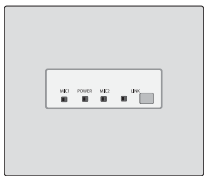


Available for education models, the SBA-100 projection audio system consists of two 14 W speakers and is intended for wall-mounted displays. You can control volume using the display's convenience panel or the digital volume controls in a connected computer's operating system.

For more information, see the *SBA-100 projection audio system specifications* (smarttech.com/kb/171146).

DRAFT

SMART Audio 400 classroom amplification system



Available for education models, the SMART Audio 400 classroom amplification system provides high-quality audio amplification. The system comes with a teacher microphone and optional student microphone. Multiple speaker options are available, including wall- and ceiling-mounted speakers. The amplifier receives audio signals from the microphones and translates them into crystal-clear sound through the speakers.

For more information, see the *SMART Audio 400 classroom amplification system specifications* (smarttech.com/kb/171137).

USB extenders

As noted in *Connecting cables for room computers, guest laptops and other input sources* on page 23, 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

More information

In addition to this guide, SMART provides the following documents for the display:

Document	Link
Quick reference	smarttech.com/kb/171162
User's guide	smarttech.com/kb/171163
SMART Board 7000 series interactive display installation instructions	smarttech.com/kb/171160
SMART Board 7000 Pro series interactive display installation instructions	smarttech.com/kb/171221
SBID-7075 specifications	smarttech.com/kb/171131
SBID-7086 specifications	smarttech.com/kb/171132
SBID-7275 specifications	smarttech.com/kb/171133
SBID-7286 specifications	smarttech.com/kb/171134
SBID-7075P specifications	smarttech.com/kb/171211

Document	Link
SBID-7086P specifications	smarttech.com/kb/171212
SBID-7275P specifications	smarttech.com/kb/171213
SBID-7286P specifications	smarttech.com/kb/171214
Comparison	smarttech.com/kb/171161

These documents are available in the Support section of the SMART website (smarttech.com/support). Scan the QR code on the cover of this guide to view the SMART Board 7000 series interactive display with iQ pages in the Support section.

DRAFT

DRAFT

Chapter 2

Installing the display

Transporting the display 13
Using transportation aides 14
Accommodating doorways, hallways and elevators 14
Dealing with cracked, chipped or shattered glass 15
Saving the original packaging 15
Installing the display on a wall 16
Choosing a location 16
Choosing a height 17
Mounting the display 18
Mounting multiple displays 20
Installing the display on a stand 20

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 install the display.

WARNING

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

Transporting the display

After your organization receives the display, you need to transport 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

- Transport the display at your own risk. SMART cannot accept liability for damages or injury that occur during the display's transportation.

DRAFT

- When transporting the display, do the following:
  - Follow local safety regulations and standards.
  - Keep the display in its original packaging.
  - Move the display so that its top frame faces up.
  - Have at least two people move the display.

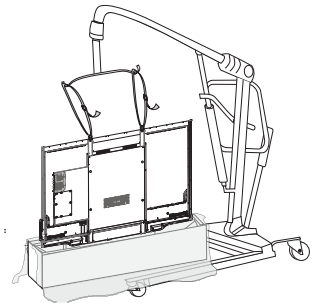
Using transportation aides

You can use the following aides to transport the display:

- Cart
- Furniture dolly
- Mechanical lift

NOTE

The display features eyebolt mounting holes for use with mechanical lifts. Refer to the installation instructions for information on using a 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 on to an elevator. In these situations, SMART recommends that you 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 transport.

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).

DRAFT

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 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.

CAUTION

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 to repack the display with as much of the original packaging as possible in case you need to transport the display again after you initially install it. This packaging was designed to provide the best possible protection against shock and vibration.

CAUTION

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

NOTE

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

DRAFT

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 room.

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, to access the display. • The location is clearly visible to all users in the room. For more information, see Recommended viewing distances and viewing angles for SMART Board interactive displays. • The display will not be installed where it could be hit by a door or gate. • There are no nearby shelving units, desks or other furniture that has doors or drawers that could hit the display.
Wall support	The wall can support the weight of the display and mounting equipment. Refer to the model's specifications for the weight of the display (see *More information* on page 10).

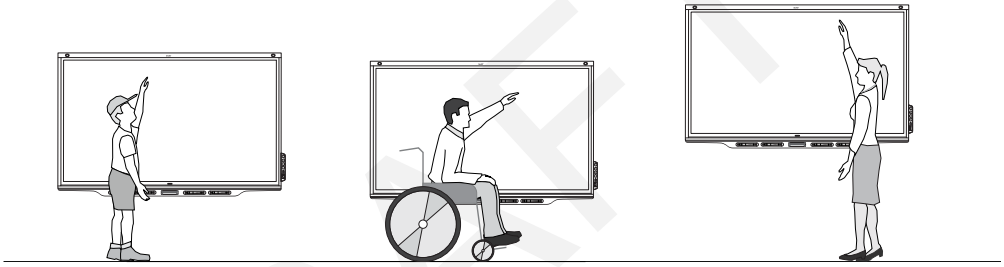
Power and other connections	• The location is close to the following:
	  ○ A power outlet
	  ○ A network outlet (if you plan to use a wired network connection)
	  ○ A room computer (if you plan to connect a room computer)
	  ○ Speakers and other devices that you want to connect to the display
	• The location is not where the mains power supply enters the building.

Lighting	The location is not near bright light sources, such as windows or strong overhead lighting. Infrared (IR) lighting can cause issues with presence detection.
Acoustics	The location has good acoustics. **TIP** Stand in different parts of the room and count to ten loudly. If you hear anything other than your own voice (such as a rattle, buzzing from elsewhere in the room or echoes), the room may require some modifications to improve the acoustics. Work with an audio specialist to improve the acoustics.

Factor	Considerations
Environment and ventilation	• The location meets the environmental requirements in the display's specifications (see *More information* on page 10). • The display isn't subjected to strong vibrations or dust. • There is adequate ventilation or air conditioning around the display so that heat can flow away from the unit and the mounting equipment. • If you're planning 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.



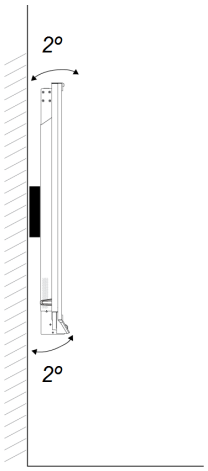
SMART recommends that you mount the display so that its top is 6' 5" (1.9 m) from the floor.

DRAFT

Mounting the display

Mount the display following the included installation instructions. In addition, consider the following:

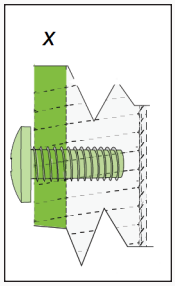
- Mount the display vertically (90° relative to the floor plus or minus 2° for tolerance) and in landscape orientation. SMART doesn't support mounting the display at other angles or in portrait orientation.



- Use a standard VESA mounting plate.

DRAFT

- Use M8 screws to fasten the wall bracket.

Screw length	12 mm + *x* mm < M8 < 45 mm + *x* mm where *x* is the combined thickness of the wall bracket and washer 
Fasten force	97.36–177.01 in-lb. (11–20 N·m) **CAUTION** Do not over-tighten the screws.

NOTE

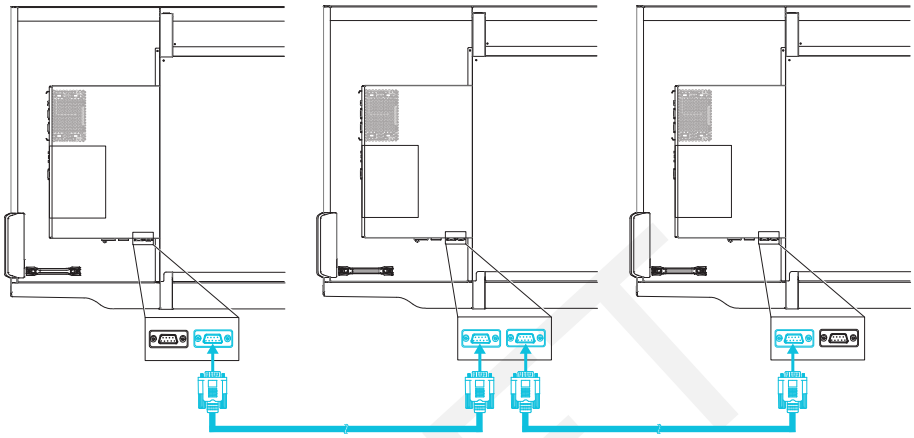
SMART recommends M8 × 30 mm mounting screws for standard installations where the total wall mount bracket and washer thickness is less than 7 mm.

- Because the receptacles might not be easily accessible after you mount the display, consider connecting cables for power, room computer and other devices while the display is still in its packaging (see *Chapter 3: Connecting power and devices* on page 21).

DRAFT

Mounting multiple displays

If you mount multiple displays side by side, you can connect a RS-232 cable from the rightmost display's RS-232 OUT connector to the next rightmost display's RS-232 IN connector, and so forth, to turn on, turn off and otherwise operate all of the displays from the right-most display's convenience panel.



IMPORTANT

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

NOTE

For more information on using RS-232 cables for remote management, see *Appendix B: Remotely managing the display* on page 85.

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.

IMPORTANT

If you install the display on a stand, do not move the stand while the display is on.

For information on selecting and using a third-party stand, see *SMART installation standards* (smarttech.com/kb/171035).

DRAFT

Chapter 3

Connecting power and devices

Connecting power 22
Connecting to a network 22
Connecting cables for room computers, guest laptops and other input sources 23
- Using recommend cables 24
- Connecting to the connector panel 24
- Connecting to the convenience panel 25
- Viewing a connected computer or other device's input 25

Connecting external speakers 25
Connecting other devices 26
Connector reference 27
- Display connector panel 27
- Display convenience panel 28
- iQ appliance 28
- Other connectors 29

Connect the display to power after you install it but before you turn it on for the first time and configure the iQ appliance. You can also connect cables for room computers, guest laptops or other input sources as well as for speakers and other devices.

By installing cables in advance, you make use of connectors that might not be accessible after the display is wall-mounted. You can then run the cables across floors or behind walls as needed.

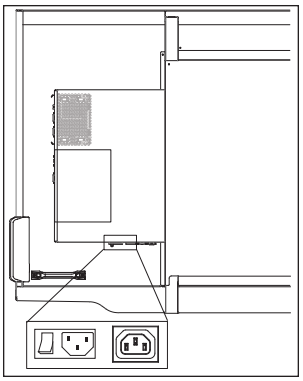
WARNING

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

DRAFT

Connecting power

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

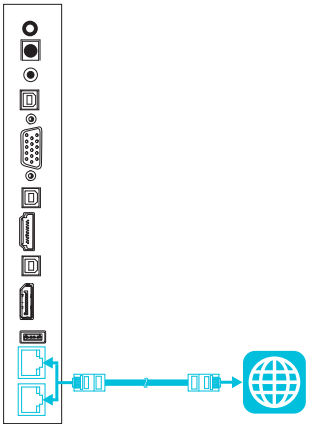


NOTE

Refer to the display's specifications for power requirements and power consumption information (see *More information* on page 10).

Connecting to a network

The display requires a network connection for downloading software and firmware updates, and a number of the iQ appliance's apps require a network connection as well. You can connect to a network using a Wi-Fi connection or one of the RJ45 jacks on the display (pictured). For more information about the display's network connection and configuration, see *Connecting to a network* on page 33.



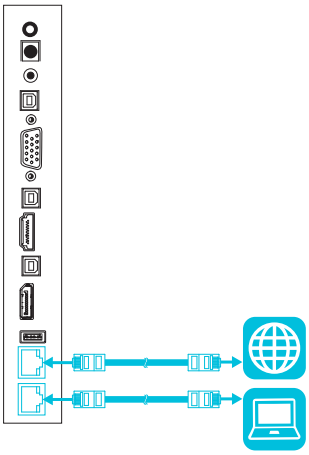
IMPORTANT

Do not use the RJ45 jack on the iQ appliance to connect to a network.

DRAFT

TIP

If you're using one of the display's RJ45 jacks to connect to a 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.



Connecting cables for room computers, guest laptops and other input sources

You can connect cables to the display so that users can connect and use room computers, guest laptops or other devices, such as Blu-ray™ disc players.

IMPORTANT

Do not connect computers or other devices to the iQ appliance. SMART Board 7000 series interactive displays do not support the use of this connector.

NOTE

For information about configuring connected computers, see *Chapter 5: Configuring connected computers* on page 43.

DRAFT

Using recommend cables

SMART recommends the following varieties of cable:

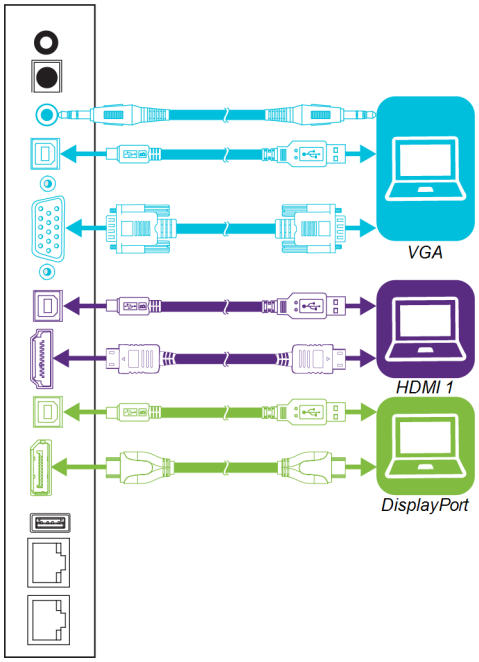
Cable type	Maximum length	Recommendation
HDMI	23' (7 m)[1]	Use only certified HDMI cables that have been tested to support the performance standard you require.
DisplayPort	23' (7 m)	Use DisplayPort 1.2 compliant or better cables.
VGA	[N/A]	Use VGA cables with all pins in their connectors fully populated and wired.
Stereo 3.5 mm	20' (6 m)	[N/A]
USB	16' (5 m)	Use a 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 10.

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

Connecting to the connector panel

The connector panel includes three sets of computer connectors:

- **VGA:** This set of connectors can accommodate a USB cable for touch control, a VGA cable for video and a stereo 3.5 mm cable for audio.
- **HDMI 1:** This set of connectors can accommodate a USB cable for touch control and an HDMI cable for video and audio. (This input supports HDMI 2.0.)
- **DisplayPort:** This set of connectors can accommodate a USB cable for touch control and a DisplayPort cable for video and audio.

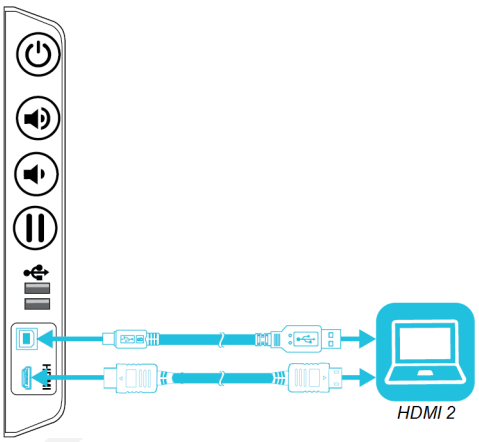


[1]The performance of cables longer than 23' (7 m) is highly dependent on the cable's quality.

Connecting to the convenience panel

In addition to the three sets of computer connectors on the connector panel, there is one set of computer connectors on the convenience panel:

> **HDMI 2:** This set of connectors can accommodate a USB cable for touch control and an HDMI cable for video and audio. (This input supports HDMI 1.4.)



Viewing a connected computer or other device's input

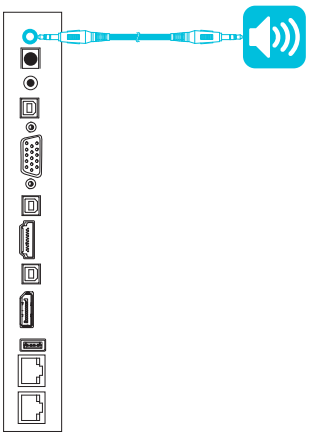
Users can use the Input app to view the computer or other device's input on the display.

For information about the Input app, see the *SMART Board 7000 series interactive display user's guide* (smarttech.com/kb/171163).

Connecting external speakers

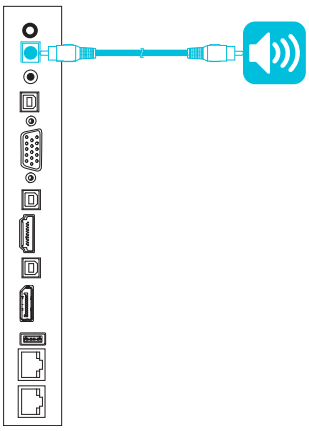
The display includes two 10 W speakers, which are designed to provide sound at the front of a room. You might want to connect the SBA-100 projection audio system (see *SBA-100 projection audio system* on page 9) or third-party external active speakers if you're providing sound in a larger space.

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



DRAFT

In addition to the stereo 3.5 mm out connector, the display provides a Sony/Philips Digital Interface (S/PDIF) out connector. S/PDIF is a digital audio transmission medium. You need an audio receiver that supports S/PDIF to decode this connection to analog for use with external speakers.



Connecting other devices

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

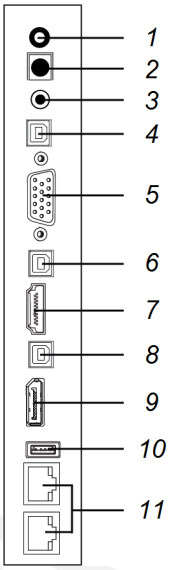
Device type	Details
Microphones	Microphones can improve the audio experience in a classroom or lecture hall. SMART offers a classroom audio system that includes microphones (see *SMART Audio 400 classroom amplification system* on page 10).
Room control systems	Although SMART doesn't offer room control equipment, the display supports RS-232 communication for remote management (see *Appendix B: Remotely managing the display* on page 85).

DRAFT

Connector reference

Display connector panel

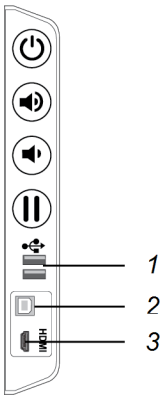
The following diagram and table present the connectors on the display's connector panel:



No.	Connector	Connects to	Notes
1	Stereo 3.5 mm out	External speakers	See page 25.
2	S/PDIF out	Digital audio output	See page 25.
3	Stereo 3.5 mm in	VGA input (audio)	See page 23.
4	USB Type-B	VGA input (touch)	See page 23.
5	VGA in	VGA input (video)	See page 23.
6	USB Type-B	HDMI 1 input (touch)	See page 23.
7	HDMI 2.0 in	HDMI 1 input (video and audio)	See page 23.
8	USB Type-B	DisplayPort input (touch)	See page 23.
9	DisplayPort in	DisplayPort input (video and audio)	See page 23.
10	USB Type-A	[N/A]	This connector is a service port.
11	RJ45 (×2)	Network	See page 22.

Display convenience panel

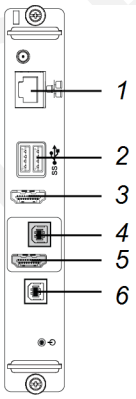
The following diagram and table present the connectors on the display's convenience panel:



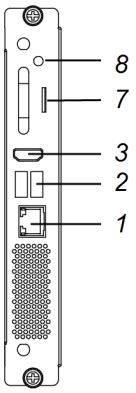
No.	Connector	Connects to	Notes
1	USB Type-A (×2)	Supported peripherals	[N/A]
2	USB Type-B	HDMI 2 input (touch)	See page 23.
3	HDMI 1.4 in	HDMI 2 input (video and audio)	See page 23.

iQ appliance

The following diagram and table present the connectors on the iQ appliance:



AM30



AM40

No.	Connector	Connects to	Notes
1	RJ45	Network	Do not use this connector. Use the connectors on the display instead. See page 22.

No.	Connector	Connects to	Notes
2	USB Type-A (×2)	Supported peripherals	[N/A]
3	HDMI out	N/A	This connector is not supported.
4	USB Type-B	OPS/HDMI input (touch)	Do not use this connector. Use the connectors on the display instead. See page 23.
5	HDMI in	OPS/HDMI input (video and audio)	Do not use this connector. Use the connectors on the display instead. See page 23.
6	USB Type-B	[N/A]	This connector is a service port.
7	Micro SD	[N/A]	This connector is a service port.
8	LED	[N/A]	LED lights green when the iQ appliance is inserted in the accessory slot and turned on.

NOTE

Older models of the iQ appliance (AM30) don't have all the connectors.

Other connectors

There are additional connectors on the bottom of the display (see *Mounting multiple displays* on page 20 and *Appendix B: Remotely managing the display* on page 85).

DRAFT

DRAFT

Chapter 4

Configuring the display

Turning on the display for the first time 32
Connecting to a network 33
Configuring the display's network connection 33
Configuring the network 33
Connecting the display to a network 36
Evaluating the impact of Screen Share on your network data usage 38
Updating system software 39
Applying an automatic system software update manually 39
Updating system software manually 40
Switching to the Beta channel 40
Before switching to the Beta channel 40
Switching between the Beta and Stable channels 40
Getting support and sending feedback 41
Adding or removing apps from the launcher 42
Enabling the Whiteboard Library 42

After you have mounted the display and connected power and devices, you can start it for the first time and configure the apps as described in this chapter.

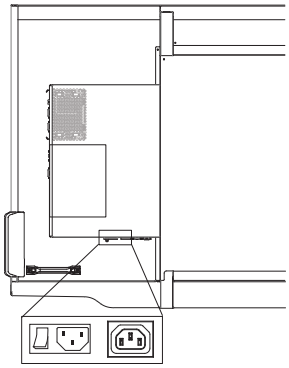
DRAFT

Turning on the display for the first time

Turn on the display after mounting it and connecting power and devices.

To turn on the display for the first time

1. Flick the switch beside the AC power inlet to the ON (I) position.



2. Select your preferred language, and then tap **Next**.
3. Select your country, and then tap **Next**.
4. Name the display, and then tap **Next**.
5. Set the date and time, and then tap **Next**.
6. If the display isn't using a wired network connection, select a wireless network, and then tap **Next**.
7. Select the list of applications that will appear in the launcher, and then tap **Next**. For more information about the apps, see the *SMART Board 7000 series interactive displays user's guide* (smarttech.com/kb/171163)
8. Tap **Finish**.

   The *Welcome* screen appears.

DRAFT

Connecting to a network

You can connect the display to a network using either Wi-Fi or an Ethernet connection. Before you do so, your organization's network administrators need to configure the network for the display.

Configuring the display's network connection

IMPORTANT

Configuring the network properly allows the display to download important iQ system software and feature updates automatically.

Network administrators need to configure the network so users can use the Screen Share app, update the system software automatically over the air and enable the display to set the date and time automatically.

Configuring the network

Network administrators need to configure the network so users can update the display's firmware and system software automatically over the air and to allow apps to function properly.

DRAFT

To configure the network

Add thefollowing URLs to the network whitelist.

URL	Feature
https://ws.kappboard.com **NOTE** Block access to https://ws.kappboard.com to prevent automatic iQ system software updates	Automatic iQ system software update
https://*.mixpanel.com	iQ system software
*.hockeyapp.net	iQ system software
https://*.smarttech-prod.com	SMART Notebook® Player
http://*.loggly.com	SMART Notebook Player
http://*.smarttech.com	iQ system software, Workspaces, app, Activities app, SMART Notebook Player
https://*.smarttech.com	SMART Notebook Player
https://www.fabric.io/	SMART Notebook Player
https://*.classlab.com	Workspaces app, Activities app
https://www.firebase.com/test.html	Workspaces app, Activities app
https://*.smartamp.com	Workspaces app, Activities app
https://*.google.com	Activities app
http://*.google-analytics.com	Activities app
https://www.gstatic.com	Activities app
https://*.firebaseio.com	Activities app
https://*.cloudfront.com	Activities app
https://content.googleapis.com	Workspaces app
https://gstatic.com	Workspaces app
https://*.youtube.com	Workspaces app, SMART Notebook Player
https://api.datamarket.azure.com	Workspaces app
https://updates.airsquirrels.com	Screen Share app

To allow mobile devices and computers to use AirPlay and Google Cast to use the Screen Share app

1. Open the required TCP/UDP ports:

Protocol	Port range	Feature
TCP	80	Outbound http
UDP	123	Network Time Protocol
TCP	3689	iTunes music sharing
TCP	5000	Audio streaming
TCP	5353	mDNS
UDP	5353	mDNS
TCP	7000	Picture sharing
TCP	7001	Video streaming
UDP	7010	Display mirroring
UDP	7011	Display mirroring
TCP	7100	Display mirroring
TCP	47000	Audio negotiation
TCP	49152–65535	Dynamic ports
UDP	49152–65535	Dynamic ports
TCP	49228	Google Cast
TCP	50259	Google Cast
UDP	54780	Google Cast
UDP	62572	Google Cast

2. Configure the network to allow Bonjour and mDNS (multicast).
3. Configure the network to allow Network Time Protocol (NTP) requests to Internet time servers.

NOTE

Using a 5 GHz wireless network connection may provide a better experience with the Screen Share app.

To allow SMART Notebook Player to connect to the display

NOTE

The network may have been configured to allow Network Time Protocol in *To allow mobile devices and computers to use AirPlay and Google Cast to use the Screen Share app*.

Configure the network to allow Network Time Protocol (NTP) requests to Internet time servers

Connecting the display to a network

The display can connect to a network using either Wi-Fi or an Ethernet connection. Network administrators can also add a browser proxy or install a certificate.

To connect to a Wi-Fi network

1. If an Ethernet cable is connected to the display, disconnect it.
2. Tap the Home button on the screen.

   The launcher appears.
3. Tap **Settings** .

   The *Settings* window appears.
4. Tap **Wi-Fi**.

   NOTE

   Ensure Wi-Fi is turned **On**.
5. Select a wireless network.

   If the Wi-Fi network is not password protected, the display connects to the network.
6. If the network requires a password, enter the Wi-Fi password and tap **Connect**.

   OR

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

   TIP

   Use the crosshairs to move the on-screen keyboard.

DRAFT

To connect to an Ethernet network

Connect an Ethernet cable to the RJ45 receptacle on the display.

NOTE

The network must provide network settings via DHCP. If you require a static IP, use DHCP reservation on your router.

To configure a proxy

1. Tap the Home button on the screen.

   The launcher appears.

2. Tap **Settings**.

   The *Settings* window appears.

3. Tap **Wi-Fi**.
4. Tap and hold the network to which you're adding a proxy.

   A dialog box appears.

5. Tap **Modify network**.
6. Select **Show advanced options**.
7. In the *Proxy* box, select **Manual**.
8. Enter the information in the *Proxy hostname*, *Proxy port* and *Bypass proxy* boxes.
9. Tap **Save**.

To install a certificate

NOTE

Certificates must be PFX format.

1. Copy a PFX format certificate to a USB drive.
2. Tap the Home button on the screen.

   The launcher appears.

3. Tap **Settings**.

   The *Settings* window appears.

DRAFT

4. Tap **Wi-Fi** > **...** > **Advanced** > **Install Certificates**.

   The *USB Drive* window appears.

5. Tap **USB Drive**.
6. Select a certificate to install.
7. If required, enter a password to extract the certificate.
8. Optionally, enter a name for the certificate in the *Certificate name* box and reason for certificate use in the *Credential use* box. Tap **OK**.

   A window appears requesting that a lock screen PIN, pattern or password be set before using the certificate.

9. Tap **OK**.
10. Select a pattern, PIN or password method. Tap **OK**.

    IMPORTANT

    Make note of the pattern, PIN or password. The pattern, PIN or password may be required to install future certificates.

    If the pattern, PIN or password is forgotten, a factory reset is required before installing more certificates.

    The iQ system software confirms the certificate was installed.

Evaluating the impact of Screen Share on your network data usage

When you connect your device or computer to the display using Screen Share, the screen sharing protocol compresses the image from your device or computer. The protocol may transmit only areas of the screen that change. This can make it difficult to estimate the impact of Screen Share on a network where many users would like to screen share simultaneously.

For example, in a school where 30 teachers are using Screen Share simultaneously, 10% of teachers might be streaming video while 90% might be sharing static content with occasional updates. In such an instance, you could expect to see an additional 5 Mbps in network traffic. Use the following table to help estimate the impact of wireless Screen Share on your network.

Content being shared	Data rate transmission
Static content with minor screen movement	20 kbps
Static content with periodic scrolling or refreshes	Spikes briefly to 500–600 kbps, returns to 20 kbps

DRAFT

Content being shared	Data rate transmission
Gaming or streaming video with major screen changes	700 kb/sec–1.2 Mbps

Updating system software

When the display is connected to the Internet, it updates the system software and the firmware automatically.

When an update to the system software or firmware is available, the display downloads the update in the background then waits for four hours of inactivity. When that happens, the display shows a two-minute countdown before beginning the update. The countdown can be interrupted at any time. The update begins when the countdown finishes. The display shows a blank screen for four minutes. When the update is complete, the display shows the Whiteboard and any content that was on Whiteboard before the update.

NOTE

You can configure your organization's network to allow or prevent automatic system software and firmware updates (see *Configuring the display's network connection* on page 33).

Applying an automatic system software update manually

If the display has downloaded the system software update but hasn't yet applied the update, you can start the update process manually from Settings.

To apply an automatic system software update manually

1. Tap the Home button on the screen.

   The launcher appears.

2. Tap **Settings** .

   The *Settings* window appears.

3. Scroll to **Auto Update**.

4. Under *Check for Updates Now*, tap **Apply Update Now**.

   The display turns off and then turns back on. The display then applies the update.

   If there is an update for the pen firmware, the pen's indicator light will flash green or amber. Leave the pen in the tray until the pen's light is a solid color.

DRAFT

Updating system software manually

You can download system software updates at smarttech.com/downloads and update your display using a USB drive.

Switching to the Beta channel

The Beta channel is meant for advanced users who are comfortable using pre-release software. System software releases in the Beta channel contain new features that are still in development. Sign up to receive Beta channel announcements at smarttech.com/SMARTBetaProgram.

IMPORTANT

- You may encounter bugs or other unexpected behavior in pre-release software.
- Features previewed in the Beta channel may never appear in a Stable channel release.
- There may be frequent updates to the display's system software.
- The user interface may change significantly as features develop.
- If you switch to the Beta channel and want to return to the Stable channel, you must perform a factory reset that erases all of the display's settings.

Before switching to the Beta channel

Before switching to the Beta channel, back up important Whiteboard content using the SMART kapp® app. See the *SMART Board 7000 series interactive displays user's guide* (smarttech.com/kb/171163).

Switching between the Beta and Stable channels

To switch to the Beta channel

1. Tap the Home button on the screen.

   The launcher appears.

2. Tap **Settings**.

   The *Settings* window appears.

3. Tap **Auto Update**.

DRAFT

4. Tap **Update Channel**, and then select **Beta Channel**.

   A dialog box appears asking you to confirm the switch to the beta system software releases.

   The display checks for a Beta system software update.

To switch to the Stable channel

1. Tap the Home button on the screen.

   The launcher appears.

2. Tap **Settings** .

   The *Settings* window appears.

3. Tap **Auto Update**.

4. Tap **Update Channel**, and then select **Stable Channel**.

   A dialog box appears asking you to confirm the switch to the Stable channel system software releases.

   The display checks for a Stable channel system software update.

5. Tap **Ready to apply update**.

Getting support and sending feedback

SMART Support will not be able to help you resolve problems you may encounter in Beta channel releases.

SMART appreciates your willingness to use Beta channel releases and values all types of feedback.

- Report issues with Beta channel releases at smarttech.uservoice.com.
- Provide feedback to SMART about new features at smarttech.uservoice.com.
- Suggest new features to SMART at smarttech.uservoice.com.

DRAFT

Adding or removing apps from the launcher

You can add or remove apps from the launcher.

To add or remove apps from the launcher

1. Tap the Home button on the screen.

   The launcher appears.

2. Tap **Settings** .

   The *Settings* window appears.

3. Tap **Launcher**.

4. Select the apps you want to include in the launcher.

   OR

   Clear the check boxes for apps you want to remove from the launcher.

Enabling the Whiteboard Library

The display saves Whiteboard sessions to the Library.

The Library is disabled on some displays and must be enabled if you want to save Whiteboard sessions or continue previous sessions.

To enable the Library

1. Tap the Home button on the screen.

   The launcher appears.

2. Tap **Settings** .

   The *Settings* window appears.

3. Tap **Applications**, and then tap **Whiteboard** .

4. Switch the *Library* option **ON**.

DRAFT

Chapter 5

Configuring connected computers

Installing SMART software on connected computers 43
Installing SMART Learning Suite 43
Installing SMART Meeting Pro software 44
Setting connected computers' resolutions and refresh rates 44

Install SMART software and set the resolution and refresh rate on any computers you connect to the display.

NOTE

For information about connecting computers, see *Connecting cables for room computers, guest laptops and other input sources* on page 23.

Installing SMART software on connected computers

The display comes with either SMART Learning Suite or SMART Meeting Pro® software.

Installing SMART Learning Suite

The SBID-7075, SBID-7086, SBID-7275 and SBID-7286 models come with one license of SMART Learning Suite. You can download SMART Learning Suite from smarttech.com/downloads and install it on a room computer.

You can purchase additional licenses of SMART Learning Suite to install on other computers. Contact your authorized SMART reseller (smarttech.com/where) for more information.

IMPORTANT

Make sure a computer meets the minimum requirements in the SMART Notebook software release notes before you install SMART Learning Suite.

DRAFT

Installing SMART Meeting Pro software

The SBID-7075P, SBID-7086P, SBID-7275P and SBID-7286P models come with one room license and ten personal licenses of SMART Meeting Pro software. You can download SMART Meeting Pro software from smarttech.com/downloads and install the room license on a room computer and the personal licenses on up to then users' laptops.

You can purchase additional licenses of SMART Meeting Pro software to install on other computers. Contact your authorized SMART reseller (smarttech.com/where) for more information.

IMPORTANT

Make sure a computer meets the minimum requirements in the SMART Meeting Pro software release notes before you install SMART Meeting Pro software.

Setting connected computers' resolutions and refresh rates

The following table presents the recommend resolutions and refresh rates for the display's input sources:

Input source	Resolution	Refresh rate
HDMI 1	3840 × 2160	60 Hz
HDMI 2	1920 × 1080	60 Hz
DisplayPort	1920 × 1080	60 Hz
VGA	1920 × 1080	60 Hz

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

DRAFT

Chapter 6

Maintaining the display

Checking the display installation 45
Cleaning the display 45
Maintaining ventilation 46
Preventing condensation 46
Replacing the pens and eraser 47
Turning the display off and back on 47
Resetting the display 48
Removing and transporting the display 48

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

Checking the display installation

Inspect the display installation frequently to ensure that it 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 display

Follow these instructions to clean the display's screen and frame without damaging the screen's 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 excessive pressure to the screen.

DRAFT

- Do not use cleaning solutions or glass cleaners on the screen, because they can deteriorate or discolor the screen.

To clean the screen

1. Turn off the display (see *Turning the display off and back on* on the facing page).
2. Wipe the screen and frame with a lint-free, non-abrasive cloth.

NOTE

Alternatively, you can use a damp cloth with a drop of dish soap.

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 on removing the display, see *Removing and transporting the display* on page 48.

CAUTION

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

Preventing condensation

The screen contains layers of glass that can collect condensation, especially in the following conditions:

- Temperature extremes with high humidity
- Rapid changes in humidity, which can occur when you operate the product near water (such as a pool, kettle or air conditioner ventilator)

To evaporate condensation from the display

1. Remove the humidity source from the display, if possible.
2. Turn off the display.

DRAFT

3. Remove any moisture from the display with a smooth, dry cloth.
4. If the display has been moved from a colder environment to a warmer environment (for example, from storage to the installation site), leave the display turned on for 48 hours. Otherwise, leave the display turned off for 48 hours.

Replacing the pens and eraser

To prevent damage to the display's anti-glare coating, replace a pen if its nib or eraser pad become worn. You can purchase replacement pens and erasers from the Store for SMART Parts (see smarttech.com/Support/PartsStore).

Turning the display off and back on

In most situations, you can put the display to sleep when not using it following the instructions in the *SMART Board 7000 series interactive displays user's guide* (smarttech.com/kb/171163).

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

To turn the display off

1. Press the **Power** button ⏻ on the convenience panel for four seconds.

   A slider appears on the screen.
2. Move the slider to the right.

   NOTE

   Wait at least 30 seconds before turning the display back on.

To turn the display back on

Press the **Power** button ⏻ on the convenience panel.

DRAFT

Resetting the display

You can reset the display and the iQ appliance using the convenience panel.

To reset the display

Press and hold the **Power** button ⏻ on the convenience panel for 10 seconds.

The display and iQ appliance reset.

Removing and transporting the display

If the display is wall mounted, you might need to remove it from its current location and transport it to another location on occasion.

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 any documentation included with the third-party mounting hardware.

To remove the display

1. Turn off any connected computers.
2. Turn off the display (see *Turning the display off and back on* on the previous page).
3. Flick the switch beside the AC power inlet to the OFF (O) position.
4. Remove all accessible cables and connectors.
5. Remove the iQ appliance from the accessory slot.

DRAFT

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 *Transporting the display* on page 13.

DRAFT

DRAFT

Chapter 7

Troubleshooting

Troubleshooting the display 51
- Resolving issues with power 52
- Resolving issues with presence detection 52
- Resolving issues with video 53
- Resolving issues with image quality 53
- Resolving issues with audio 55
- Resolving issues with touch and digital ink 56

Troubleshooting the display's software 57
- Resolving general issues 57
- Resolving issues with Activities 58
- Resolving issues with Workspaces 58
- Resolving issues with SMART Notebook Player 58
- Resolving issues with Browser 59
- Resolving issues with Input 59
- Resolving issues with Screen Share 60
  - Resolving issues with Android mobile devices 61
  - Resolving issues with Apple devices 63
  - Resolving issues with Chrome browser and Chromebook 65
  - Resolving issues with Windows computers 67
  - Advanced troubleshooting for Screen Share 69

Referring to the SMART knowledge base for additional troubleshooting information 70

Contacting your reseller for additional support 70
- Locating the display serial number 71
- Locating the iQ appliance serial number 71

DRAFT

This chapter explains how to troubleshoot issues with the display and its software.

Troubleshooting the display

The following information helps you resolve a variety of common issues with the display, including issues with:

- Power
- Presence detection

- Video
- Image quality
- Audio
- Touch and digital ink

Resolving issues with power

Issue	Solutions
The display doesn't turn on and its power light isn't lit.	• Make sure the power cable is securely fastened to the power outlet and the display. • 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 display turns on, its power light is lit, but nothing shows on the screen.	• Pick up a pen or press the Power button. • See *Resolving issues with video* on the facing page. • Restart the display. See *Turning the display off and back on* on page 47.
The display doesn't turn on when you use a connected computer's mouse or keyboard.	• Make sure the computer is on. • Pick up a pen or press the display's Power button.
You're experiencing other issues with power, or the previous solutions don't resolve the issue.	See *Referring to the SMART knowledge base for additional troubleshooting information* on page 70.

Resolving issues with presence detection

Issue	Solutions
The display doesn't enter Ready mode when users enter the room.	• Make sure all cables are securely connected. • Make sure nothing is blocking the presence detection sensors.

The display enters Ready mode when it shouldn't.	• Check for and, if possible, move the display away from the following:
	  ○ Direct sunlight
	  ○ Bright lights
	  ○ Forced air ducts
	  ○ Plasma displays
	  ○ Infrared audio systems and other infrared sources
	  ○ Polished floors, glass walls, or other reflective surfaces
	• Be aware that the display's presence detection range is 16' (5 m).

You're experiencing other issues with presence detection, or the previous solutions don't resolve the issue.	See *Referring to the SMART knowledge base for additional troubleshooting information* on page 70.

Resolving issues with video

Issue	Solutions
You're experiencing general issues with video.	• Make sure any connected computers are on and not in Standby mode. • Set connected computers' resolution and refresh rate to values that the display supports. See *Setting connected computers' resolutions and refresh rates* on page 44. • Restart the display and any connected computers. See *Turning the display off and back on* on page 47.
The display is on, but nothing shows on the screen.	• Make sure any connected computers are on and not in Standby mode. • Make sure the screen is working by pressing the Home button (below the screen) to open the launcher. • Restart the display and any connected computers. See *Turning the display off and back on* on page 47.
A computer is connected to the display, but only a "Looking for a connection" message appears on the screen.	Make sure the computer is connected to the currently selected input.
You want to output video to another display.	Be aware that only displays with newer AM30 or AM40 appliances support video output.
You're experiencing other issues with video, or the previous solutions don't resolve the issue.	See *Referring to the SMART knowledge base for additional troubleshooting information* on page 70.

Resolving issues with image quality

Issue	Solutions
You're experiencing the following or similar issues with image quality: • There are lines or snow on the screen. • The image if flickering or flashing.	• Set the connected computer's resolution and refresh rates to values that the display supports. See *Setting connected computers' resolutions and refresh rates* on page 44. • Open the on-screen display menu. If it appears correctly, the issue is with the video input. • Adjust the display's image settings. If you have an iQ appliance (AM30), see *Display* on page 78. If you have an iQ appliance (AM40), see *Display* on page 80. • Restart the display. See *Turning the display off and back on* on page 47.
There are bright spots on the screen.	• Open the on-screen display menu. 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.
The image isn't clear. There are lines, double images or other distortions.	Adjust the display's image settings. If you have an iQ appliance (AM30), see *Display* on page 78. If you have an iQ appliance (AM40), see *Display* on page 80.

Issue	Solutions
Colors don't appear correctly.	• Be aware that if two or more displays are mounted side-by-side, there could be minor differences in colors across the displays. This issue is not unique to SMART products. • If you're using a VGA video input, 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 computers' video settings, particularly zoom, crop and underscan. See the computer's operating system documentation. • If the computer's desktop is entirely black, change it to dark gray or a different color. • If the computer's background is extended across multiple screens, duplicate the desktop 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.
A persistent image appears on the display.	See Image persistence or burn in on LCD displays.
You're experiencing other issues with image quality, or the previous solutions don't resolve the issue.	See *Referring to the SMART knowledge base for additional troubleshooting information* on page 70.

DRAF

Resolving issues with audio

Issue	Solutions
You're experiencing the following or similar issues with audio: • No sound is coming from the speakers. • Sound is coming from the speakers, but the volume is low. • The sound is distorted or muffled.	• If you're using external speakers, make sure the speakers are turned on. • 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. ○ 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 external speakers* on page 25. • Adjust the volume on the display and the connected computer and make sure neither are muted. • Adjust the display's audio settings. If you have an iQ appliance (AM30), see *Audio* on page 78. If you have an iQ appliance (AM40), see *Audio* on page 80. • Make sure the display is set as the default audio device for the connected computer's audio output. See the connected computer's operating system documentation. • 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 external speakers, set the volume for the computer, any running applications and the display to 80%, and then adjust the speakers' volume.
There is a whine or buzzing sound coming from the back of the display.	Be aware that these sounds are normal. Most displays emit electrical noise. Such sounds may be more noticeable with some displays than with others.
You're experiencing other issues with audio, or the previous solutions don't resolve the issue.	See *Referring to the SMART knowledge base for additional troubleshooting information* on page 70.

Resolving issues with touch and digital ink

Issue	Solutions
You're experiencing the following or similar issues with touch and digital ink: • When users touch or write on the screen, the pointer or digital ink appears in the wrong place. • Touch and digital ink are intermittent. • Digital ink disappears as you write. • Digital ink colors change unexpectedly.	• Restart the display. See *Turning the display off and back on* on page 47. • Confirm with the installers that the computer is connected to the display with only a single cable. • Make sure SMART Product Drivers and SMART Ink are installed and running on any connected computers. • Use a known working pen from another display to check if the issue is being caused by the pen. • 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. • Remove the display from the wall, calibrate it and confirm if this resolves the issue. If it does, check the wall and wall mount for issues.
The display responds to touch but not to writing with a pen.	Reinstall or update SMART Product Drivers.
The display doesn't respond to touch or writing with a pen.	Make sure any connected computers have detected the display's USB connection and installed drivers. On Windows computers, open Device Manager and make sure there is no red X or yellow explanation mark (!) over the display's icon. On Mac computers, open System Information and ensure there are no error messages in the display's row.
You're experiencing issues with one or more of the display's pens.	• Use only SMART Board 7000 series interactive display pens with the display. Pens from other interactive displays aren't compatible. • Return the pen to its magnetic holder to calibrate it. • Make sure the pen's pressure sensitive switch isn't damaged or dirty. • If one pen isn't working, make sure the pen is paired with the display and is fully charged. See *Pens* on page 6. • If all pens aren't working, return the pens to their magnetic holders and restart the display. See *Turning the display off and back on* on page 47.
You can't write or draw in Microsoft® Office.	• Make sure Microsoft Office 2013 or later is installed. • Reinstall or update SMART Product Drivers and SMART Ink.
You're experiencing other issues with touch and digital ink, or the previous solutions don't resolve the issue.	See *Referring to the SMART knowledge base for additional troubleshooting information* on page 70.

Troubleshooting the display's software

This section explains how to troubleshoot the display's software.

Resolving general issues

Issue	Solutions
An app or feature is missing or not available.	• The apps and features available depend on the iQ appliance model. See the Identifying your iQ appliance model wizard. • The iQ system software may not include that feature or app. See the iQ system software release notes. • The app may be disabled. If you have an iQ appliance (AM30), see *Launcher* on page 78. If you have an iQ appliance (AM40), see *Launcher* on page 80.
The iQ apps and features do not appear when the display is turned on.	• Wait for a minute after first turning on the display or switching the input source to the iQ appliance. This delay may be longer immediately after upgrading the iQ system software. • The iQ appliance has stopped responding during startup or after a system software update. Turn off the display, unplug the power cable and wait at least 30 seconds before reconnecting the power cable and turning on the display.
There is no content from the HDMI video out connector.	The connected HDMI sync device (for example, a display, video splitter, video extender or video capture system) may not support High-Bandwidth Digital Content Protection (HDCP). Make sure the sync device is able to receive and display HDMI content that is protected by HDCP. For more information, see SMART Board interactive flat panels and High-bandwidth Digital Content Protection (HDCP).
When updating the iQ system software with a USB drive, the update process doesn't start.	• The iQ system software version already installed may be newer than or the same version as the version on the USB drive. Compare the version number of the current iQ system software with the version number of the upgrade file on the USB drive. • Follow the installation instructions provided on SMART's website when updating the iQ system software. **TIPS** ○ Make sure the USB drive is FAT formatted. ○ Make sure the file has not been renamed or unzipped. The file should be copied to the USB drive unmodified. ○ Make sure the file is located in the root folder on the USB drive. ○ Make sure the USB drive is inserted in the convenience panel on the display's frame. ○ After inserting the USB drive in the convenience panel, switch to the Whiteboard app.
Annotations only appear in the Browser and Screen Share apps.	Currently, only the Browser and Screen Share apps support ink and annotations.
When the annotation is open in the Whiteboard app, you're unable to connect the SMART kapp app to your display.	The SMART kapp app is unable to connect to the display when an annotation is open in the Whiteboard app.

Issue	Solutions
You can't ink on the screen when you press the Freeze button.	To ink on the screen, pick up a pen and start drawing.

Resolving issues with Activities

Issue	Solutions
There is an issue with Activities.	• Make sure the display is connected to a network. See *Connecting to a network* on page 33. • If Activities can't visit secure (https) websites, make sure the display's date and time are correct. If you have an iQ appliance (AM30), see *Date & time* on page 77. If you have an iQ appliance (AM40), see *Date & Time* on page 81. • Make sure the network firewall isn't blocking services required for Activities. See *Configuring the display's network connection* on page 33. • Contact your system administrator.

Resolving issues with Workspaces

Issue	Solutions
Workspaces is unable to display any content.	• Make sure the display is connected to a network. See *Connecting to a network* on page 33. • If Workspaces can't visit secure (https) websites, make sure the display's date and time are correct. If you have an iQ appliance (AM30), see *Date & time* on page 77. If you have an iQ appliance (AM40), see *Date & Time* on page 81. • Make sure the network firewall isn't blocking services required for Workspaces. See *Configuring the display's network connection* on page 33. • Contact your system administrator.

Resolving issues with SMART Notebook Player

Issue	Solutions
The display's name doesn't appear in the list of available devices.	• Make sure the display and computer are set to the correct date and time. If you have an iQ appliance (AM30), see *Date & time* on page 77 and your computer's documentation. If you have an iQ appliance (AM40), see *Date & Time* on page 81 and your computer's documentation. • Restart the display. See *Turning the display off and back on* on page 47.
I'm unable to download SMART Notebook Player.	• If you're using an iPhone, download the app from the Apple App Store. • Notebook Player is currently unavailable for Android devices and iPad devices.

Issue	Solutions
I'm unable to sign in to Notebook Player.	Use your Google or Microsoft account to sign in.
There are no SMART Notebook files in the mobile app.	You need to share a SMART Notebook file with the display. See the *SMART Board 7000 series interactive displays user's guide* (smarttech.com/kb/171163) and your computer's documentation.
The mobile device or Notebook Player is no longer connected to the display.	The display or the mobile device is unable to connect to the Internet. Check the settings for the display and the mobile device and try connecting again.
The display can't generate a pairing code The Notebook Player mobile app can't be used to remotely control the SMART Notebook file on the display	You can resolve the issue by restarting the display. See *Turning the display off and back on* on page 47.

Resolving issues with Browser

Issue	Solutions
There is an issue with Browser.	• Make sure the display is connected to a network. See *Connecting to a network* on page 33. • If Browser can't visit secure (https) websites, ensure the display's date and time are correct. If you have an iQ appliance (AM30), see *Date & time* on page 77. If you have an iQ appliance (AM40), see *Date & Time* on page 81. • Contact your system administrator.

Resolving issues with Input

Issue	Solutions

There is an issue with the image.	• See *Resolving issues with video* on page 53 for more information.
	• Connect the computer to the display's connectors.
	• If you're using two connected video cables, use one longer cable or move the computer so it's within a single cable length of the iQ appliance.
	• The computer's video resolution settings and refresh rates aren't supported by the display. The display supports the following resolutions and refresh rates:
	  ○ 1920 × 1080 at 60 Hz
	  ○ 1280 × 720 at 60 Hz

Issue	Solutions
There is an issue with touch.	• Make sure the USB cable is securely fastened to both your computer and the display. • Use a USB 2.0 cable and make sure it's connected to the correct USB receptacle. See *Connecting cables for room computers, guest laptops and other input sources* on page 23. • If touch interactivity is slow, close some open applications on the computer. • Make sure the latest version of SMART Product Drivers is installed on your computer. See smarttech.com/downloads. • Remove any USB cable extenders. For best results, use a 16' (5 m) or shorter USB cable.
There is an issue with audio.	• See *Resolving issues with audio* on page 55. • Turn off the mute setting on your computer. • Turn up the volume on your computer. • Turn up the volume on the display. See *Convenience panel* on page 8.

Resolving issues with Screen Share

TIP

In some instances, restarting the Screen Share app and its discovery services resolves issues with the app.

1. On the display, open the launcher.

   The launcher appears.

2. Tap **Settings** .
3. Scroll to **Applications** > **Screen Share**.
4. Tap **Reset**.

DRAFT

Resolving issues with Android mobile devices

Issue	Solutions
The display's name doesn't appear in the list of available devices.	• Make sure your mobile device is on the same network as the display. • Not all Android devices can initiate Screen Share from the notification drawer. Download the Google Home app from Google Play™ to use Screen Share. • If your display is using a wired network connection, try connecting it to a wireless network. **NOTE** Wired and wireless networks don't often share the same network subnet. Connecting the display to a wireless network might help the connection between the display and a mobile device or computer that's connected wirelessly. • Make sure the display and computer are set to the correct date and time. If you have an iQ appliance (AM30), see *Date & time* on page 77 and your computer's documentation. If you have an iQ appliance (AM40), see *Date & Time* on page 81 and your computer's documentation. • On your mobile device, turn Airplane mode on and then off again. • Restart your Android mobile device. **NOTE** Restarting your Android device can clear network address information that your device had cached. Restarting the device can also reinitialize audio and video encoders that might have stopped working properly. • Restart the display. See *Turning the display off and back on* on page 47. • If you've restarted your display and still don't see the display's name in the list of devices, wait several minutes and then try to connect to the display again. • Ensure you have the latest operating software on your Android device. Make sure no system updates are pending for your Android device. See the device's user guide for more information.
The display's name appears in the list of available devices but you're unable to connect to it.	• Open the Screen Share app. a. On the display, open the launcher. The launcher appears. b. Tap **Screen Share**.

Issue	Solutions
The video is choppy or the audio isn't in sync with the video.	• If your network is slow or congested, Screen Share is affected. Contact your administrator. • Your mobile device could be connected to a different access point than your display, which can increase latency. Turn Airplane mode on and then off on your mobile device to try to connect to a closer access point. • Make sure the antenna is attached to the iQ appliance. • Sharing videos or playing video games with frequent screen updates requires more network bandwidth. Try reducing the video quality to improve performance. See *Evaluating the impact of Screen Share on your network data usage* on page 38. • Your mobile device may not be optimized for sharing its screen and is limited to lower quality performance. Try connecting with a different mobile device. • Ensure you have the latest operating software on your Android device. Make sure no system updates are pending for your Android device. See the device's user guide for more information.
The video has no audio.	• Make sure the volume on your Android device is turned up and the display is not muted. • Turn up the volume on the display. See *Convenience panel* on page 8. • Make sure you have the latest operating software on your Android mobile device. • Restart your mobile device.
The screen is not responding to touch or you're unable to write or draw with the pens.	Touch interactions are not supported while using Screen Share.
The issues persist even after you've restarted your Android mobile device and ensured it is on the same network as the display.	Contact your system administrator.

Resolving issues with Apple devices

Issue	Solutions
The display's name doesn't appear in the list of available devices.	• Make sure your mobile device or computer is on the same network as the display. • If your display is using a wired network connection, try connecting it to a wireless network. **NOTE** Wired and wireless networks don't often share the same network subnet. Connecting the display to a wireless network might help the connection between the display and a mobile device or computer that's connected wirelessly. • Make sure the display and computer are set to the correct date and time. If you have an iQ appliance (AM30), see *Date & time* on page 77 and your computer's documentation. If you have an iQ appliance (AM40), see *Date & Time* on page 81 and your computer's documentation. • On your mobile device, turn Airplane mode on and then off on your mobile device. • Restart your mobile device. **NOTE** Restarting your mobile device can clear network address information that your mobile device had cached. Restarting the mobile device can also reinitialize audio and video encoders that might have stopped working properly. • On your computer, turn Wi-Fi off and then back on, or disconnect and then reconnect the Ethernet cable. • Restart your computer. **NOTE** Restarting your computer can clear network address information that your computer had cached. Restarting the computer can also reinitialize audio and video encoders that might have stopped working properly. • Restart your display. See *Turning the display off and back on* on page 47. • If you've restarted your display and still don't see the display's name in the list of devices, wait several minutes and then try to connect to the display again. • Make sure your computer or device has the latest operating system software.
The display's name appears in the list of available devices but you're unable to connect to it.	Open the Screen Share app. a. On the display, open the launcher. The launcher appears. b. Tap **Screen Share**.

Issue	Solutions
The video is choppy or the audio isn't in sync with the video.	• If your network is slow or congested, Screen Share is affected. Contact your administrator. • The display and the mobile device or computer could be connected to different wireless access points, which can increase latency. On the mobile device, turn Airplane mode on and back off to try to connect to a closer access point. On the computer, disconnect and then reconnect the Ethernet cable or turn Wi-Fi off and then back on to try to connect to a closer access point. • Make sure the antenna is attached to the iQ appliance. • Reduce your computer's display resolution to 1920 × 1080 or lower. • Sharing videos or playing video games with frequent screen updates requires more network bandwidth. Try reducing the video quality to improve performance. See *Evaluating the impact of Screen Share on your network data usage* on page 38. • Make sure your computer or device has the latest operating system software.
The video has no audio.	• Make sure the volume on your iOS device is turned up and the display is not muted. • Make sure the Ring/Silent switch isn't set to silent on your mobile device. • Turn up the volume on the display. See *Convenience panel* on page 8.
The screen is not responding to touch or you're unable to write or draw with the pens.	Touch interactions are not supported while using Screen Share.
The issues persist even after you've restarted your Mac computer or iOS mobile device and ensured they are on the same network as the display.	Contact your system administrator.

Resolving issues with Chrome™ browser and Chromebook™

Issue	Solutions
The display's name doesn't appear in the list of available devices.	• Make sure your computer is on the same network as the display. • If your display is using a wired network connection, try connecting it to a wireless network. **NOTE** Wired and wireless networks don't often share the same network subnet. Connecting the display to a wireless network might help the connection between the display and a mobile device or computer that's connected wirelessly. • Make sure the display and computer are set to the correct date and time. If you have an iQ appliance (AM30), see *Date & time* on page 77 and your computer's documentation. If you have an iQ appliance (AM40), see *Date & Time* on page 81 and your computer's documentation. • On your computer, turn Wi-Fi off and then back on, or disconnect and then reconnect the Ethernet cable. • Restart your computer. **NOTE** Restarting your computer can clear network address information that your computer had cached. Restarting the computer can also reinitialize audio and video encoders that might have stopped working properly. • For more information about the Google Cast browser extension, see Casting a tab or entire desktop. • Restart your display. See *Turning the display off and back on* on page 47. • If you've restarted your display and still don't see the display's name in the list of devices, wait several minutes and try to connect to the display again.
The display's name appears in the list of available devices but you're unable to connect to it.	Open the Screen Share app. a. On the display, open the launcher. The launcher appears. b. Tap **Screen Share**.

Issue	Solutions
The video is choppy or the audio isn't in sync with the video.	• If your network is slow or congested, Screen Share is affected. Contact your administrator. • Not all devices are designed for video encoding for Screen Sharing, so video streaming might not behave as expected. • Sharing videos or playing video games with frequent screen updates requires more network bandwidth. Try reducing the video quality to improve performance. See *Evaluating the impact of Screen Share on your network data usage* on page 38. • Screen Share has not been optimized for performance with Chromebooks. For best results, limit usage to static content. • The display and the computer might be connected to different wireless access points, which can increase latency. On the computer, disconnect and then reconnect the Ethernet cable or turn Wi-Fi off and then back on to try to connect to a closer access point. • Make sure the antenna is attached to the iQ appliance.
Parts of the image do not display correctly when sharing streaming video to the display.	If sharing content from a Chrome browser tab, share the entire desktop. See the *SMART Board 7000 series interactive displays user's guide* (smarttech.com/kb/171163) for more information.
The screen is not responding to touch or you're unable to write or draw with the pens.	Touch interactions are not supported while using Screen Share.

DRAFT

Resolving issues with Windows® computers

Issue	Solutions
The display's name doesn't appear in the list of available devices.	• Make sure your computer is on the same network as the display. • If your display is using a wired network connection, try connecting it to a wireless network. **NOTE** Wired and wireless networks don't often share the same network subnet. Connecting the display to a wireless network might help the connection between the display and a mobile device or computer that's connected wirelessly. • Make sure the display and computer are set to the correct date and time. If you have an iQ appliance (AM30), see *Date & time* on page 77 and your computer's documentation. If you have an iQ appliance (AM40), see *Date & Time* on page 81 and your computer's documentation. • On your computer, turn Wi-Fi off and then back on, or disconnect and then reconnect the Ethernet cable. • Restart your computer. **NOTE** Restarting your computer can clear network address information that your computer had cached. Restarting the computer can also reinitialize audio and video encoders that might have stopped working properly. • Restart your display. See *Turning the display off and back on* on page 47. • If you've restarted your display and still don't see the display's name in the list of devices, wait several minutes and try to connect to the display again. • Make sure the operating system on your computer is up to date. • If you've restarted your display and still don't see the display's name in the list of devices, wait several minutes and then try to connect to the display again. • A Mac computer, Apple mobile device or Android mobile device is sharing content with the display. Disconnect the computer or mobile device.
The display's name appears in the list of available devices but you're unable to connect to it.	Open the Screen Share app. a. On the display, open the launcher. The launcher appears. b. Tap **Screen Share**.

Issue	Solutions
The video is choppy or the audio isn't in sync with the video.	• If your network is slow or congested, Screen Share is affected. Contact your administrator. • The Wi-Fi signal could be weak. Contact your administrator. • Your device could be connected to a different access point than your display, which can increase latency. Turn Airplane mode on and then off on your computer to try to connecting to a closer access point. • Sharing videos or playing video games with frequent screen updates requires more network bandwidth. Try reducing the video quality to improve performance. See *Evaluating the impact of Screen Share on your network data usage* on page 38. • Make sure the antenna is attached to the iQ appliance. • Reduce your computer's resolution to 1920 × 1080 or lower. • Make sure the operating system on your computer is up to date. • If you're using AirParrot, make sure AirParrot is up to date. • If you're using Chrome make sure the browser is version 52 or later and is up to date. • If you've restarted your display and still don't see the display's name in the list of devices, wait several minutes and then try to connect to the display again.
When using Miracast, you can't add or connect to display	• If you can't add the display, wait for it to become ready and then try again. If that doesn't work, try restarting your computer and display. See *Turning the display off and back on* on page 47. • If your computer won't connect to the display, try removing and then adding it again. a. On your computer, swipe in from the right edge of the screen, and then tap **Settings** > **Change PC settings**. OR With a mouse, point to the lower-right corner of the screen, move the pointer up and click **Settings** > **Change PC settings**. b. Click **PC and Devices** > **Devices**. c. Select the display, and then click **Remove Device**. d. On your computer, swipe in from the right edge of the screen, and then tap **Devices**. OR With a mouse, point to the lower-right corner of the screen, move the pointer up and click **Devices**. e. Click **Project** > **Add a wireless display** f. Select the display in the list of devices found, and follow the on-screen instructions. • If the display is connected to the network with an Ethernet cable, Wi-Fi needs to be enabled. However, the display doesn't need to be connected to a wireless network..

Issue	Solutions
When using Miracast, the text on your display is fuzzy or images stutter	**NOTE** Projecting fast-action games to thedisplay might not work well. Change the screen resolution on your PC. a. On your computer, swipe in from the right edge of the screen, and then tap **Search**. OR With a mouse, point to the lower-right corner of the screen, move the pointer up and click **Search**. b. Enter **Screen resolution** in the search box and click **Display settings**. c. Use the Resolution slider to choose a different screen resolution.
When using Miracast, audio continues to play on the computer and not on the display.	• Disconnect the display and then reconnect to it. • Check that the display is selected as your default audio device. a. On your computer, swipe in from the right edge of the screen, and then tap **Search**. OR With a mouse, point to the lower-right corner of the screen, move the pointer up and click **Search**. b. Enter **Sound** in the search box and click **Sound**. c. Click **Playback**, and make sure the display is selected as the default device.
The screen is not responding to touch or you're unable to write or draw with the pens.	Touch interactions are not supported while using Screen Share.

Advanced troubleshooting for Screen Share

Issue	Solutions
Mobile devices and computers can't find the display.	• Organizations often block a number of network ports. Ask the administrator to allow ○ TCP ports 7000, 8008, 8009, 47000, 7100, 49228, 50259 ○ UDP ports 62572 and 54780 ○ If using Google Cast, UDP port 1900 ○ If using Windows computer or a Mac computer, UDP port 5353. See *To allow mobile devices and computers to use AirPlay and Google Cast to use the Screen Share app* on page 35 for more information. • The display's casting ID may not have propagated yet through the network or may be cached on the network when it's not actually available. Wait several minutes and attempt to connect again. • You're using Miracast or an unsupported wireless screen casting method. See the *SMART Board 7000 series interactive displays user's guide* (smarttech.com/kb/171163).

Issue	Solutions

Screen Share is not working for Windows computers.	• There might be an issue with the Windows firewall.
	  ○ Windows 7 operating system: See Allow a program to communicate through Windows Firewall.
	  ○ Windows 8 operating system: See Windows Firewall from start to finish.
	• Your antivirus product might be blocking access. See the antivirus product's help for more information.

Screen Share is not working for Mac computers.	• There might be an issue with the Mac firewall. See OS X: About the application firewall. • Your antivirus product might be blocking access. See the antivirus product's help for more information. • The network must be configured to run Bonjour and mDNS, and Multicast must be enabled. • Ensure your device and display are on the same VLAN or subnet.
AirPlay is not displaying on an iOS mobile device.	• Ensure the iOS device is on the same network as the display. • Try connecting the display with a wired network connection. • See Get help with AirPlay and AirPlay Mirroring on your iPhone, iPad, or iPod touch.

Screen Share is not working on Android devices.	• Ensure your Android device is on the same network as the display.
	• Casting the screen is available on mobile devices running Android 4.4.2 or later.
	• Turn off the device's Power Saving mode.
	• If you've downloaded the Google Cast app, see Cast your Android screen from the Chrome Cast app.
	• Your antivirus product might be blocking access. See the antivirus product's help for more information.
	• Your network consists of multiple access points connected to a single wireless LAN controller (WLC).
	  ○ See Chrome Cast Deployment Guide, Release 7.6.
	  ○ See Chrome Cast mDNS Service in order to Cast Screen Configuration on WLC.

Screen Share app closes unexpectedly or the video stops playing on the display.	• If your display is connected to a 2.4 GHz network, connect your display to a 5 GHz network. • Select a less congested Wi-Fi channel.

Referring to the SMART knowledge base for additional troubleshooting information

Refer to the SMART knowledge base for additional troubleshooting information not include in this guide:

community.smarttech.com

Contacting your reseller for additional support

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

Your reseller might ask you for the serial number for the display or the iQ appliance.

Locating the display serial number

The display's serial number is located in the following places:

- In the iQ settings if the AM40 appliance is installed (see *Serial Number* on page 82)
- On the bottom frame
- On the back of the display

Locating the iQ appliance serial number

The iQ appliance's serial number is located on the iQ appliance.

NOTE

You need to remove the iQ appliance from the display to locate the serial number.

DRAFT

DRAFT

Appendix A

Using settings

iQ appliance (AM30) 73
About device 73
Diagnostics 74
Language 74
Country 75
Security 75
Wi-Fi 75
Advanced Wi-Fi options 76
Ethernet 76
Date & time 77
Usage Data 77
Auto Update 77
Display 78
Audio 78
Launcher 78
SMART Whiteboard 78
Screen Share 79
iQ appliance (AM40) 79
Network settings 79
Application settings 80
System settings 80

DRAFT

You can access the display's settings using the icon in the launcher.

iQ appliance (AM30)

About device

Option	Values	Function	Notes
▸ **Product information**			
• Board name	[N/A]	Select a name for your display	[N/A]

Option	Values	Function	Notes
• Help	[N/A]	Shows the SMART support site for the display	[N/A]
• Send Feedback	[N/A]	Send feedback to SMART about the display experience	[N/A]
• Legal Information	[N/A]	Shows the open source licenses, the SMART end user license agreement and SMART intellectual property information	[N/A]
▸ **Board information**			
• Build number	[N/A]	Shows the iQ system software's version number	[N/A]
• Touch controller version	[N/A]	[N/A]	[N/A]
• Scaler version	[N/A]	[N/A]	[N/A]
• Serial number	[N/A]	Shows the iQ appliance's serial number	[N/A]
• Bluetooth address	[N/A]	Shows the display's Bluetooth® address	[N/A]
• Up time	[N/A]	Shows how long the display has been turned on	Turning off the display resets the up time to 0.
▸ **Board configuration**			
• Factory data reset	[N/A]	Resets all options to their default values	Only administrators should reset the display.

Diagnostics

Option	Values	Function	Notes
• Write logs to USB	[N/A]	Copy diagnostic logs to a USB drive	[N/A]
▸ **Input**			
• Show touches	[N/A]	Shows visual feedback of touches on the screen	[N/A]
• Pointer location	[N/A]	Shows touch feedback	[N/A]

Language

Option	Values	Function	Notes
• Language	[Languages]	Sets the language for the settings menu	[N/A]

Country

Option	Values	Function	Notes
• Country	[Countries]	Sets the display's country	[N/A]

Security

Option	Values	Function	Notes
▸ **Clean up**			
• Clean up policy	Disabled Manually reset with the **Clean Up** button in the launcher 1 hour 2 hours 3 hours 1 day	Sets how often the display cleans up	[N/A]
• Clean up the whiteboard	[N/A]	Saves the Whiteboard session to the Library and erases the Whiteboard	[N/A]
• Clean up the browser	[N/A]	Closes the browser tabs and clears the history, cache and cookies	[N/A]
• Clean up other applications	[N/A]	Closes open applications	[N/A]

Wi-Fi

NOTE

To add a proxy, see *Connecting the display to a network* on page 36.

Option	Values	Function	Notes
▸ Wi-Fi	[Wireless networks]	Select a wireless network	Turn on Wi-Fi to discover networks.
• Scan	[N/A]	Scan for wireless networks	Tap **More** ⋮ to access this option.
• WPS Pin Entry	[N/A]	[N/A]	Not used
• Wi-Fi Direct	[N/A]	[N/A]	Not used
• Advanced	[N/A]	Set advanced options for Wi-Fi	See *Advanced Wi-Fi options* on the next page.

Option	Values	Function	Notes
• WPS push button	[N/A]	Connect to a wireless network using Wi-Fi Protected Setup	[N/A]
• Add network	[N/A]	Add a wireless network	[N/A]

Advanced Wi-Fi options

Option	Values	Function	Notes
▸ **Advanced**			
• Network notification	[N/A]	Notifies you when an open wireless network is available	[N/A]
• Keep Wi-Fi on during sleep	Always Only when plugged in Never	Determines if the Wi-Fi remains on when the display goes to sleep	[N/A]
• Scanning always available	[N/A]	Allow Google's location service and other applications to scan for networks, even when Wi-Fi is turned off	[N/A]
• Wi-Fi frequency band	Auto 5 Ghz 2.4 Ghz	Wi-Fi frequency band	[N/A]
• Install certificates	[N/A]	Install certificates to connect to a network	[N/A]
• Wi-Fi optimization	[N/A]	Minimize battery usage when Wi-Fi is enabled	[N/A]
• MAC address	[N/A]	Shows the display's MAC address	[N/A]
• IP address	[N/A]	Shows the display's IP address	[N/A]

Ethernet

NOTE

Manual configuration isn't available. The IP address is automatically configured via DHCP. If you require a static IP address, use DHCP reservation on the router.

Option	Values	Function	Notes
• IP address	[N/A]	Shows the display's IP address	[N/A]
• MAC address	[N/A]	Shows the display's MAC address	[N/A]

Date & time

Option	Values	Function	Notes
• Automatic date & time	[N/A]	Sets the display's date and time automatically	Configure the network to allow Network Time Protocol (NTP) requests to Internet time servers. See page 33.
• Set date	[N/A]	Sets the display's date	Disable **Automatic date & time** to set the date manually.
• Set time	[N/A]	Sets the display's time	Disable **Automatic date & time** to set the time manually.
• Select time zone	[N/A]	Sets the display's time zone	[N/A]
• Use 24-hour format	[N/A]	Shows the display's time using the 24-hour clock	[N/A]
• Choose date format	[N/A]	Sets the display's date format	[N/A]

Usage Data

Option	Values	Function	Notes
• Share Usage Data	[N/A]	Sends usage statistics and error reports to SMART	[N/A]

Auto Update

NOTE

To disable automatic system software updates, block access to **https://ws.kappboard.com**.

Option	Values	Function	Notes
• Updates Channel	Stable Channel Beta Channel	Sets which system software updates the display receives	When switching from the Beta Channel to the Stable Channel, a factory reset occurs. See page 74 for more information about factory reset.
• Check for Updates Now	[N/A]	Checks for updates to the system software **NOTE** The display must be connected to the Internet to check for system software updates.	If an update is available, the text changes to **Apply update now**.

DRAFT

Display

Option	Values	Function	Notes
▸ **Adjust Brightness and Contrast**			
• Brightness	0–100	Sets the display's brightness level	[N/A]
• Contrast	0–100	Sets the display's contrast level	[N/A]

Audio

Option	Values	Function	Notes
▸ **Speakers**			
• Built-in Speakers	On Off	Enables or disables the display's internal speakers	When analog speakers are connected to the display, it automatically disables the display's internal speakers.
▸ **Audio Properties**			
• Balance	0–100	Sets the audio output from the speakers	Drag the slider all the way to the left to have all audio from the left speaker. Drag the slider all the way to the right to have all the audio from the right speaker.
• Bass	0–100	Sets the bass level	[N/A]
• Treble	0–100	Sets the treble level	[N/A]

Launcher

Option	Values	Function	Notes
• Launcher	[N/A]	Select the apps available on the launcher	See page 42 for more information.

SMART Whiteboard

Option	Values	Function	Notes
▸ **Whiteboard storage**			
• Library	On Off	Enables or disables saving whiteboard sessions	[N/A]
• Save whiteboards in library	For 1 week For 1 Month Indefinitely	Sets how long the whiteboard sessions are saved	[N/A]

Option	Values	Function	Notes
▸ **Mobile app**			
• Saving Whiteboards	On Off	Enables or disables the Capture function in the SMART kapp app	If this is off, the QR code is not visible. The SMART kapp app is unable to connect to the display and your mobile device is unable to save snapshots of the display in the app.
• Sharing Whiteboards	On Off	Enables or disables the Invite function on the SMART kapp app	If this is off, you're unable to invite people to your session.

Screen Share

Option	Values	Function	Notes
▸ **Screen Share**			
• Reset	[N/A]	Closes and restarts Screen Share app and its discovery services	You can restart Screen Share as a troubleshooting step if a mobile device or computer can't find or connect to the display.

iQ appliance (AM40)

Network settings

Option	Values	Function	Notes
• Wi-Fi	[N/A]	Shows which wireless network the display is connected to.	Turn on Wi-Fi to discover networks.
▸ **Status**			
• Wi-Fi	[N/A]	Shows information about the wireless network the display is connected to.	[N/A]
• Ethernet	[N/A]	Shows information about the network the display is connected to.	[N/A]
• Bluetooth	[N/A]	Shows information about the display's Bluetooth	[N/A]

Application settings

Option	Values	Function	Notes
• Launcher	[Apps]	Select which apps appear in the launcher.	See page 42 for more information.
▸ **SMART Whiteboard**			
• Whiteboard Storage	[N/A]	[N/A]	[N/A]
• Library	On Off	Enables or disables saving whiteboard sessions	[N/A]
• Save Whiteboards in Library	For 1 week For 1 Month Indefinitely	Sets how long the whiteboard sessions are saved	[N/A]
• Mobile App	[N/A]	[N/A]	[N/A]
• Saving Whiteboards	On Off	Enables or disables the Capture function in the SMART kapp app	If this is off, the QR code is not visible. The SMART kapp app is unable to connect to the display and your mobile device is unable to save snapshots of the display in the app.
• Sharing Whiteboards	On Off	Enables or disables the Invite function on the SMART kapp app	If this is off, you're unable to invite people to your session.
▸ **Screen Share**			
• Reset	[N/A]	Closes and restarts Screen Share app and its discovery services	You can restart Screen Share as a troubleshooting step if a mobile device or computer can't find or connect to the display.

System settings

Option	Values	Function	Notes
▸ **Display**			
• Screen Adjustment	[N/A]	[N/A]	[N/A]
• Brightness	0–100	Sets the display's brightness level	[N/A]
• Contrast	0–100	Sets the display's contrast level	[N/A]
▸ **Audio**			
• Speakers	[N/A]	[N/A]	[N/A]
• Built-in Speakers	On Off	Enables or disables the display's internal speakers	When analog speakers are connected to the display, it automatically disables the display's internal speakers.

Option	Values	Function	Notes
▸ **Audio Properties**			
• Balance	0–100	Sets the audio output from the speakers	Drag the slider all the way to the left to have all audio from the left speaker. Drag the slider all the way to the right to have all the audio from the right speaker.
• Bass	0–100	Sets the bass level	[N/A]
• Treble	0–100	Sets the treble level	[N/A]
▸ **Date & Time**			
• Automatic Date & Time	On Off	Sets the display's date and time automatically	Configure the network to allow Network Time Protocol (NTP) requests to Internet time servers. See page 33.
• Date	[N/A]	Sets the display's date	Disable **Automatic date & time** to set the date manually.
• Time	[N/A]	Sets the display's time	Disable **Automatic date & time** to set the time manually.
• 24 Hour Time	On Off	Shows the display's time using the 24-hour clock	[N/A]
• Time Zone	[N/A]	Sets the display's time zone	[N/A]
• Language	[Languages]	Sets the language for the settings menu	[N/A]
• Country	[Countries]	Sets the display's country	[N/A]
▸ **Diagnostics**			
• Touch Calibration Wizard	[N/A]	Calibrate the display	[N/A]
• Factory Reset	[N/A]	Resets all options to their default values	Only administrators should reset the display.
• Save Log File	[N/A]	Copy diagnostic logs to a USB drive	[N/A]
• Improve the Experience	On Off	Sends usage statistics and error reports to SMART	[N/A]
▸ **Security**			
• Install certificates	[N/A]	Install certificates to connect to a network	See
• Clean up	[N/A]	[N/A]	[N/A]

Option	Values	Function	Notes
• Clean Up Policy	Disabled Manually reset with the **Clean Up** button in the launcher 1 hour 2 hours 3 hours 1 day	Sets how often the display cleans up	[N/A]
• Clean Up the whiteboard	[N/A]	Saves the Whiteboard session to the Library and erases the Whiteboard	[N/A]
• Clean Up the browser	[N/A]	Closes the browser tabs and clears the history, cache and cookies	[N/A]
• Clean Up other applications	[N/A]	Closes open applications	[N/A]
▸ **Auto Update**			
• Updates Channel	Stable Channel Beta Channel	Sets which system software updates the display receives	When switching from the Beta Channel to the Stable Channel, a factory reset occurs. See page 81 for more information about factory reset.
• Check for Updates Now	[N/A]	Checks for updates to the system software **NOTE** The display must be connected to the Internet to check for system software updates.	If an update is available, the text changes to **Apply update now**.
▸ **About**			
• Board Name	[N/A]	Select a name for your display	[N/A]
• Help	[N/A]	Shows the SMART support site	[N/A]
• Send Feedback	[N/A]	Send feedback to SMART about the display experience	[N/A]
• Board Details	[N/A]	[N/A]	[N/A]
• Build Number	[N/A]	Shows the iQ system software's version number	[N/A]
• Serial Number	[N/A]	Shows the display's serial number	[N/A]
• Firmware Details	[N/A]	[N/A]	[N/A]
• Touch controller version	[N/A]	[N/A]	[N/A]

Option	Values	Function	Notes
• Scaler version	[N/A]	[N/A]	[N/A]
• Legal Information	[N/A]	[N/A]	[N/A]
• End User License Agreement	[N/A]	Shows the SMART end user license agreement	[N/A]
• Open Source Licenses	[N/A]	Shows the open source licenses	[N/A]
• SMART Intellectual Property	[N/A]	Shows the SMART intellectual property information	[N/A]

DRAFT

DRAFT

Appendix B

Remotely managing the display

Connecting a computer to the display 86
Connecting multiple displays 87
Configuring the computer's serial interface settings 87
Power states 88
Commands and responses 89
Command inventory 91
- Power state 91
- Input 92
- Brightness 92
- Freeze 92
- Volume 93
- Mute 93
- Firmware version 93
- Serial number 93
- Part number 94

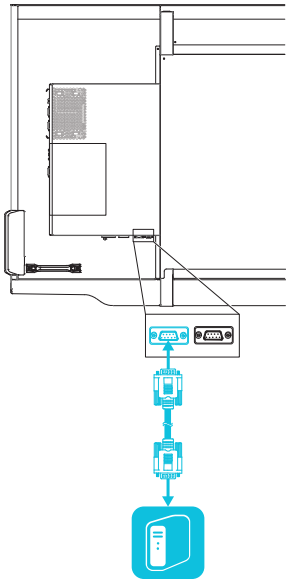
Resolving issues with remote management 94

You can connect a computer to the room control input on the display to remotely select video inputs, turn the display on or off and get information about the display's current settings, such as contrast and power state.

DRAFT

Connecting a computer to the display

Connect an RS-232 cable from the computer's serial output to the RS-232 IN connector on the bottom of the display.



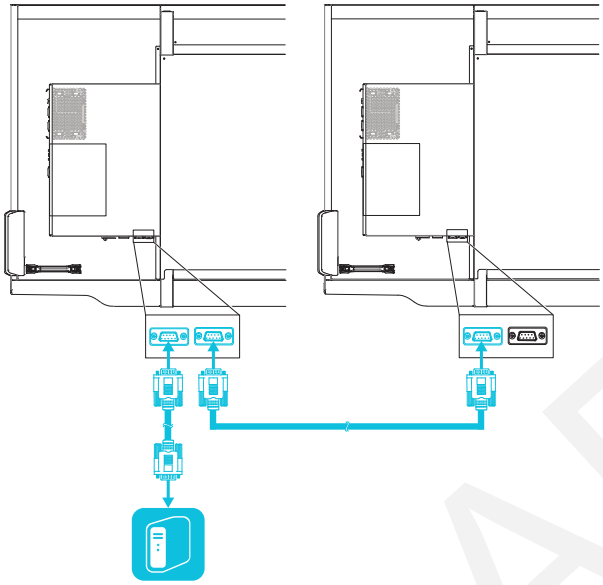
IMPORTANT

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

DRAFT

Connecting multiple displays

You can connect up to ten displays to a room control system by connecting a RS-232 cable from the computer's serial output to the rightmost display's RS-232 IN connector and then connecting another RS-232 cable from the rightmost display's RS-232 OUT connector to the next rightmost display's RS-232 IN connector:



NOTES

- When you connect displays in this manner, they behave as a single unit (see *Mounting multiple displays* on page 20).
- With the exception of the `get input`, `set input` and `get fwver`, all remote management commands apply to all connected displays.

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.

DRAFT

3. Activate local echo.
4. Configure the serial interface settings using the following values, and then press ENTER.

Baud rate	19200
Data length	8
Parity bit	None
Stop bit	1

A command prompt (>) appears on the following line, and the display can now accept commands from the computer.

NOTE

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

Power states

The display has six 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 the following occurs: • A user presses the **Power** button ⏻ on the convenience panel. • A user picks up a pen or the eraser. • You send the `set powerstate=on` command.
STANDBY	The screen is off, and the display is in a low power state. The display enters READY state when the following occurs: • The presence detection sensors detect people in the room. • A user presses the **Power** button ⏻ on the convenience panel. • You send the `set powerstate=on` command.
POWERSAVE	The screen is off, and the display is a very low power state. The display enters READY state when the following occurs: • A user presses the **Power** button ⏻ on the convenience panel. • You send the `set powerstate=on` command.

DRAFT

Power state	Description
UPDATEON	The display is updating firmware. Do not turn off the display.
UPDATEREADY	The display is updating firmware while the screen is off. Do not turn off the display.

With the exception of `get powerstate` and `set powerstate`, commands are available only when the display is in ON power state.

Commands and responses

To access display information or to adjust display settings using the room control system, type commands after the command prompt (>), and then wait for the response from the display.

CORRECT

```
>get volume
volume=55
>
```

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

In the example below, the user included an extra space in the volume command.

INCORRECT

```
>set vol ume=65
invalid cmd=set vol ume=65
>
```

NOTES

- Use ASCII formatted commands.
- Commands aren't case-sensitive.
- You can use the BACKSPACE key when typing commands.
- Review each entry carefully before you press ENTER.
- Don't send another command until you receive the response and the next command prompt.

To identify the current value of a setting

Use a `get` command.

This example shows how to get the volume:

```
>get volume
volume=55
>
```

To assign a value to a setting

Use a `set` command.

This example sets the volume to 65:

```
>set volume=65
volume=65
>
```

To increase or decrease the value of a setting

Use the `set` command to increase or decrease the value by a designated number.

This example increases the volume by 5:

```
>set volume+5
volume=70
>
```

This example decreases the volume by 15:

```
>set volume-15
volume=55
>
```

To identify or assign a value for a specific display

Start the command with *`[Display]`*`,@`, where *`[Display]`* is the display you want to apply the command to.

DRAFT

This example sets the input for the rightmost display to HDMI 2:

```
>A,@ set input=hdmi2
@,A input=hdmi2
>
```

NOTES

- The rightmost display is labeled A, the next rightmost display is labeled B, and so on.
- You can identify a specific display for only the `get input`, `set input` and `get fwver` commands.

Command inventory

Power state

Get command	Set command	Response
`get powerstate`	`set powerstate[Value]` Where *`[Value]`* is one of the following: • `=on` • `=ready` • `=standby` • `=powersave` **NOTE** If the display is in UPDATEON or UPDATEREADY state, it might not change power states after receiving the command.	`powerstate=[Value]` Where *`[Value]`* is one of the following: • `on` • `ready` • `standby` • `powersave` • `updateon` • `updateready`

Input

Get command	Set command	Response
If one display is connected		
`get input`	`set input`*`[Value]`* Where *`[Value]`* is one of the following: • `=hdmi1` • `=hdmi2` • `=dp1` • `=vga1` • `=ops1`	`input=`*`[Value]`* Where *`[Value]`* is one of the following: • `hdmi1` • `hdmi2` • `dp1` • `vga1` • `ops1`
If multiple displays are connected		

`[Display]``,@ get input`
Where *`[Display]`* is the display's label (A, B, and so on).
	`[Display]``,@ set input`*`[Value]`*
	Where
	• *`[Display]`* is the display's label (A, B, and so on).
	• *`[Value]`* is one of the following:
	  ○ `=hdmi1`
	  ○ `=hdmi2`
	  ○ `=dp1`
	  ○ `=vga1`
	  ○ `=ops1`
		`@,`*`[Display]`* `input=`*`[Value]`*
		Where
		• *`[Display]`* is the display's label (A, B, and so on).
		• *`[Value]`* is one of the following:
		  ○ `hdmi1`
		  ○ `hdmi2`
		  ○ `dp1`
		  ○ `vga1`
		  ○ `ops1`

Brightness

Get command	Set command	Response
`get brightness`	`set brightness`*`[Value]`* Where *`[Value]`* is one of the following: • `+`*`[Value]`* • `-`*`[Value]`* • `=`*`[5–100]`*	`brightness=`*`[Value]`* Where *`[Value]`* is a number between 5 and 100

Freeze

Get command	Set command	Response
`get videofreeze`	`set videofreeze`*`[Value]`* Where *`[Value]`* is one of the following: • `=on` • `=off`	`videofreeze=`*`[Value]`* Where *`[Value]`* is one of the following: • `on` • `off`

Volume

Get command	Set command	Response
`get volume`	`set volume[Value]` Where *[Value]* is one of the following: • *+[Value]* • *-[Value]* • *=[0–100]*	`volume=[Value]` Where *[Value]* is a number between 0 and 100

Mute

Get command	Set command	Response
`get mute`	`set mute[Value]` Where *[Value]* is one of the following: • `=on` • `=off`	`mute=[Value]` Where *[Value]* is one of the following: • `on` • `off`

Firmware version

Get command	Response
If one display is connected	
`get fwversion`	`fwversion=[Value]` Where *[Value]* is the firmware version.
If multiple displays are connected	
[Display]`,@ get fwversion` Where *[Display]* is the display's label (A, B, and so on).	`@,`*[Display]* `fwverversion=`*[Value]* Where • *[Display]* is the display's label (A, B, and so on). • *[Value]* is the firmware version.

Serial number

Get command	Response
`get serialnum`	`serialnum=[Value]` Where *[Value]* is the serial number. **NOTE** If multiple display are connected, the response includes the serial numbers for all displays separated by commas.

Part number

Get command	Response
`get partnum`	`partnum=[Value]` Where `[Value]` is the part number, including the revision. **NOTE** If multiple display are connected, the response includes the part numbers for all displays separated by commas.

Resolving issues with remote management

The following table presents common issues with remote management and explains how to resolve them:

Issue	Solutions
You're experiencing general issues with remote management.	• Make sure all the cable connections are secure. • Restart the display and the remote management system. See *Turning the display off and back on* on page 47. • Configure the serial interface settings. See *Configuring the computer's serial interface settings* on page 87.
You're experiencing other issues with remote management, or the previous solutions don't resolve the issue.	See *Referring to the SMART knowledge base for additional troubleshooting information* on page 70.

DRAFT

Appendix C

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 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 pens contain rechargeable lithium batteries. Recycle or dispose of batteries properly.

More information

See smarttech.com/compliance for more information.

DRAFT

DRAFT

SMART TECHNOLOGIES

smarttech.com/support

smarttech.com/contactsupport

smarttech.com/kb/171164