# Configuration and User's Guide

### SMART Board™ 600i2
### Interactive Whiteboard System

SMART
Technologies

# Registration Benefits

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

Register online at *www.smarttech.com/registration.*

Keep the following information available, in case you need to contact Technical Support:

**Serial Number** _____

**Date of Purchase** _____

# Important Information

## Read This Section First

> **IMPORTANT** 👉 SMART Technologies frequently updates this document to provide accurate support. For the most recent version of this document, see document 118924 on the SMART technical support website.

**NOTE:** If you own a SMART product other than a SMART Board™ 600i2 interactive whiteboard system, refer to the installation manual that came with your product for relevant warnings and maintenance instructions.

In this document, "SMART Board 600i2 interactive whiteboard system" refers to the SMART Board 600 series interactive whiteboard and its Unifi™ 45 projector, accessories and optional equipment. Read the safety warnings and precautions that came with the peripheral products, such as the interactive whiteboard and additional SMART accessories.

Before you install and use the SMART Board 600i2 interactive whiteboard system, read and understand the safety warnings and precautions in this user's manual, the installation guide and the warnings document. These safety warnings and precautions describe the safe and correct operation of the SMART Board 600i2 interactive whiteboard system and its accessories, helping you prevent injuries and equipment damage. You must always ensure that the interactive whiteboard system is being used correctly.

The Unifi 45 projector system included with your SMART Board 600i2 interactive whiteboard system is currently designed to work only with certain SMART Board interactive whiteboard models. Contact your authorized SMART reseller for more information.

## Safety Warnings

| WARNING ⚠️ | • Do not stare into the beam of light created by the projector. Instruct children not to look in the direction of, or stare at, this beam of light. |
|---|---|
| | • Failure to follow the installation instructions included in this manual and other guides packaged with the SMART Board 600i2 interactive whiteboard system could result in personal injury or damage to the product. |
| | • To reduce the risk of fire or electric shock, do not expose any component of the SMART Board 600i2 interactive whiteboard system to rain or moisture. |
| | • Two people are required to mount the projector and the interactive whiteboard on a wall because they may be too heavy for one person to maneuver onto their wall-mounting brackets. |
| | • Do not climb (or allow children to climb) on any part of the wall-mounted SMART Board 600i2 interactive whiteboard system. |
| | • Do not climb on, hang from or suspend objects from the Unifi 45 projector's arm. |
| | • Climbing on the interactive whiteboard or projector arm could result in personal injury or product damage. |
| | • Do not attempt to service the projector other than performing routine lamp replacement and cleaning the mirror. Service should only be performed by an authorized service provider. Aside from the lamp module, there are no user serviceable parts inside the unit. |
| | • Do not remove any screws other than those specified in the lamp replacement instructions. |

## Other Precautions

To ensure operating safety and to avoid product damage, observe the following precautions.

- Do not set up or use the interactive whiteboard in an area with excessive levels of dust, humidity and smoke.
- Do not add extra weight or apply pressure to the Unifi 45 projector arm, the wall-mounted interactive whiteboard or its pen tray. SMART Technologies designed the brackets to support only the weight of the components during normal use.
- To reduce the risk associated with leaking batteries:
  – use only AA type batteries
  – do not mix used and new batteries
  – orient the battery's plus (+) and minus (-) terminals according to the markings found on the remote control
  – do not leave the batteries in the remote control for an extended period
  – do not heat, disassemble, short or recharge the batteries, or expose them to fire or high temperature
  – avoid eye and skin contact if batteries have leaked

- dispose of exhausted batteries and product components in accordance with applicable regulations
- If the interactive whiteboard system requires replacement parts, make sure the service technician uses replacement parts specified by SMART Technologies, or parts with the same characteristics as the original.

## Transporting the SMART Board 600i2 Interactive Whiteboard System

If you need to ship any part of your SMART Board 600i2 interactive whiteboard system, repack it with the original packaging. If the original packaging is no longer available, you may purchase replacement packaging from your authorized SMART reseller.

If you prefer to use your own packaging materials, make sure you adequately protect the unit. Ship the interactive whiteboard in an upright position to deter shippers from placing heavy objects on it.

*Important Information*

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# About Your 600i2 Interactive Whiteboard System

**In This Chapter**

The SMART Board 600i2 interactive whiteboard system combines the SMART Unifi 45 wall mounted short-throw projector with a SMART Board 600 series interactive whiteboard. These topics describe the features of the components and some of the standard accessories and optional accessories you can use with your SMART Board 600i2 interactive whiteboard system.

- SMART Board 600i2 Interactive Whiteboard System Features
    - Interactive Whiteboard Features
    - Unifi 45 Projector System Features
- Standard Accessories
    - 600i2 Extended Control Panel (ECP) and Cable
    - Remote Control
    - SMART Board 600 Series Pens
    - SMART Board 600 Series Eraser
- Optional Accessories
    - USB Speakers (SBA)
    - Height Adjustable Wall Mount (HAWM-600i2)
    - Mobile Floor Stand (FS600i2)
    - GoWire™ SMART Board Software Auto-launch Cable
    - Active USB Extension Cables (USB-XT)
    - Wireless Bluetooth® Connection (WC6)
    - Cat 5 to USB Cable Extender (CAT5-XT)
    - Serial Conversion Module (RS-232)

## SMART Board 600i2 Interactive Whiteboard System Features

The SMART Board 600i2 interactive whiteboard system uses the Unifi 45 short throw, high-offset projector. Although the basic operation is the same as in earlier models, SMART has made many improvements to make the SMART Board 600i2 interactive whiteboard system easier to install, use, service and upgrade.

When the Unifi 45 projector displays an image from a computer onto the touch-sensitive interactive whiteboard, you can draw over the image in digital ink using a pen tray pen or your finger. This projector also supports video and audio connections from a variety of devices, including DVD players, VCRs, document cameras and digital cameras, and can project media from these sources onto the interactive screen.

When you use the system with a computer, you can do everything you can do at a computer workstation—open files, conference with others, work on documents, visit websites, play video clips and more—simply by touching the screen.

When you use SMART Notebook™ software with your 600i2 interactive whiteboard system, you can write over any Ink Aware application in digital ink using a pen tray pen or your finger and then save these notes to a Notebook file for future reference and distribution.

## SMART Board 600 Series Interactive Whiteboard Features

The SMART Board 600 series interactive whiteboard includes many features of other SMART Board interactive whiteboards, such as resistive touch screens and pen trays. The SMART Board 600 series has been chosen to best perform with the Unifi 45 projector for exceptional color performance and input response.

Other features of the interactive whiteboard include:

- a SMART Pen Tray that automatically detects when you pick up a pen tray pen or the eraser.
- pen tray buttons that activate Help functions and, when used with a computer, activate the on-screen keyboard and right-click functions.
- a durable hard-coated polyester surface that is tear proof, optimized for projection, compatible with dry-erase markers and cleans easily with whiteboard cleaner.
- a standard USB interface to connect the SMART Board interactive whiteboard to the host computer.
- a security device to prevent theft of the pen tray or the interactive whiteboard.

## Unifi 45 Projector System Features

The Unifi 45 projector system includes a short-throw projector for use with SMART Board 600 series interactive whiteboards, an extended control panel and a sturdy support system for classroom environments. The features of the projector system include:

- a wall-mounted, high-offset TDP-SB20 projector engine that uses DLP® technology by Texas Instruments® and provides quality Gamma 2.2 correction with Bright, Standard and True Color modes

- safety-oriented design includes a boom support with a controlled-collapse feature

- PAL, PAL-B, PAL60, PAL-N, PAL-M, SECAM, NTSC, NTSC 4.43 video system compatibility

- Composite, S-video and VESA RGB video interface compatibility (with interface support for component YPbPr/YCbCR input with proper adaptors, not included)

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

- native 1024 × 768 resolution

- serial RS-232 interface for connecting a room control system

- self-protection timer for hot re-strike of projector lamp

- an accessible extended control panel, which includes the following receptacles: VGA input, S-video receptacle, composite video jack, stereo 3.5 mm audio input and stereo RCA jacks

- protected cable routing through the projector housing and a cable cover to prevent tampering and clutter

- a secure mounting and installation system that includes:
  – optional security screws on the projector plate and an optional lockable ring for the tilt knob
  – mounting hardware for solid masonry or hollow framed and masonry wall installations
  – templates and instructions for positioning the system in a safe manner

## Standard Accessories

SMART provides the following accessories with your SMART Board 600i2 interactive whiteboard system. If you need to purchase replacements, contact your authorized SMART reseller.

### Extended Control Panel (ECP) and Cable

The new interactive whiteboard system ECP features connectors for three inputs and control for four inputs, including the direct HD-DB15 RGB connection to the projector. Direct inputs supported include:

- a single HD-DB15 (RGB) input connector and associated audio (3.5 mm jack) for RGB or component video and HDTV sources (YPbPr/YCbCr with proper adaptors, which are not included)

- S-video (4-pin mini-DIN) and associated audio (two RCA jacks)

- composite video (RCA jack) and associated audio (two RCA jacks)

Output to the projector is through a specialized harness cable provided by SMART.

**Unifi 45 Projector Remote Control**

The remote control provides an alternate way to control the system and set up your Unifi 45 projector. Use the remote control to access menu options, system information and input selection options.

**Pen Tray Tools**

The pen tray tools include four pens and an eraser. The pens have a rubberized grip area, colored to match the four colors of digital ink: black, green, red and blue. You can use dry-erase markers instead of the supplied pens, as long as they are a similar shape, do not scratch or mark the surface of the interactive whiteboard and are reflective to infrared light. If the pens you provide don't reflect infrared light, the pen tray sensor might not detect the presence of the pen. EXPO® markers make excellent substitutes.

**NOTE:** Pens from earlier interactive whiteboards weren't designed to reflect infrared light, so the sensors may not detect them reliably. You can wrap light-colored tape around the pen to improve the reflection of infrared light and help with tool detection.

The eraser resembles a rectangular chalkboard eraser. You can use a substitute eraser, provided it has a similar shape, does not scratch or mark the surface of the interactive whiteboard and reflects infrared light.

## Optional Accessories

For information on optional accessories, contact your authorized SMART reseller.

**Height Adjustable Wall Mount (HAWM-600i2)**

Your interactive whiteboard system installed on a Height Adjustable Wall Mount can be lowered to young students' reaching range and raised for teachers or taller students. Maximum vertical travel on the wall mount is 20" (51 cm). The wall mount locks at its highest point.

**Mobile Floor Stand (FS600i2)**

You can use the floor stand with your interactive whiteboard system for travelling or mobile presentations. Assemble the mobile stand free-standing or tethered to the wall. To move the floor stand, partially disassemble the unit, install the casters and roll it to a different location.

**USB Speakers (SBA)**

Your interactive whiteboard system requires an audio system to deliver presentations with sound. The audio system consists of a pair of 15-watt, stereo-amplified speakers with a two-port USB hub and a volume control knob. You will require an RCA plug to 3.5 mm audio jack cable long enough for your installation conditions (not included).

> **NOTE:** SBA speakers are not directly compatible with the HAWM-600i2 Height Adjustable Wall Mount and should not be installed on the wall mount.
> SBA speakers must be installed directly on the wall in a manner that does not interfere with the wall mount.

### GoWire SMART Board Software Auto-launch Cable (USB-GW)

Your GoWire cable, contains SMART Board software and launches it automatically on a guest computer, providing full access to all interactive whiteboard software tools without installing SMART Board software.

### Active USB Extension Cables (USB-XT)

You can connect up to four 16' (5 m) USB active extension cables to extend your interactive whiteboard's USB connection to a maximum of 64' (20 m).

### Wireless Bluetooth® Connection (WC6)

This accessory eliminates the need for a USB cable between the computer and your interactive whiteboard. The included 7V DC switching power supply provides power to the module and your interactive whiteboard.

### Cat 5 to USB Cable Extender (CAT5-XT)

Use the SMART Cat 5 to USB extender to extend your interactive whiteboard's USB connection up to 120' (36.6 m) using RJ45 Cat 5 cable (not included). The extender includes two 6' (1.8 m) USB cables to connect your computer and your interactive whiteboard to the extender units.

### Serial Connection Module (RS232)

Use the RS232 module to convert your interactive whiteboard's USB connection to a serial connection.

*About Your 600i2 Interactive Whiteboard System*

# Before Installing Your 600i2 Interactive Whiteboard System

**In This Chapter**

For instructions on installing your product, consult the SMART Board 600i2 interactive whiteboard system installation documents that came with your product, the mounting template and the ECP mounting template. Use these materials, found in the Unifi 45 boxes, to install your system and do not refer to the instructions included in the SMART Board interactive whiteboard product box.

This chapter includes additional information, optional installation procedures and tips to consider before you install a SMART Board 600i2 interactive whiteboard system.

- Environmental Requirements
- Before Installing Your 600i2 Interactive Whiteboard System
- After Installing Your 600i2 Interactive Whiteboard System

## Environmental Requirements

Before installing your SMART Board 600i2 interactive whiteboard system, review the following environmental requirements.

SMART Board 600i2 interactive whiteboard systems can operate in a temperature range of 41°F to 95°F (5°C to 35°C) from sea level to an altitude up to 6000' (0 m to 1829 m) and 41°F to 86°F (5°C to 30°C) from 6000' to 9800' (1829 m to 2987 m). The product can withstand storage temperatures from minus 40°F to 122°F (minus 40°C to 50°C).

| | |
|---|---|
| **CAUTION** ⚠️ | • Never 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 may condense on the lens and crucial internal parts. Do not use the unit for at least two hours when there is an extreme or sudden change in temperature to prevent the unit from possible damage. |
| | • In a high altitude location where air is thin, cooling efficiency is reduced so use the projector with fan mode set to High. |
| | • Do not place in hot locations, such as near heating equipment. Doing so could cause a malfunction and shorten the life of the projector. |

**Humidity**

SMART Board 600i2 interactive whiteboard systems can operate between 30%–70% humidity, non-condensing. Humidity above 80% might cause slight wrinkling in the sheet of the SMART Board 600 series interactive whiteboard. The wrinkles disappear once the humidity lowers.

**Water and Fluid Resistance**

SMART Board 600i2 interactive whiteboard systems are for indoor use only and do not meet any salt-spray or water ingress requirements. Do not pour or spray any liquids directly onto the interactive whiteboard, the Unifi projector or any of its sub-components. These liquids might get into areas where they could damage sensitive electronic components. Refer to the Maintenance section of this guide (page 25) for detailed instructions on cleaning your system's components.

### Dust and Scratching

SMART Board 600i2 interactive whiteboard systems are for use in office and classroom environments and are not for industrial use, where heavy dust and pollutants can cause malfunctions or impaired operation. The design is for pollution degree 1 (P1) as per EN61558-1, which is defined as "No pollution or only dry non-conductive pollution."

### Electrostatic Discharge (ESD)

SMART Board 600i2 interactive whiteboard systems meet the requirements of 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 4kV (both polarities) for direct (contact) discharge.

### Conducted and Radiated Emissions

The narrowband radiated electric field from SMART Board 600i2 interactive whiteboard systems meets the limits for Class A performance as defined in EN55022/CISPR 22.

> **IMPORTANT** ☞ Using the Unifi 45 projector system near a TV or radio may cause interference to the images or audio sound. If this happens, move the TV or radio away from the projector.

## Before Installing Your SMART Board 600i2 Interactive Whiteboard System

Choose a location for your SMART Board 600i2 interactive whiteboard system that's far from a bright light source, such as windows or overhead lighting. Bright light sources can cause distracting shadows on the interactive whiteboard and reduce the contrast of the projected image.

Locate a wall with a flat, regular surface and minimum clearance to accommodate your interactive whiteboard system. Make sure that the Unifi 45 projector and the SMART Board interactive whiteboard are both installed on a flat surface relative to each other. For best presentation alignment, SMART recommends that you mount your interactive whiteboard system in a location that is central to your audience's viewing direction. For mobile installation or adjustable installation options, contact your authorized SMART reseller. If the mounting surface is slightly irregular or the interactive whiteboard system cannot be directly mounted on a stud, consult document 119764 on the SMART Technologies support site.

### Recommended Heights for Mounting

SMART includes a mounting template with each of its 600i2 interactive whiteboard systems. If you lose this template, contact your authorized SMART reseller. Using this template ensures that you:

– mount the Unifi 45 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 the 600 series interactive whiteboard to make sure that the projected image aligns with the touch screen.

Dimensions on the template recommend a distance from the floor that is suitable for adults of average height. Although you should consider the general height of your user community when you choose a position for the interactive whiteboard, consult your local regulations before mounting the unit.

> **WARNING** ⚠ When mounting the projector on a framed wall, you must attach both the mounting bracket and safety tether to a stud to safely support the projector's weight. If you only use drywall anchors, the drywall can fail, resulting in product damage and possible personal injury.

| WARNING | If the two screws supporting the safety strap are removed, the projector boom will be free to swing. Make sure that these two screws are tightened and never remove them from the unit without supporting the projector boom first. |
|---|---|

## After Installing Your 600i2 Interactive Whiteboard System

### Adjusting Keystone Alignment

When you use standard projectors, keystone errors occur when the projected image isn't perpendicular to the screen.



*From the projector mirror, the image path is shorter across the top*



*From the projector mirror, the image path is shorter across the bottom*

The image appears wider at the bottom when the image path's distance from the projector mirror to the top of the screen is shorter than the distance to the bottom of the screen. The image appears wider at the top when the image path's distance from the projector mirror to the bottom of the screen is shorter than the distance to the top of the screen. Vertical keystone errors can occur when you mount the Unifi 45 projector and the SMART Board 600 series interactive whiteboard on an uneven surface, or on a wall that has obstructions such as a whiteboard or aluminum rails.

Horizontal keystoning errors can occur when you mount the Unifi 45 projector too far from the SMART Board 600 series interactive whiteboard's vertical center, when you mount the projector and the interactive whiteboard on an uneven surface, or if the board is slightly closer to the projector on one side than the other.



*From the projector mirror, the image path is shorter across the left side*



*From the projector mirror, the image path is shorter across the right side*

The image appears taller on the left side when the distance from the projector mirror to the left of the screen is shorter than the distance to the right of the screen. The image appears taller at the right side of the image when the distance from the projector mirror to the right of the screen is shorter than the distance to the left of the screen.

Position the centre of the interactive whiteboard so that it aligns with the centre of the projector, as illustrated in the installation document. This eliminates many keystone errors. If your installation environment prevents you from moving the interactive whiteboard, you may be able to adjust the Unifi 45 mirror to correct image distortion.

**NOTES**

- If you move the interactive whiteboard system to a new location, you must re-align it.

- If your projector requires service, you must adjust the replacement projector.

> **WARNING**
>
> ⚠️  It takes two people to safely lift the interactive whiteboard on or off its wall mount bracket.

**To align the Unifi 45 projector mirror image**

**NOTE:** Do not attempt the following procedures unless you are familiar with the procedures in the installation document. Do not use the Unifi 45 projector digital image adjustment options, because the interactive whiteboard system does not support them.


Thumbscrew

1. Turn on the interactive whiteboard system.

2. Turn the thumb-screw (attaching the projector plate to the boom) to adjust the image's parallel alignment. Turn the screw clockwise to tilt the projected image higher on the left and counter-clockwise to tilt the projected image higher on the right.

3. Turn the height adjustment screw (centre of three screws) under the boom (resting on the pivot bolt) to align the projector image's top edge with the top of the interactive whiteboard's screen. Turn the screw clockwise to move the image upwards and counter-clockwise to move the image downwards.


Height adjustment screw
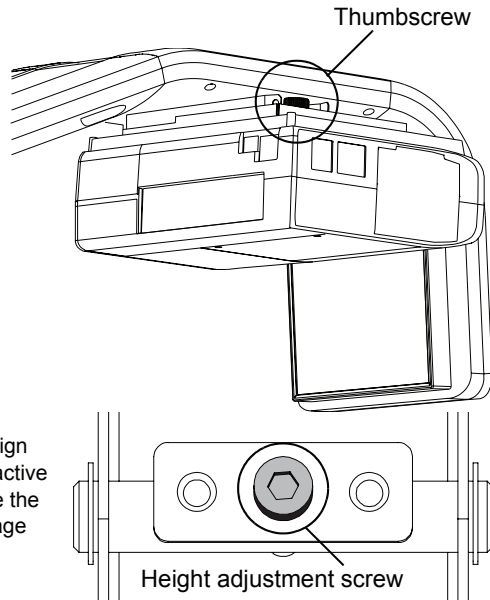
4.  Remove the mirror housing compartment panel on the front of the boom. This panel has the SMART Technologies logo on it. Locate the three numbered fine adjustment wheels in the mirror housing compartment.

5.  If your image has a vertical keystone, adjust the #1 screw-wheel on the mirror support. Turn the wheel clockwise to rotate the mirror up slightly (use this if the projected image is shorter on the top of the screen and larger on the bottom) and turn the wheel counter-clockwise to rotate the mirror down slightly (use this if the projected image is larger on the top of the screen and shorter on the bottom).

6.  If your image has a horizontal keystone, adjust the #2 screw-wheel on the mirror support. Turn the wheel clockwise to rotate the mirror to the right slightly (use this if the projected image is larger on the left of the screen and shorter on the right) and turn the wheel counter-clockwise to rotate the mirror to the left slightly (use this if the projected image is larger on the right side of the screen and shorter on the left).
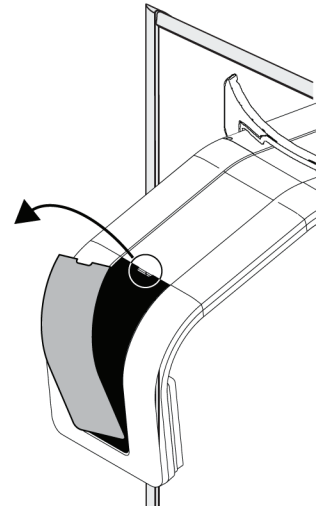
| | |
|---|---|
| **IMPORTANT** ☞ | For the following instructions, leave a 3/8" (1.0 cm) margin between the projected image and each outer edge of the screen's surface. Don't extend the image to the edge of the screen's surface. |

7.  Slide the interactive whiteboard left or right to align it with the image.

8.  Using the supplied 6 mm hex key, turn the hex screw marked #3 to adjust the image size. This adjustment controls how the image fills the screen and has been fit to minimize your adjustment after installation. Turn the key clockwise to make the image smaller and counter-clockwise to make the image larger.

9.  Adjust the image focus using the control lever on the projector (next to the status indicator lights). Slide the focus lever to the left or right to bring the image to focus.
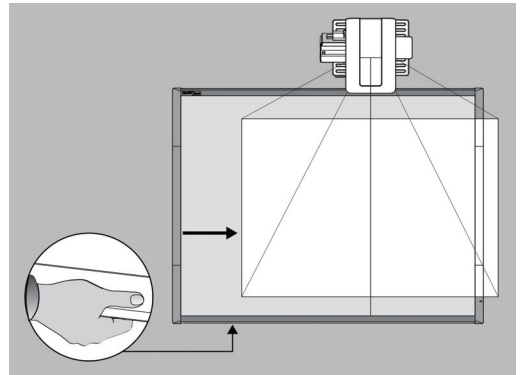
**Securing the Pen Tray and Interactive Whiteboard**

Because the pen tray that comes with your SMART Board interactive whiteboard is detachable, you may want to safeguard it—and the interactive whiteboard at the same time—by anchoring it with a security cable.

| | |
|---|---|
| **IMPORTANT** ☞ | Securing the pen tray can provide theft deterrence for the interactive whiteboard as well. The screws that secure the interactive whiteboard to the wall are located directly behind the pen tray. The pen tray must be removed before you can remove the interactive whiteboard. When you secure the interactive whiteboard, you also secure the pen tray. |

**To lock the pen tray to the interactive whiteboard**

Underneath the pen tray, there is a lock slot that accommodates a security cable, such as a Kensington® lock.



*Lock Slot*
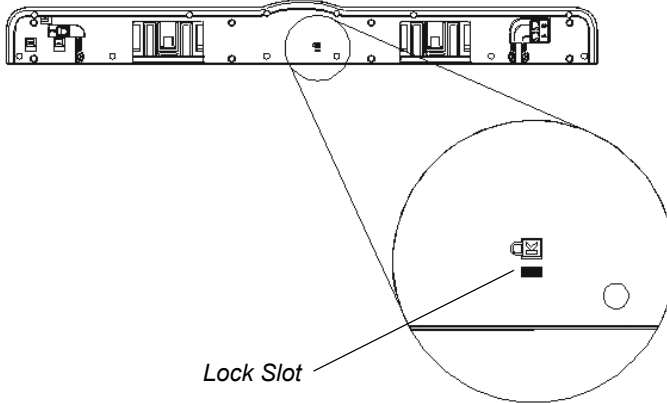
Loop the security cable behind the pen tray brackets before you screw them to the wall, and then thread the lock end of the cable through the loop end of the cable. Verify that the cable is tight enough to prevent you from removing the pen tray while the lock is in place. Install the pen tray. Insert the prong-end of the security cable into the lock slot and then complete the pen tray installation.

**To secure the pen tray to the pen tray brackets**

Because you can remove the pen tray without tools, you may want to securely attach it to its brackets. To do this, you can insert two No. 8/M4 screws (not included) into the holes shown in the illustration below. Note that older pen trays don't have this feature.



*Screw Location*

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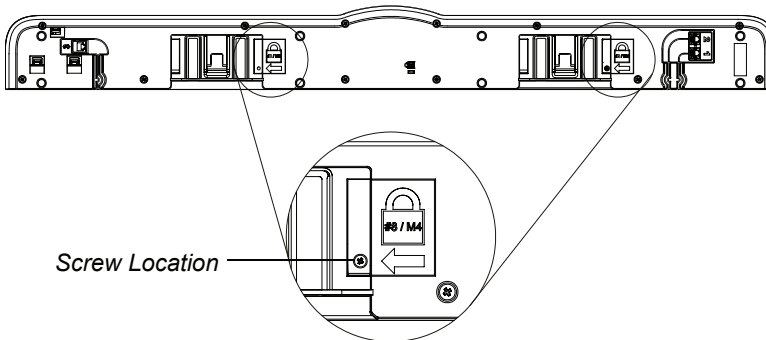
# Connecting Your 600i2 Interactive Whiteboard System

**In this Chapter**

Refer to your installation document to perform initial connection setup on your SMART Board 600i2 interactive whiteboard system. This chapter includes software installation instructions, precautions to follow and methods to use when installing a new device into your interactive whiteboard system. When you connect a computer with SMART Board interactive whiteboard software, you can display and interact with Ink Aware programs on your SMART Board 600i2 interactive whiteboard system. After you connect the video output of a hardware device, such as a VCR or DVD player, to the extended control panel (ECP), you can display this video signal on your system.

- Installing Notebook Software
  - To install the software on the installation CD
- Connecting One or More Computers
  - Connecting your resident computer to your interactive whiteboard system
  - Connecting a guest computer to your interactive whiteboard system
- Connecting Your Visual or Audio Visual Peripheral Devices

To connect your 600 series interactive whiteboard, refer to your SMART Board interactive whiteboard installation and user's guide. To connect accessories to your SMART Board interactive whiteboard, refer to the documents included with the accessories and consult the SMART technical support website for additional instructions. When connecting both a guest computer and a host computer to your interactive whiteboard system, make sure that the computer in use for the presentation is connected to your SMART Board interactive whiteboard's USB cable connector.

## Installing Notebook Software

Your interactive whiteboard system includes a software CD shipped in the box with the 600 series interactive whiteboard. You must install the software before you can use your SMART Board interactive whiteboard system's features.

**To install the software on the installation CD**

1. Insert the software CD in your computer's CD drive.
2. Follow the on-screen instructions.

   **NOTE:** If SMART Board software or Notebook software is already installed on your computer, you can use this opportunity to upgrade your software to ensure compatibility. Notebook software upgrades and online help are available at www.smarttech.com/support/software/index.asp. This page also lists the  minimum software requirements for each software version.

   You can now pick up a pen tray pen and write on the interactive screen in digital ink and capture your notes into any Ink Aware application. For a list of Aware applications, click on the SMART Board or Notebook icon in the system tray, click **Control Panel**, and **Ink Aware application settings**.

## Connecting Your Computers to the Interactive Whiteboard System

You must connect your computers' video and audio outputs to your Unifi 45 projector or your Extended Control Panel (ECP). Use only one set of the following instructions for your specific installation.

**To connect your host computer's audio/visual outputs to the projector inputs**

| IMPORTANT ☞ | • Install your host computer's video output directly to your Unifi 45 projector and not to the ECP. The VGA connector on the ECP is then available for a guest computer connection, such as a laptop. If you will not have guest computers, you can use the VGA connector on the ECP instead. |
| --- | --- |
| | • Only use the input marked "Computer 1" on your projector to connect the ECP harness cable. |

**Connecting your host computer video output  to your projector input**

1. Make sure you have a VGA cable (not included) long enough to connect your computer to your Unifi 45 projector.

2. Connect your VGA cable to the input marked "Computer 2" on your projector.

3. Pass your VGA cable from your projector into the cable channel's upper end on the projector boom. Pass your cable through the cable channel's lower end and pass it behind the SMART Board interactive whiteboard, to your computer.

4. Connect the other end of your VGA cable to your computer's video output connector.
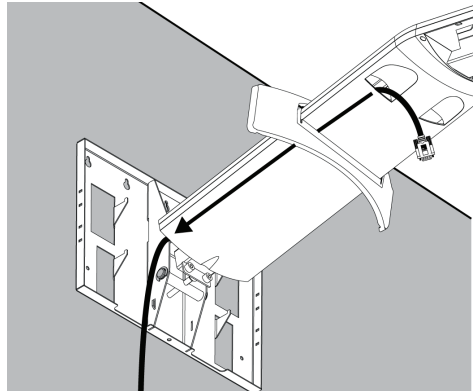
**Connecting your host computer audio output to your projector input**

1. On your Unifi 45 projector, attach the SMART audio mixer device to your projector's 3.5 mm audio input jack.

2. Make sure you have an audio cable with 3.5 mm plugs (not included) long enough to connect your host computer to your projector.

3. On your projector, connect your ECP harness cable's audio 3.5 mm plug to one of the two input jacks on the SMART audio mixer device.
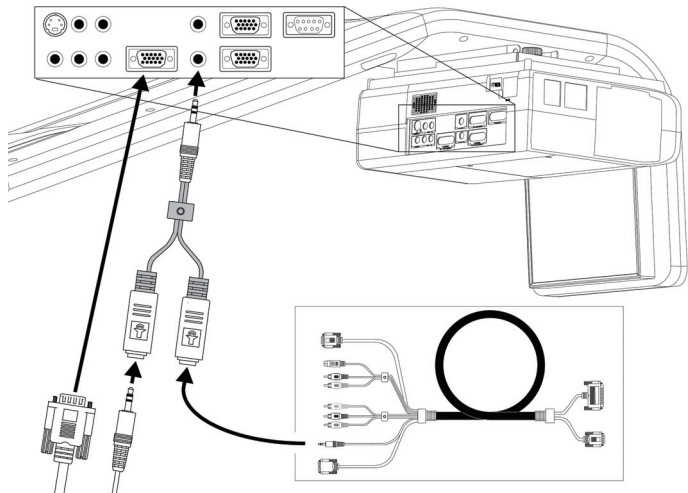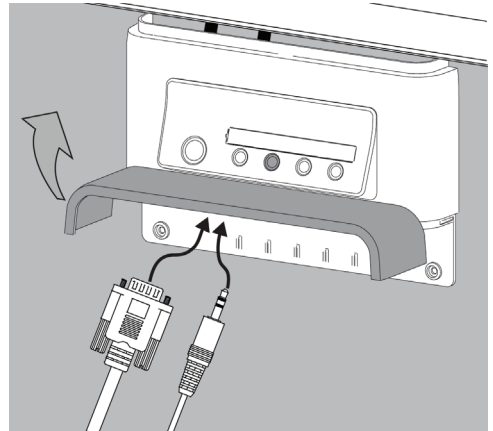
4. On your projector, connect your audio cable (not included) with the 3.5 mm plug to the other input jack on the SMART audio mixer device. Pass the audio cable from your projector into the cable channel's upper end on the projector boom. Pass the audio cable through the cable channel's lower end and pass it behind the SMART Board interactive whiteboard to your computer.

5. Connect the other end of your audio cable to your computer's audio output.

**To connect audio/visual outputs from your host computer to the interactive whiteboard system ECP input**

> **IMPORTANT** It is recommended that you reserve the VGA connector on the ECP to install your guest computer's video output. If you will not have guest computers, you can use the VGA connector on the ECP to install your host computer's video output.
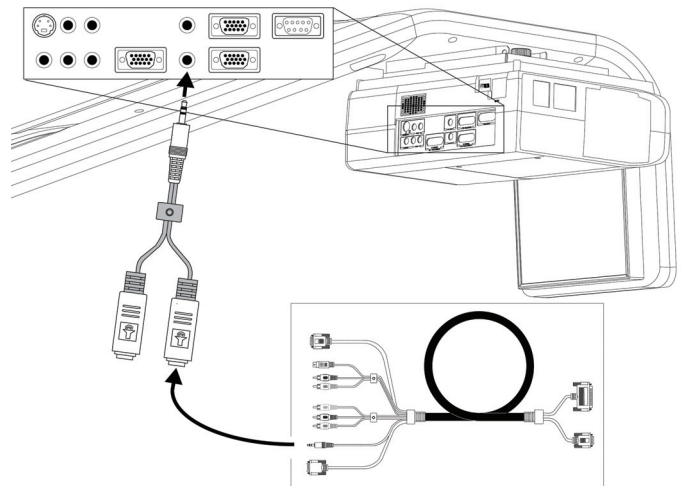
**Connecting your host computer video output to your ECP input**

1. Make sure you have a VGA cable (not included) long enough to connect your guest computer to your ECP.

2. Connect the VGA cable to the VGA input connector on the bottom of your ECP.

3. Connect the other end of your VGA cable to your computer's video output connector.



**Connecting your host computer audio output to your ECP input**

1. On your Unifi 45 projector, attach the SMART audio mixer device to your projector's 3.5 mm audio input jack.

2. On your projector, connect the audio 3.5 mm plug from your ECP harness cable to the one of the two inputs jacks on the SMART audio mixer device. The other input jack on the SMART audio mixer device will not be used and that is acceptable for this type of installation.

3. Make sure you have an audio cable with 3.5 mm plugs (not included) long enough to connect your host computer to your ECP.



---

4. On your ECP, connect your audio cable (not included) with the 3.5mm plug to the audio input jack next to the VGA input connector.

5. Connect the other end of your audio cable (not included) to your computer's audio output.

**To connect video outputs from your host and guest computer to your projector and ECP inputs**

---

**IMPORTANT**

☞      Only use the input marked "Computer 1" on your projector to connect the ECP harness cable.

---

**Connecting video outputs from your computers to your projector and ECP inputs**

1. Make sure you have VGA cables (not included) long enough to connect your host computer to your Unifi 45 projector and your guest computer to your ECP.

2. Connect the VGA cable (not included) for your host computer to the input marked "Computer 2" on your projector.

3. Pass the VGA cable from your projector into the cable channel's upper end on the projector boom. Pass the VGA cable through the cable channel's lower end and then pass the cable behind the SMART Board interactive whiteboard to your host computer.

4. Connect the other end of the VGA cable to your host computer's video output connector.

5. Connect the VGA cable (not included) for your guest computer to the VGA input connector on the bottom of your ECP.

6. Connect the other end of the VGA cable to your guest computer's video output connector.
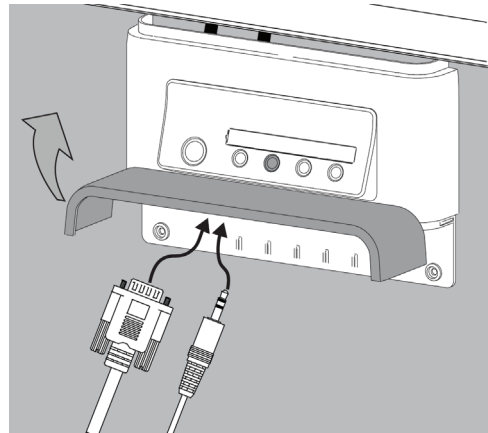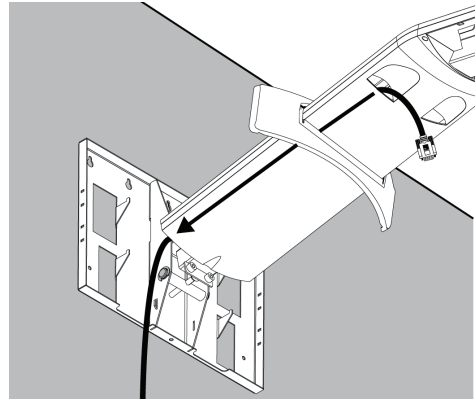
**Connecting audio outputs from your computers to your projector and ECP inputs**

1.  On your Unifi 45 projector, attach the SMART audio mixer device to your projector's 3.5 mm audio input jack.

2.  Make sure you have audio cables with 3.5 mm plugs (not included) long enough to connect your host computer to your projector and your guest computer to your ECP.

3.  On your projector, connect your ECP harness cable's audio 3.5 mm plug to one of the two input jacks on the SMART audio mixer device.

4.  On your projector, connect your host computer's audio cable (not included) with the 3.5 mm plug to the other input jack on the SMART audio mixer device. Pass the audio cable from your projector into the cable channel's upper end on the projector boom. Pass the audio cable through the cable channel's lower end and pass it behind the SMART Board interactive whiteboard to your computer.

5.  Connect the other end of your host computer's audio cable to your host computer's audio output.

6.  On your ECP, connect your guest computer's audio cable (not included) with the 3.5mm plug to the audio input jack next to the VGA input connector.

7.  Connect the other end of your guest computer's audio cable (not included) to your guest computer's audio output.
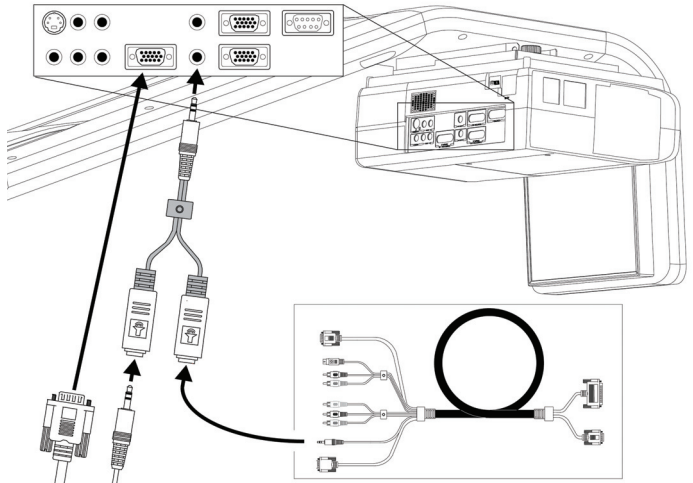
**Connecting Peripheral Visual or Audio-Visual Devices**

To connect a DVD player, VCR, document camera, digital camera or other visual or audio-visual peripherals to the SMART Board 600i2 interactive whiteboard system you must connect your peripheral's video and audio outputs to the ECP. You can have up to three peripheral devices and a host computer connected at one time.

**To connect S-video, composite and other audio-visual inputs for peripheral devices**

| IMPORTANT ☞ | • The 600i2 interactive whiteboard system doesn't have speakers. Consult your authorized SMART reseller to determine your audio output options. |
| --- | --- |
| | • If you have peripheral devices that don't use a 4-pin mini-DIN connectors or an RCA composite video jack, or if your device has an audio connection that doesn't use RCA jacks, you might need to purchase third-party adapters. |

1. Turn off your SMART Board 600i2 interactive whiteboard system.

2. Connect the device's video cables to the ECP using the appropriate inputs. Input 2 is the VGA connector, input 3 is the S-video 4-pin mini-DIN connector and input 4 is the composite video input connector.

3. For each peripheral device, connect the device's audio cables to the associated red and white  RCA jacks next to the appropriate video input connector.
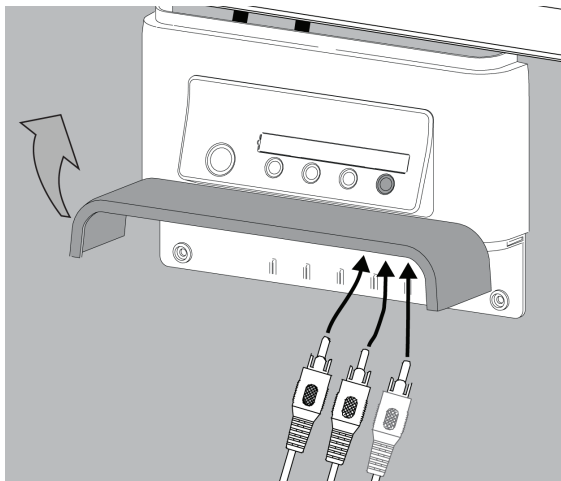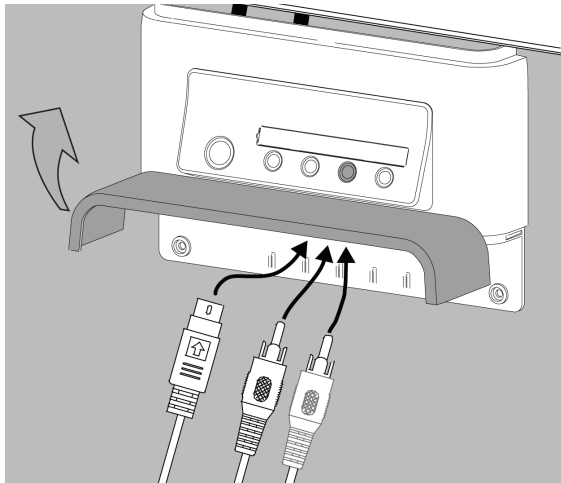
# Using Your 600i2 Interactive Whiteboard System

**In This Chapter**

This chapter describes the basic operation of your interactive whiteboard system, how to retrieve system information and how to access the projector's image adjustment options.

- After Completing the Installation
- Using Your Extended Control Panel (ECP)
- Using Your Interactive Whiteboard
- Using Your Unifi 45 Projector System
- Adjusting Your Projector Settings
    - Image Adjustment Options
    - Position Adjustment Options
    - Setting Display
    - Default Setting 1
    - Default Setting 2
    - Status Display

## After Completing the Installation

Make sure you flip the projector's master **Power switch** (on the side of the projector nearest the interactive whiteboard) to turn on the SMART Board 600i2 interactive whiteboard system. Do not flip this power switch off unless maintenance work is being done, or you have been instructed to do so by an accredited SMART technical support specialist. The interactive whiteboard system will not fully operate unless you flip this switch to on. Instead of the master **Power switch** on the projector, use the **Power button** on the extended control panel to turn the system on and off regularly.

When you connect your interactive whiteboard system to a computer with SMART Board or SMART Notebook software installed, you can access the full capabilities of the software. The computer interprets your touch on the interactive screen and moves the pointer to the corresponding point on the computer's screen. You can also use the pen tray tools to add or remove digital ink on the interactive whiteboard screen.

**NOTE:** For more information on SMART Board or SMART Notebook software and Ink Aware applications, see the software's online Help.

## Using Your Extended Control Panel (ECP)

Your ECP includes a **Power** button and four **Input Selection** buttons. You can connect up to three peripheral devices and one host computer at the same time.

**To power up the interactive whiteboard system and select an input**

1. Press the ECP's **Power** button or an **Input Selection** button to turn the system on.
2. Press an **Input Selection** button to change the video source.

    **NOTE:** Depending upon the video source, it may take several seconds for the video signal to change.

3.  Press the ECP's **Power** button twice when you are finished to turn the system off.

| | |
|---|---|
| **CAUTION** ⚠ | After you turn the system off, wait until the system cools completely before turning the system on again. Avoid cycling the system off and on. |

| | |
|---|---|
| **TIP** 💡 | Consider leaving the system on between lessons. Repeatedly turning the system on and off can reduce the lamp's life span. Allow the system to turn off and cool completely before restarting it. |

## Using Your Interactive Whiteboard

Refer to your 600 series interactive whiteboard installation and user's guide  for information about all your interactive whiteboard's features.

## Using Your Unifi 45 Projector

| | |
|---|---|
| **WARNING** ⚠ | • Tell users not to look directly at the light beam from the projector. Instead, encourage them to keep their back to the projector when working at the interactive whiteboard. Before they turn to face the audience, they should step sideways, out of the projector's beam. |
| | • Make sure you don't look directly into the light beam from the projector. Instead, keep your back to the projector when working at the interactive whiteboard. Before you turn to face the audience, you should step sideways, out of the projector's beam. |
| | • Tell users not to touch the head or lens of the projector, as it can become extremely hot during normal operation. |

The Unifi 45 projector includes a master **Power** switch and three status indicators.

Flip the projector's master **Power** switch (on the side of the projector nearest the interactive whiteboard) to turn on the SMART Board 600i2 interactive whiteboard system. You can view the **Lamp**, **On/Standby** and **Temp** status indicators on the projector's underside to determine the projector status and to troubleshoot unexpected behavior.

### Using Your Remote Control

The Unifi 45 projector system remote control enables you to open on-screen projector menus and change the projector settings. You can also use the remote control's **On/Standby** button to turn the projector system on or off.

The adjustment options are accessible via the remote control's **MENU** button. To switch between menu headings, press the **left** ◀ and **right** ▶ buttons. To access a menu option, press the **up** ▲ or **down** ▼ button and choose the relevant menu option. To cycle between menu option settings, press the **left** ◀ or **right** ▶ button. Press the **enter** ↵ button when you are satisfied with the settings. Press **RETURN** to go to the previous screen.

**Menu Options**

| MENU HEADING | IMAGE ADJUSTMENT | POSITION ADJUSTMENT | SETTING DISPLAY |
|---|---|---|---|
| Menu Options | Contrast | Phase | Screen Size |
| | Brightness | Frequency | Language Support |
| | Color | H - Position | Background |
| | Tint | V - Position | Icon |
| | Sharpness | Clamp Pulse 1 | Start-up Screen |
| | Picture Mode | Clamp Pulse 2 | User Logo |
| | Advanced | | |

| DEFAULT SETTING 1 | DEFAULT SETTING 2 | STATUS DISPLAY |
|---|---|---|
| Keystone | Projection Mode | Input |
| Blackboard Mode | Fan Mode | Mode Name |
| No Signal Power-off | Lamp Power | Resolution |
| Auto Input Search | Reset All | Frequency |
| Beep | | Sync |
| Power On | | Lamp Time |
| | | Lamp Reset Count |
| | | Total Time |
| | | Version |

## Adjusting Your Projector Settings

### Image Adjustment Options

#### Contrast

This option adjusts projector contrast, from minus 16 to 16.

#### Brightness

This option adjusts projector brightness, from minus 16 to 16.

#### Color, Tint and Sharpness

Use these options to adjust your NTSC, SECAM or PAL video signal. You can't use these options to change your computer RGB signal settings.

#### Picture Mode

This options adjusts the projector output to **Bright**, **Standard** and **True Color** mode.

**Advanced**

> **Noise Reduction** – This option reduces projected noise from 1 to 3.
> **Red Level** – This option adjusts input red levels, from minus 16 to 16.
> **Green Level** – This option adjusts input green levels, from minus 16 to 16.
> **Blue Level** – This option adjusts input blue levels, from minus 16 to 16.

## Position Adjustment Options

### Phase

This option adjusts the reception phase, for correcting waveform issues on your graphics card, from 0 to 63.

### Frequency

This option adjusts the projected frequency of the image from minus 64 to 64.

### H–position

This option adjusts the horizontal position of the projected image from minus 64 to 64. Do not adjust this option unless advised to do so by a certified SMART technical support representative.

### V–position

This option adjusts the vertical position of the projected image from minus 32 to 0. Do not adjust this option unless advised to do so by a certified SMART technical support representative.

### Clamp Pulse 1 and Clamp Pulse 2

These options allow performance calibration for graphics card issues and long VGA input cables, from 0 to 255.

## Setting Display

### Screen Size

This option adjusts the projector picture size to **Normal**, **Full** and **Thru** settings.

### Language Support

Projector menu support is available in English (default), French, German, Italian, Spanish, Portuguese, Russian, Swedish, Turkish, Polish, Norwegian, Finnish, Czech, Hungarian, Greek, Danish, Dutch, Romanian, Japanese, modern Chinese, traditional Chinese and Korean.

### Background

This option sets the background between **Logo** (displays the SMART Technologies logo), **Blue** (displays a blue screen) and **None** (displays no background).

### Icon

This option turns the icon display **On** or **Off**.

### Start-Up Screen

This option turns the start-up screen **On** or **Off**.

**User Logo**

> **Logo Registration** – This option performs a logo change, based on the image being projected. You can change the start-up logo to reflect your school or company logo, provided it fits in the template area.
>
> **Display Style** – This option selects a **Large** (full screen) or **Small** (partial screen) logo size.

## Default Setting 1

### Keystone

This option adjusts the vertical keystoning on the projector unit from minus 60 to 60 (depending on your firmware version, positive settings may not be accessible).Do not adjust this option unless advised to do so by a certified SMART technical support representative.

### Blackboard Mode

Blackboard mode is a quick adjustment setting for the display color temperature of the projector. The default setting is **Off**. SMART recommends that you keep this setting when using your Unifi 45 projector with your interactive whiteboard system. Do not adjust this option unless advised to do so by a certified SMART technical support representative.

### No Signal Power Off

The projector detects when there is no input connected. Select **Off** if you want the projector to wait for your instruction to turn itself off or select **30 Min** if you want the project to wait 30 minutes before shutting off automatically.

### Auto Input Search

Select **On** to automatically switch to a newly connected input, or select **Off** to use button selection to change to a new input.

### Beep

Select **On** to hear an audible beep when you press or select menu options.

### Power On

This option sets the Power On setting to **Manual** or **Auto**. Selecting **Auto** automatically starts up the projector when the main power is activated.

## Default Setting 2

### Projection Mode

This option allows you to choose from various projection positions. The default setting applied from the factory. Do not adjust this option unless advised to do so by a certified SMART technical support representative.

### Fan Mode

Select **Standard** mode for use in environments up to 6000' (1829 m) in elevation and **High** mode for use in environments between 6000' (1829 m) and 9800' (2987 m).

**Lamp Power**

For reduced energy usage and to extend lamp life, select the **Standard** setting. For brighter projection at higher power draw and decreased lamp life, select the **High** setting.

**Reset All**

This option resets all your projector settings to their factory defaults. Do not adjust this option unless you want to reset all applied settings, or you are advised to do so by a certified SMART technical support representative.

## Status Display

This screen is for reference purposes. No adjustable options exist in this menu, however you can use it to troubleshoot problems with your system.

**Input**

This field shows your current active input setting: Computer 1, Computer 2, S-video or Composite.

**Mode Name**

This field shows the name of your current display mode.

**Resolution**

This field shows your current display resolution.

**Frequency**

This field shows your current refresh rate frequency.

**Sync**

This field shows your current synchronization rate.

**Lamp Time**

This field shows the duration of your projector lamp's use.

**Lamp Reset Count**

This field shows the number of times the lamp count has been reset.

**Total Time**

This field shows the duration of your interactive whiteboard system's use since initial startup.

**Version**

This field shows your projector firmware version.

# Maintaining Your 600i2 Interactive Whiteboard System

**In This Chapter**

This chapter includes methods to prevent damage to your SMART Board 600i2 interactive whiteboard system and how to properly clean and care for your SMART Board 600i2 interactive whiteboard system. Follow the additional instructions and recommendations in your 600 series interactive whiteboard's <u>installation and user's guide</u> to properly maintain your interactive whiteboard.

- Preventing Damage to Your Interactive Whiteboard
- Cleaning the Interactive Whiteboard
- Cleaning the Pen Tray
- Cleaning the Unifi 45 Projector
- Preparing to Replace the Projector Lamp

## Preventing Damage to Your Interactive Whiteboard

Although the SMART Board 600 series interactive whiteboard surface is very durable, take these precautions to prevent damage to the interactive screen and to other components.

- Don't use sharp or pointed objects, such as ballpoint pens or pointers, as writing tools.
- Never use abrasive erasers or harsh chemicals when cleaning.
- Never leave adhesive tape on the writing surface for extended periods. Lifting the tape may remove the coating that provides the interactive whiteboard's dry-erase capability.
- Avoid setting up and using your interactive whiteboard in an area with excessive levels of dust, humidity or smoke.

## Cleaning Your Interactive Whiteboard

For additional cleaning instructions, refer to your 600 series interactive whiteboard <u>installation and user's guide</u>. With proper care, your SMART Board interactive whiteboard will provide years of trouble-free service. Follow these tips to keep the screen surface clean:

**NOTE:** Before you clean your 600 series interactive whiteboard, shut down the computer or unplug the USB cable connecting your interactive whiteboard to the computer. Otherwise, you may inadvertently activate applications or scramble an attached computer's desktop icons when you clean the screen.

- Do not use low-odor dry-erase markers such as EXPO2®, because they can be very difficult to remove. Use standard dry-erase (high-odor) markers that include a warning to use them only in well-ventilated areas.
- Erase dry-erase ink as soon as possible after use. The longer dry-erase ink is on the surface, the more difficult it is to remove.
- Remove excess dry-erase dust with a damp cloth before using a cleaner.
- If erasing doesn't completely remove dry-erase ink, clean the writing surface with a household glass cleaner (such as Windex®) daily, weekly or as required.
- Use dry-erase marker cleaner if ink remains after erasing.

- Don't allow excess glass cleaner to flow into the crack between the lower frame and the writing surface, or into the pen tray recesses.
- Use isopropyl alcohol for stubborn stains and ghosting.

To remove marks made with a permanent marker, you can use a cleaner such as the Sanford EXPO Dry Erase Board Doctor. Write directly over the permanent ink stain with the product, allow the solution to dry completely and then wipe clean.

You can also use a high-odor dry-erase marker to remove marks from a permanent marker because dry-erase ink contains solvents that can remove permanent ink. Cover the permanent ink with the dry-erase ink and wipe with a soft cloth while the ink is still wet. If any trace of the ink remains, spray a cloth with a glass or whiteboard cleaner and wipe the area clean.

---

**TIP**

When removing permanent marker ink, don't use low-odor of non-scented dry-erase markers. They don't contain the appropriate solvents.

---

## Cleaning the Pen Tray

If the infrared sensors in the bottom of the pen tray's recesses are obstructed, the sensors can't reliably detect when a pen or the eraser is removed or replaced. The recessed LED may remain lit or won't light, and the lifted tool won't work.
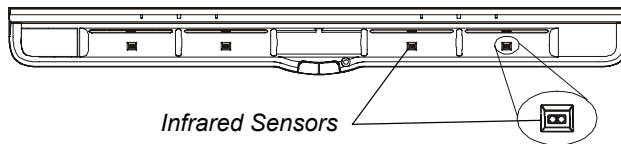


*Infrared Sensors*

To clean a sensor, moisten a cotton swab with a household glass cleaner, such as Windex, and carefully clean the infrared transmitter and receiver.

**NOTE:** There are no user serviceable parts inside the pen tray. Only qualified personnel should disassemble the pen tray. If dust or a small object prevents you from pressing a button, or causes a button to stick, remove the object carefully.

## Cleaning the Unifi 45 Projector System

| WARNING ⚠️ | Cleaning a boom-mounted projector may result in a fall and injury. |
|---|---|

| CAUTION ⚠️ | Before you clean the Unifi 45 projector, turn off the power button on the ECP, and then the master power switch on the back of the projector. Wait 15 minutes for the projector to cool, and then clean the unit. Turn the projector's master power switch back on when you are done. |
|---|---|

Wipe the exterior of the projector using a dry, soft cloth.

Avoid touching the mirror located on the end of the projector boom. If necessary, you can use liquids or commercial solvents (such as glass cleaners) to clean the mirror, but do not spray them directly on the system. Spraying the system or the mirror might spread a chemical mist on some of the projector's components and lamp, resulting in damage and poor image quality. Spray the liquid or commercial solvent onto a soft lint-free cloth to clean the mirror.

Clean the projector lens with a commercially available blower or lens cleaner. Take care not to scratch the lens.

| CAUTION ⚠️ | Do not allow liquids or commercial solvents of any kind to flow into the projector base or head. Do not use spray cleaners or solvents near any part of the projector, as it may damage or stain the unit. |
|---|---|

## Preparing to Replace the Projector Lamp

If a lamp fails or if a replacement message appears on the screen, a qualified person can replace the projector lamp. Do not access the service panel without having a replacement lamp and its instructions in hand.

| WARNING ⚠️ | • If the projector is mounted on the boom, the manufacturer recommends contacting your SMART reseller when the lamp has to be exchanged. |
|---|---|
| | • Uncovering the lamp while the projector is mounted on a boom may lead to a danger of damage or injury from falling pieces of glass if the lamp is broken. |
| | • Remove the projector from the boom before servicing the lamp. Complete the procedure in this document first, before following the instructions included in your replacement lamp box. |
| | • Only qualified personnel should replace the projector lamp. Replacing the lamp in a boom-mounted projector may result in a fall and injury. |
| | • If you continue to use the projector after the replacement message appears, the lamp may shatter or burst, scattering glass throughout the projector head. |
| | • If the lamp has shattered or burst, do not touch the glass fragments as they may cause injury. Leave and then ventilate the area where the lamp shattered or burst. 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, as they may be contaminated. |

| WARNING | • | If the lamp has shattered or burst, call a SMART authorized service representative for instructions. Do not attempt to replace the lamp. |
|---|---|---|
| ⚠ | • | Turn the projector off and wait 15 minutes for the lamp to cool completely before removing the old lamp assembly. |
| | • | Wear protective eyewear while changing the lamp. Failure to do so can cause injury or loss of eyesight if the lamp shatters or bursts. |
| | • | Use only the SB20 replacement lamp (SMART Order Number 01-00247). |
| | • | The lamp used in the Unifi 45 projector contains mercury. Recycle or dispose of it as hazardous waste, in accordance with local regulations. |
| | • | To prevent premature lamp failure or exposure to mercury, always handle the fragile lamp assembly with care. Use gloves when touching the lamp, don't touch the lamp with your fingers. |
| | • | Never replace the lamp assembly with a previously used lamp assembly. |

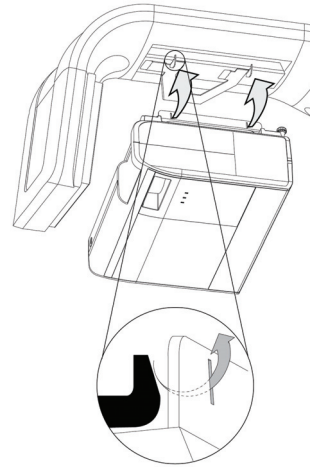### To remove the projector plate assembly from the projector boom

1. Put the system in standby mode by pressing the power button on the ECP. Wait for the system to enter standby and then turn the projector's master power switch off to shut off the system.

2. Unplug the power cord and all connected cables.

3. Wait at least 15 minutes for the projector to completely cool.



4. While holding on to the projector with your hand, and without putting pressure or weight onto the Unifi projector boom, unscrew the thumbscrew that connects the projector plate assembly to the projector boom. When the thumbscrew is removed, the projector plate assembly swings freely. Put the thumbscrew in a safe place.

5. Carefully disengage the projector plate assembly's hinge channel from the connecting flange hook on the projector boom.

6. Unscrew the three screws connecting the projector plate to the projector. Put the screws in a safe place.

7. Lay the projector on your working area so that the warning lights and setting buttons face upwards.

8. Refer to the documents included with the replacement projector lamp for specific instructions on how to remove and install the lamp.
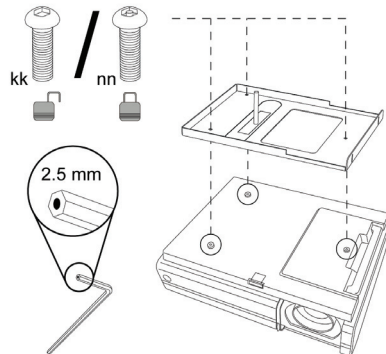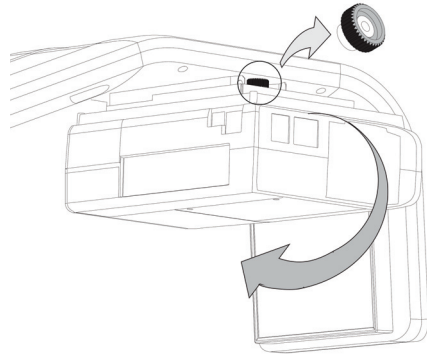


*The Projector Plate Assembly includes the Projector Plate, and the Unifi 45 Projector.*

**To replace the projector plate assembly on the projector boom**

1. Complete the last step of the replacement projector lamp instructions.

2. Attach the projector plate to the projector using the three screws you removed from the projector plate assembly.

3. Put the projector plate assembly back on the projector boom, by attaching the projector plate hinge channel to the corresponding flange hook on the projector boom.

4. Hold on to the projector plate assembly firmly when raising the assembly.

5. Raise the projector plate assembly, while keeping it attached to the flange hook. Pass the threaded rod through the attachment hole on the projector boom. Secure the projector by attaching and screwing the thumbscrew you removed from the projector plate assembly to the threaded rod.

6. Plug in the power cord and all the connector cables.

7. Turn on the projector's master power switch, then press the power button on the ECP to start up the system.

8. You may need to realign the image after you have replaced the projector plate assembly. Turn the thumbscrew to adjust the level position, while firmly holding the projector. Refer to the installation guide for further adjustment instructions.
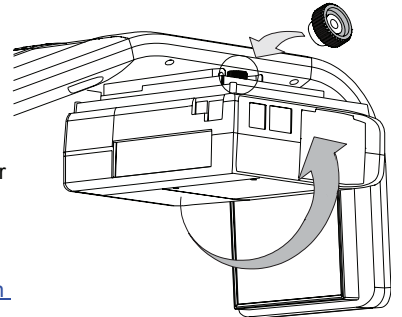
**To reset the lamp timer**

1. After you turn the system back on, press the **up** button on the remote control for approximately 10 seconds. When the projector beeps, press the **down** button on the remote control for approximately 10 seconds. The lamp timer clears after another beep.

2. To confirm that the lamp timer has been reset, press the **MENU** button on the remote control. Scroll to the **Status Display** menu heading, and confirm that **0H** appears in the **Lamp timer** field.

3. After confirming that the lamp timer has been reset, put the system in Standby mode by pressing the power button on the ECP.

4. Wait for the system to enter Standby mode, and then turn off the projector's master power switch to shut off the system. Then turn on the projector's master power switch.

5. When you are ready to use the system, press the power button on the ECP to start up the system.

*Maintaining Your 600i2 Interactive Whiteboard System*

# Troubleshooting Your 600i2 Interactive Whiteboard System

**In this Chapter**

This chapter deals with basic troubleshooting issues for your SMART Board 600i2 interactive whiteboard system that you can easily solve. For more complex issues or issues not mentioned in this section, please contact your authorized SMART reseller and consult the SMART technical support website.

• System Warning Lights

– Extended Control Panel (ECP) Ready Light and System Status

– Projector Ready Lights and Projector Status

– Interactive Whiteboard Ready Light

## System Warning Lights

### Extended Control Panel (ECP) Ready Light and System Status

The ECP ready light is located on the ECP's main power button. This button also functions as your status warning light.

| Ready light | Status |
|---|---|
| off | The projector system is not receiving power. Check your power cord and power supply. If nothing changes after checking your power cord and power supply, call your authorized SMART reseller to solve the problem. |
| solid amber | The projector is receiving power, but it is turned off. |
| flashing green | The projector is receiving power and is starting up. |
| solid green | The interactive whiteboard system is on. |
| flashing amber | The interactive whiteboard system is about to enter Standby mode. |

### Projector Ready Lights and Projector Status

The three projector ready lights are located on the underside of the projector. They are marked Lamp, On/Standby and Temp (for temperature).

| Lamp status light | On/Standby status light | Temp status light | Projector Status |
|---|---|---|---|
| off | off | off | The projector isn't receiving power. Check the connection and the power supply. |
| off | solid green | off | The projector is operating normally. |
| off | solid red | flashing red | The projector is overheating. Make sure nothing is blocking the airflow into or away from the internal fans. Turn off, unplug and reconnect the power cord, wait a few minutes and then turn on the system. |

| Lamp status light | On/Standby status light | Temp status light | Projector Status |
|---|---|---|---|
| solid red | solid red | off | There is a lamp power error. If the lamp warning recently appeared, unplug the power cord and change the lamp. Otherwise shut down, unplug and reconnect the power cord, wait a few minutes and then turn on the system. |
| flashing amber | solid red | off | There is a power failure, or the lamp cover isn't installed correctly. Unplug the power cord, check and re-attach the cover if necessary, reconnect the power cord, wait a few minutes and then turn on the system. |
| different than any other status listed above | different than any other status listed above | different than any other status listed above | Other errors have occurred that might require diagnosis and professional work. Unplug and reconnect the power cord, wait a few minutes and then turn on the system. If nothing changes, call your authorized SMART reseller to solve the problem. |

**Interactive Whiteboard Indicators and Controls**

The SMART Board 600 series interactive whiteboard includes the following indicators and controls:

- the ready light LED
- the pen tray LEDs and buttons
- the controller module's Reset button

The ready light LED is in the lower-right part of the interactive whiteboard's frame. The Ready light indicates the operational state of the controller module. If the interactive whiteboard starts responding unusually or the LED displays colors other than green when it is on, try resetting the power and unplugging the USB connection to your computer. Consult your 600 series interactive whiteboard installation and user's guide to solve common issues. If the issues still continue, refer to SMART's online diagnosis flowcharts, document 117615 on the SMART support website.

# Remote Management of Your 600i2 Interactive Whiteboard System

**In This Chapter**

This chapter has detailed instructions on how to set up your computer or your room control system to manage your SMART Board 600i2 interactive whiteboard system settings.

- Programming Commands for Managing Your 600i2 Interactive Whiteboard System Settings
    - Pin Configuration on the Extended Control Panel (ECP) RS-232 Connector
    - Serial Interface Settings
    - Timing and Command Processing
- Command Inventory
    - To allow the ECP to sequence the commands
    - To control the sequence programmatically
    - Query Commands
    - Projector Power Control Commands
    - Set Commands

## Programming Commands for Managing Your 600i2 Interactive Whiteboard System Settings

You can connect a computer or room control system to the Unifi 45 projector's serial interface (RS-232) to externally manage projector settings. Using a computer connection or room control system, you can select video inputs, start up or shut down the interactive whiteboard system and request information, such as projector lamp usage and current settings.

**Pin Configuration on the Extended Control Panel (ECP) RS-232 Connector**

Pin configuration follows a three-wire connection, so that a straight through male to female RS-232 serial cable connects to the serial device in the following arrangement.

| Room Control System | ECP RS-232 Connector | ECP RS-232 Connector Pin Number |
|---|---|---|
| Receive | Transmit | 2 |
| Transmit | Receive | 3 |
| Signal Ground | Signal Ground | 5 |

**NOTE:** Depending on the manufacturer of your room control system, the pin arrangement might vary. Refer to your room control system's instruction manual for proper pin arrangement.

**Serial Interface Settings**

You must configure your computer's serial communication program or your room control system's serial communication settings with the following values:

| Criteria | Input Value |
|---|---|
| Bit Rate | 19,200 bps |
| Data Bits | 8 |
| Parity | None |
| Stop Bits | 1 |
| Flow Control | None |

**NOTE:** Commands must be typed in ASCII format. Terminate all commands and responses with a carriage return.

**To configure your serial interface**

1. Connect your computer to the Unifi 45 projector's serial connector using a straight through DB9M-to-DB9F cable.

2. On your computer, start your serial communications program or terminal emulation program.

3. Configure your serial communication parameters by following your program's instructions.

4. Configure your serial interface settings (using the table in the previous section) and then press ENTER.

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

5. Type commands to configure your settings.

**NOTES**

- If no message appears or an error message appears, your serial interface configuration isn't correct. Return to step 3 and then reset your serial interface settings.

- To see a list of available commands, type **?** and then press ENTER.

- When using your terminal emulation program, activate your program's local echo setting if you want to see characters as you type them.

**Timing and Command Processing**

The Unifi 45 projector responds to commands only at certain power levels and times. There are four projector power states:

- idle (standby)
- powering (start up)
- on (operating)
- cooling (standby)

The embedded firmware program coordinates command sequencing and is capable of buffering up to 127 commands. In each power state, the buffer accepts valid commands until the program can process them.

| Power state | Commands Accepted |
|---|---|
| Idle | The buffer accepts all valid commands.<br>The system processes the **get fwver**, **get bootver**, **get input**, **get powerstate** and **on** commands. |
| Powering | The buffer accepts all valid commands.<br>The program doesn't process commands. |
| On | The buffer accepts all valid commands.<br>The program processes all valid commands. |
| Cooling | The buffer accepts all valid commands.<br>The program doesn't process commands. |

**NOTES**

• In the ON state, a five second delay occurs after every input source change. The program doesn't process commands during this delay.

• In the ON state, if the current input source doesn't have a signal sent—that is, a black screen with the SMART Technologies logo appears—a "Command Failed" message appears when you type contrast and brightness commands.

## Command Inventory

The Unifi 45 projector responds to the commands in the tables on the following pages. Commands are not case sensitive. Type commands exactly as they appear in the left column of the tables, except for number variables, represented by **xx**, and positive/negative variables, represented by **±**. Press ENTER after typing each command.

| CAUTION | • Cycling power to the interactive whiteboard system repeatedly can lock or damage the system or its components. Allow at least 15 minutes after turning off the system for cooling before sending the ON command.<br>• Check your entries carefully before entering your commands. |
|---|---|

| IMPORTANT | The system buffer can delay response times. Response times vary. |
|---|---|

After the projector executes a command, the projector generates a response. There are two ways to program the command sequence to turn on the system, wait for the powering cycle to finish and select an input source:

• allow the ECP to sequence the commands

• control the sequence programmatically

**To allow the ECP to sequence the commands**

1.  Type **on,** and then press ENTER.
2.  Type **set input vga1** and then press ENTER.

**To control the sequence programmatically**

```
┌─────────────────────┐
│   Send Command:     │
│       "on"          │
└─────────────────────┘
          │
          ▼
( Wait for Response )
          │
          ▼
┌─────────────────────┐
│   Send Command:     │ ◄──────┐
│  "get powerstate"   │        │
└─────────────────────┘        │
          │                    │
          ▼                    │
( Wait for Response )    NO    │
          │                    │
          ▼                    │
      ╱ Response:    ╲─────────┘
     ╱ powerstate = on ╲
      ╲               ╱
          │
         YES
          ▼
┌─────────────────────┐
│   Send Command:     │
│  "set input vga1"   │
└─────────────────────┘
          │
          ▼
( Wait for Response )
```
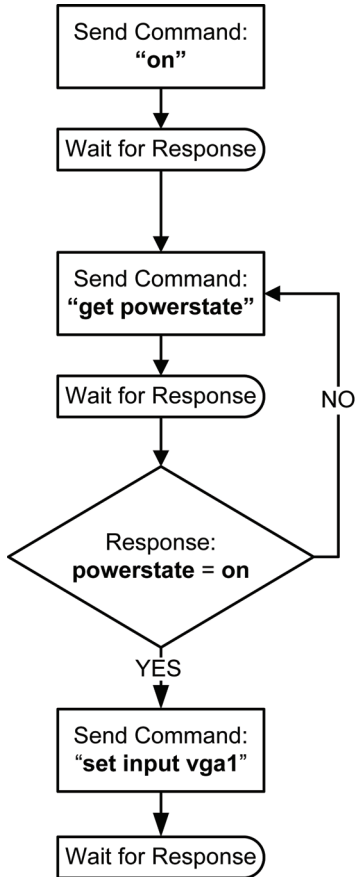
**Query Commands**

| Command | Result | Response (On-Screen) |
|---------|--------|----------------------|
| get fwver | Displays the ECP's firmware version* | FW version = # |
| get bootver | Displays the ECP's bootloader version* | Bootloader version = # |
| get input | Displays the projector's input* | Input = # |
| get powerstate | Displays the projector's power state (Idle, Powering, On or Cooling)* | Powerstate = # |
| get brightness | Displays the projector's brightness setting | Brightness = # |
| get contrast | Displays the projector's contrast setting | Contrast = # |
| get volume | Displays the projector's volume setting | Volume = # |
| get lamphrs | Displays the number of hours the projector lamp has been in use | Lamp hours = # |
| get syshrs | Displays the number of hours the interactive whiteboard system has been in use | System hours = # |
| get pjfwver | Displays the projector's firmware version | Projector FW Version = # |
| get pjserial | Displays the projector's serial number | Projector Serial Number = # |

* This command bypasses internal buffering and generates a response immediately.

**Projector Power Control Commands**

| Commands | Result | Response (On-Screen) |
|----------|--------|----------------------|
| off now | Turns off the Unifi 45 projector immediately | Turning off |
| off | Turns off the Unifi 45 projector normally** | Turning off |
| on | Turns on the Unifi 45 projector normally | Turning on |

** You must send the **off** command twice. The first command displays an on-screen message and the second command shuts off the system. You must send the second command within five seconds, or the first command times out.

**Set Commands**

| Command | Result | Response (On-Screen) |
|---|---|---|
| set input vga1 | Selects the VGA1 projector input | Input = vga1 |
| set input vga2 | Selects the VGA2 projector input | Input = vga2 |
| set input composite | Selects the composite projector input | Input = composite |
| set input s-video | Selects the S-video projector input | Input = s-video |
| set brightness +xx (**xx** is a value between minus 16 and 16) | Increases the brightness by a value equal to **xx** | Brightness = # |
| set brightness -xx (**xx** is a value between minus 16 and 16) | Decreases the brightness by a value equal to **xx** | Brightness = # |
| set brightness =±xx (**xx** is a value between minus 16 and 16) | Sets the brightness to an exact value between minus 16 and +16. The **±** sign represents the value's positive or negative sign and **xx** represents the numeric value. | Brightness = xx |
| set contrast +xx (**xx** is a value between minus 16 and 16) | Increases the contrast by a positive value equal to **xx** | Contrast = # |
| set contrast -xx (**xx** is a value between minus 16 and 16) | Decreases the contrast by a negative value equal to **xx** | Contrast = # |
| set contrast =±xx (**xx** is a value between minus 16 and 16) | Sets the contrast to an exact value between minus 16 and +16. The **±** sign represents the value's positive or negative sign and **xx** represents the numeric value. | Contrast = xx |
| set volume+ (range 0–50) | Increases the volume by a value of 1 | Volume = # |
| set volume- (range 0–50) | Decreases the volume by a value of 1 | Volume = # |

# Regulatory Compliance

## Waste Electrical and Electronic Equipment Regulations

Waste Electrical and Electronic Equipment regulations apply to all electrical and electronic equipment sold within the European Union.

When you dispose of any electrical or electronic equipment, including SMART products, we strongly encourage you to contact your local WEEE recycling agency for recycling and disposal advice.

Your SMART product required the extraction and use of natural resources for its production. It may contain hazardous substances. By disposing of electrical and electronic equipment appropriately, you lower the impact of these substances upon health and the environment and reduce the pressure on natural resources. Recycling agencies can reuse or recycle most of the materials from your product.

Please think about how you intend to dispose of any product that has a WEEE symbol or accompanying WEEE guidelines.

If you need more information on the collection, reuse and recycling of electrical and electronic equipment, please contact your local WEEE recycling agency.

Alternatively, contact your local reseller or SMART Technologies for information on the environmental performance of our products.

## Restriction of Certain Hazardous Substances (RoHS) Directives

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

This product meets the requirements of the European Union's Restriction of Certain Hazardous Substances (RoHS) Directive 2002/95/EC, as well as the People's Republic of China's Control of Pollution Caused by Electronic Information Products (China RoHS).

Subsequently, this product also complies with other, less stringent directives that have arisen in various geographical areas, and that incorporate the European Union's RoHS directive as a basis.

For more information, refer to your local regulations or visit www.smarttech.com.

# Customer Support

## Online Support

Visit www.smarttech.com/support to view and download user's guides, "how-to" and troubleshooting articles, software and more.

## Training

Visit www.smarttech.com/trainingcenter for training materials and information about our training services.

## Contacting SMART Technical Support

SMART Technical Support welcomes your call. However, if you experience difficulty with your SMART product, you may want to contact your authorized SMART reseller first. Your SMART reseller may be able to resolve the issue without delay.

All SMART products include online, telephone, fax and e-mail support:

**Online:** www.smarttech.com/contactsupport

**Telephone:** +1.403.228.5940 or
Toll Free 1.866.518.6791 (U.S./Canada)
(Monday to Friday, 5 a.m. – 6 p.m. Mountain Time)

**Fax:** +1.403.806.1256

**E-mail:** support@smarttech.com

## General Inquiries

**Address: SMART Technologies**
1207 – 11 Ave SW, Suite 300
Calgary, AB  T3C 0M5
CANADA

**Switchboard:** +1.403.245.0333 or
Toll Free 1.888.42.SMART (U.S./Canada)

**Fax:** +1.403.228.2500

**E-mail:** info@smarttech.com

## Warranty

Product warranty is governed by the terms and conditions of SMART's "Limited Equipment Warranty" that shipped with the SMART product at the time of purchase.

## Registration

To help us serve you, register online at www.smarttech.com/registration.

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