SMART Board® 800i6

Interactive whiteboard systems

Configuration and user's guide

SMART®

smarttech.com/kb/170401

Important information

Before you install and use your SMART Board® 800i6 interactive whiteboard system, read and understand the safety warnings and precautions in this user's guide and the included warnings document. These safety warnings and precautions describe the safe and correct operation of your interactive whiteboard system and its accessories, helping you to prevent injuries and equipment damage. Ensure that your interactive whiteboard system is always being used correctly.

In this document, "interactive whiteboard system" refers to the following:

- SMART Board 800 series interactive whiteboard
- SMART UF70 or SMART UF70w projector
- Accessories and optional equipment

The projector included with your system is designed to work only with certain SMART Board interactive whiteboard models. Contact your authorized SMART reseller (smarttech.com/where) for more information.

Safety warnings, cautions and important information

Installation

> ⚠️ **WARNING**
>
> - Failure to follow the installation instructions shipped with your SMART product could result in personal injury and damage to the product.
> - To reduce the risk of fire or electric shock, do not expose the SMART product to rain or moisture.

- Two people are required to mount your SMART product because it may be too heavy for one person to safely maneuver.

  When you lift your interactive whiteboard, you and your assistant should stand on either side of the screen, supporting its weight at the bottom while balancing the top with your other hands.

- When mounting the projector boom on a framed or hollow wall, attach the mounting bracket to a stud to safely support the projector's weight. If you use only drywall anchors, the drywall can fail, resulting in possible personal injury, and damage to the product which may not be covered by your warranty.

- Do not leave cables on the floor where they can be a tripping hazard. If you must run a cable over the floor, lay it in a flat, straight line and secure it to the floor with tape or a cable management strip of a contrasting color. Handle cables carefully and avoid excessive bending.

⚠ **C A U T I O N**

- Do not operate this unit immediately after moving it from a cold location to a warm location. When the unit is exposed to such a change in temperature, moisture can condense on the lens and crucial internal parts. Allow the system to stabilize to room temperature before operation to prevent possible damage to the unit.

- Do not place the unit in hot locations, such as near heating equipment. Doing so could cause a malfunction and shorten the life of the projector.

- Avoid setting up and using the SMART product in an area with excessive levels of dust, humidity and smoke.

- Do not place your SMART product in direct sunlight or near any appliance that generates a strong magnetic field.

- If you need to lean the interactive whiteboard against a wall before you mount it, make sure it remains in an upright position, resting on the pen tray brackets, which can sustain the weight of the interactive whiteboard.

Do not rest the interactive whiteboard on its side or on the top of the frame.

● You must connect the USB cable that came with your SMART Board interactive whiteboard 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 SMART Board interactive whiteboard.

👉 I M P O R T A N T

● Use the *SMART Board 800i6-SMP interactive whiteboard system installation guide* (smarttech.com/kb/157703) and the *SMART Board 800i6-SMP interactive whiteboard system quick installation guide* (smarttech.com/kb/170TBA) to install your interactive whiteboard system.

● The SMART Board 880i6 and 885i6 interactive whiteboard system textless installation guide is also available online (smarttech.com/kb/170499).

● Make sure an electrical socket is near your SMART product and remains easily accessible during use.

● Using your SMART product near a TV or radio could cause interference to the images or sound. If this happens, move the TV or radio away from the projector.

Operation

⚠ W A R N I N G

● If you are using an external audio system, use only the power supply included with that product. Using the wrong power supply might create a safety hazard or damage the equipment. If in doubt, refer to the specification sheet for your product to verify the power supply type.

● Do not climb (or allow children to climb) on a wall- or stand-mounted SMART Board interactive whiteboard.

Do not climb on, hang from or suspend objects from the projector boom.

Climbing on the interactive whiteboard or projector boom could result in personal injury or product damage.

● To prevent injury or product and property damage, use only the mounting hardware supplied with your SMART Board 800 series interactive whiteboard when you install your product on drywall. The mounting hardware provided with other interactive whiteboards may not be strong enough to support the weight of SMART Board 800 series interactive whiteboards.

> ⚠ **CAUTION**
>
> - Do not block the projector's ventilation slots and openings.
>
> - If dust or small items prevent pen tray buttons from being pressed or cause constant button contact, remove the obstructions carefully.

> 👉 **IMPORTANT**
>
> - Keep your remote control in a safe place because there is no other way to access menu options.
>
> - Do not disconnect cables from the ECP to connect peripheral devices because you could disconnect controls for your interactive whiteboard.
>
> - Disconnect the product from its power source when it's not used for a long period.

Other precautions

If you own a SMART product other than a SMART Board 880i6 and 885i6 series interactive whiteboard system, refer to the installation manual for your product for relevant warnings and maintenance instructions.

Environmental requirements

Before you install your SMART Board 800 interactive whiteboard system, review the following environmental requirements.

Environmental requirement	Parameter
Operating temperature	- 41°F to 95°F (5°C to 35°C) from 0' to 6000' (0 m to 1800 m) - 41°F to 86°F (5°C to 30°C) from 6000' to 9800' (1800 m to 3000 m)
Storage temperature	
Humidity	
Water and fluid resistance	- Intended for indoor use only. Doesn't meet any salt-spray or water ingress requirements. - Don't pour or spray liquids directly onto your interactive whiteboard, the projector or any of its sub-components.

Environmental requirement	Parameter
Dust	• Intended for use in office and classroom environments. Not for industrial use where heavy dust and pollutants can cause malfunctions or impaired operation. Periodic cleaning is required in areas with heavier dust. See *Cleaning the projector* on page 35 for information on cleaning the projector.
Electrostatic discharge (ESD)	• EN61000-4-2 severity level 4 for direct and indirect ESD • No malfunction or damage up to 8kV (both polarities) with a 330 ohm, 150 pF probe (air discharge) • Unmated connectors meet no malfunction or damage up to 4kV (both polarities) for direct (contact) discharge
Cables	• All SMART Board 800i6 interactive whiteboard system cables should be shielded to prevent potential accidents and degraded video and audio quality.
Conducted and radiated emissions	• EN55022/CISPR 22, Class A

Contents

CONTENTS

Chapter 1

About your interactive whiteboard system

Your SMART Board 800i6 interactive whiteboard system combines the following components:

- SMART Board 800 series interactive whiteboard

- Wall-mounted, short-throw SMART UF70 or SMART UF70w projector

- Accessories and optional equipment

This chapter describes the features of your interactive whiteboard and provides information about product parts and accessories.

SMART Board 800i6 interactive whiteboard system features

Your SMART Board 800i6 interactive whiteboard system uses the short-throw, high-offset SMART UF70 or SMART UF70w projector. The throw distance of the SMART UF70 or SMART UF70w projectors is half that of the SMART UF65 projector, resulting in a shorter boom and reduced shadows on the projected image.

When the projector displays an image from your computer on the touch-sensitive interactive whiteboard, you can do everything that you can do at your computer—open and close applications, scroll through files, conference with others, create new documents or edit existing ones, visit websites, play video clips and more—by touching the screen. Two users can also draw on the interactive surface at the same time, and you can use an array of gestures within applications.

This projector also supports video and audio connections from a variety of devices, including DVD/Blu-ray™ players, VCRs, document cameras and digital cameras, and can project media from these sources onto the interactive screen.

When you use SMART software with your SMART Board 800i6 interactive whiteboard system, you can write or draw over the projected computer image in digital ink using a pen tray pen or your finger, and then save these notes to a .notebook file or directly into any Ink Aware application.
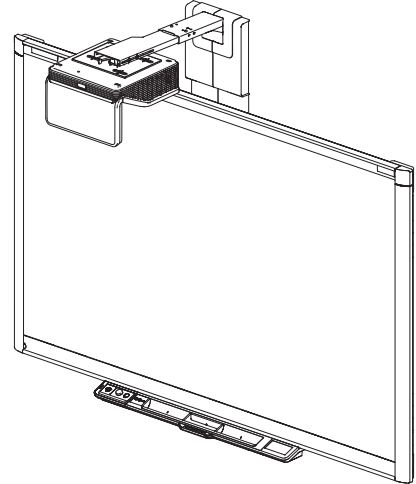
SMART Board 800 series interactive whiteboard

Your SMART Board 800 series interactive whiteboard, featuring SMART's proprietary DViT® (Digital Vision Touch) technology, is the most intuitive touch-sensitive front projection interactive whiteboard in the world.

The SMART Board 800 series interactive whiteboard performs best with the SMART UF70 or SMART UF70w projector because of its exceptional color performance and input response.

Other features of your interactive whiteboard include:

- A modular pen tray that automatically detects when you pick up a pen tray pen or the eraser

- Pen tray buttons that activate the pens' colors and the on-screen keyboard, right-click, Orientation and Help functions

- A durable hard-coated surface that is optimized for projection and easily cleaned

- A security cable lock feature that enables you to lock your interactive whiteboard to help safeguard it from theft
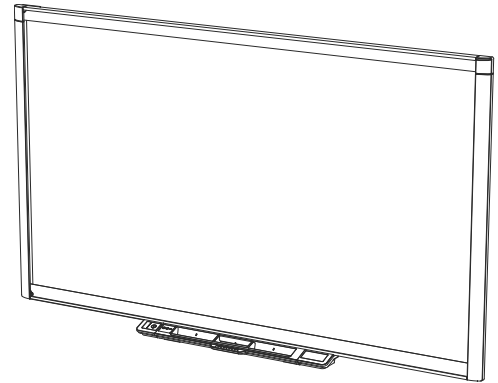
For more information about your SMART Board interactive whiteboard, see the *SMART Board 800 series interactive whiteboard user's guide* (smarttech.com/kb/144817).

SMART UF70 or SMART UF70w projector

The SMART UF70 or SMART UF70w projector system includes a short-throw projector for use with SMART Board interactive whiteboards and a sturdy support system suitable for many different environments.
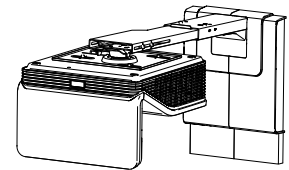
Other features of your projector system include:

- A wall-mounted, high-offset projector engine that uses DLP® technology by Texas Instruments™, providing BrilliantColor™ performance and Gamma 2.2 correction with SMART Presentation, Bright Room, Dark Room, sRGB and User modes

- PAL, PAL-N, PAL-M, SECAM, NTSC, and NTSC 4.43 video system compatibility

- HDMI, Composite,and VESA® RGB video inputs (not included).

- WXGA, QVGA, VGA, SVGA, XGA, SXGA, SXGA+ and UXGA video format compatibility

- Native 1024 × 768 resolution (SMART UF70 projector)

   OR

   Native 1280 × 800 resolution (SMART UF70w projector in 16:10 aspect ratio mode)

- Remote management via a serial RS-232 interface, web page or SNMP

- An alert broadcast feature that enables administrators to send notification messages to network-connected projector systems for immediate on-screen display

- Protected cable routing through a cable cover that limits tampering and clutter

- A secure mounting and installation system that includes the following:

  - An optional projector padlock ring to prevent removal of the projector from the boom

  - Accessory mounting hardware for solid masonry or framed wall installations kit part number 1007416

  - Templates and instructions for positioning the system safely

    Projector information

Extended Control Panel (ECP)

Your projector system ECP attaches to the interactive whiteboard pen tray. The ECP features controls for power, source selection and volume adjustment, as well as a USB A receptacle for USB drives.
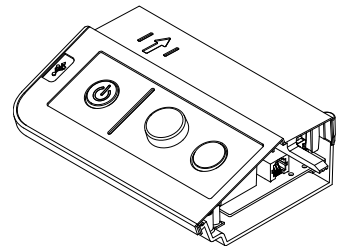
Included accessories

The following accessories are included with your interactive whiteboard system.

Remote control

The remote control enables you to control the system and set up your projector. Use the remote control to access menu options, system information and input selection options.
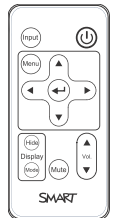
Pens

There are two pens included with your interactive whiteboard. Pick up a pen and press one of the four color buttons on the pen tray (black, red, green or blue) to select the color of digital ink you write on the interactive whiteboard.
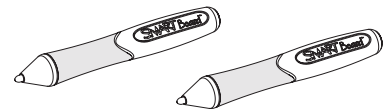
> ☞ **I M P O R T A N T**
>
> Do not substitute the pens with other items, such as dry-erase markers, if Touch Recognition is enabled. (Touch Recognition enables you to pick up a pen tray pen, and then write, select or erase without replacing the pen.)

Eraser

The eraser resembles a rectangular chalkboard eraser. You can use a substitute object, as long as it has a similar shape, reflects infrared light and doesn't scratch or mark the interactive whiteboard surface.
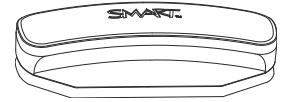
VGA connection kit

The VGA connection kit allows you to connect a laptop to your interactive whiteboard system using a VGA cable. The end of the VGA connection kit can be attached to either side of the interactive whiteboard or to a wall in a convenient location.
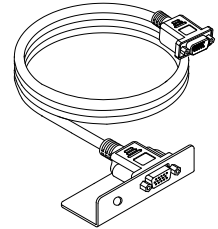
SMART Board 800i6 interactive whiteboard system accessories

The following accessory is included with SMART Board 800i6 interactive whiteboard systems.

RCA connector pod

The RCA connector pod includes two RCA jacks for dual-channel audio input and one for composite video input. You can use the RCA connector pod to connect DVD/Blu-ray players and similar devices (see *Using the RCA connector pod* on page 25).
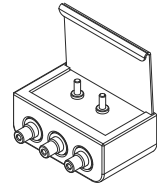
You can add a variety of accessories to your interactive whiteboard to best meet your specific needs. Purchase these items from your authorized SMART reseller.

For more information on accessories, go to smarttech.com/accessories.

Chapter 2
Installing your interactive whiteboard system

Consult the SMART Board 800i6 interactive whiteboard system installation document included with your product for instructions on how to install and secure your system.

> 👉 **IMPORTANT**
>
> Use the *SMART Board 800i6-SMP interactive whiteboard system installation guide* (smarttech.com/kb/157703) and the *SMART Board 800i6-SMP interactive whiteboard system quick installation guide* (smarttech.com/kb/170TBA) to install your interactive whiteboard system.

This chapter provides additional considerations and details for installing your interactive whiteboard system.

Choosing a location

Choose a location for your interactive whiteboard system that's far from bright light sources, such as windows and strong overhead lighting. Bright light sources can cause distracting shadows on your interactive whiteboard and can reduce the contrast of the projected image.

Select a wall with a flat, regular surface and sufficient clearance to accommodate your interactive whiteboard system. Install the projector and your interactive whiteboard on the same flat surface. For best presentation alignment, mount your interactive whiteboard system in a location that's central to your audience's viewing direction.

For mobile or adjustable installation options, contact your authorized SMART reseller.

> **⚠ WARNING**
>
> - Refer to your interactive whiteboard system's specifications (available at smarttech.com/support) for its weight. Check your local building codes to ensure that your wall can support this weight, and use appropriate mounting hardware for your wall type.
>
> - If you are installing the interactive whiteboard system on drywall, use all the included toggle bolts. If one of the bracket holes aligns with a wall stud, use appropriate hardware in that hole instead of a toggle bolt.

> **🔶 CAUTION**
>
> If you're replacing a SMART Board 500 or 600 series interactive whiteboard with the SMART Board 800 series interactive whiteboard on drywall, you must remove the wall-mount bracket and mounting hardware, and then install all the mounting hardware and brackets supplied with your SMART Board 800 series interactive whiteboard instead.

To help ensure that your interactive whiteboard is mounted correctly, make sure the colors of the wall-mount hanger on the back of the interactive whiteboard and the wall-mount bracket are the same.

Choosing a height

SMART includes a mounting template with each interactive whiteboard system. If you lose this template, contact your authorized SMART reseller. Using this template ensures that you can do the following:

- Mount the projector at a safe height for head space clearance, while maintaining enough space for airflow and installation access above the unit.

- Position the projector at the correct height above your interactive whiteboard to align the projected image with the touch screen.

Dimensions on the template recommend a distance from the floor suitable for adults of average height. You should consider the general height of your user community when you choose a location for your interactive whiteboard.

Securing your interactive whiteboard system

This section explains how to secure the different components of your interactive whiteboard system.

Locking the pen tray to your interactive whiteboard

To learn how to lock the pen tray to your interactive whiteboard, see the *SMART Board 800 series interactive whiteboard user's guide* (smarttech.com/kb/144817).

Securing the projector to the boom

To learn how to secure the SMART UF70 or SMART UF70w projector to the boom, see the included *SMART Board 880i6 and 885i6 interactive whiteboard system installation guide* (smarttech.com/kb/170499)

Routing the cables

When connecting cables from your SMART UF70 projector to your interactive whiteboard system, make sure that all cables pass along the top of the interactive whiteboard wall-mounting bracket and then down the side of the interactive whiteboard.

When connecting cables from a SMART UF70w projector to the interactive whiteboard, make sure that all cables pass between the two interactive whiteboard wall-mounting brackets. Space your wall-mounting brackets 4" (10.2 cm) apart to provide full support for the weight of your interactive whiteboard.
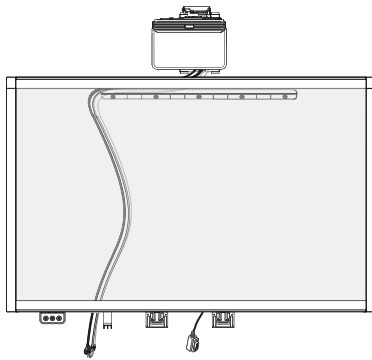
*Cable routing for SMART Board 880
interactive whiteboards*
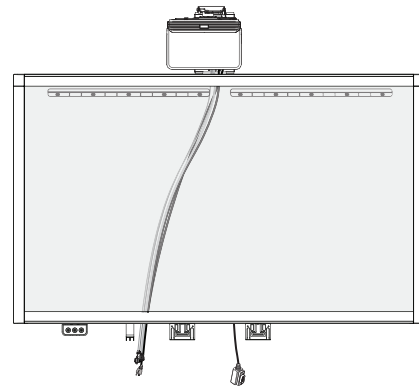
*Cable routing for SMART Board 885
interactive whiteboards*

> 👉 **IMPORTANT**
>
> Do not connect the power cable to a power outlet until you have connected all the cables to the
> projector and ECP.

Installing SMART software

You must install SMART software, such as SMART Meeting Pro™ software or SMART Notebook™
collaborative learning software on the computer connected to your interactive whiteboard system to
access all of its features.

Download SMART software from smarttech.com/software. These web pages list the minimum
hardware requirements for each software version. If SMART software is already installed on your
computer, take this opportunity to upgrade your software to ensure compatibility.

Chapter 3
Using your interactive whiteboard system

This chapter describes the basic operation of your interactive whiteboard system and explains how to set up your remote control, retrieve system information, access the projector's image adjustment options and integrate your interactive whiteboard system with peripheral devices.

Using your projector

This section explains how to use your projector and its included remote control.

Using your remote control

The projector remote control enables you to access on-screen projector menus and change projector settings.

Replacing the remote control battery

Follow this procedure to replace the remote control battery.

> ⚠️ **W A R N I N G**
>
> - Reduce the risk associated with a leaking battery in the projector's remote control by following these practices:
>
>   - Use only the specified CR2025 coin-cell battery.
>
>   - Remove the battery when the remote control is unused for an extended period.
>
>   - Do not heat, disassemble, short or recharge the battery, or expose it to fire or high temperatures.
>
>   - Avoid eye and skin contact with the battery if it has a leak.
>
> - Dispose of the exhausted battery and product components in accordance with applicable regulations.

To replace the remote control battery

1. Hold down the side release on the left side of the battery holder and pull the battery holder completely out of the remote control.
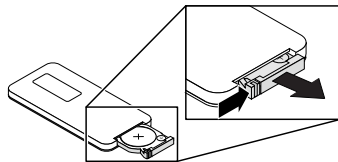
2. Remove the old battery from the battery holder and replace it with a CR2025 coin-cell battery.

> 👉 **I M P O R T A N T**
>
> Align the battery's positive (+) and negative (–) terminals with the correct signs on the battery holder.

3. Insert the battery holder into the remote control.

Using the remote control buttons

The projector remote control enables you to access on-screen menus and change projector settings. Use the **Power** ⏻ button on the remote control or ECP to put the projector into Standby mode or to turn it on. You can also use the **Input** button on the remote control or ECP to switch sources on the projector.
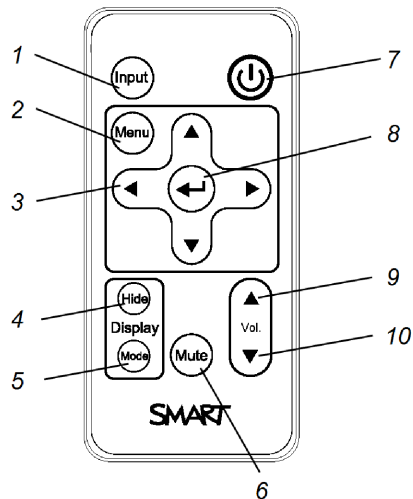
Number	Function	Description
1	Input	Select a video and audio input source on the projector and the associated USB input source on the ECP.
2	Menu	Show or hide the projector menus.
3	◄ (Left), ► (Right), ▲ (Up) and ▼ (Down) arrows	Change the menu selections and adjustments.
4	Hide	Freeze, hide or display the image: • Press once to freeze the image. For example, you can display a question on the screen while you check your e-mail. • Press again to hide the image, that is, to display a black screen. • Press again to return to the live image.
5	Mode	Select a display mode.
6	Mute	Mute audio amplification.
7	⏻ (Power)	Turn on the projector or put it into Standby mode.
8	↵ (Enter)	Accept the selected mode or option.
9	▲ (Volume Up)	Increase audio amplification volume.
10	▼ (Volume Down)	Decrease audio amplification volume.

> **✎ N O T E**
>
> The **Mute**, **Volume Up** and **Volume Down** buttons work only if there is an audio source connected to the projector for the currently selected video input source.

Adjusting projector settings

The remote control's Menu button enables you to access the on-screen display to adjust the projector settings.

> **☞ I M P O R T A N T**
>
> Keep your remote control in a safe place because there is no other way to access menu options.

Setting	Use	Notes
📊 **Image Adjustment menu**		
Display Mode	Indicates the projector's display output (**SMART Presentation**, **Bright Room**, **Dark Room**, **sRGB** and **User**).	The default is **SMART Presentation**.
Brightness	Adjusts projector brightness from 0 to 100.	The default is 50.
Contrast	Adjusts the difference between the lightest and darkest parts of the image from 0 to 100.	The default is 50.
Frequency	Adjusts the display data frequency of the projected image from -5 to 5 to match the frequency of your computer's graphics card.	The default is 0. This setting applies to VGA inputs only.
Tracking	Synchronizes your projector's display timing with your computer's graphics card from 0 to 63.	This setting applies to VGA inputs only.
H-Position	Moves the horizontal position of the source video left or right from 0 to 100 (relative to the projected image).	Don't adjust this setting unless you're advised to by SMART Support. Apply this setting only after you make all boom adjustments. This setting applies to VGA inputs only and is useful in situations where the source video is cut off.

Setting	Use	Notes
V-Position	Moves the vertical position of the source video up or down from -5 to 5 (relative to the projected image).	Don't adjust this setting unless you're advised to by SMART Support. Apply this setting only after you make all boom adjustments. This setting applies to VGA inputs only and is useful in situations where the source video is cut off.
White Peaking	Adjusts the image color brightness from 0 to 10 while providing more vibrant white shades.	A value closer to 0 creates a natural image and a value closer to 10 enhances brightness. The default is 10.
Degamma	Adjusts the color performance of the display from 1 to 3.	The default is 2.
Color	Adjusts the Red, Green, Blue, Cyan, Magenta and Yellow colors on the projector from 0 to 100 to provide custom color and luminance output.	Each color has a default value of 100. Adjustments to the color settings register under the User mode.
Audio menu		
Volume		
Mute	Mutes the projector's audio output.	The default is off. If you mute the projector's audio output and then increase or decrease the volume, the volume is restored automatically. You can prevent this from happening by disabling the volume control.
Disable Volume Control	Disables the projector's volume control and the ECP's volume control knob.	
Line out	Enables/disables the line out.	
Microphone	Enables/disables the microphone	
Speaker	Enables/disables the speaker	

Setting	Use	Notes
Projector Functions menu		
Auto Signal Detect	Enables or disables signal searching of input connectors.	The default is off. Select **On** to have the projector continuously switch inputs until it finds an active video source. Select **Off** to maintain signal detection in one input.
Lamp Reminder	Turns the lamp replacement reminder on or off.	This reminder appears 100 hours before the recommended lamp replacement.
Lamp Mode	Adjusts lamp brightness to **Standard** or **Economy**.	**Standard** displays a high-quality, bright image. **Economy** increases the lamp life by decreasing the brightness of the image.
Auto Power Off (minutes)	Sets the length of the auto power-off countdown timer between 1 and 240 minutes.	The default is 120 minutes. The timer begins to count down when the projector no longer receives a video signal. The timer finishes when the projector enters Standby mode. Select **0** to turn off the timer.
Zoom	Adjusts the zoom to the center of the image in or out from 0 to 30.	The default is 0. Zooming in cuts off the outer edges of the source video.
Keystone	Adjustment to the size of the top and bottom edge	Ensure that the top and bottom edges of the image are horizontal before you position the left and right edges of the image relative to your interactive whiteboard.
USB 1 source	Enables touch for the selected video source VGA out, USB 2 will disabled by associating the video source with the room computer USB receptacle (USB1) on the ECP.	The default is VGA out. When the user switches to the video source the interactive whiteboard recognizes touch from the device connected to the room computer USB receptacle on the ECP. Selecting Disabled disables the room computer USB receptacle on the ECP.
USB 2 source	Enables touch for the selected video source HDMI, USB 1 will be disabled by associating the video source with the guest computer USB receptacle (USB2) on the ECP.	The default is HDMI. When the user switches to the video source the interactive whiteboard recognizes touch from the device connected to the guest computer USB receptacle on the ECP. Selecting Disabled disables the room computer USB receptacle on the ECP.

Setting	Use	Notes
Projector ID	Displays the projector's unique ID number (from 0 to 99) within your organization's network.	You can refer to or change this number when using the network remote management feature (see *Remotely managing your system through a network interface* on page 57).
Aspect Ratio	Adjusts the image output to **Fill Screen**, **Match Input** or **16:9**.	The default is **Fill Screen**. **Fill Screen** produces an image that fills the entire screen by stretching and scaling the source video to match the projector's native resolution and aspect ratio. **Match Input** displays the source video in its native resolution and aspect ratio. As a result, unused space could appear along the top and bottom edges of the screen (letterbox format) or along the left and right edges of the screen (pillarbox format). See *Video format compatibility* on page 27 for descriptions of each mode.
Startup Screen	Selects the type of startup screen (**SMART**, **Capture User Startup Screen**, **Preview Startup Screen**), or Image Alignment Screen.	This screen displays when the projector lamp is starting and a video source signal isn't displayed. **SMART** displays the default SMART logo on a blue background. **Capture User Startup Screen** closes the on-screen display menu and captures the entire projected image. The captured image is displayed the next time the on-screen display opens. (The capture can take up to one minute, depending on the complexity of the background graphic.) **Preview Startup Screen** enables you to preview the default or captured startup screen. **Image Alignment Screen** enables you to adjust the projected image size, shape and location.
Image Alignment Screen	Enables you to adjust the projected image size, shape and location.	The image alignment screen appears the first time you start your projector. However, you can access it from the startup screen menu any time. Press **MENU** or **ENTER** to close it.

Setting	Use	Notes
Network menu		
Network and VGA Out	Activates the projector's RJ45 connector and network features.	
Status	Displays the current network status (**Connected**, **Disconnected** or **Off**).	The default is off.
DHCP	Displays the status of the network's Dynamic Host Configuration Protocol (DHCP) as **On** or **Off**.	The default is on. **On** enables a DHCP server on the network to automatically assign an IP address to the projector. **Off** enables an administrator to assign an IP address manually.
Password Reminder	E-mails the network password to the predefined e-mail recipient.	See *Web page management* on page 57 to set up a destination e-mail address.
IP Address	Displays the projector's current IP address in values between 0.0.0.0 and 255.255.255.255.	To change the projector's IP address, use the RS-232 connector (see Network controls) or use a DHCP server to assign a dynamic IP address, and then set a static IP address using the network remote management feature (see *Remotely managing your system through a network interface* on page 57).
Subnet Mask	Displays the projector's subnet mask number in values between 0.0.0.0 and 255.255.255.255.	
Gateway	Displays the projector's default network gateway in values between 0.0.0.0 and 255.255.255.255.	
DNS	Displays the projector's primary domain name server (DNS) IP address in values between 0.0.0.0 and 255.255.255.255.	
MAC Address	Displays the projector's MAC address in xx-xx-xx-xx-xx-xx format.	

Setting	Use	Notes
Group Name	Displays the projector's workgroup name as set by an administrator (maximum 12 characters).	You can set the projector's workgroup name using the remote management features (see *Remotely managing your system through a network interface* on page 57 and *Remotely managing your system through an RS-232 serial interface* on page 67).
Projector Name	Displays the projector's name as set by an administrator (maximum 12 characters).	You can set the projector's name using the remote management features (see *Remotely managing your system through a network interface* on page 57 and *Remotely managing your system through an RS-232 serial interface* on page 67).
Location	Displays the projector's location as set by an administrator (maximum 16 characters).	You can set the projector's location using the remote management features (see *Remotely managing your system through a network interface* on page 57 and *Remotely managing your system through an RS-232 serial interface* on page 67).
Contact	Displays the contact name or number for projector support as set by an administrator (maximum 16 characters).	You can set the contact name or number using the remote management features (see *Remotely managing your system through a network interface* on page 57 and *Remotely managing your system through an RS-232 serial interface* on page 67).
🌐 **Language menu**		
Language	Selects language preference.	Projector menu support is available in English (default), Chinese (Simplified), Chinese (Traditional), Czech, Danish, Dutch, Finnish, French, German, Greek, Italian, Japanese, Korean, Norwegian, Polish, Portuguese (Brazil), Portuguese (Portugal), Russian, Spanish and Swedish.
🛈 **Information menu**		
Lamp Hours	Displays the current number of lamp usage hours from 0 to 4000 hours from when it was last reset.	Always reset the lamp hours after you replace a lamp, because lamp service reminders are based on the current hours of use. See *Resetting the lamp hours* on page 40 for details on the lamp hours reset procedure.
Input	Displays the currently displayed video input source (**VGA-1**, **VGA-2**, **HDMI** or **None**).	

Setting	Use	Notes
Resolution	Displays the projector's most recently detected video source signal resolution and refresh rate.	If there is no current video input source signal, this setting displays the last known source signal image resolution and refresh rate.
Firmware Version	Displays the projector's digital display processor (DDP) firmware version in x.x.x.x format.	
MPU Version	Displays the projector microprocessor unit (MPU) firmware version in x.x.x.x format.	
Network Version	Displays the projector's network communications processor firmware version in x.x.x.x format.	If you haven't enabled the **Network and VGA Out** setting, this setting is unable to display the projector's network communications processor firmware version and displays 0.0.0.0 instead.
Model Number	Displays the projector's model number.	
Serial Number	Displays the projector's serial number.	

Focusing the image

Use the focus lever located on the projector lens to focus the projected image.

To focus the image

Rotate the focus ring clockwise or counter clockwise until the image is in focus.
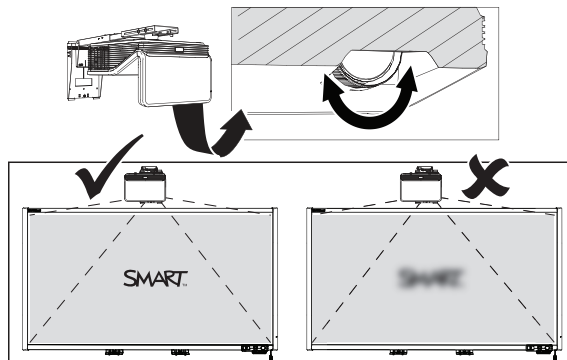
Adjusting the image

Refer to these notes when adjusting the projected image as described in the included *SMART Board 880i6 and 885i6 interactive whiteboard system installation guide* (smarttech.com/kb/170499).

- While adjusting the projected image size, shape and location, use the projector's default background so that you can see the full projected image clearly. Don't use other images, which might be cropped or scaled by the projector and could result in a misleading projected image size, shape and location.

- Use the mechanical adjustments described in the installation document to make all physical image adjustments. Don't use the projector's on-screen menu options during the projector alignment process.

- Be aware that as you tilt the projector up or lower its mounting boom to raise the image, the entire projected image increases or decreases in size, especially at the bottom of the projected image.

- When adjusting keystone (tilt), ensure that the top and bottom edges of the image are horizontal before you position the left and right edges of the image relative to your interactive whiteboard.

- When you move the projector forward or backward on the boom to make the image larger or smaller, you might need to tilt or turn the projector slightly to keep the image square. Loosen the lever slightly to aid in this adjustment.

- To fine-tune the image, you might need to repeat all steps described in the installation document in smaller increments.

Projector connection diagram

You can connect a variety of peripheral devices to your projector, including DVD/Blu-ray players, VCRs, document cameras, digital cameras and high-definition sources, as well as peripheral device outputs, such as a secondary projector or a flat-panel display and powered speakers.

> **📝 N O T E**
>
> You might need to purchase third-party adapters to connect certain peripheral devices.
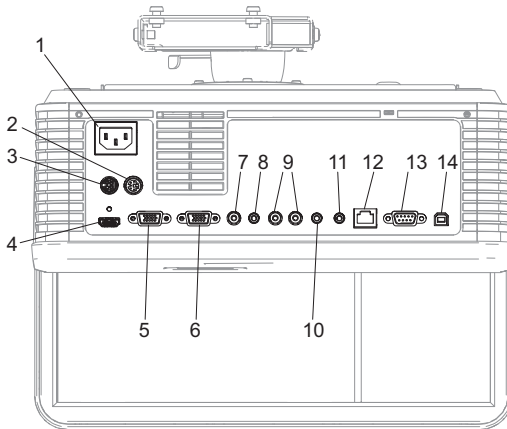
No.	Connector	Connect to:
1	Power	Mains power supply
2	7-pin mini-DIN	ECP cable harness
3	4-pin power mini-DIN 5V/2A output	ECP cable harness
4	HDMI input	High-definition video and audio source (not included)
5	DB15F RGB video input (VGA 1)	Primary computer (not included)
6	DB15F RGB video output (VGA Out)	Secondary display (not included)
7	RCA Composite video input	through RCA connector pod
8	3.5 mm phone jack audio input (×2)	Audio sources associated with primary and secondary computers
9	Left and right RCA audio input	through RCA connector pod
10	3.5 mm phone jack audio output	Speakers (not included)
11	3.5 mm phone jack microphone	Microphone (not included)
12	RJ45	Network (for web page management and SNMP access)
13	DB9 RS-232F	ECP cable harness
14	USB B	Computer (for service access only)

> 📝 **N O T E S**
>
> - To connect your interactive whiteboard, see the *SMART Board 880i6 and 885i6 interactive whiteboard system installation guide* (smarttech.com/kb/170499).
>
> - To connect accessories to your interactive whiteboard, refer to the documents included with the accessories and consult the SMART Support website (smarttech.com/support) for additional information.

Using your interactive whiteboard

For information about how to use your interactive whiteboard, refer to the *SMART Board 800 series interactive whiteboard user's guide* (smarttech.com/kb/144817).

When you connect your SMART Board interactive whiteboard to a computer with SMART software, you can access the full capabilities of your interactive whiteboard.

For more information on this software, press the **Help** button on your interactive whiteboard pen tray.

For additional resources, go to smarttech.com, click the flag icon to the right of the SMART logo, and then select your country and language. In the Support section of this website, you'll find up-to-date, product-specific information, including setup instructions and specifications.

The SMART training website (smarttech.com/training) includes an extensive library of training resources you can refer to when first learning to set up or use your interactive whiteboard system.

Using the Extended Control Panel (ECP)

The ECP gives you control of the basic operations of your interactive whiteboard system. Press the **Power** ⏻ button on the ECP or remote control to put the projector system into Standby mode or turn it on. Press the **Input** button on the ECP or remote control to switch sources on the projector.

> 👉 **I M P O R T A N T**
>
> - Keep your remote control in a safe place because there is no other way to access menu options.
>
> - Do not disconnect cables from the ECP to connect peripheral devices because you could disconnect controls for your interactive whiteboard.

> ### 📝 **N O T E S**
>
> - For more details on the status of your interactive whiteboard system, go to *Determining your interactive whiteboard system's status* on page 46.
> - Low Power mode reduces your interactive whiteboard system's power consumption when it is in Standby mode. To set the projector system to enter Low Power mode automatically whenever it enters Standby mode, hold down the **Power** ⏻ and **Input** buttons at the same time for five seconds. After five seconds, the **Power** ⏻ button blinks amber for two seconds to indicate that Low Power mode is enabled.

The following diagram and table describe the components of the ECP.

Number	Function
Left side	
1	USB A receptacle (for USB drives)
	> ### 📝 **N O T E** > USB drives that you connect to this receptacle are only accessible to the room computer (the computer connected to the USB1 receptacle).
Front	
2	Power ⏻ button and status indicator light
3	Volume control
4	Input selection
Back	
5	Two mini USB B receptacles (connect to room computer and laptop)
6	11-pin connector (connects to ECP cable harness)
7	4-pin connector (for optional room control)

> **✎ N O T E**
>
> Use an 800 series control cable (Part No. SBX8-CTRL) to convert the 4-pin connector to a DB9F
> RS-232 connector for use with a third-party room control system. You can purchase an SBX8
> series control cable from your local SMART reseller.

> **💡 T I P**
>
> If your computer has an HDMI output, you can connect a USB cable from your computer to either of
> the USB B receptacles on the ECP and an HDMI cable from your computer to the HDMI connector
> on the projector. Associate the HDMI source with the appropriate USB receptacle (see *Adjusting
> projector settings* on page 14). Press the **Input** button on the ECP to switch to the HDMI input.

Using the RCA connector pod

The RCA connector pod enables you to connect DVD/Blu-ray players and similar devices.

The following diagram and table describe the components of the RCA connector pod.
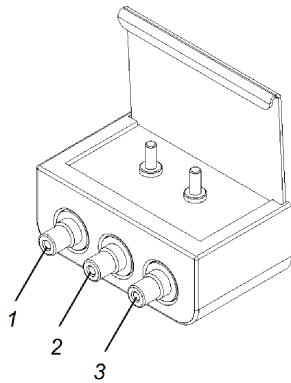
Number	Function
1	RCA composite video input jack (for peripheral devices such as a DVD/Blu-ray player)
2	RCA audio jack (right input)
3	RCA audio jack (left input)

Chapter 4
Integrating other devices

This appendix provides information on integrating your SMART Board 800i6 interactive whiteboard system with peripheral devices.

Video format compatibility

Your projector has a native video format and various video format compatibility modes. You can change image appearances for certain formats and compatibilities.

Native video format

The following table lists the native VESA RGB video formats for the projector.

Projector	Resolution	Mode	Aspect ratio	Refresh rate (Hz)	Horizontal frequency (kHz)	Pixel clock (MHz)
SMART UF70	1024 × 768	XGA	4:3	60	48	63.5
SMART UF70w (16:10 aspect ratio mode)	1280 × 800	WXGA	16:10	60	48	83.5

Projector	Resolution	Mode	Aspect ratio	Refresh rate (Hz)	Horizontal frequency (kHz)	Pixel clock (MHz)
SMART UF70w (16:9 aspect ratio mode)	1280 × 720	WXGA	16:9	60	48	83.5

Video format compatibility

The following tables list the projectors' compatible VESA RGB video formats by resolution, which the projector adjusts automatically when you use the aspect ratio commands described in *Adjusting projector settings* on page 14.

SMART UF70 projector

Resolution	Mode	Aspect ratio	Refresh rate (Hz)	Match Input appearance
720 × 400	720×400_85	1.8:1	85.039	Letterbox
640 × 480	VGA 60	4:3	59.94	Full screen
640 × 480	VGA 72	4:3	72.809	Full screen
640 × 480	VGA 75	4:3	75	Full screen
640 × 480	VGA 85	4:3	85.008	Full screen
800 × 600	SVGA 56	4:3	56.25	Full screen
800 × 600	SVGA 60	4:3	60.317	Full screen
800 × 600	SVGA 72	4:3	72.188	Full screen
800 × 600	SVGA 75	4:3	75	Full screen
800 × 600	SVGA 85	4:3	85.061	Full screen
832 × 624	MAC 16"	4:3	74.55	Full screen
1024 × 768	XGA 60	4:3	60.004	Full screen
1024 × 768	XGA 70	4:3	70.069	Full screen
1024 × 768	XGA 75	4:3	75.029	Full screen
1024 × 768	XGA 85	4:3	84.997	Full screen
1024 × 768	MAC 19"	4:3	74.7	Full screen
1152 × 864	SXGA1 75	4:3	75	Full screen
1280 x 720	HD 720	16:9	60	Letterbox

Resolution	Mode	Aspect ratio	Refresh rate (Hz)	Match Input appearance
1280 × 768	SXGA1 75	1.67:1	60	Letterbox
1280 × 800	WXGA	16:10	60	Letterbox
1280 × 960	Quad VGA 60	4:3	60	Full screen
1280 × 960	Quad VGA 85	4:3	85.002	Full screen
1280 × 1024	SXGA3 60	5:4	60.02	Letterbox
1280 × 1024	SXGA3 75	5:4	75.025	Letterbox
1280 × 1024	SXGA3 85	5:4	85.024	Letterbox
1360 x 765	1.04M9	16:9	59.799	Letterbox
1600 x 900	1.44M9	16:9	59.946	Letterbox
1600 × 1200	UXGA	4:3	60	Full screen
1680 x 1050	1680x1050 50	16:10	49.974	Letterbox
1680 x 1050	1680x1050 50	16:10	59.954	Letterbox
1920 x 1080	HD 1080	16:9	60	Letterbox

SMART UF70w projector

Resolution	Mode	Aspect ratio	Refresh rate (Hz)	Match Input appearance (16:10 aspect ratio mode)	Match Input appearance (16:9 aspect ratio mode)
720 × 400	720×400_85	9:5	85.039	Letterbox	Letterbox
640 × 480	VGA 60	4:3	59.94	Pillarbox	Pillarbox
800 × 600	VGA 72	4:3	72.809	Pillarbox	Pillarbox
800 × 600	VGA 75	4:3	75	Pillarbox	Pillarbox
800 × 600	VGA 85	4:3	85.008	Pillarbox	Pillarbox
800 × 600	SVGA 56	4:3	56.25	Pillarbox	Pillarbox
800 × 600	SVGA 60	4:3	60.317	Pillarbox	Pillarbox
800 × 600	SVGA 72	4:3	72.188	Pillarbox	Pillarbox
800 × 600	SVGA 75	4:3	75	Pillarbox	Pillarbox
800 × 600	SVGA 85	4:3	85.061	Pillarbox	Pillarbox

Resolution	Mode	Aspect ratio	Refresh rate (Hz)	Match Input appearance (16:10 aspect ratio mode)	Match Input appearance (16:9 aspect ratio mode)
832 × 624	MAC 16"	4:3	74.55	Pillarbox	Pillarbox
1024 × 768	XGA 60	4:3	60.004	Pillarbox	Pillarbox
1024 × 768	XGA 70	4:3	70.069	Pillarbox	Pillarbox
1024 × 768	XGA 75	4:3	75.029	Pillarbox	Pillarbox
1024 × 768	XGA 85	4:3	84.997	Pillarbox	Pillarbox
1024 × 768	MAC 19"	4:3	74.7	Pillarbox	Pillarbox
1152 × 864	SXGA 75	4:3	75	Pillarbox	Pillarbox
1280 × 768	WXGA 60	1.67:1	60	Letterbox	Pillarbox
1280 × 960	Quad VGA 60	4:3	60	Pillarbox	Pillarbox
1280 × 960	Quad VGA 85	4:3	85.002	Pillarbox	Pillarbox
1280 × 960	SXGA3 60	5:4	60.02	Pillarbox	Pillarbox
1280 × 1024	SXGA3 75	5:4	75.025	Pillarbox	Pillarbox
1600 × 1200	SXGA+	4:3	59.978	Pillarbox	Pillarbox
1600 × 1200	UXGA_60	4:3	60	Pillarbox	Pillarbox

HD and SD signal format compatibility

The following tables list the projectors' high definition (HD) and standard definition (SD) format signal compatibility, which the projector adjusts automatically when you use the aspect ratio commands described in *Adjusting projector settings* on page 14.

SMART UF70 projector

Signal format	Aspect ratio	Horizontal frequency (kHz)	Vertical frequency (Hz)	Match Input appearance
480i (DVD player) (640 × 480)	4:3	15.73	59.94	Full screen
567i (DVD player) (720 × 576)	5:4	15.63	50	Letterbox
720p	16:9	44.96	59.94	Letterbox
720p	16:9	35	50	Letterbox
1080i	16:9	33.7	59.94	Letterbox
1080i	16:9	28.1	50	Letterbox

SMART UF70w projector

Signal format	Aspect ratio	Horizontal frequency (kHz)	Vertical frequency (Hz)	Match Input appearance (16:10 aspect ratio mode)	Match Input appearance (16:9 aspect ratio mode)
480i (525i)	4:3	15.73	59.94	Pillarbox	Pillarbox
480p (525p)	4:3	31.47	59.94	Pillarbox	Pillarbox
576i (625i)	5:4	15.63	50	Pillarbox	Pillarbox
576p (625p)	5:4	31.25	50	Pillarbox	Pillarbox
720p (750p)	16:9	45	59.94	Letterbox	Full screen
720p (750p)	16:9	37.5	50	Letterbox	Full screen
1080i (1125i)	16:9	33.75	59.94	Letterbox	Full screen
1080i (1125i)	16:9	28.13	50	Letterbox	Full screen
1080p (1125p)	16:9	67.5	59.94	Letterbox	Full screen
1080p (1125p)	16:9	56.25	50	Letterbox	Full screen

> **📝 N O T E**
>
> Your projector is HD Ready. Its native resolution supports a pixel-perfect display of 720p source content. However, because the projector compresses 1080p source content to fit its native resolution, it doesn't support a pixel-perfect display of 1080p source content.

Video system signal compatibility

The following tables list the projectors' video system signal compatibility, particularly for signals delivered over S-Video and Composite video connectors, which the projector adjusts automatically when you use the aspect ratio commands described in *Adjusting projector settings* on page 14.

> **📝 N O T E**
>
> The *16:9* command delivers all video modes with black bands along the top and bottom edges of the screen. The *Match Input* command might deliver video modes with black bands along the top and bottom edges of the screen, depending on the input resolution.

SMART UF70 projector

Video mode	Aspect ratio	Horizontal frequency (kHz)	Vertical frequency (Hz)	Color signal (MHz)
NTSC	4:3	15.73	29.96	3.58
PAL	4:3	15.62	25	4.43
SECAM	4:3	15.62	25	4.25 (f_{ob}) 4.06 (f_{or})

SMART UF70w projector

Video mode	Aspect ratio	Horizontal frequency (kHz)	Vertical frequency (Hz)	Color signal (MHz)
NTSC	4:3	15.73	59.94	3.58
PAL	4:3	15.63	50	4.43
SECAM	4:3	15.63	50	4.25 and 4.41
PAL-M	4:3	15.73	59.94	3.58
PAL-N	4:3	15.63	50	3.58
PAL-60	4:3	15.73	59.94	4.43
NTSC 4.43	4:3	15.73	59.94	4.43

Connecting peripheral sources and outputs

Follow these instructions if you have a peripheral device to connect to your interactive whiteboard system.

> 📝 **NOTES**
>
> - Measure the distance between the projector and the peripheral device you want to connect. Make sure each cable has enough slack to be placed safely in your room without presenting a trip hazard.
>
> - Do not disconnect cables from the ECP to connect peripheral devices because you could disconnect controls for your interactive whiteboard.
>
> - Do not connect SBA-L projection audio system speakers to the RCA connector pod. Connect these speakers to the projector connection panel using a dual-channel (left and right) RCA plug-to-3.5 mm phone connector (included with the speakers).
>
> - The composite video connector and associated dual channel audio inputs on the projector and optional RCA connector pod are for input only. These RCA jacks don't provide an output signal.

To connect a laptop to a SMART Board 800i6 interactive whiteboard system

1. Connect a USB cable from the laptop computer to the ECP.

2. Connect a VGA cable from the laptop computer to the VGA connection kit.

   OR

   Connect an HDMI cable from the laptop computer to the projector.

   > 💡 **TIP**
   >
   > Alternatively you can use a DVI-D-to-HDMI cable.

To connect a DVD/Blu-ray player or similar device

1. If you have speakers installed, turn the volume dial on the ECP all the way down to prevent buzzing or popping.

2. Press the **Input** button on the ECP or remote control to switch input sources to the peripheral device.

3. Restore the volume on the ECP's volume dial.

> **N O T E**
>
> HDMI inputs are High Definition Content Protection (HDCP) compliant.

Chapter 5
Maintaining your interactive whiteboard system

This chapter includes methods for properly cleaning and preventing damage to your
SMART Board 800i6 interactive whiteboard system.

Maintaining your interactive whiteboard

For information on maintaining your interactive whiteboard, see the *SMART Board 800 series
interactive whiteboard user's guide* (smarttech.com/kb/144817).

Cleaning the projector

> ⚠️ **WARNING**
>
> Cleaning a wall-mounted projector can result in a fall or injury. Use caution when climbing a ladder,
> and consider removing the projector from its wall-mounting bracket to clean it.

> 🔺 **CAUTION**
>
> - Never touch the mirror with your hands or a brush, and do not scrub the surface of the mirror
>   with the supplied cleaning cloth. Instead, use the supplied cleaning cloth to clean the mirror
>   with a light touch, and do not put any cleaning solvents on the cloth or the mirror. Do not apply
>   pressure to the projector lens or mirror.

- Before you clean the projector, press the **Power** ⏻ button twice on the ECP or remote control to put the system in Standby mode, and then allow the lamp to cool for at least 30 minutes.

- Do not spray cleaners, solvents or compressed air directly on the projector. Do not use spray cleaners or solvents near any part of the projector because they can damage or stain the unit. Spraying the system could spread a chemical mist on some of the projector's components and lamp, resulting in damage and poor image quality.

- Do not allow liquids or commercial solvents of any kind to flow into the projector base or head.

👉 **I M P O R T A N T**

- When cleaning the interactive whiteboard system:

  - Wipe the exterior of the projector with a lint-free cloth.

  - If necessary, use a soft cloth moistened with a mild detergent to clean the projector housing.

- Do not use abrasive cleaners, waxes or solvents.

When cleaning the projector's mirror:

- Use a bellows bulb or air blower bulb (commonly found in audio-visual supply stores) to blow off dust. Never touch the mirror with your bare hands or a brush.

- If wiping the mirror is unavoidable, wear protective gloves and gather the cleaning cloth into a ball. Gently run the cleaning cloth across the mirror like you would a feather duster. Don't apply any pressure to the lens or mirror.

When cleaning the projector's lens:

- Use a bellows bulb or air blower bulb (commonly found in audio-visual supply stores) to blow off dust. Never touch the lens with your bare hands or a brush.

- If wiping the lens is unavoidable, wear protective gloves and gather the cleaning cloth into a ball. Gently run the cleaning cloth across the lens from the center to the edge, using the cleaning cloth like you would a feather duster. Don't apply any pressure to the lens or mirror.

Focusing and adjusting the projector image

For information on focusing and adjusting the projector image, see *Focusing the image* on page 20 and *Adjusting the image* on page 21.

Replacing the projector lamp

This section provides instructions for replacing the projector lamp module.

Removing and replacing the projector lamp module

Eventually the lamp will dim and a message will appear reminding you to replace it. Make sure you have a replacement lamp module before proceeding with the following instructions.

> ⚠ **W A R N I N G**
>
> - See smarttech.com/compliance for the projector's MSDS documents.
>
> - Replace the lamp module when the projector displays its lamp life warning message. If you continue to use the projector after this message appears, the lamp can shatter or burst, scattering glass throughout the projector.
>
> - If the lamp shatters or bursts, leave and then ventilate the area.
>
>   Next do the following:
>
>   ○ Avoid touching the glass fragments because they can cause injury.
>
>   ○ Wash your hands thoroughly if you have come into contact with lamp debris.
>
>   ○ Thoroughly clean the area around the projector, and discard any edible items placed in that area because they could be contaminated.
>
>   ○ Call your authorized SMART reseller for instructions. Do not attempt to replace the lamp.
>
> - Replacing the lamp module in a wall-mounted projector can result in a fall or injury. Use caution when climbing a ladder, and consider removing the projector from the wall-mounting bracket to replace the lamp module.
>
> - Uncovering the lamp while the projector is mounted on the wall-mounting bracket can lead to product damage or personal injury from falling pieces of glass if the lamp is broken.

- When replacing the projector lamp module:

  - Put the projector into Standby mode and wait 30 minutes for the lamp to cool completely.

  - Do not remove any screws other than those specified in the lamp replacement instructions.

  - Wear protective eyewear while changing the lamp module. Failure to do so can cause injuries including loss of eyesight if the lamp shatters or bursts.

  - Use only replacement lamp modules approved by SMART Technologies. Contact your authorized SMART reseller for replacement parts.

  - Never replace the lamp module with a previously used lamp module.

  - Always handle the fragile lamp assembly with care to prevent premature lamp failure or exposure to mercury. Use gloves when touching the lamp module. Do not touch the lamp with your fingers.

  - Recycle or dispose of the lamp module as hazardous waste in accordance with local regulations.

You need a Phillips No. 2 screwdriver and a flat screwdriver to complete these procedures.
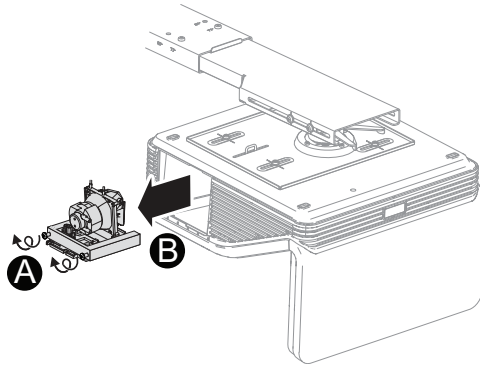
To remove the old lamp module

1. Press the **Power** ⏻ button twice on the remote control or the ECP to put the projector into Standby mode.

2. Wait at least 30 minutes for the projector to cool down.

3. Disconnect the power cable from the projector.

4. Use a Phillips screw driver to loosen the two captive screws.

Lamp Door
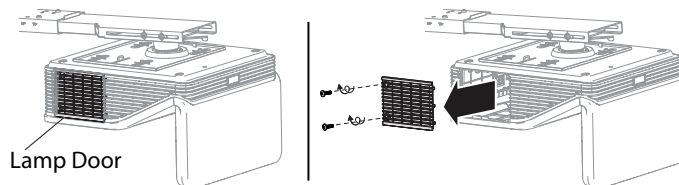
5. Use a Phillips screwdriver to loosen the two captive screws from the bottom of the lamp module and gently remove lamp module.

> **NOTE**
>
> Don't try to remove these screws. Captive screws can't be removed, only loosened.

To put the new lamp module into the projector

1. Remove the new lamp module from its packaging.

2. Carefully place the lamp module into the projector and gently press the power end of the lamp module against the projector to ensure the power plug makes contact with the projector's power receptacle.
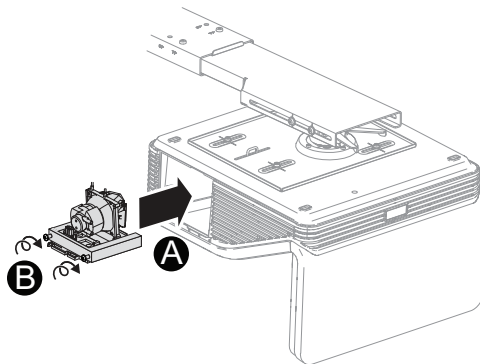
> **NOTE**
>
> You should be able to place the lamp module into the projector easily without applying much force.

3. Use the Phillips screwdriver to secure the captive screws.

> **IMPORTANT**
>
> Do not over-tighten the screws.

4. Replace the lamp cover.

5. Connect the power cable to the wall outlet.

6. Press the **Power** ⏻ button once on the remote control or ECP to confirm that the projector is operating and that the lamp module is correctly installed.

7. Put the old lamp module in a secure container, and handle it gently until you recycle it.

To finish the projector lamp module installation

1. Turn on the projector.

2. Adjust the projector image if necessary (see *Adjusting the image* on page 21).

3. Access the service menu to reset the lamp hours (see *Resetting the lamp hours* below).

4. Activate the projector's alert e-mails and lamp warnings if they've been deactivated (see *E-mail alerts* on page 63 and *Control panel* on page 58).

Resetting the lamp hours

After you replace the lamp module, you need to access the projector service menu and reset the lamp hours. To prevent accidental errors, only a system administrator should perform this procedure.

> **📝 N O T E**
>
> Always reset the lamp hours after you replace the lamp, because lamp service reminders are based on the current hours of use.

To reset the lamp hours

1. Using the remote control, press the following buttons quickly to access the service menu: **Down**, **Up**, **Up**, **Left**, **Up**.

> **⚠ C A U T I O N**
>
> Do not adjust any settings in the service menu other than those listed in this guide. Changing other settings can damage or affect the operation of your projector and may invalidate your warranty.

2. Scroll down to *Lamp Hour Reset*, and then press **OK**.

   Both *Lamp Hour* values (Standard and Economy) reset to zero.

   > ⚠️ **C A U T I O N**
   >
   > Do not reset the lamp hours unless you have just replaced the lamp module. Resetting the lamp hours on an old lamp can damage your projector as a result of lamp failure.

   > 📝 **N O T E**
   >
   > You're unable to reset the Display Hour value because it's the running total of hours the projector has been in use.

3. Press the **Menu** button on the remote control.

   The *SMART UF70 Settings* menu appears.

4. Select to confirm that *Lamp Hour* is reset to zero.

Chapter 6
Troubleshooting your interactive whiteboard system

This chapter provides basic troubleshooting information for your interactive whiteboard system.

For issues not covered in this chapter, consult the SMART Support website (smarttech.com/support) or contact your authorized SMART reseller (smarttech.com/where).

Before you start

Before you troubleshoot your interactive whiteboard system or contact SMART Support or your authorized SMART reseller for assistance, you need to do the following:

- Locate your interactive whiteboard system's status lights
- Locate your interactive whiteboard system's serial numbers

Locating status lights

You interactive whiteboard system consists of several components, which have their own status lights:

- Your interactive whiteboard's Ready light is located on the pen tray.
- Your projector's Power ⏻ and Service ⚒ lights are located on the bottom of the projector.

Power   Service
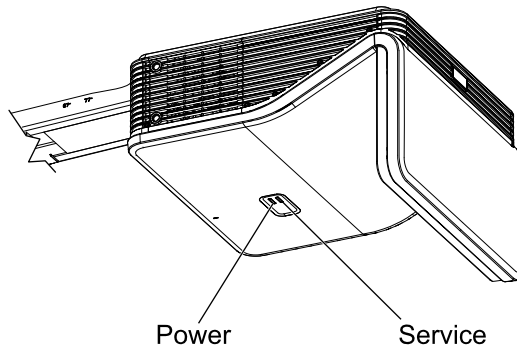
- The ECP's **Power** ⏻ button (see *Using the Extended Control Panel (ECP)* on page 23) also functions as a status light.

Locating serial numbers

The SMART Board 800 series interactive whiteboard serial number is located on the lower-right edge of your interactive whiteboard's frame. For more information, see the *SMART Board 800 series interactive whiteboard user's guide* (smarttech.com/kb/144817).

The SMART UF70 or SMART UF70w projector serial number is located on the top of the projector.

UF70
serial number

SB800
serial number
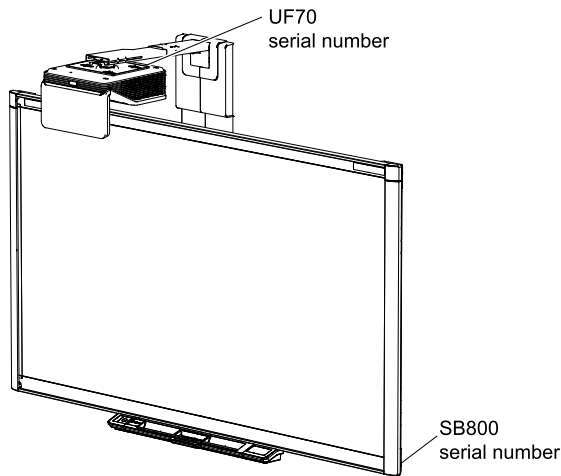
💡 **T I P**

You can also access the projector's serial number through the on-screen menu. For more information, see *Adjusting projector settings* on page 14.

The ECP has its own serial number, which is different from the interactive whiteboard serial number. The ECP serial number is located on the bottom of the ECP.

Serial number location
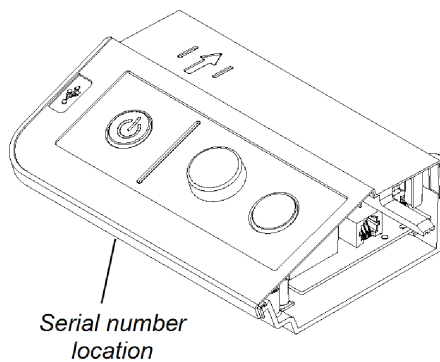
For the locations of serial numbers on other components and accessories, see smarttech.com/support.

Determining your interactive whiteboard system's status

Use the following table to determine the status of your interactive whiteboard system:

⏻ Projector Power light	🔧 Projector Service light	⏻ ECP light	Interactive whiteboard Ready light	Projected image	Touch and pen control	Status and related troubleshooting
Normal operating statuses						
Solid green	Off	Solid green	Solid green	Correct	Full control	The system is operating normally. If image or sound issues occur, see the remaining sections of this chapter for troubleshooting information.
Flashing green	Off	Flashing green	Off	None	None	The system is starting up.
Solid amber	Off	Solid amber	Off	None	None	The system is in Standby mode.
Flashing amber	Off	Flashing amber	Off	None	None	The system is entering Standby mode.
Solid green	Off	Solid green	Solid amber	N/A	None	The interactive whiteboard's controller module is starting up. If this process takes longer than 10 seconds, see *Resolving controller module issues* on page 48.
Solid green	Off	Solid green	Flashing amber	N/A	N/A	The interactive whiteboard's controller module is ready to receive a firmware update or is applying a firmware update. If the Ready light flashes amber but no firmware update appears on the screen, see *Resolving controller module issues* on page 48.
Error statuses						
Solid green	Off	Solid green	Solid green	Incorrect	Full control	There's an issue with the projected image. See *Resolving image issues* on page 49.
Solid green	Off	Solid green	Solid green	Correct	None	There's an issue with the interactive whiteboard. See *Resolving operation issues* on the next page.
Solid green	Off	Solid green	Flashing green	Correct	Touch only	SMART Product Drivers isn't installed or running correctly on the connected computer.
Solid green	Off	Solid green	Off OR Solid red	N/A	None	There's an issue with the connections between the interactive whiteboard and the other components of the system. See *Resolving connection issues* on page 48.

Projector Power light	Projector Service light	ECP light	Interactive whiteboard Ready light	Projected image	Touch and pen control	Status and related troubleshooting
Solid green	Off	Off	Off OR Solid red	N/A	N/A	The ECP isn't receiving power. See *Resolving ECP issues* on page 54.
Solid amber	Flashing red	N/A	N/A	None	N/A	There's an issue with the projector lamp. See *Resolving projector errors* on page 49.
Off	Flashing red	N/A	Off	None	None	The projector's operating temperature has been exceeded. See *Resolving projector errors* on page 49.
Off	Solid red	N/A	N/A	None	N/A	There's an issue with the projector's fan or color wheel. See *Resolving projector errors* on page 49.
Off	Off	Off	Off	None	None	The projector power cable isn't properly connected. OR There's an issue with the mains power supply (for example, the circuit breaker is off).

Resolving interactive whiteboard issues

This section includes information on resolving issues with your interactive whiteboard.

For information not covered in this section, see the *SMART Board 800 series interactive whiteboard user's guide* (smarttech.com/kb/144817).

Resolving operation issues

- Confirm that the camera system cable is connected to the back of the pen tray.

- Perform the calibration procedure documented in the *SMART Board 800 series interactive whiteboard user's guide* (smarttech.com/kb/144817).

- If necessary, complete additional troubleshooting with the guidance of SMART Support using SMART Board Diagnostics.

To resolve operation issues, complete the following tasks:

- Confirm that the camera system cable is connected to the back of the pen tray.

- Perform the calibration procedure documented in the *SMART Board 800 series interactive whiteboard user's guide* (smarttech.com/kb/144817).

- Reset the interactive whiteboard system. If necessary, complete additional troubleshooting with the guidance of SMART Support using SMART Board Diagnostics.

Resolving connection issues

To resolve connection issues, complete the following tasks:

- Confirm that the ECP cable harness's 4-pin power mini-DIN connector is properly connected to the **DC 5V 2A** connector on the projector.

- Confirm that the ECP cable harness's DB9M RS-232 connector is properly connected to the **Control** connector on the projector.

- Confirm that the USB cable, which is located on the underside of the pen tray, is properly connected from the interactive whiteboard to the ECP.

- Confirm that the USB cable is properly connected from a fully functional USB port on the computer to the correct USB port on the ECP.

- Confirm that the projector's on-screen menu option for the USB source is set to associate the USB port on the ECP with the correct video source on the projector.

- If necessary, complete additional troubleshooting on any devices between the USB connection from the computer to the interactive whiteboard system, including any USB hubs and extension cables.

    > **N O T E S**
    >
    > - If you're using the CAT 5 USB extender, see *Troubleshooting tips for the CAT 5 USB extender for SMART Board 800 series interactive whiteboards* (smarttech.com/kb/147499).
    >
    > - Computers connected to the ECP override computers connected to the CAT 5 USB extender. If you connect two computers to the ECP, any computer connected to the CAT 5 USB extender doesn't have a data connection to the interactive whiteboard.

- Confirm that the USB cable is properly connected from a fully functional USB receptacle on the computer to the interactive whiteboard.

Resolving controller module issues

If the controller module takes longer than 10 seconds to start up, disconnect the interactive whiteboard's power cable, wait 10 seconds, and then reconnect it.

If the issue persists, update the firmware as documented in the *SMART Board 800 series interactive whiteboard user's guide* (smarttech.com/kb/144817).

If the Ready light indicates that a firmware update is in progress but no update is actually taking place, disconnect the interactive whiteboard's power cable, wait 10 seconds, and then reconnect it.

Resolving projector issues

Resolving projector errors

Resolving image issues

To resolve common image issues, complete the following tasks:

- Ensure the computer or other video source is on and set to display a resolution and refresh rate supported by the projector (see *Video format compatibility* on page 27).

- Ensure the video source is properly connected to the projector.

- Press the Input Select button on the remote control or ECP to switch to the correct video source.

If these tasks don't resolve the issue, refer to the following sections for additional troubleshooting information.

Loss of signal

If a video source signal is not detected, out of range of the projector's support video modes or the signal is being switched to a different device or input, the projector doesn't show a source signal and instead displays the SMART logo on a blue screen.
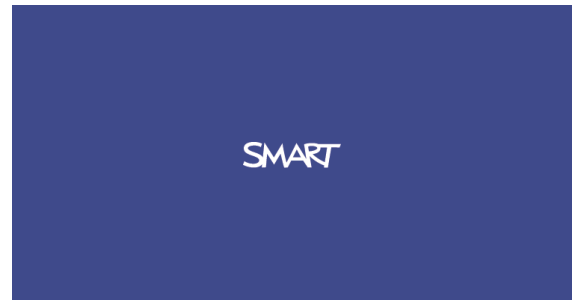
■ **To resolve signal loss issues**

1. Wait approximately 45 seconds for the image to synchronize. Some video signals require a longer synchronization period, cycling back through inputs to the one you want also help image synchronization.

2. If the image doesn't synchronize, check the cable connections to the projector and the ECP.

3. Ensure that the image signal is compatible with the projector (see *Video format compatibility* on page 27).

4. If there are any extension cables, switch boxes, connection wall plates or other devices in the video connection from the computer to the projector, temporarily remove them to ensure they are not causing the video signal loss.

5. If your projector still doesn't show a source signal, contact your authorized SMART reseller.

Partial, scrolling or incorrectly displayed image

> 📝 **N O T E**
>
> This procedure may vary depending on your version of Windows operating system or Mac OS X operating system software and your system preferences. The following procedures apply to Windows 7 operating systems and Mac OS X 10.8 operating system software.

To resolve a partial, scrolling or incorrectly displayed image on your Windows computer

1. Select **Start > Control Panel**.

2. Click **Display**, and then select **Adjust resolution**.

3. Verify that your display resolution setting is 1024 × 768 (SMART UF70 projector), 1280 × 800 (SMART UF70w projector in 16:10 aspect ratio mode) or 1280 × 720 (SMART UF70w projector in 16:9 aspect ratio mode).

4. Click **Advanced settings**, and then click the **Monitor** tab.

5. Verify that the screen refresh rate is 60 Hz.

To resolve a partial, scrolling or incorrectly displayed image on your Mac computer

1. Select **Apple Menu > System Preferences**.

   The *System Preferences* dialog box appears.

2. Click **Displays**.

3. Verify that your display resolution setting is 1280 × 800 (WXGA).

4. Verify that the screen refresh rate is 60 Hz.

Unstable or flickering image
If the projector's image is unstable or flickering, you could have different frequency or tracking settings on your input source than on your projector.

> ☞ **IMPORTANT**
>
> Write down your setting values before adjusting any of the settings in the following procedure.

To resolve your unstable or flickering image

1. Check the display mode of your computer's graphics card. Make sure it matches one of the projector's compatible signal formats (see *Video format compatibility* on page 27). Refer to your computer's manual for more information.

2. Configure the display mode of your computer's graphics card to make it compatible with the projector. Refer to your computer's manual for more information.

3. Adjust the frequency, tracking, H-position and V-position settings in the on-screen menu. See *Adjusting projector settings* on page 14.

4. Optionally, reset the projector as described in *Resetting the projector* on page 56 to adjust the frequency and tracking to their original values.

> 👉 **IMPORTANT**
>
> This action resets all values to their defaults.

Frozen image

If your projector has a frozen image, perform the following procedure.

To resolve a frozen image

1. Ensure that the Hide Display feature is off.

2. Press the **Hide** button on the projector's remote control to hide or show the display.

3. Ensure that your source device, such as your DVD player or computer, isn't malfunctioning.

4. Put the projector into Standby mode, and then wait 30 minutes for it to cool down.

5. Disconnect the power cable from the power outlet, and then wait at least 60 seconds.

6. Connect the power cable, and then turn on the projector.

7. If the previous steps don't resolve the issue, contact your authorized SMART reseller.

Your image doesn't fit the interactive whiteboard

If you're using a SMART UF70w projector with a wide screen interactive whiteboard, verify that you're using the correct aspect ratio mode for the interactive whiteboard:

Interactive whiteboard	Aspect ratio mode
SMART Board 885 interactive whiteboard	16:10

You can set the aspect ratio mode using the Native DLP Resolution setting in the Projector Functions menu (see *Adjusting projector settings* on page 14).

The image from your connected laptop computer isn't projected

Laptop computer settings can interfere with projector operations.

Some laptop computers deactivate their screens when you connect a secondary display device. Refer to your computer's manual for details on reactivating the computer's display screen.

Unaligned projected image

Alignment errors occur when the projected image isn't perpendicular to the screen. Alignment errors can occur when you mount your interactive whiteboard system on an uneven surface or a wall that has obstructions, or if you swivel the projector too far from the vertical center of your interactive whiteboard.

Adjust the projected image. See the included *SMART Board 800i6 interactive whiteboard system installation guide* (smarttech.com/kb/170TBA) and *Adjusting the image* on page 21.

The projector image can slip if the projector is moved often or installed in a location prone to vibration, such as next to a heavy door. Follow these precautions to help prevent the image from becoming misaligned:

- Make sure that the installation wall is plumb and square and doesn't move or vibrate excessively.

- Make sure that there are no obstructions behind the projector's wall-mounting bracket, and that the bracket is firmly secured to the wall according to the installation instructions.

- Adjust the projected image. See the included *SMART Board 800i6 interactive whiteboard system installation guide* (smarttech.com/kb/170TBA) and *Adjusting the image* on page 21.

Resolving audio issues

The projector does have integrated speakers, you can connect an external audio system to the audio output connector in the projector's connection panel such as the SMART SBA-L projection audio system (smarttech.com\kb\142552)

If no sound is coming from your external audio system, perform the following procedure.

> **NOTE**
>
> You might need to configure your computer to pass audio through HDMI if it isn't configured automatically.

To resolve audio issues

1. Ensure that the speakers' or audio system's cables are properly connected to the audio output plug on the projector's connection panel.

2. Press the **Mute** button on the projector's remote control, and if Audio Mute is on, turn it off.

3. Check the ECP's volume knob or use the projector's remote control to ensure that the volume isn't at the lowest setting.

4. Ensure that your speaker or audio system is on and that the volume is turned up.

5. Check that your source input, such as your computer or video device, isn't malfunctioning. Ensure that its audio output is on and that the volume isn't set to the lowest position.

> **NOTE**
>
> You must display the source input's video to play its audio through the connected speakers or audio system.

6. If the previous steps don't resolve the issue, contact your authorized SMART reseller.

Resolving network communication issues

If you don't have network access, perform the following procedure to troubleshoot your system.

To resolve network communication issues

1. Ensure that your network cable is properly connected to the RJ45 connection on the projector's connection panel. There are two RJ45 ports one is for the network and one is for projector 2, ensure that you have the network cable plugged into the correct one.

2. Ensure that the LAN warning light on the projector is green. To activate the projector's network features, use the "vgaoutnetenable=on" RS-232 command (see *Projector programming commands* on page 69) or enable the **Network and VGA Out** setting (see *Adjusting projector settings* on page 14). The network features on the projector don't work until you complete one of these tasks.

3. Press the **Menu** button, and then select the **Network Settings** menu to check the IP address. See *Adjusting projector settings* on page 14 for a description of the IP address field. Enter this IP address into your browser or SNMP agent.

4. If you still don't have network access, contact your network administrator. If your administrator is unable to resolve the issue, contact your authorized SMART reseller.

Resolving ECP issues

If the ECP isn't receiving power, complete the following tasks:

- Confirm that the ECP cable harness's 11-pin connector is properly connected to the ECP.

- Confirm that the ECP cable harness's 7-pin min-DIN connector is properly connected to the ECP connector on the projector.

Accessing the service menu

> ⚠ **C A U T I O N**
>
> - To prevent tampering or unintentional changes, only system administrators should access the service menu. Do not share the service menu access code with casual users of your interactive whiteboard system.
>
> - Do not adjust any settings in the service menu other than those listed in this guide. Changing other settings can damage or affect the operation of your projector and may invalidate your warranty.

Retrieving your password

If you forget the projector's password, you can retrieve it by accessing the projector service menu directly from the projector or from the password settings menu on your projector's web page (see *Password settings* on page 64).

To retrieve your password from the service menu

1. Using the remote control, press the following buttons quickly to access the service menu: **Down**, **Up**, **Up**, **Left**, **Up**.

2. Scroll to *Password Get*, and then press **Enter** on the remote control.

   The password appears on the screen.

3. Write down the password.

4. Scroll to *Exit*, and then press **Enter** on the remote control to exit the projector service menu.

Resetting the projector

At some point during troubleshooting, you might need to reset all projector settings.

> 👉 **IMPORTANT**
>
> This action is irreversible.

To reset all projector settings

1. Using the remote control, press the following buttons quickly to access the service menu: **Down**, **Up**, **Up**, **Left**, **Up**.

2. Scroll to *Factory Reset*, and then press **Enter** on the remote control.

3. Scroll to *Exit*, and then press **Enter** on the remote control to exit the projector service menu.

Transporting your interactive whiteboard system

Save your original SMART Board interactive whiteboard packaging so that it's available if you need to transport your interactive whiteboard system. When required, repack it with all of the original packaging. This packaging was designed to provide optimal shock and vibration protection. If you no longer have your original packaging, purchase the same packaging directly from your authorized SMART reseller.

If you prefer to use your own packaging materials, make sure you adequately protect your unit. Make sure that the projector lens and mirror are protected against any physical contact or pressure which may damage the projector's optics. Ship your interactive whiteboard in an upright position to deter shippers from placing heavy objects on it.

Appendix A
Remotely managing your system through a network interface

This chapter includes detailed instructions on how to remotely manage your SMART Board 800i6 interactive whiteboard system settings through a network interface.

Web page management

You can access advanced setup features via the projector's web page. This web page enables you to manage the projector from a remote location using any computer connected to your intranet.

> **NOTE**
>
> To access the web page, your browser must support JavaScript. Most commonly used browsers like Internet Explorer® and Firefox® support JavaScript.

Accessing web page management

Before you can access the web page, connect your projector to the network, and then enable the projector's network functions using the projector's menu. An IP address appears on the on-screen display.

To use the management web page

1. Start your Internet browser.

2. Type the IP address in the address line field, and then press ENTER.

   The *SMART UF70 Projector Settings* window appears.

3. Select the menu options in the left pane to access the settings on each page.

4. Modify settings using your computer's mouse and keyboard, and then click **Submit** or another action button next to each setting you change.

Home

The Home menu page displays basic projector information and enables you to select the on-screen display language.

> 📝 **N O T E**
>
> You can view basic projector information but you're unable to change it (with the exception of the on-screen display language) from the Home menu page.

Submenu setting	Description
Language	Displays language options
Projector Information	Displays current projector information

Control panel

This menu enables you to manage the projector audio and video status, alerts and appearances using an Internet browser.

Submenu setting	Description
Power	Turns the projector on or puts it into Standby mode. Select the **Power ON** or **Power OFF** button.

Submenu setting	Description
Restore All Projector Defaults	Returns projector settings to default values or refreshes the current settings. Select **Submit** or **Refresh**. 👉 **IMPORTANT** The **Submit** option is irreversible and resets all values.
Volume	Adjusts the projector's volume from -20 to 20.
Mute	Turns on or turns off the mute settings. Select **On** to mute the projector's sound and **Off** to turn off mute.
Volume Control	Enables volume control on the on-screen display. Select **On** to enable projector volume adjustment and select **Off** to disable projector volume adjustment.
Closed Captioning	Turns on or turns off the closed captioning feature.
Language	Sets the closed captioning language to **CC1** or **CC2**. Typically, **CC1** displays U.S. English subtitles, while **CC2** displays other regional languages, such as French or Spanish, depending on television channel or media setup.
Display Mode	Adjusts the display output to **SMART Presentation**, **Bright Room**, **Dark Room**, **sRGB** and **User** modes so you can project images from various sources with consistent color performance: ● **SMART Presentation** is recommended for color fidelity. ● **Bright Room** and **Dark Room** are recommended for locations with those conditions. ● **sRGB** provides standardized accurate color. ● **User** enables you to apply your own settings.
Brightness	Adjusts projector brightness from 0 to 100.
Contrast	Adjusts the difference between the lightest and darkest parts of the image from 0 to 100.
Frequency	Adjusts the display data frequency of the projected image from -5 to 5 to match the frequency of your computer's graphics card.
Tracking	Synchronizes your projector's display timing with your computer's graphics card from 0 to 31.
Sharpness	Adjusts the projected image's sharpness from 0 to 31.
White Peaking	Adjusts the image color brightness from 0 to 10 while providing more vibrant white shades. A value closer to 0 creates a natural image and a value closer to 10 enhances brightness.
Degamma	Adjusts the color performance of the display from 0 to 3.

Submenu setting	Description
Color	Adjusts the Red, Green, Blue, Cyan, Magenta and Yellow colors on the projector from 0 to 100 to provide custom color and luminance output. Each color has a default value of 100. Adjustments to the color settings register to the User mode.
Auto Signal Detect	Enables or disables signal searching of input connectors. • Select **On** to have the projector continuously switch inputs until it finds an active video source. • Select **Off** to maintain signal detection in one input.
Lamp Reminder	Select **On** to show or **Off** to hide the lamp replacement reminder when it appears. This reminder appears 100 hours before the recommended lamp replacement.
Lamp Mode	Adjusts lamp brightness to **Standard** or **Economy**. **Standard** displays a high-quality, bright image. **Economy** increases the lamp life by decreasing the brightness of the image.
Auto Power Off	Sets the length of the auto power off countdown timer between 1 and 240 minutes. The timer begins to count down when the projector no longer receives a video signal. The timer finishes when the projector enters Standby mode. Select **0** to turn off the timer.
Zoom	Adjusts the zoom to the center of the image in or out from 0 to 30.
H-position (RGB input)	Moves the horizontal position of the source video left or right from 0 to 100 (relative to the projected image). 📝 **N O T E** This is useful in situations where the source video is cut off.
V-position (RGB input)	Moves the vertical position of the source video up or down from -5 to 5 (relative to the projected image). 📝 **N O T E** This is useful in situations where the source video is cut off.

Submenu setting	Description
Aspect Ratio	Adjusts the image output to **Fill Screen**, **Match Input** or **16:9**. ● **Fill Screen** produces an image that fills the entire screen by stretching and scaling. ● **Match Input** matches the projector's aspect ratio to the input's aspect ratio. As a result, black bands might appear along the top and bottom edges of the screen horizontally (letterbox format) or along the left and right edges of the screen vertically (pillarbox format). ● **16:9** changes the output to 16:9 by letterboxing the image, which is recommended for use with HDTV and DVDs enhanced for wide-screen television. **NOTE** See *Video format compatibility* on page 27 for appearance descriptions in each mode.
Startup Screen	Sets the type of startup screen to **SMART** or **User**. The **SMART** screen is the default SMART logo on a blue background. The **User** screen uses the saved picture from the Capture User Startup Screen function.
Video Mute	Turns the video mute setting on or off. Select **On** to hide the display and **Off** to show it again.
High Speed Fan	Adjusts the speed of the projector's fan. Select **High** or **Normal**. **NOTE** Use the High setting when the projector's temperature is high or the altitude is above 6000' (1800 m).
Projector Mode	Adjusts the projection mode to **Front**, **Ceiling**, **Rear** or **Rear Ceiling**. **IMPORTANT** SMART recommends that you never change this setting from the **Ceiling** projection mode.
Source	Adjusts the input source to **VGA-1**, **VGA-2**, **Composite**, **S-Video** or **HDMI**.
VGA1	Assigns an alternative name to your VGA 1 input, which appears when you select the VGA 1 input.
VGA2	Assigns an alternative name to your VGA 2 input, which appears when you select the VGA 2 input.
Composite	Assigns an alternative name to your Composite video input, which appears when you select the Composite video input.

Submenu setting	Description
HDMI	Assigns an alternative name to your HDMI input, which appears when you select the HDMI input.
Emergency Alert	Turns the on-screen alert broadcast message on or off. When enabled, this message displays over the current projected image.
Alarm Message / Alert Message	Displays an on-screen emergency notification message (maximum 60 characters).

Control panel II

USB Control settings

This menu allows you to associate a video source with a USB receptacle on the ECP.

Submenu setting	Description
USB1 Source	Enables touch for the selected video source (**VGA**, **HDMI1**, **HDMI2** or **Disabled**) by associating the video source with the room computer USB receptacle (USB1) on the ECP.
USB2 Source	Enables touch for the selected video source (**VGA**, **HDMI1**, **HDMI2** or **Disabled**) by associating the video source with the laptop USB receptacle (USB2) on the ECP.

Network settings

This menu allows you to use or not use Dynamic Host Control Protocol (DHCP) and to set the network-related addresses and names when DHCP is not used.

Submenu setting	Description
DHCP	Determines if the projector's IP address and other network settings are dynamically assigned by a DHCP server or manually set. **On** allows the network's DHCP server to assign a dynamic IP address to the projector. **Off** allows you to manually set the projector's IP address and other network settings.
IP Address	Displays or allows you to set the projector's IP address in values between 0.0.0.0 and 255.255.255.255.
Subnet Mask	Displays or allows you to set the projector's subnet mask number in values between 0.0.0.0 and 255.255.255.255.
Gateway	Displays or allows you to set the projector's default network gateway in values between 0.0.0.0 and 255.255.255.255.

Submenu setting	Description
DNS	Displays or allows you to set the projector's IP address for your network's primary domain name server in values between 0.0.0.0 and 255.255.255.255.
Group Name	Displays or allows you to set the projector's workgroup name (maximum 12 characters).
Projector Name	Displays or allows you to set the projector's name (maximum 12 characters).
Location	Displays or allows you to set the projector's location (maximum 16 characters).
Contact	Displays or allows you to set the contact name or number for projector support (maximum 16 characters).
SNMP	Turns the Simple Network Management Protocol (SNMP) agent on or off.
Read-Only Community	Sets a password that is required for each SNMP get request to the device. **NOTE** The default for Read-Only Community is public.
Read/Write Community	Sets a password that is required for each SNMP set request to the device. **NOTE** The default for Read/Write Community is private.
Trap Destination Address	Displays or allows you to set the IP address of the network's SNMP TRAP manager in values between 0.0.0.0 and 255.255.255.255. The trap destination address is the IP address of the computer assigned to handle unsolicited data generated by SNMP TRAP events generated by the projector, such as power state changes, projector failure modes, a lamp needing to be replaced or other issues.

E-mail alerts

This menu enables you to enter your preferred address for receiving e-mail alerts and adjust related settings.

Submenu setting	Description
E-mail Alert	Selects **Enable** to turn on or **Disable** to turn off the E-mail Alert function.
To	Displays or allows you to set the e-mail address of the e-mail alert recipient.

Submenu setting	Description
CC	Displays or allows you to set the e-mail address of the e-mail alert "copy to" recipient.
From	Displays or allows you to set the e-mail address of the user who sends the e-mail alert.
Subject	Displays or allows you to set the e-mail alert subject.
Outgoing SMTP server	Displays or allows you to set the Simple Mail Transfer Protocol (SMTP) server that you use on your network.
Username	Displays or allows you to set the SMTP server user name.
Password	Displays or allows you to set the SMTP server password.
Alert Condition	Sends e-mail alerts whenever **Lamp Warning**, **Low Lamp Life**, **Temperature Warning** and **Fan Lock** conditions occur. Select the settings you want, and then click **Submit**. **NOTE** The projector sends an alert e-mail (SMART Alert) to your e-mail address. Click **E-mail Alert Test** to confirm that your e-mail address and SMTP server settings are correct by sending a test e-mail (SMART Alert-Test Mail). If the settings are not correct, the e-mail alert messages aren't sent or received successfully and no warning or notification message are available to advise of this state.

Password settings

This menu provides a security function that allows an administrator to manage projector use and enable the Administrator Password function.

Submenu setting	Description
Password	When the password function is enabled, the administrator password is required to access Web Management. Select **Disable** to allow remote web management of the projector without requiring a password.

NOTES

- The first time you enable the password settings, the default password value is four numbers, for example, 1234.

- The maximum allowable password length is four numbers or letters.

- If you forget the projector password, refer to *Accessing the service menu* on page 55 to set the projector setting to factory defaults.

Simple Network Management Protocol (SNMP)

Your projector supports a list of SNMP commands as described in the management information base (MIB) file. You can download this file by browsing to smarttech.com/software and clicking the MIB files link in the *Hardware* section for the SMART UF70 projector.

The SNMP agent in your projector supports SNMP version 1 or 2. Upload the MIB file to your SNMP management system application, and then use it as described in your application's user guide.

Appendix B
Remotely managing your system through an RS-232 serial interface

This appendix includes detailed instructions on how to set up your computer or room control system to remotely manage your SMART Board 800i6 interactive whiteboard system settings through an RS-232 serial interface.

Connecting your room control system to the ECP

By connecting a computer or room control system to the 4-pin connector on the ECP, you can select video inputs, start up or shut down your interactive whiteboard system and request information such as projector lamp use, current settings and network addresses.

> 📝 **NOTE**
>
> On projectors with the RS-232 connector labeled **Control 9v** (rather than **Control**), pin 1 functions as a +9V DC power source only for use with older model ECPs such as the ones shipped with SMART UF55 projectors.

Serial interface settings

The serial interface of the projector acts as a Data Communications Equipment (DCE) device and its settings can't be configured. You must configure your computer's serial communication program (such as Microsoft® HyperTerminal) or your room control system's serial communication settings with the following values:

Setting	Value
Data Rate	19.2 kbps
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	None

> 📝 **NOTES**
>
> - Asynchronous mode is disabled by default in the projector.
>
> - All commands should be in ASCII format. Terminate all commands with a carriage return.
>
> - All responses from the projector are terminated with a command prompt. Wait until you receive the command prompt indicating that the system is ready for another command before you proceed.
>
> - The room control feature of the projector is always on.

To configure your computer's serial interface

1. Turn on your computer, and then start your serial communications program or terminal emulation program.

2. Connect your computer to the serial connection cable you previously connected to the ECP.

3. Configure your serial interface settings using the values from the table in the previous section, and then press ENTER.

   An "invalid cmd= ? for help" message appears, and the > character appears as a command prompt on the following line.

   > 📝 **N O T E**
   >
   > If no message or an error message appears, your serial interface configuration isn't correct. Repeat step 3.

4. Type commands to configure your settings.

   > 📝 **N O T E S**
   >
   > ○ To see a list of commands available in the current operating mode, type **?** and then press ENTER.
   >
   > ○ If you're using a terminal emulation program, turn on your program's local echo setting to see characters as you type them.

Projector programming commands

This section documents the projector programming commands and responses.

Projector power state controls

Device on/off and related controls.

Command\response definitions

Command	Response	Responds when powered off
on	powerstate=[power state]	yes
off *[off option]*	powerstate=[power state]	yes
get powerstate	powerstate=[power state]	yes

Field definitions

Field	Possible values	Description
off option	• now	This is an optional field and can simply be skipped. When specified, it forces the device to shutdown – a user cannot cancel the process. If 'now' is not specified, the 'off' command should cause a dialog to be displayed on the projector with a countdown. A second `off` must be sent before the countdown has expired to actually turn the unit off. If the countdown expires without an additional 'off' command, the projector does not turn off.
		✎ **N O T E** This should be considered another projector state and when the countdown is completed an asynchronous response should indicate the projector has returned to the 'on' state.
		When powered down, this command should be accepted but will not do anything except return the power state.
powerstate	• powering • on • cooling • confirm off • idle	The device's current power state. Different devices have different potential power states. These power states should match the power states found in the UF70 and UF70w projector.

Source Application Selection

Switches amongst different input sources and embedded applications, if any. Also controls the USB switch for these given sources.

Command\response definitions

Command	Response	Responds when powered off
set input [target]	input=[current]	no
get input	input=[current]	yes
get videoinputs	videoinputs=[current videoinputs]	yes
set usb1source [target]	usb1source=[current]	yes

Command	Response	Responds when powered off
get usb1source	usb1source=[current]	yes
set usb2source [target]	usb2source=[current]	yes
get usb2source	usb2source=[current]	yes

Field definitions

Field	Possible values	Description
current input	- VGA1 - Composite - HDMI1 - None	The input source to switch to. None is a non-selectable input and is returned in response to a get input command when the projector is turned off.
target input	= VGA1 = Composite = HDMI1 = None = Next	Target input to set the input to. If the input is next, the projector will move to the next item from the possible values list and return a response equivalent to if the user specified that input directly.
current videoinputs	VGA1, Composite, HDMI1	Returns a comma separated list of the available inputs on the projector. The strings returned in this command must match the strings used for the input selection from OSD. VGA1 and HDMI1 are local at projector. VGA2 and HDMI2 are at UCP. The maximum could be 10 inputs in the current list. (max 14 reserved).
current usb1source	- VGA1 - HDMI1 - Disabled	Current value that the USB1 switch will be enabled for.
target usb1source	= VGA1 = HDMI1 = Disabled	Value to set the usb1 switch enabled source to. Note that this should not be the same as the usb2source. If it is, USB1 will be used and USB2 is ignored.
current usb2source	- VGA1 - HDMI1 - Disabled	Current value that the USB2 switch will be enabled for.

Field	Possible values	Description
target usb2source	• = VGA1 • = HDMI1 • = Disabled	Value to set the usb2 switch enabled source to. Note that this can not be the same as the usb1source. If it is, USB1 will be used and USB2 is ignored.

Example:

```
> set input=vga1

input = vga1

> set input=next

input = composite

> get videoinputs

videoinputs = vga1, composite, hdmi1

> get usb1source

usb1source = vga1

> get usb2source

usb2source = hdmi1

> set usb2source = hdmi1

usb2source = hdmi1

>
```

Video Control

Video output related controls. The range of values used for these commands should match the range displayed visually on the OSD. The firmware must handle videofreeze and videomute states correctly. A change should be made to ensure that videofreeze and videomute are mutually exclusive.

Command\response definitions

Command	Response	Responds when powered off
set displaymode [target]	displaymode =[current]	no
get displaymode	displaymode =[current]	no
set brightness [target]	brightness=[current]	no
get brightness	brightness=[current]	no
set contrast [target]	contrast=[current]	no
get contrast	contrast=[current]	no
set frequency [target]	frequency =[current]	no
get frequency	frequency =[current]	no
set tracking [target]	tracking =[current]	no
get tracking	tracking =[current]	no
set saturation [target]	saturation =[current]	no
get saturation	saturation =[current]	no
set tint [target]	tint =[current]	no
get tint	tint =[current]	no
set sharpness [target]	sharpness =[current]	no
get sharpness	sharpness =[current]	no
set hposition [target]	hposition =[current]	no
get hposition	hposition =[current]	no
set vposition [target]	vposition =[current]	no
get vposition	vposition =[current]	no
set whitepeaking [target]	whitepeaking =[current]	no
get whitepeaking	whitepeaking =[current]	no
set degamma [target]	degamma=[current]	no
get degamma	degamma=[current]	no
set red [target]	red=[current]	no

get red	red=[current]	no
set green [target]	green=[current]	no
get green	green=[current]	no
set blue [target]	blue=[current]	no
get blue	blue=[current]	no
set cyan [target]	cyan =[current]	no
get cyan	cyan =[current]	no
set magenta [target]	magenta =[current]	no
get magenta	magenta =[current]	no
set yellow [target]	yellow =[current]	no
get yellow	yellow =[current]	no
set videofreeze [target]	videofreeze =[current]	no
get videofreeze	videofreeze =[current]	no
set displayhide	displayhide = [target]	no
get displayhide	displayhide = [target]	no

Field definitions

Field	Possible values	Description
target displaymode	= SMART Presentation = Bright room = Dark room = sRGB = User	The ranges must match the OSD ranges
current displaymode	- SMART Presentation - Bright room - Dark room - sRGB - User	The ranges must match the OSD ranges

target brightness	• + val • – val • = 0 ~ 100	Specifying + or – will cause brightness to be incremented or decremented from it's current value. Specifying a numerical value within the possible range causes brightness to be set directly to that value.
current brightness	• = 0 ~ 100	The device's current brightness.
target contrast	• + val • – val • = 0 ~ 100	Specifying + or – will cause contrast to be incremented or decremented from it's current value. Specifying a numerical value within the possible range causes contrast to be set directly to that value.
current contrast	• = 0 ~ 100	The device's current contrast.
target frequency	• + val • – val • = -5 ~ +5	The ranges must match the OSD ranges
current frequency	• = -5 ~ +5	The ranges must match the OSD ranges
target tracking	• + val • – val • = 0 ~ 31	The ranges must match the OSD ranges
current tracking	• = 0 ~ 31	The ranges must match the OSD ranges
target saturation	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current saturation	• = 0 ~ 100	The ranges must match the OSD ranges
target tint	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current tint	• = 0 ~ 100	The ranges must match the OSD ranges
target sharpness	• + val • – val • = 0 ~ 31	The ranges must match the OSD ranges
current sharpness	• = 0 ~ 31	The ranges must match the OSD ranges

target hposition	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current hposition	• = 0 ~ 100	The ranges must match the OSD ranges
target vposition	• + val • – val • = -5 ~ +5	The ranges must match the OSD ranges. Values depend upon the source?
current vposition	• = -5 ~ +5	The ranges must match the OSD ranges
target whitepeaking	• + val • – val • = 0 ~ 10	The ranges must match the OSD ranges
current whitepeaking	• = 0 ~ 10	The ranges must match the OSD ranges
target degamma	• + val • – val • = 0 ~ 3	The ranges must match the OSD ranges
current degamma	• = 0 ~ 3	The ranges must match the OSD ranges
target red	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current red	• = 0 ~ 100	The ranges must match the OSD ranges
target green	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current green	• = 0 ~ 100	The ranges must match the OSD ranges
target blue	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current blue	• = 0 ~ 100	The ranges must match the OSD ranges
target cyan	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current cyan	• = 0 ~ 100	The ranges must match the OSD ranges

target magenta	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current magenta	• = 0 ~ 100	The ranges must match the OSD ranges
target yellow	• + val • – val • = 0 ~ 100	The ranges must match the OSD ranges
current yellow	• = 0 ~ 100	The ranges must match the OSD ranges
target videofreeze	• = on • = off	Video Freeze on/off
current videofreeze	• = on • = off	Video Freeze on/off
current displayhide	• normal • frozen • muted	Matches the 3 states of the hide button on the IR remote controller
target displayhide	• normal • frozen • muted • next	Allows for setting of the mode directly or to move from one state to the next sequentially.

The above commands can be used to set the property to an absolute value or cause a relative adjustment to be made to the current value. Examples of using this are below:

```
>get brightness

brightness=55

>set brightness = 65

brightness=65

>set brightness +5

brightness=70

>set brightness-15

brightness=55

>
```

All video commands should also have an optional source specification.

>set brightness = 65

brightness=65

This sets the brightness of the specified source.

>set brightness vga1 = 65

brightness vga1 = 65

This sets the brightness of the vga1 regardless of if the projector is on this source or not. The operational parameters are 'vga1', 'composite', 'hdmi1'.

Audio Control

Audio output related controls. The range of values used for these commands should match the range displayed visually on the OSD.

Command/response definitions

Command	Response	Powered off
set volume [target]	volume=[current]	no
get volume	volume=[current]	no
set mute [target]	mute=[current]	no
get mute	mute=[current]	no
set volumecontrol [target]	volumecontrol= [current]	no
get volumecontrol	volumecontrol= [current]	no
set cc [target]	cc=[current]	no
get cc	cc=[current]	no
set sysoutputsw [target]	sysoutputsw =[current]	no
get sysoutputsw	sysoutputsw =[current]	no

Field definitions

Field	Possible values	Description
target volume	• + val • – val • = -20 to 20	Specifying + or – will cause volume to be incremented or decremented from it's current value. Specifying a numerical value within the possible range causes volume to be set directly to that value. When the volume is modified from the RS232, the OSD volume slider should also appear on the screen identical to the slider that appears when using the other control. Note that -20 should map to 0 and 20 should map to 40.
current volume	• -20 to 20	The device's current volume. Note that -20 should map to 0 and 20 should map to 40.
target mute	• = on • = off	Specifies if mute is enabled or disabled.
current mute	• = on • = off	Current state of the mute
current volumecontrol	• = on • = off	Current state of the volume control
target volumecontrol	• = on • = off	Specifies if volume control is enabled or disabled.
target cc	• = cc1 • = cc2 • = off	Closed captioning states
current cc	• = cc1 • = cc2 • = off	Closed captioning states
target sysoutputsw	• = line+spkr • = line • = spkr • = none	Specifies if the system output switch is line out only, speaker only, both, or none.
current sysoutputsw	• = line+spkr • = line • = spkr • = none	Current state of system output switch.

The above commands can be used to set the property to an absolute value or cause a relative adjustment to be made to the current value. Examples of using this are below:

```
>get volume

volume=0

>set volume=-10

volume=-10

>set volume +5

volume=-5

>set volume -15

volume=-20
```

Network information

Various network information.

Command/response definitions

Command	Response	Powered off
get netstatus	netstatus =[current]	yes
set network	network=[current]	yes
get network	network=[current]	yes
set dhcp [target]	dhcp =[current]	yes
get dhcp	dhcp =[current]	yes
set ipaddr [target]	ipaddr =[current]	yes
get ipaddr	ipaddr =[current]	yes
set subnetmask [target]	subnetmask =[current]	yes
get subnetmask	subnetmask =[current]	yes
set gateway [target]	gateway =[current]	yes
get gateway	gateway =[current]	yes
set primarydns [target]	primarydns =[current]	yes
get primarydns	primarydns =[current]	yes
get macaddr	macaddr =[MAC address]	yes

Field definitions

Field	Possible Values	Description
current netstatus	• connected • disconnected	Current state of the network interface
current network	• on • off	Current status of the network module and VGA output

Field	Possible Values	Description
target network	• on • off	Enable/Disable network module and VGA output
current dhcp	• = on • = off	Enable/Disable for DHCP Networking
target dhcp	• on • off	Enable/Disable for DHCP Networking
current ipaddr	• [?].[?].[?].[?]	Current IP address (static or dhcp assigned)
target ipaddr	• [?].[?].[?].[?]	Set to static IP Address
current subnetmask	• [?].[?].[?].[?]	Current Subnet Mask
target subnetmask	• = [?].[?].[?].[?]	Current Subnet Mask
current gateway	• [?].[?].[?].[?]	Current gateway
target gateway	• = [?].[?].[?].[?]	Current gateway
current primarydns	• [?].[?].[?].[?]	Current primary dns
target primarydns	• = [?].[?].[?].[?]	Current primary dns
MAC address	• [?]-[?]-[?]-[?]-[?]-[?]	The device's MAC address.

System Information

Various system information.

Command/response definitions

Command	Response	Powered off
set autosignal [target]	autosignal =[current]	no
get autosignal	autosignal =[current]	no
set lampreminder [target]	lampreminder = [current]	no
get lampreminder	lampreminder = [current]	no
set highbrightness [target]	highbrightness = [current]	no
get highbrightness	highbrightness = [current]	no
set autopoweroff [target]	autopoweroff =[current]	no
get autopoweroff set zoom [target]	autopoweroff =[current]	no
set zoom [target]	zoom=[current]	no
get zoom	zoom=[current]	no
set projectorid [target]	projectorid =[current]	no
get projectorid	projectorid =[current]	no
set aspectratio [target]	aspectratio=[current]	no
get aspectratio	aspectratio=[current]	no
set projectionmode [target]	projectionmode = [current]	no
get projectionmode	projectionmode = [current]	no

Command	Response	Powered off
set startupscreen [target]	startupscreen = [current]	no
get startupscreen	startupscreen = [current]	no
set restoredefaults	restoredefaults= [current]	yes
get lamphrs	lamphrs=[current]	yes
set lamphrs [target]	lamphrs=0	yes
get syshrs	syshrs=[current]	yes
get resolution	resolution=[current]	no
get nativeaspectratio	nativeaspect=[native]	no
get fwverddp	fwverddp =[current]	yes
get fwvernet	fwvernet =[current]	yes
get fwvermpu	fwvermpu =[current]	yes
get serialnum	serialnum =[current]	yes
get fwverecp	fwverecp =[current]	yes
set language [target]	language=[current]	no
get language	language=[current]	no
set groupname [target]	groupname =[current]	no
get groupname	groupname =[current]	no
set projectorname [target]	projectorname = [current]	no
get projectorname	projectorname = [current]	no
set locationinfo [target]	locationinfo=[current]	no
get locationinfo	locationinfo=[current]	no
set contactinfo [target]	contactinfo =[current]	no
get contactinfo	contactinfo =[current]	no

Command	Response	Powered off
get modelnum	modelnum=UF70, or UF70w	no Return the actual model of the projector
set videomute [target]	videomute=[current]	no
get videomute	videomute=[current]	no
set vgaoutnetenable [target]	vgaoutnetenable = [current]	yes
get vgaoutnetenable	vgaoutnetenable = [current]	yes
set emergencyalertmsg [target]	emergencyalertmsg = [current]	no
get emergencyalertmsg	emergencyalertmsg = [current]	no
set emergencyalert [target]	emergencyalert= [current]	no
get emergencyalert	emergencyalert= [current]	no
get signaldetected	signaldetected= [current]	yes The response varies depending on the power mode.

Field definitions

Field	Possible Values	Description
target autosignal	• = on • = off	The ranges must match the OSD ranges
current autosignal	• on • off	The ranges must match the OSD ranges
target lampreminder	• = on • = off	The ranges must match the OSD ranges
current lampreminder	• on • off	The ranges must match the OSD ranges

Field	Possible Values	Description
target highbrightness	• = on • = off	The ranges must match the OSD ranges
current highbrightness	• on • off	The ranges must match the OSD ranges
target autopoweroff	• + val • – val • = 0 ~ 240	The ranges must match the OSD ranges
current autopoweroff	• + val • – val • = 0 ~ 240	The ranges must match the OSD ranges
target zoom	• + val • – val • = 0 ~ 30	The ranges must match the OSD ranges
current zoom	• = 0 ~ 30	The ranges must match the OSD ranges
target projectorid	• + val • – val • = 0 ~ 999	The ranges must match the OSD ranges
current projectorid	• = 0 ~ 999	The ranges must match the OSD ranges
target aspectratio	• = fill • = match • = 16:9	The ranges must match the OSD ranges. **Fill:** No matter what the input, the image is stretched, scaled etc to produce an image that matches the DMD device. So 16:9 in = 4:3 out for the XGA projector and 16:9 in = 16:10 out for the WXGA **Match:** The signal is scaled such that the input aspect ration is what is displayed. So 4:3 in = 4:3 out. 16:10 in = 16:10 in. 4:5 in = 4:5 out. **16:9** The signal is scaled and stretched to produce a 16:9 image.

Field	Possible Values	Description
current aspectratio	• Fill • match • 16:9	The ranges must match the OSD ranges
target projectionmode	• = front • = ceiling • = rear • = rear ceiling	The ranges must match the OSD ranges
current projectionmode	• = front • = ceiling • = rear • = rear ceiling	The ranges must match the OSD ranges
target startupscreen	• = smart • = usercapture • = preview	The ranges must match the OSD ranges
current startupscreen	• = smart • = usercapture • = preview	The ranges must match the OSD ranges
current reset	• done	Sent once the reset has been performed.
current lamphrs	• 0 ~ 5000	Current lamp hour usage
target lamphrs	• 0	Clear the current lamp hour usage. Zero is the only valid value to be written.
current resolution	• 800x600 • 1024x768 • … • no signal	Current resolution of the input. Current resolution of the input. If no signal is detected, 'resolution=no signal' should be returned
native aspect ratio	• 4:3 for UF70, 16:10 for UF70w	Native aspect ratio (kind of hardware settings). DLP resolution of the projector. Return the actual native aspect ratio of the projector.
current fwverddp	• [?].[?].[?].[?]	Current firmware version. Eg 2.0.0.0
current fwvernet	• [?].[?].[?].[?]	Network Processor Version
current fwvermpu	• [?].[?].[?].[?]	MPU Version
current prjserialnum	• [?????????????]	Projector Serial Number

Field	Possible Values	Description
current fwverecp	• [?].[?].[?].[?]	ECP Version
current language	• Arabic • Czech • German • Danish • Greek • English • Spanish • Finnish • French • Norwegian (Norsk) • Italian • Japanese • Simplified Chinese • Traditional Chinese • Korean • Dutch • Polish • Swedish • Portuguese (Portugal) • Russian • Hindi • Portuguese (Brazil)	Must match the OSD setting
target language	• = above	Must match the OSD setting
target groupname	• = User String	
current groupname	• User String	
target projectorname	• = User String	
current projectorname	• User String	
target locationinfo	• = User String	
current locationinfo	• User String	

Field	Possible Values	Description
target contactinfo	• = User String	
current contactinfo	• User String	
current modelnum	• User String	Must match the OSD screen
current videomute	• on • off	The ranges must match the OSD ranges
target videomute	• = on • = off	The ranges must match the OSD ranges
current vgaoutnetenable	• on • off	Current status of the VGA Out Enable and Network Enable
target vgaoutnetenable	• = on • = off	Value to set the VGA Out and Network Enable to.
current emergencyalertmsg	• User String	Emergency Alert Message
target emergencyalertmsg	• = User String	Emergency Alert Message
current emergencyalert	• on • off	To display the alert message, set this value to on. To clear it, set it to off.
target emergencyalertmsg	• = on • = off	If the message is being displayed, return on.
current signaldetected	• true • false	If a signal is currently detected, then this command returns true. Otherwise false is returned.
Command List	• ….	A listing of commands follows the response. This list does NOT include service information commands.

Service Information

These are commands used in servicing and manufacturing of the unit. They should be hidden from the user during normal operation.

Command/response definitions

Command	Response	Powered off
get displayhour	displayhour =[current]	no
set testpattern [target]	testpattern =[current]	no
set colorwheelidx [target]	colorwheelidx = [current]	no
get colorwheelidx	colorwheelidx = [current]	no
get failurelog	failurelog =[current]	yes
get error#	Error#=[current]	yes
set factoryreset [target]	factoryreset =[current]	yes
set highspeedfan [target]	highspeedfan = [current]	no
get highspeedfan	highspeedfan = [current]	no
set statereporting [target]	statereporting = [current]	yes
get statereporting	statereporting = [current]	yes
get poweroverride	poweroverride= [current]	no
set poweroverride [target]	poweroverride= [current]	no

Field Definitions

Field	Possible Values	Description
current displayhour	• 0 ~ 20000	Current Display hours.
target testpattern	• = ?	Set the test pattern to pattern number X (1~4). If only one test pattern, call it test pattern 1.
current testpattern	• 1: Grid • 2: RED • 3: Green • 4: Blue • 5: Grey • 6: Black	Current test pattern being displayed. Just return the test pattern number is OK. The built-in test pattern may be changed.
target colorwheelidx	• = ???	The ranges must match the OSD ranges
current colorwheelidx	• ???	The ranges must match the OSD ranges
current failurelog	• normal • overtemp • fanlock • fanDMD • fanblower • fansystem • lamperror • colorwheelbreak • lampignite • lampoverheat • lampdriver • lampoverhours	Current error state that the projector is in. The modes are projector dependant.
Current error#	Provide the details of the specific error. '#' is the number recorded in the log. It ranges from 1 to 5. 1 indicates the most recent error and 5 indicates the oldest error.	The details include the failure reason, system hours, lamp hours, sensor temperature and lamp voltage. For example: error1=fansystem, syshrs:1000, lamphrs=1000, temp=60,volt=120. error2=lampoverheat, syshrs:3000, lamphrs=2900, temp=150,volt=120.
target factoryreset	• = true • = false	If set to true, perform a factor reset. Otherwise do nothing.

Field	Possible Values	Description
current factoryreset	• = true • = false	Set to true only if a factor reset is about to occur.
target highspeedfan	• = high • = normal	The ranges must match the OSD ranges
current highspeedfan	• high • normal	The ranges must match the OSD ranges
current statereporting	• on • off	Current state reporting value
target statereporting	• = on • = off	State reporting value desired.
current poweroverride	• on • off	Power override forces the projector to remain in the ON state when the command is received. This command is NOT persistent and does not get stored to non-volatile memory (cleared on power cycle). When this mode is enabled, the power button on the remote and the ECP must not turn off the projector. This command must also be added to the service menu so the user can disable it via the OSD.
target poweroverride	• = on • = off	Value to set the power override to.

Engineering commands

These commands are to be part of the RS232 list but not viewable by the "?" command

Command/response definitions

Command	Response	Powered off
set dbmsgon [target]	dbmsgon =[current]	no
get vgacalibration	vgacalibration = [current]	no
get waveformid	waveformid=[current]	no
get lampvoltage	lampvoltage =[current]	no
get temperature	temperature =[current]	no
set temperaturereport [target]	temperaturereport= [current]	no
set downloadlampdriver [target]	downloadlampdriver= [current]	no
clearfailurelog		no
set burnin		no
dwscaler#7537		no

Field definitions

Field	Possible Values	Description
target dbmsg	• on • off	Turn on/off debug message.
current vgacalibration	• ???	To get the status of ADC calibration while power on.
current waveformid	• ???	To get waveform ID while power on.
current lampvoltage	• ???	To get lamp voltage while power on.

Field	Possible Values	Description
current temperature	• ???	To get system temperature while power on.
target temperaturereport	• on • off	While setting to on, while high speed fan mode turn on, will send out system temperature each 5 seconds
target downloadlampdriver	• done	Auto program waveform while standby
clearfailurelog	• done	Clear all failure log for production burn in preparation.
dwscaler#7537		Enter DDP download mode

Additional commands

These commands & behaviors are to provide backward compatibility for legacy control interfaces.

Command/response definitions

Command	Execute command:	Behaviour
set input=VGA1	set input=VGA1	switch to VGA1 port
set input=HDMI	set input=NEXT	switch to next physical port
set input=Composite	set input=NEXT	switch to next physical port
set input=S-video	set input=NEXT	switch to next physical port
set input=VGA2	set input=NEXT	switch to next physical port

Unknown command

If an unknown command is received, the projector must identify this to the user. This is accomplished by sending the following response back to the user. Please note that there is a space between "Invalid" and "cmd."

```
>dummycommand 2134
```

```
invalid cmd=dummycommand 2134
```

Appendix C
Remote control code definitions
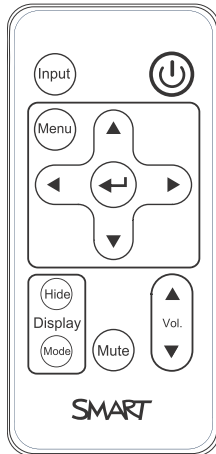
IR signal format: NEC1

Key	Repeat format	Vendor code		Key code	
		Byte 1	Byte 2	Byte 3	Byte 4
Input	F1	8B	CA	14	EB
Power (⏻)	F1	8B	CA	12	ED
Menu	F1	8B	CA	1B	E4
Up (▲)	F1	8B	CA	40	BF
Left (◄)	F1	8B	CA	42	BD
Enter (↵)	F1	8B	CA	13	EC
Right (►)	F1	8B	CA	43	BC
Down (▼)	F1	8B	CA	41	BE
Hide	F1	8B	CA	15	EA
Volume up (▲)	F1	8B	CA	44	BB
Mode	F1	8B	CA	45	BA
Mute	F1	8B	CA	11	EE
Volume down (▼)	F1	8B	CA	46	B9

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 and Battery regulations (WEEE and Battery Directives)

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

Batteries

Remote contains CR2025 battery. Recycle or dispose of batteries properly.

Perchlorate material

Contains perchlorate material. Special handling may apply. See dtsc.ca.gov/hazardouswaste/perchlorate.

Mercury

The lamp in this product contains mercury and must be recycled or disposed in accordance with local, state, provincial and federal laws.

More information

See smarttech.com/compliance for more information.

Index

I

image
    adjusting 21
    focusing 20
    resolving issues with 49
input selection 24, 61
installation
    choosing a height 8
    choosing a location 8
    securing 9
interactive whiteboard
    about 2
    indicators and controls of 47
    maintaining 35
    replacing an older model 8
    using 23
IP address 18, 58, 62

L

lamp module
    cleaning 35
    replacing 37
languages 59
laptop computers
    connecting 33
    troubleshooting issues with 52
letterboxing 28, 31
light sources 8
location 8, 63
Low Power mode 24

M

MAC support 28
mercury 99
mounting template 8
mute control 13, 59
Mute control 15

N

native video formats 27
network communication 22, 54, 62

O

original packaging 56

P

passwords 55, 64
Passwords 18
pen tray
    about 3
    locking to the interactive whiteboard 9
pens 4
Perchlorate material 99
peripheral sources 33
pillarboxing 28, 31
power 22, 24, 58, 69
projector
    about 3
    adjusting settings for 14
    adjusting the image of 21
    cleaning 35
    connection diagram for 21
    displaying the name of 63
    focusing the image of 20
    installing 7
    lights and status of 44
    locating the serial number on 45
    remotely managing 57, 67
    replacing the lamp of 37
    routing cables from 9
    securing to the boom 9
    using your remote control with 11
    video format compatibility for 27

Q

quad VGA support 28

SMART Technologies

smarttech.com/support

smarttech.com/contactsupport

smarttech.com/kb/170401