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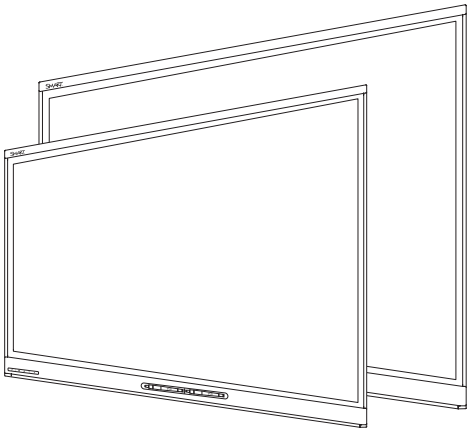

SMART Board® 6000 series
interactive flat panels

ADMINISTRATOR'S GUIDE

FOR MODELS SPNL-6055 AND SPNL-6065

SMART®

Product registration

If you register your SMART product, we'll notify you of new features and software upgrades.

Register online at smarttech.com/registration.

Keep the following information available in case you need to contact SMART Support.

Serial number: _____

Date of purchase: _____

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

www.smarttech.com/patents

01/2015

Important information

WARNING

- Failure to follow the installation instructions shipped with your SMART product could result in personal injury and product damage which may not be covered by your warranty.
- Do not open or disassemble the SMART product. You risk electrical shock from the high voltage inside the casing. Opening the casing also voids your warranty.
- Do not stand (or allow children to stand) on a chair to touch the surface of your SMART product. Rather, mount the product at the appropriate height.
- To reduce the risk of fire or electric shock, do not expose the SMART product to rain or moisture.
- If your SMART product 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 extending across the floor to your SMART product 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 your warranty.
- Do not place any heavy objects on the power cable. Damage to the cable could cause shock, fire or product damage which may not be covered by your warranty.
- Use only extension cords and outlets into which this product's polarized plug can be fully inserted.
- Use the power cable provided with this product. If a power cable is not supplied with this product, please contact your supplier. Use only power cables that match the AC voltage of the power outlet and that comply with your country's safety standards.
- If the glass is broken, do not touch the liquid crystal. To prevent injury, handle glass fragments with care when disposing of them.
- Do not move or mount the interactive flat panel by connecting rope or wire to its handles. Because the interactive flat panel is heavy, rope, wire or handle failure could lead to personal injury.

- Use only VESA®-approved mounting hardware.
- Disconnect all power cables for your interactive flat panel from the wall outlet and seek assistance from qualified service personnel when any of the following occurs:
  - The power cable or plug is damaged
  - Liquid is spilled into the interactive flat panel
  - Objects fall into the interactive flat panel
  - The interactive flat panel is dropped
  - Structural damage such as cracking occurs
  - The interactive flat panel behaves unexpectedly when you follow operating instructions

CAUTION

- Before you clean your SMART product, shut down or disconnect the computer. Otherwise, you may scramble the desktop icons or inadvertently activate applications when you wipe the screen.
- Avoid setting up and using the SMART product in an area with excessive levels of dust, humidity and smoke.
- Make sure an electrical socket is near your SMART product and remains easily accessible during use.
- The external power supply needs to meet the Limited Power Source (LPS) requirements of CSA/UL/IEC/EN 60950-1, when required.
- This SMART product 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.” (IEC 60950:1999)

  Contact qualified personnel if you’re uncertain of the type of power system available where you’re installing your SMART product.
- You must connect the USB cable that came with your interactive flat panel 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 interactive flat panel.

IMPORTANT

- The following are the power requirements for your interactive flat panel:

Model	Power requirements
SPNL-6055	90V to 240V AC, 50Hz to 60 Hz, 122 W
SPNL-6065	100V to 240V AC, 50 Hz to 60 Hz, 190 W

- For additional requirements and other information, refer to your interactive flat panel's specifications (see *Resources for decision makers* on page 7).

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Chapter 1

Welcome

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This chapter introduces you to your SMART Board® interactive flat panel and this guide.

About this guide

This guide explains how to set up and maintain your interactive flat panel. It includes the following information:

- How to mount your interactive flat panel
- How to connect power and devices
- How to set up your interactive flat panel
- How to maintain your interactive flat panel for years of use
- How to troubleshoot issues with your interactive flat panel

In addition, this guide includes information on your interactive flat panel's on-screen display menu and remote management support.

This guide is intended for individuals who are responsible for installing and maintaining interactive flat panels in their organizations. Other documentation and resources are available for individuals who use interactive flat panels.

About your interactive flat panel

Your SMART Board® interactive flat panel features SMART's proprietary DViT® (Digital Vision Touch) technology on an LCD screen with e-LED backlight.

Models

The SMART Board 6000 series interactive flat panels consists of two models:

- SMART Board 6055 interactive flat panel
- SMART Board 6065 interactive flat panel

Differences between these models are noted in this guide.

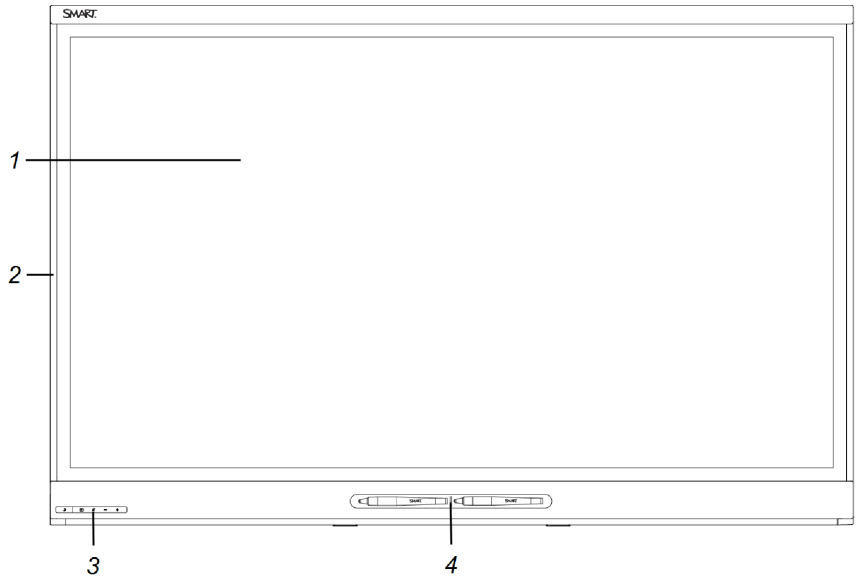
Features

Your interactive flat panel includes the following features:

Feature	Description
Touch support	You can do everything on your interactive flat panel 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 interactive flat panel's surface. You can use an array of gestures within applications, including panning, scaling, rotating and zooming in and out. The interactive flat panel's support for at least four simultaneous touches enables you and other users to interact with objects on the screen at the same time.
Writing and drawing support	You can write over any application in digital ink using one of the supplied pens, and then erase the digital ink using the eraser on the pen or your palm. You and another writer can write or draw digital ink on the screen at the same time. The Pen ID feature enables you to assign different ink appearances to each pen.
Audio support	Your interactive flat panel includes integrated speakers for presenting audio from connected input sources.

Components

Your interactive flat panel consists of the following components:



No.	Name	More information
Pictured		
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Screen

The screen specifications vary by model:

Models	Diagonal	Width	Height	Aspect ratio
SPNL-6055	54 1/2" (138.4 cm)	47 5/8" (121 cm)	26 3/4" (68 cm)	16:9
SPNL-6065	64 1/2" (163.9 cm)	56 1/4" (142.8 cm)	31 5/8" (80.4 cm)	16:9

For information on cleaning the screen, see *Cleaning the screen* on page 25.

Cameras and reflective tape channel

In the corners of the screen, there are cameras that track finger and pen positions across the screen. The screen is bordered by a channel that contains reflective tape.

For information on cleaning the camera windows and reflective tape, see *Cleaning the screen* on page 25.

CAUTION

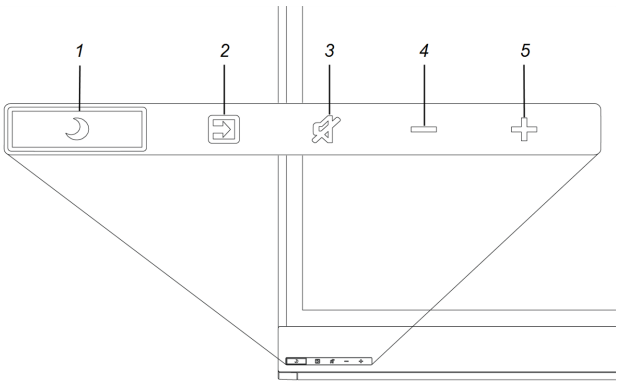
- Keep the reflective tape dry.
- Do not remove or damage the reflective tape.

IMPORTANT

- Do not attach items such as adhesive notes to the screen because they will interfere with the cameras.
- Do not place anything in the channel because it will interfere with the cameras.

Front control panel

The front control panel contains the Standby, Input Select, Mute and volume control buttons.



No.	Name
1	Standby button
2	Input Select button
3	Mute button
4	Volume decrease
5	Volume increase

IMPORTANT

If there is a film over the front control panel, remove the film before using the front control panel.

In normal operation, all buttons are white.

The Standby button also functions as an indicator light:

Indicator light	Interactive flat panel status	Troubleshooting
Off	Not receiving power	Confirm the interactive flat panel's power cable is connected to the power outlet (see page 14). Flick the power switch to the ON (I) position (see page 17).
Solid amber	DPMS (power management) mode	Press the **Standby** button ◕ to exit DPMS mode.
Slowly flashing amber	Standby mode	Press the **Standby** button ◕ to exit Standby mode.
Flashing amber	No USB connection from the connected computer	Verify your connections (see page 14).
Slowly flashing white	SMART Board service not running on the connected computer	Ensure that SMART Product Drivers is installed and that the SMART Board service is running.
Solid white	Normal operation	[N/A]

Pens with erasers

Your interactive flat panel comes with two pens with erasers attached.

The bottom bezel of the interactive flat panel includes magnetic holders for the pens. Removing a pen from the holders activates it and enables you to either draw or erase digital ink.

CAUTION

When returning the pen to the magnetic holder, ensure that it is centered in its holder to prevent it from falling and potentially being damaged.

Speakers

Your interactive flat panel includes two 10 W integrated side firing speakers.

You can connect external speakers if desired (see *Connecting external speakers* on page 15).

About SMART software

You can install the following SMART software on the computers connected to your interactive flat panel to take full advantage of the interactive flat panel's features:

Software	Description
SMART Product Drivers	SMART Product Drivers enables connected computers to detect input from your interactive flat panel.
SMART Ink™	SMART Ink enables you to write and draw in digital ink over open applications, files, folders, websites and any other open window on your computer. When you write outside the open windows on your computer, a SMART Ink Note appears and you can write inside the note. When you open an application that has its own ink tools, you can turn off SMART Ink, and then use the application's ink tools to write in the content.
SMART Notebook® collaborative learning software	SMART Notebook software enables you to use your interactive flat panel in a classroom.

Resources for administrators

In addition to this guide, there are other resources for administrators.

Training

The SMART training website (smarttech.com/training) includes an extensive library of training resources you can refer to when learning how to set up and maintain your interactive flat panel.

Support center and knowledge base

The Support center (smarttech.com/support) contains a library of documents, including this guide, and a knowledge base that you can search when troubleshooting issues.

Resources for others

SMART provides resources for decision makers, installers and users as well as administrators.

Resources for decision makers

Decision makers can refer to the specifications for detailed information on the interactive flat panels.

Interactive flat panel	Specifications
SMART Board 6055 interactive flat panel	smarttech.com/kb/170817
SMART Board 6065 interactive flat panel	smarttech.com/kb/170640

Resources for installers

Installers can refer to the installation instructions included with your interactive flat panel when installing the product. If installers have misplaced these installation instructions, they can download a PDF version from smarttech.com/kb/170641.

Resources for users

Users can refer to the SMART Notebook software Help for information on using the software with the interactive flat panel. To open the Help, users can select **Help > Contents** in the SMART Notebook software window.

Chapter 2

Mounting your interactive flat panel

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To mount your interactive flat panel on a wall, you require a team of professional installers.

This chapter is intended for installers. Installers should read this chapter along with the installation instructions included with the interactive flat panel before they mount the interactive flat panel.

WARNING

Improper mounting of your interactive flat panel can result in personal injury and product damage.

Before mounting your interactive flat panel

Do the following before mounting your interactive flat panel:

- Review the environmental requirements in the interactive flat panel's specifications (see *Resources for decision makers* on page 7).
- Save all product packaging so that it's available if you need to transport the interactive flat panel. If the original packaging isn't available, you can purchase new product packaging from your authorized SMART reseller (smarttech.com/where).
- Refer to local building codes to ensure the wall can support the weight of the interactive flat panel specified in the following table and mounting equipment.

Model	Weight
SPNL-6055	104 lb. (47.4 kg)
SPNL-6065	135 lb. 6 oz. (61.4 kg)

- Use a standard VESA 400 mm × 400 mm mounting plate (not included) to mount the interactive flat panel on a wall.

- Use M8 screws to fasten the wall bracket.

Screw length	20 mm + x mm < M8 < 45 mm + x mm where x is the total 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 the installers mount the interactive flat panel, consider connecting cables for power, computers and other devices while the interactive flat panel is still in its packaging (see *Connecting power and devices* on page 13).
- Before turning on the interactive flat panel for the first time, clean the camera windows and reflective tape following the instructions in *Cleaning the camera windows and reflective tape* on page 26.

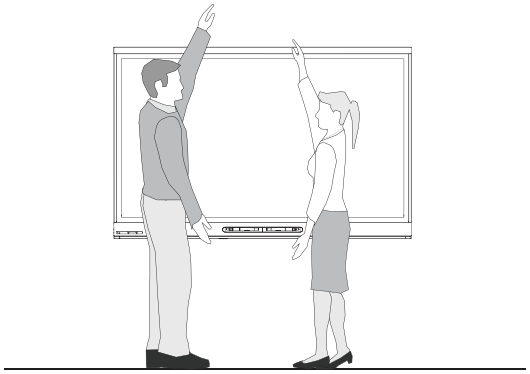
Choosing a location

Do the following when choosing a location for the interactive flat panel:

- Do not install the interactive flat panel in a location where a door or gate could hit it.
- Do not install the interactive flat panel in an area where it will be subjected to strong vibrations or dust.
- Choose a location that's far from bright light sources, such as windows and strong overhead lighting. IR lighting can cause issues with the performance of the cameras and can lead to unintentional or missed touches.
- Do not install the interactive flat panel near where the main power supply enters the building.
- Ensure adequate ventilation or provide air conditioning around the interactive flat panel so that heat can flow away from the unit and the mounting equipment.
- If you mount the interactive flat panel in a recessed area, leave at least 4" (10 cm) of space between the interactive flat panel 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 interactive flat panel.



Chapter 3

Connecting power and devices

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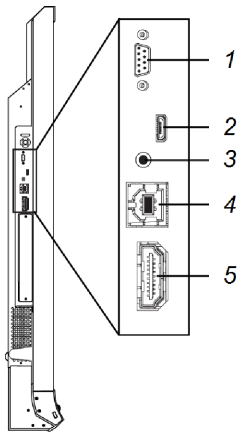
This chapter includes information on connecting your interactive flat panel to power, computers and other devices.

Connector panel

The following diagram and table present the connectors on the interactive flat panel:

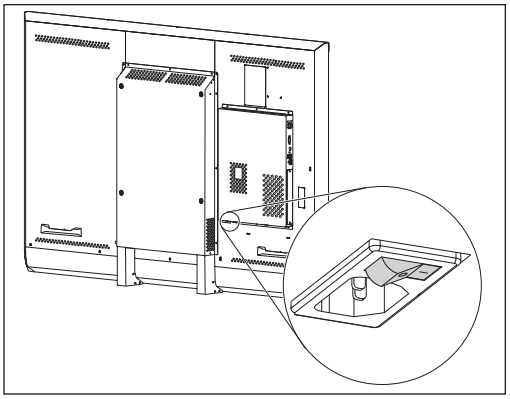


No.	Connector	Connects to	Notes (if any)
1	RS-232	Room control system	See page 39.
2	USB Micro-B	[N/A]	This connector is a service port.
3	Stereo 3.5 mm	External speakers	See page 15.
4	USB Type-B	Room computer (data)	See page 14.

No.	Connector	Connects to	Notes (if any)
5	HDMI®	Room computer (video)	The HDMI cable should be HDMI 1.4 compliant and no longer than 16' 5" (5 m). For more information, see below.

Connecting power

Connect the supplied power cable from the AC power inlet on the bottom of the interactive flat panel to a power outlet.

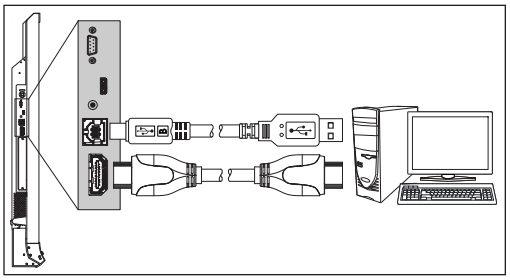


NOTE

Refer to your interactive flat panel's specifications for power requirements and power consumption information (see *Resources for decision makers* on page 7).

Connecting the room computer

Using USB and HDMI cables, connect the room computer to the appropriate connectors on the interactive flat panel.



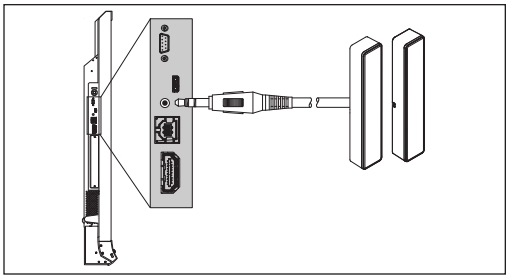
NOTES

- You can use the interactive flat panel with up to two USB-XT extenders.
- If you use a CAT 5 USB extender, the maximum length of the Cat 5 cable is 52' (16 m).

Press the **Input Select** button on the front control panel until the input source is HDMI.

Connecting external speakers

Your interactive flat panel includes two 10 W speakers. However, you can connect external active speakers using the stereo 3.5 mm connector.



Chapter 4

Setting up your interactive flat panel and the room computer

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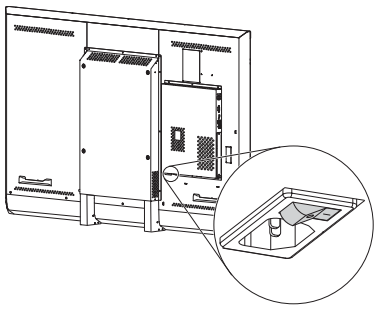
This chapter explains how to set up your interactive flat panel and the room computer after mounting your interactive flat panel and connecting power and devices.

Turning on your interactive flat panel and the room computer for the first time

After connecting the room computer to the interactive flat panel (see *Connecting the room computer* on page 14) and mounting the interactive flat panel (see *Mounting your interactive flat panel* on page 9), you can turn on both devices.

To turn on your interactive flat panel and the room computer for the first time

1. Turn on the room computer.
2. Turn on your interactive flat panel by flicking the power switch beside the AC power inlet to the ON (I) position.



3. Press the **Standby** button on the front control panel.

Installing SMART software

To take full advantage of your interactive flat panel's features, you must download and install SMART software on the room computer.

The purchase of your interactive flat panel includes a license for SMART Notebook software and a one-year subscription to the SMART Notebook Advantage software maintenance plan. See smarttech.com/notebook for more information.

TIP

You can also install SMART Notebook software from the DVD included with your interactive flat panel.

To download and install SMART software

1. Go to smarttech.com/downloads.
2. Scroll to the *SMART Notebook software* section.
3. Click **Choose a version**, and then select the most recent version.
4. Click **Download**.
5. Follow the on-screen instructions to save the installer to a temporary location.
6. Double-click the installer.
7. Follow the on-screen instructions to install SMART software.

Running the connection wizard

After turning on your interactive flat panel and the room computer for the first time and installing SMART software, run the connection wizard to orient the interactive flat panel.

To run the connection wizard

1. Access the SMART Connection Wizard by opening SMART Settings (see *Opening SMART Settings* on page 22).
2. Press **Connection Wizard**.

   The *SMART Connection Wizard* appears.
3. Select the interactive flat panel from the list of connected SMART interactive products, and then press **Next**.
4. Select **Product is being set up for the first time**, and then press **Next**.
5. Follow the on-screen instructions to orient the interactive flat panel for the first time.

Chapter 5

Maintaining your interactive flat panel

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Removing and transporting your interactive flat panel 27
- Removing your interactive flat panel 27
- Transporting your interactive flat panel 28

This chapter includes common maintenance procedures for your interactive flat panel.

Resetting your interactive flat panel

You can reset your interactive flat panel using the front control panel.

To reset your interactive flat panel

1. Press the **Standby** button on the front control panel.

   A message appears on the screen, prompting you to either press the button again to enter Standby mode or press and hold the button to reset the interactive flat panel.

2. Press and hold the **Standby** button until the screen turns black.

   The interactive flat panel resets and then your computer's logon screen or desktop appears on your interactive flat panel.

Maintaining your interactive flat panel software and firmware

This section includes common maintenance procedures for your interactive flat panel software and firmware.

Opening SMART Settings

Several maintenance and troubleshooting procedures in this guide require you to open SMART Settings.

To open SMART Settings on Windows 7 operating system

Select **Start > All Programs > SMART Technologies > SMART Tools > SMART Settings**.

SMART Settings appears.

To open SMART Settings on Windows 8 operating system

1. Open the *Apps* screen.
2. Press **SMART Settings**.

   SMART Settings appears.

To open SMART Settings on Mac OS operating system software

1. Press the **SMART Board** icon on the Mac menu bar.
2. Press **SMART Settings**.

   SMART Settings appears.

Updating firmware

Your interactive flat panel uses firmware on its processor. You can update the firmware. For more information, see *Updating the firmware on your SMART Board 6065 interactive flat panel* (knowledgebase.force.com/?q=000015055).

Updating software

SMART Product Update (SPU) is included in the SMART software you installed to use your interactive flat panel (see *Installing SMART software* on page 18). SPU periodically checks for updates to the SMART software posted on the SMART website. You can configure SPU to prompt users to install updates or to install updates automatically.

NOTE

If you didn't install SPU, you can download updates to SMART software from smarttech.com/downloads.

Orienting your interactive flat panel

If the location of your touch is misinterpreted (the pointer appears a distance from the actual contact), orient your interactive flat panel.

NOTE

You can use your finger or an interactive flat panel pen to orient your interactive flat panel.

To orient the interactive flat panel

1. Open SMART Settings (see *Opening SMART Settings* on the previous page).
2. Press **Orient**.
3. Press the red targets as they appear. Hold your finger or the tip of the pen at the center of each target, and then lift the pen or finger. When you lift the pen or finger, the target moves to the next orientation point.

   IMPORTANT

   Hold the pen perpendicular to the screen.

4. Continue until you've pressed all the targets.

   The orientation window closes.

5. If this doesn't correct inaccurate touch, calibrate your interactive flat panel (see *Calibrating your interactive flat panel* on the next page).

Calibrating your interactive flat panel

Digital cameras in the corners of the interactive flat panel track the position of the pens, eraser and your finger on the interactive surface, and then send the information to the SMART software, which interprets this information as mouse clicks, digital ink or ink removal in the appropriate location. Calibration determines the position and angles of the cameras to accurately identify the location of touches on your interactive flat panel.

IMPORTANT

If an error message appears while you are calibrating your interactive flat panel, contact SMART Support (smarttech.com/contactsupport).

To calibrate your interactive flat panel

1. Open SMART Settings (see *Opening SMART Settings* on page 22).
2. Press **SMART Hardware Settings**.
3. If you have more than one SMART product connected, select the interactive flat panel.
4. Select **Advanced Settings** from the drop-down list.
5. Press **Calibrate**.

   The calibration screen appears. This can take a few moments.
6. Press the red target with the tip of an interactive flat panel pen. Hold the tip at the center of the target until the target turns green, and then lift the pen.

   The target moves to the next location.

   NOTE

   You can calibrate a target again by pressing the LEFT ARROW key on your keyboard.
7. Continue pressing targets until the second calibration screen and a grid appears.

   An example appears briefly to demonstrate how to draw across the screen to calibrate the interactive surface.
8. Use a pen to draw a spiral horizontally across the grid. As you draw, the ink is blue. As you complete each square, the square becomes green.
9. When all the squares are green, a progress bar appears.

   When the progress bar is full, the interactive flat panel displays the message *Calibration successful*.
10. Orient your interactive flat panel (see *Orienting your interactive flat panel* on the previous page).

Maintaining your interactive flat panel hardware

If you properly maintain your interactive flat panel hardware, it will provide years of use.

Checking the interactive flat panel installation

Inspect your interactive flat panel 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 apparatus.

If you find an issue, contact a professional installer.

Cleaning the screen

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

CAUTION

- Do not use permanent or dry-erase markers on the screen. If dry-erase markers are used on the screen, remove the ink as soon as possible with a lint-free, non-abrasive cloth.
- Do not rub the screen with a dense or rough material.
- Do not apply pressure to the screen.
- Do not use cleaning solution or glass cleaner on the interactive flat panel screen, because they can deteriorate or discolor the screen.
- Avoid touching the reflective tape between the screen and the bezel, and ensure that this strip stays dry. Damage to this strip affects touch interactivity.

To clean the screen

1. Turn off the room computer.
2. Press the **Standby** button on the front control panel twice.
3. Flick the power switch beside the AC power inlet.
4. Wipe the screen with a lint-free, non-abrasive cloth.

Cleaning the camera windows and reflective tape

The DViT technology in your interactive flat panel uses four cameras in the corners of the frame and the reflective material between the screen and the bezels. Excessive dust buildup on the camera windows or reflective tape can impair touch performance.

These areas should be inspected regularly for dust and should be cleaned if any obvious dust buildup has occurred.

CAUTION

- Do not use compressed air to clean the camera windows or borders.
- Do not use water, chemicals or cleaning agents.
- Applying too much pressure when cleaning the tape or cameras can damage the tape and cause performance issues or errors.

To clean the camera windows and reflective tape

1. With a clean lint-free cloth, gently wipe the camera windows in the top corners and the reflective tape along the top of your interactive flat panel screen using the cloth.
2. Gently wipe the reflective tape along the sides of your interactive flat panel screen.
3. Gently wipe the camera windows in the bottom corners and the reflective strip across the bottom of your interactive flat panel screen.

Maintaining ventilation

Your interactive flat panel requires ventilation to function. Dust buildup in the ventilation holes compromises cooling and leads 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 interactive flat panel from your wall. For more information on removing your interactive flat panel see *Removing your interactive flat panel* on the next page.

CAUTION

Avoid setting up or using your interactive flat panel in an area with excessive levels of dust, humidity or smoke.

Preventing condensation

Your interactive flat panel 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
- Direct exposure to sunlight

To evaporate condensation from your interactive flat panel

1. Remove the humidity source from the interactive flat panel, if possible.
2. Turn off the interactive flat panel.
3. Remove any moisture from the interactive flat panel with a smooth, dry cloth.
4. Leave the interactive flat panel turned off for 48 hours.

Maintaining pens

To prevent damage to your interactive flat panels' anti-glare coating, replace a pen if its nib becomes worn. You can purchase replacement pens from the Store for SMART Parts (see smarttech.com/Support/PartsStore).

Removing and transporting your interactive flat panel

On occasion, you might need to remove your interactive flat panel from its current location and transport it to another location.

Removing your interactive flat panel

To safely remove your interactive flat panel, use two or more professional installers.

WARNING

- Do not attempt to move the interactive flat panel using your own strength. The interactive flat panel is very heavy.
- Do not move the interactive flat panel by connecting a rope or wire to the handles on the back. The interactive flat panel can fall and cause personal injury and product damage.

IMPORTANT

Follow the instructions included with the floor stand or mounting apparatus.

To remove your interactive flat panel

1. Turn off the room computer.
2. Press the **Standby** button on the front control panel twice.
3. Flick the power switch beside the AC power inlet.
4. Remove all accessible cables and connectors.
5. Lift your interactive flat panel from its mounting location.

   WARNING

   Do not place the interactive flat panel on a sloping or unstable cart, stand or table, because the interactive flat panel could fall, resulting in injury and severe product damage.

   CAUTION

   Do not leave the interactive flat panel face up, face down or upside down for an extended period of time, because it could cause permanent damage to the screen.
6. Remove the mounting brackets.

Transporting your interactive flat panel

Save your original packaging so that you can repack your interactive flat panel with as much of the original packaging as possible. This packaging was designed with optimal shock and vibration protection. If your original packaging isn't available, you can purchase the same packaging directly from your authorized SMART reseller (smarttech.com/where).

CAUTION

Transport your interactive flat panel only in original or replaced packaging. Transporting your interactive flat panel without correct packaging voids your warranty and could lead to product damage.

Chapter 6

Troubleshooting

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Resolving image issues 30
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Using SMART Board Diagnostics 33

This chapter provides you with the information necessary to solve simple issues that can occur with your interactive flat panel. If issues persist, or aren't covered in this chapter, contact SMART Support (smarttech.com/contactsupport).

Locating the interactive flat panel serial number

When you contact SMART Support, you might be asked to provide the interactive flat panel serial number. The serial number is located in two places:

- The on-screen display menu (see *Serial Number* on page 38)
- Underneath the bottom bezel

Resolving common issues using the indicator light

The Standby button on the front control panel also functions as an indicator light. You can use the indicator light to resolve common issues with the interactive flat panel. For more information, see *Front control panel* on page 4.

Resolving image issues

Use the following table to resolve image issues:

Symptom	Cause	Solution
The image is too light, too dark or has poor image quality.	Your interactive flat panel's picture settings might be set incorrectly.	Adjust the Picture options (see *Picture* on page 36).
There is a persistent image on the screen.	An image was displayed for too long.	• Turn off your interactive flat panel and leave it turned off for as long as the image was on the screen. • Set up screen savers on any connected computers to prevent persistent images.
There are other image issues.		Return all on-screen display menu settings to their default values (see page 38).

Resolving touch issues

Use the following table to resolve touch issues:

Symptom	Cause	Solution
When you touch the screen, the pointer appears in the wrong location.	You aren't touching the screen at a right angle.	For more information, see *Touching and drawing on your SMART Board interactive whiteboard is inaccurate* (knowledgebase.force.com/?q=000013976).
	Your interactive flat panel isn't oriented.	Orient your interactive flat panel (see page 23.)
An area of the screen doesn't respond to your touch or when you draw digital ink, the lines are broken.	Something is blocking the cameras.	Ensure nothing is taped to the screen.
	Something is on the reflective tape channel.	Remove items from the reflective tape channel.
	Your finger or pen is skipping as you draw. This is most common on the upstroke.	Use consistent pressure while drawing digital ink.
	Bright lights are interfering with the cameras.	Close blinds or shades or dim all halogen lights and LEDs.
	Your cameras require calibration, possibly because of a temperature change in the room.	Calibrate your interactive flat panel (see page 24).

Resolving connected computer issues

Use the following table to resolve connected computer issues:

Symptom	Cause	Solution
The connected computer's display is too large, too small or doesn't completely fill the screen.	The connected computer's video resolution settings don't match your interactive flat panel's native resolution.	• The native resolution is 3840 × 2160 at 30 Hz. • If the connected computer can't support the above resolution, consider 1920 × 1080 at 60 Hz as an alternative.
The connected computer's screen resolution is correct, but the image is surrounded by black bars.	The connected computer's video card is underscanning the image.	• Turn off or adjust the overscan/underscan feature in the video card driver software until the image fits the screen resolution. Refer to the computer's video card Help for more information. • Select the 4K UHD option from the video card driver's advanced menu (if available). This should provide a pixel-perfect image for your interactive flat panel.
	You have a poor quality video cable.	Replace the video cable with a better quality video cable.
	You connected two video cables together.	• Replace your two cables with one longer cable. OR • Move the computer so that it's within a single cable length of your interactive flat panel.
	The interactive flat panel's native resolution doesn't match the resolution on the computer's display adapter.	Check the resolution on the computer's display adapter and change your interactive flat panel's resolution to match.
The connected computer's display is unstable or unfocused.	The video connection is loose.	Secure the video cable to both the computer and your interactive flat panel.
	You have a poor quality video cable.	Replace the video cable with a better quality video cable.
	You connected two video cables together.	• Replace your two cables with one longer cable. OR • Move the computer so that it's within a single cable length of your interactive flat panel.
	The connected computer's video display card is defective.	Connect a different computer to your interactive flat panel. If this improves the image quality, consider replacing the video card in the original computer.

Symptom	Cause	Solution
The SMART Board icon doesn't appear.	SMART Product Drivers isn't installed.	Download and install SMART Product Drivers from smarttech.com/downloads.
	SMART Product Drivers isn't running.	Start SMART Product Drivers following the steps in the Help.
Touch interactivity is slow.	The connected computer is running too many applications.	Close some open applications.
	The connected computer doesn't meet SMART requirements.	Upgrade the computer or replace it with another computer that meets system requirements.
	You haven't used a USB 2.0 cable to connect your interactive flat panel to the computer.	Use a USB 2.0 cable and ensure it's connected to the correct USB receptacle (see page 14).
Sound doesn't play when you play an audio file.	The connected computer's playback device isn't set correctly	Ensure the connected computer's playback device is set as the interactive flat panel (see the connected computer's documentation).
	The interactive flat panel's audio input isn't set correctly.	Ensure the interactive flat panel's audio input is set as the computer's audio connector (see page 37).
	The connected computer is muted.	Turn off the mute setting.
	The connected computer's volume is too low.	Turn up the volume on the computer.
	Your interactive flat panel is muted.	Turn off the mute setting using the front control panel.
	Your interactive flat panel's volume is too low.	Turn the volume up using the front control panel.

Using the SMART Connection Wizard

You can resolve a variety of issues using the SMART Connection Wizard found in SMART Settings.

To use the SMART Connection Wizard

1. Access the SMART Connection Wizard by opening SMART Settings (see *Opening SMART Settings* on page 22).
2. Press **Connection Wizard**.

   The *SMART Connection Wizard* appears.
3. Select your interactive flat panel from the list of connected SMART interactive products, and then press **Next**.

4. Select the option that best describes the issue you're encountering, and follow the on-screen instructions to troubleshoot your interactive flat panel.

Using SMART Board Diagnostics

If you touch the interactive flat panel's surface and nothing happens, or if there is no digital ink or the ink appears in some locations and not in others, use SMART Board Diagnostics to help identify and resolve these issues.

IMPORTANT

Do not change diagnostic settings unless asked to do so by SMART Support.

To check camera views

1. Open SMART Settings (see *Opening SMART Settings* on page 22).
2. Select **About Software and Product Support > Tools > Diagnostics**.

   SMART Board Diagnostics opens.
3. Select **View > SPNL-6000/SBID8000-G5 Bar**.

   The group box appears.
4. Press **View**.

   The camera view screen appears.
5. Click **Get image** to display the four camera views. This could take a few moments.

   If one of the camera views doesn't appear, the camera is blocked or can't locate the reflective tape on the interactive flat panel's inner frame.

   NOTE

   You can compare the camera view to examples of normal camera views.
6. Check the camera lens and ensure that nothing is blocking its view and that nothing is affixed to the interactive surface.

Appendix A

Using the on-screen display menu

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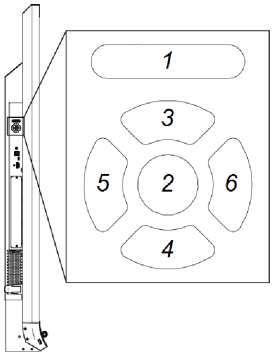
You can access the on-screen display menu using the menu control panel located on the side of the interactive flat panel.



No.	Name
1	MENU
2	SET
3	[Up]
4	[Down]
5	[Left]
6	[Right]

Changing settings in the on-screen display menu

To change settings in the on-screen display menu

1. Press the **MENU** button on the menu control panel.

   The on-screen display menu appears.

2. Press the up and down arrows to highlight a menu, and then press **SET**.
3. Press the up and down arrows to highlight a menu option.

4. Press the left and right arrows to change the menu option's setting.

   OR

   Press the right arrow to open the menu option's submenu. (Repeat steps 3 and 4 to change settings in the submenu.)

5. Press **MENU** until the on-screen menu closes.

On-screen display menu options

Option	Values	Function	Notes (if any)
Picture			
▸ Picture Mode	Standard User Dynamic	Sets the picture mode	Select **User** to customize brightness, contrast, sharpness and other *Picture* options. Select one of this option's other values to set brightness, contrast, sharpness and other *Picture* options to default values.
• Brightness	0–100	Sets the overall brightness of the image and background	You can modify this option only if you select **User** in *Picture Mode*.
• Contrast	0–100	Sets the brightness of the image in relation to the background	You can modify this option only if you select **User** in *Picture Mode*.
• Black Level	0–100	Sets the level of brightness in the darkest parts of the image	You can modify this option only if you select **User** in *Picture Mode*.
• Color	0–100	Sets the image color depth	You can modify this option only if you select **User** in *Picture Mode*.
• Sharpness	0–100	Sets the image sharpness	You can modify this option only if you select **User** in *Picture Mode*.
▸ Color temperature	Normal Warm User Cool	Sets the color temperature	Select **User** to customize the amount of red, green and blue in the image. Select one of this option's other values to set the amount of red, green and blue in the image to default values.
• Red	0–100	Sets the amount of red in the image	You can modify this option only if you select **User** in *Color Temperature*.
• Green	0–100	Sets the amount of green in the image	You can modify this option only if you select **User** in *Color Temperature*.
• Blue	0–100	Sets the amount of blue in the image	You can modify this option only if you select **User** in *Color Temperature*.

Option	Values	Function	Notes (if any)
• Movie Mode	Off Low Middle High	Sets the brightness, contrast, black level, color and sharpness for movie watching	
• Picture Reset	[N/A]	Resets all options in the *Picture* menu to their default values	
Sound			
▸ Sound Mode			
• Treble	L50–R50	Sets the high frequency sound	
• Bass	L50–R50	Sets the low frequency sound	
▸ EQ			
• 120 Hz	0–100	Sets the sound equalization at 120 Hz	
• 500 Hz	0–100	Sets the sound equalization at 500 Hz	
• 1.2 kHz	0–100	Sets the sound equalization at 1.5 kHz	
• 7.5 kHz	0–100	Sets the sound equalization at 5 kHz	
• 12 kHz	0–100	Sets the sound equalization at 10 kHz	
• Balance	L50–R50	Balances the left and right volume	
• Audio Input	HDMI USB	Sets the audio input source	
• Sound Reset	[N/A]	Resets all options in the *Sound* menu to their default values	
OSD			
• Language	[Languages]	Sets the on-screen display menu's language	
• OSD Turn Off	Off 5 seconds 10 seconds 15 seconds	Sets the time of inactivity before the on-screen display menu turns off (in seconds)	
• OSD Reset	[N/A]	Resets all options in the *OSD* menu to their default values	

Option	Values	Function	Notes (if any)
Setup			
• Power Save	On Off	Enables or disables Power Save mode	When Power Save mode is enabled and there isn't video input, the interactive flat panel displays *No Signal* for 25 seconds before turning off.
• Setup Reset	[N/A]	Restores the setup settings to their default value	
• Factory Reset	[N/A]	Resets options in all menus to their default values	
About			
• Model Number	[N/A]	Displays the interactive flat panel's model number	This option only provides information. You're unable to modify it.
• Serial Number	[N/A]	Displays the interactive flat panel's serial number	This option only provides information. You're unable to modify it.
• Scalar firmware version	[N/A]	Displays the interactive flat panel's scalar firmware version	This option only provides information. You're unable to modify it.
• Touch firmware version	[N/A]	Displays the interactive flat panel's touch firmware version	This option only provides information. You're unable to modify it.
• OPS Information	[N/A]	Displays whether the OPS is installed	This option only provides information. You're unable to modify it.

Appendix B

Remotely managing your interactive flat panel

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This appendix includes detailed instructions on how to set up your computer or room control system to remotely manage your interactive flat panel using an RS-232 serial interface.

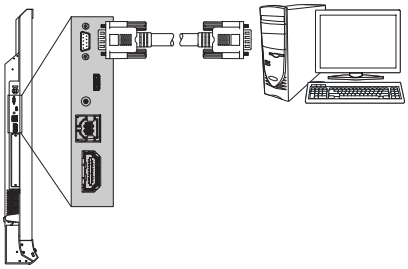
Connecting and configuring a room control system

Connect a computer to the room control input on the interactive flat panel to remotely select video inputs, turn on or turn off the interactive flat panel and request information such as contrast, power state and current settings.

Connecting a computer to an interactive flat panel

To connect a computer to the interactive flat panel

Connect an RS-232 cable from the serial output on the computer to the room control input on the connector panel.



IMPORTANT

Do not use a null modem cable. Use only a standard RS-232 cable.

Configuring the computer's serial interface settings

You need to configure the computer's serial interface before sending commands.

To configure the computer's serial interface

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

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

   A command prompt (>) appears on the following line.

   NOTE

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

5. Type commands to configure the interactive flat panel.

Power modes

An interactive flat panel has three distinct power modes:

- On
- Power Save
- Standby

All commands are available when the interactive flat panel is on. Some commands are available when the interactive flat panel is in Standby mode.

Room control system programming commands and responses

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

CORRECT

```
>get contrast
contrast=55
```

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

In the example below the user included a space in the contrast command.

INCORRECT

```
>set con trast=65
invalid cmd=set con trast=65
```

NOTES

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

Command inventory

The interactive flat panel responds to the commands in the tables on the following pages.

Viewing a list of available commands

You can view a list of available commands by typing **?** at the command prompt.

Identifying current values

You can identify the current value for each setting. In the example below, the user wants to identify the contrast level for the interactive flat panel.

```
>get contrast
contrast=55
```

Assigning a specific value

You can assign a specific value for a setting within the command's target range. In the example below, the user wants to set the contrast level for the interactive flat panel to 65.

```
>set contrast=65
contrast=65
```

Increasing a value for a setting

You can increase a setting by a designated number. In the example below, the user wants to increase the contrast level for the interactive flat panel by 5.

```
>set contrast +5
contrast=70
```

Decreasing a value for a setting

You can decrease a setting by a designated number. In the example below, the user wants to decrease the contrast level for the interactive flat panel by 15.

```
>set contrast -15
contrast=55
```

Designating video control settings for a specific video input

When you connect multiple video inputs to the interactive flat panel, you can designate different settings for each video input. You can also specify which video input you want to get information about or assign values to.

NOTE

You must connect the video input to the interactive flat panel to identify or assign a value for it, but the video input doesn't need to be in use.

Identifying the value for a video control setting

Use the **get** command to identify values for a video control setting. In the example below, the user wants to identify the contrast for the HDMI1 video input.

```
>get contrast hdmi1
contrast hdmi1=65
```

Assigning a value for a video control setting

Use the **set** command to assign values for a video control setting. In the example below, the user wants to set the contrast to 70 for the HDMI1 video input.

```
>set contrast hdmi1=70
contrast hdmi1=70
```

Commands

The following tables contain commands for your interactive flat panel.

Power state

Use the following commands to identify power state settings.

Command	Response	Possible values	Standby mode
get intpowerstate	intpowerstate=*[Value]*	• on • standby • dpms • novideo • confirm • proximitywait • welcome	Yes
get powerstate	powerstate=*[Value]*	• on • off • standby	Yes

Use the following commands to assign power state settings.

Command	Possible values	Response	Standby mode
set powerstate *[Value]*	• =on • =off • =standby	powerstate=*[Value]*	Yes

Source

Use the following commands to identify source settings.

Command	Response	Possible values	Standby mode
get input	input=*[Value]*	• hdmi1 • ops/hdmi2 • displayport	Yes
get videoinputs	videoinputs=*[Value]*	hdmi1,ops/hdmi2,displayport	Yes

Use the following commands to assign source settings.

Command	Possible values	Response	Standby mode
set input *[Value]*	• =hdmi1 • =ops/hdmi2 • =displayport • =next	input=*[Value]*	Yes

Video control

Use the following commands to identify video control settings.

Command	Response	Possible values	Standby mode
get displaymode	displaymode=*[Value]*	• standard • user • dynamic	No
get contrast	contrast=*[Value]*	0–100	No
get brightness	brightness=*[Value]*	0–100	No
get tint	tint=*[Value]*	0–100	No
get sharpness	sharpness=*[Value]*	0–100	No
get colortemp	colortemp=*[Value]*	• normal • warm • cool • user	No
get red	red=*[Value]*	0–100	No
get green	green=*[Value]*	0–100	No
get blue	blue=*[Value]*	0–100	No
get blacklevel	blacklevel=*[Value]*	0–100	No

Use the following commands to assign video control settings.

Command	Possible values	Response	Standby mode
set displaymode *[Value]*	• =standard • =user • =dynamic	displaymode=*[Value]*	No
set contrast *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	contrast=*[Value]*	No
set brightness *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	brightness=*[Value]*	No
set tint *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	tint=*[Value]*	No
set sharpness *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	sharpness=*[Value]*	No
set colortemp *[Value]*	• =normal • =warm • =cool • =user	colortemp=*[Value]*	No
set red *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	red=*[Value]*	No
set green *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	green=*[Value]*	No
set blue *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	blue=*[Value]*	No
set blacklevel *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	blacklevel=*[Value]*	No
set picturereset *[Value]*	=yes	picturereset=*[Value]*	No

Audio control

Use the following commands to identify audio control settings.

Command	Response	Possible values	Standby mode
get volume	volume=*[Value]*	0–100	No
get mute	mute=*[Value]*	• on • off	No

Command	Response	Possible values	Standby mode
get audioinput	audioinput=*[Value]*	• usbaudio • HDMI • DisplayPort • OPSdigital	No
get treble	treble=*[Value]*	0–100	No
get bass	bass=*[Value]*	0–100	No
get audioeq120	audioeq120=*[Value]*	0–100	No
get audioeq500	audioeq500=*[Value]*	0–100	No
get audioeq1200	audioeq1200=*[Value]*	0–100	No
get audioeq7500	audioeq7500=*[Value]*	0–100	No
get audioeq12k	audioeq12k=*[Value]*	0–100	No
get balance	balance=*[Value]*	0–100	No

Use the following commands to assign audio control settings.

Command	Possible values	Response	Standby mode
set volume *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	volume=*[Value]*	No
set mute *[Value]*	• =on • =off	mute=*[Value]*	No
set audioinput *[Value]*	• =usbaudio • =HDMI • =DisplayPort • =OPSDigital	audioinput=*[Value]*	No
set treble *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	treble=*[Value]*	No
set bass *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	bass=*[Value]*	No
set audioeq120 *[Value]*	=0–100	audioeq120=*[Value]*	No
set audioeq500 *[Value]*	=0–100	audioeq500=*[Value]*	No
set audioeq1200 *[Value]*	=0–100	audioeq1200=*[Value]*	No
set audioeq7500 *[Value]*	=0–100	audioeq7500=*[Value]*	No
set audioeq12k *[Value]*	=0–100	audioeq12k=*[Value]*	No
set balance *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =0–100	balance=*[Value]*	No
set soundreset *[Value]*	=yes	soundreset=*[Value]*	No

System information

Use the following commands to identify system information settings.

Command	Response	Possible values	Standby mode
get fwverscr	fwverscr=*[Value]*	*[Scaler version firmware number]*	Yes
get fwvertouch	fwvertouch=*[Value]*	*[Touch controller firmware version number]*	Yes
get serialtouch	serialtouch=*[Value]*	*[Touch controller serial number]*	
get opsinfo	opsinfo=*[Value]*	• OPS • NO OPS	
get language	language=*[Value]*	• English • Arabic • Danish • German • Spanish • Finnish • French • Hebrew • Italian • Dutch • Norwegian • Portuguese • Russian • Swedish • Turkish • Chinese_sim	No
get modelnum	modelnum=*[Value]*	*[Model number]*	No
get serialnum	serialnum=*[Value]*	*[Serial number]*	No
get proximityinstalled	proximityinstalled=*[Value]*	• yes • no	
get monitorid	monitorid=*[Value]*	1–100	No

Use the following commands to assign system information settings.

Command	Possible values	Response	Standby mode
set factoryreset *[Value]*	=yes	factoryreset=*[Value]*	Yes
set language *[Value]*	• =English • =Arabic • =Danish • =German • =Spanish • =Finnish • =French • =Hebrew • =Italian • =Dutch • =Norwegian • =Portuguese • =Russian • =Swedish • =Turkish • =Chinese_sim	language=*[Value]*	No
set monitorid *[Value]*	• + *[Incremental value]* • - *[Incremental value]* • =1–100	monitorid=*[Value]*	No
set touchdetected *[Value]*	• =yes	touchdetected=*[Value]*	

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.

More information

See smarttech.com/compliance for more information.

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