# Installation and User's Guide

## SMART Board™ 600 Series
## Interactive Whiteboard

**SMART**
Technologies

# Registration Benefits

In the past, we've made new features available as free software upgrades. Register your SMART product to be notified of free upgrades like these.

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

**Serial Number**　　　_____

**Date of Purchase**　　_____

Register online at www.smarttech.com/registration

# Important Information

**NOTE:** If you own a SMART product other than a SMART Board™ 600 series interactive whiteboard, refer to the installation manual that came with your product for relevant warnings and maintenance instructions. In this document, the term "interactive whiteboard" refers to the interactive whiteboard and its accessories and options.

## Safety Warnings

| WARNING | Failure to follow the installation instructions that ship with the interactive whiteboard, or found in this guide, could result in personal injury or damage to the product. |
|---|---|

| WARNING | Refer to the safety warnings and precautions published by the projector manufacturer. Do not stare (or allow children to stare) directly into the projector's beam of light. |
|---|---|

| WARNING | Ensure that any cables extending across the floor to your SMART Board product are properly bundled and marked to avoid a trip hazard. |
|---|---|

| WARNING | To reduce the risk of fire or electric shock, do not expose the SMART Board interactive whiteboard to rain or moisture. |
|---|---|

| WARNING | Two people are required to mount the interactive whiteboard on a wall because the it may be too heavy for one person to maneuver onto the wall-mounting bracket. |
|---|---|

| WARNING | Do not mount the SMART Board 660 or 680 interactive whiteboard on an FS570 floor stand. Using this older stand could result in product damage or personal injury. Use the FS670 floor stand for these products instead. Do not mount a SMART Board 690 interactive whiteboard on a floor stand. |
|---|---|

| WARNING | Move a floor stand-mounted SMART Board interactive whiteboard with care. Quick stops, excessive force and uneven surfaces may cause the product to overturn. Before moving a floor stand, make sure the anti-tip feet are retracted or locked in the up position. |
|---|---|

| WARNING | Do not stand (or allow children to stand) on a chair to touch the surface of your SMART Board product. Rather, wall-mount the product at the appropriate height or use a SMART height-adjustable floor stand. |
|---|---|

| WARNING | Do not climb (or allow children to climb) on a wall- or stand-mounted SMART Board interactive whiteboard. |
|---|---|
| | If the interactive whiteboard is used in a 600i system, do not climb on, hang from, or suspend objects from the Unifi 35 projector boom. |
| | Climbing on the interactive whiteboard or projector boom could result in personal injury or product damage. |

| IMPORTANT | 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 CAS/UL 60950. This is for operating safety and to avoid damage to the SMART Board interactive whiteboard. |
|---|---|

| IMPORTANT | |
|---|---|
| | If your SMART Board interactive whiteboard requires replacement parts, make sure the service technician uses replacement parts specified by SMART Technologies Inc. or parts with the same characteristics as the original. |

## Other Precautions

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

- Avoid setting up and using the interactive whiteboard in an area with excessive levels of dust, humidity and smoke.
- Don't add any extra weight or excessive pressure to a wall-mounted interactive whiteboard or its pen tray. SMART designed the brackets to support only the weight of the interactive whiteboard during normal use.

## Transporting the Interactive Whiteboard

If you need to ship your interactive whiteboard, we urge you to repack it with as much of the original packaging as possible. If your original packaging is no longer available, you may purchase the same packaging directly from SMART Technical Support (see page 43 for contact information).

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

If you ship your interactive whiteboard frequently, consider purchasing a more durable, hard shipping case from SMART Technologies. With its foam-lined interior, aluminum edges and valances, and steel-reinforced corners, this shipping case protects both your SMART Board interactive whiteboard and, if you have one, a table stand. The case has dual tilt wheels for ease of transport. If you own a SMART Board 640 interactive whiteboard, you may prefer a specially designed carrying bag. For any of these items, contact you local SMART reseller from whom you purchased your interactive whiteboard.

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# About 600 Series Interactive Whiteboards

The SMART Board™ 600 Series product is a touch sensitive, front projection interactive whiteboard that enables you to 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. You can also write over any 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.

## Features

The 600 series interactive whiteboards include many features of previous SMART Board interactive whiteboards, such as analog resistive touch screens and pen trays. Although the basic operation is the same, SMART has made many improvements to make the 600 series look more up-to-date, and easier to use, service and install. Three models are available: the 640, 660, 680 and 690, which are 48", 64", 77" and 94" respectively, measured diagonally.

### Feature Highlights

- Touch system — Write, erase and perform mouse functions with your finger, a pen tray pen or the eraser.
- SMART Pen Tray — Pick up a pen tray pen or the eraser, and the pen tray automatically detects which tool you've selected. Buttons activate the on-screen keyboard, right-click and help functions.
- Durable surface — The hard-coated polyester surface is tear proof, optimized for projection, compatible with dry-erase markers and easily cleaned with whiteboard cleaner.
- Wall-mount bracket — Install your SMART Board interactive whiteboard simply and securely.
- Standard USB cable — Connect the SMART Board interactive whiteboard to your computer.
- RS-232 serial connection (optional) — Connect the SMART Board interactive whiteboard to your computer using a standard RS-232 serial cable.
- Wireless connection (optional) — Connect the SMART Board interactive whiteboard to your computer using wireless USB Bluetooth® technology.
- Speakers (optional) — 14-watt stereo-amplified speakers, with a two-port USB hub, that mount to the SMART Board interactive whiteboard or the wall.
- Expansion slot — Add optional accessories, such as a SystemOn control panel.
- Wall-mount projector brackets (optional) — Mount the NEC WT600 or WT160 short-throw projectors (purchased separately) above the interactive whiteboard models 660 and 680.
- Floor stand (optional) — Mobile, height-adjustable floor stand that includes heavy duty, locking casters and flip-down anti-tip feet.
- Table stand (optional) — Folding, portable stand for table-mounting an interactive whiteboard model 640.

# How Does a SMART Board Interactive Whiteboard Work?

It may help you to think of the interactive whiteboard as an input device for the computer, just like a mouse.

When you touch the interactive whiteboard's surface, the interactive whiteboard detects the contact's vertical and horizontal (or x,y) coordinates. The computer's mouse driver interprets these coordinates and moves the pointer to the corresponding point on the computer's screen.

- When all the pens and the eraser are in their pen tray recesses, SMART Board software interprets your touch as mouse clicks and movements.
- When you remove a pen or the eraser from the pen tray, sensors detect which tool you are using. The SMART Board software then interacts with the computer's mouse driver to change the pointer into a colored pen or eraser, allowing you to create or remove colored pen strokes from the computer's display.

## Projected Mode

Using the SMART Board interactive whiteboard in Projected, or Mouse mode, requires two additional components: a computer and a digital projector.

These components work together as follows:

- The computer runs an application, and then sends the image to the projector.
- The projector casts the image onto the interactive whiteboard.
- The interactive whiteboard acts as both the monitor and the input devices (mouse and keyboard), allowing you to control any application simply by touching the screen.
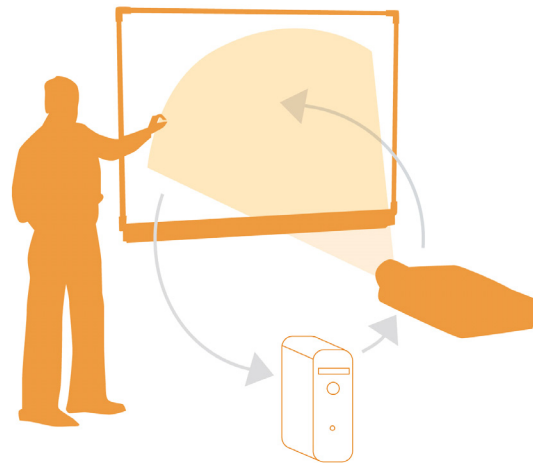
When you run SMART Board software in Projected mode, the touch of your finger on the screen becomes a mouse click, allowing you to run the computer right from the interactive whiteboard's surface. You can also use a pen tray pen to write over any open application, and then save the notes in a SMART Notebook™ file or directly into any Ink Aware application.

## Non-Projected Mode

When you configure the SMART Board interactive whiteboard for Non-Projected mode (also known as Whiteboard mode), you won't be able to operate the computer from the interactive whiteboard. However, you can still use Notebook software to capture, save or print anything you write on the interactive whiteboard.

# Standard Accessories

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

### Standard SMART USB Cable

Your 600 series interactive whiteboard comes with a 16' 5" (5 m) USB cable. This cable is all that is required to connect the SMART Board 600 series interactive whiteboard to a USB receptacle on your computer.
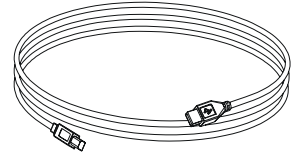
### SMART Board 600 Series Pens

The pens have a rubberized grip area, colored to match the four colors of electronic 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 alternative you provide isn't reflective to infrared light, the pen tray recess might not detect the presence of the pen. EXPO® markers make excellent interim substitutes.
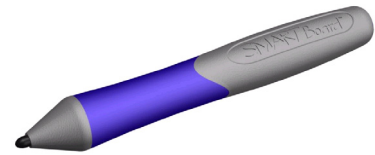
SMART didn't design its older pens to reflect infrared light so the sensors may not detect them reliably. You can wrap light colored tape around the substitute to improve reflection of infrared light, helping with tool detection.

### SMART Board 600 Series Eraser

The eraser is rectangular to mimic a chalkboard eraser. Again, you can use a substitute, as long as it has a similar shape, does not scratch or mark the surface of the interactive whiteboard and reflects infrared light.
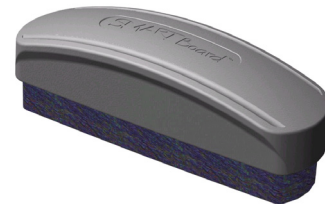
# Optional Accessories

You can purchase these optional accessories when you order your interactive whiteboard, or you can purchase them later from your authorized SMART reseller.

### Serial RS-232 Expansion Module

The RS-232 expansion module provides an alternate method of connecting to a computer. You can also use it to connect the SMART Board 600 series interactive whiteboard to a serial device such as a room control system.

The serial expansion module plugs into the controller module on the back of the SMART Board interactive whiteboard.
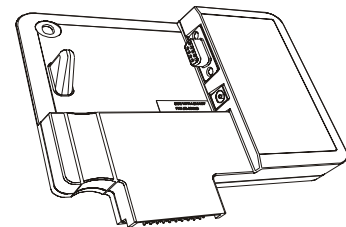
### Wireless Bluetooth Connection

The Wireless Bluetooth Connection for 600 series interactive whiteboards uses Bluetooth technology to allow you to operate your SMART Board 600 series interactive whiteboard without USB cables.

The Wireless Bluetooth Connection expansion module plugs into the controller module on the back of the interactive whiteboard, and the Bluetooth-to-USB converter plugs into your computer's USB receptacle. To ensure a secure connection, the SMART Board expansion module and USB converter support 128-bit encryption.
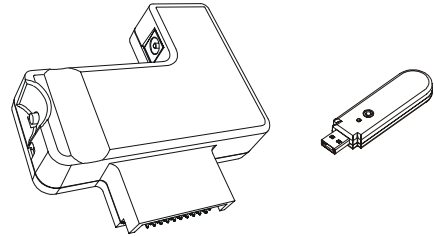
### SystemOn Expansion Module

The SystemOn expansion module brings a projector out of standby mode, and has indicators showing SystemOn component activity.

Two additional features (accessed through the Advanced tab on the interface) are:

- Automatic logoff

  SystemOn logs the user off the computer when the system enters standby mode.

- Display Mode detection

  SystemOn determines which state the projector is in (Normal or Standby mode).
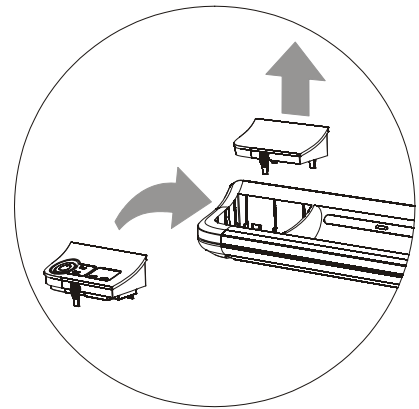
#### Components of the SystemOn Expansion Module

The SystemOn expansion module kit contains:

- a Control Panel module that snaps into the pen tray's expansion slot
- a Projector Controller and Activity Sensor unit that provides power to the projector and relays information between the computer, the projector and the interactive whiteboard's pen tray control panel
- a 16' 5" (5.0 m) USB A/B cable to connect the projector controller to the computer
- a 16' 5" (5.0 m) RJ45 Cat 5 cable to connect the projector controller to the interactive whiteboard's SystemOn control panel
- a CD containing the most recent Windows version of SystemOn software
- a power adapter, for either North America or the United Kingdom, to connect the projector's power cord to the Projector Controller and Activity Sensor.
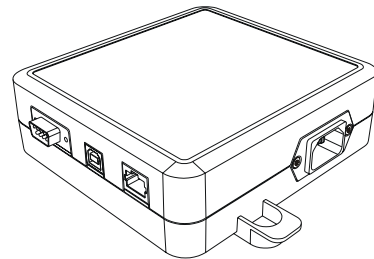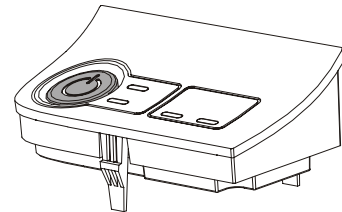
For more information about installing, using and troubleshooting the SystemOn expansion module, refer to the *SystemOn Manual,* Part No. 99-00693-00.

## USB Audio System

You can mount the USB speakers to a
600 series interactive whiteboard, or you
can wall-mount the speakers using the
provided hardware.

The USB Audio System kit includes:

- two speakers (one speaker contains
  a USB hub and an audio amplifier
  with a volume control)
- two speaker-mounting brackets
- two brackets for attaching the
  speakers to 600 series interactive
  whiteboard (as shown)
- a USB cable for connecting the
  speakers to the interactive whiteboard
- an audio cable to connect the second speaker to the amplified speaker
- a power supply module and a cable
- several screws for attaching the speakers and brackets
- a hex tool for tightening the mounting screws
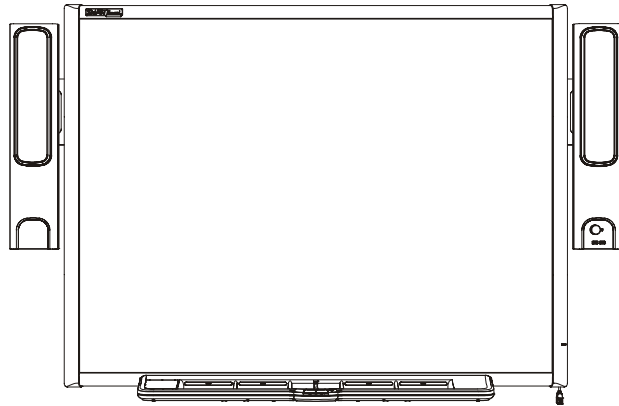
**NOTE:** Full instructions for mounting and connecting your USB Audio System are included with
the kit.

## Active USB Extension Cables

You can use these cables to extend the standard USB cable by
16' (5 m). You can daisy-chain up to four 16' (5 m) USB active
extension cables to a maximum of 80' (25 m), including the
standard USB cable. For more information, see page 19.
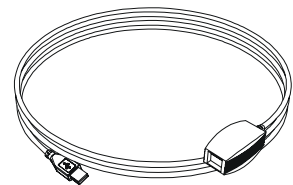
### Cat 5 USB Extender

With the SMART USB extender pair (Part No. CAT5-XT) shown,
you can extend the USB connection up to 120'
(36.6 m) using an RJ45 Cat 5 cable (purchased separately).

The extender set includes a pair of USB cables to connect your
computer and the interactive whiteboard to the extenders.
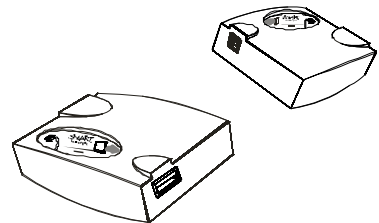
## Projector Wall Mount

You can use the PMWT660 and PMWT680 projector wall-
mounts, for the models 660 or 680 interactive whiteboard
respectively, to support the NEC WT600 or WT610 projectors
(purchased separately).
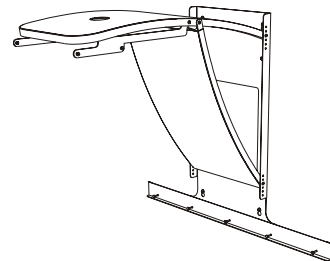
### SMART Board Interactive Whiteboard Floor Stand

You can use floor stand model FS670 with the SMART Board 660 and 680 interactive whiteboards, and you can use floor stand FS640 with the SMART Board 640 interactive whiteboard. The illustration to the right shows the floor stand's flip-down anti-tip feet in the down and locked position.

**NOTES**

• You can use the SMART Board 660 and 680 interactive whiteboards *only* with the FS670 stand. *Do not* modify either the interactive whiteboards or the stand to mount them on the smaller FS640 stand. Using these large interactive whiteboards with the small stand creates a tipping hazard.

• Do not mount the optional USB Audio System speakers on a model 640 interactive whiteboard mounted on an FS640 stand. Using the speakers with the small stands creates a tipping hazard.
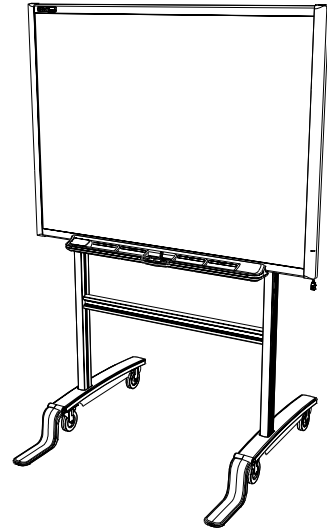
### SMART Board Interactive Whiteboard Table Stand

You can mount the SMART Board 640 interactive whiteboard on a table stand, as shown to the right.

**NOTE:** The larger 660, 680 and 690 models aren't compatible with the TS640 table stand.

The table stand consists of a pair of folding brackets that you attach to the back of the SMART Board 640 interactive whiteboard. You can remove the brackets and fold them flat for transportation or storage.

This illustration shows the back of the interactive whiteboard, with one of the brackets ready to be attached with its two thumbscrews.
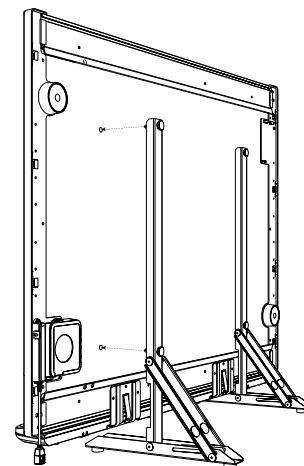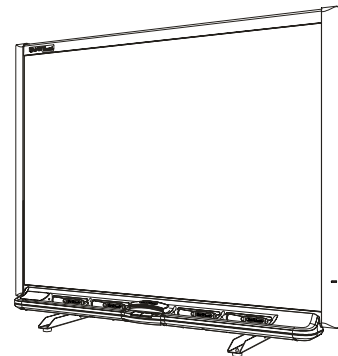
# Installing and Setting Up 600 Series Interactive Whiteboards

## Environmental Requirements

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

### Temperature

SMART Board 600 series interactive whiteboards can operate in the temperature range of 41°F to 95°F (5°C to 35°C). In addition, the product can withstand storage temperatures from -40°F to 120°F (-40°C to 50°C).

### Humidity

SMART Board 600 series interactive whiteboards can operate between 5% and 80% relative humidity non-condensing. Humidity above 80% might cause slight wrinkling in the sheet. The wrinkles will disappear once the humidity is lowered.

### Water and Fluid Resistance

SMART Board 600 series interactive whiteboards 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 or any of its sub-components. These liquids might get into areas where they could damage sensitive electronic components. Refer to page 30 for detailed instructions on cleaning your interactive whiteboard.

### Dust and Scratching

SMART Board 600 series interactive whiteboards 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 600 series interactive whiteboards meet the requirements of EN61000-4-2 severity level 4 for direct and indirect ESD. No malfunction or damage up to 15kV (both polarities) with a 330 ohm, 150 pF probe (air discharge). Un-mated connectors meet 8kV for direct (contact) discharge.

### Conducted and Radiated Emissions

The narrowband radiated electric field from SMART Board 600 series interactive whiteboards meets the limits for Class B performance as defined in EN55022/CISPR 22.

## Mounting SMART Board 600 Series Interactive Whiteboards on a Floor Stand

For operating safety and to avoid damage to the unit, carefully read and observe the following instructions.

- Before moving a floor stand-mounted SMART Board interactive whiteboard, lower the interactive whiteboard to Position 2, and then proceed with care. Quick stops, excessive force and uneven surfaces may cause the interactive whiteboard to overturn. Lift the flip-down anti-tip feet when you move the interactive whiteboard.

- Don't 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.

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**WARNINGS** • Do not mount the SMART Board interactive whiteboard models 660, 680 or 690 on any 500 series floor stand. Using this older stand could result in product damage or personal injury. Only FS670 stands are certified for use with 660 or 680 interactive whiteboards.

• It requires two people to safely mount the interactive whiteboard on a floor stand.

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### To mount the interactive whiteboard on a floor stand

1. Lock all four casters and lock the anti-tip feet in the down position.

   **NOTE:** If you don't hear the anti-tip feet click into the locked position, or if you see the lock-release button still in the unlocked position, then gently tilt the stand backwards slightly to allow the feet to lock.
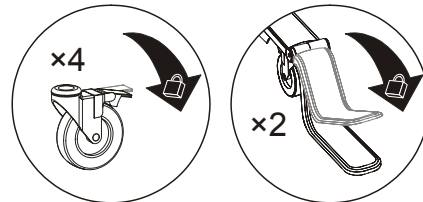


2. Use the provided hex key to make sure that all screws in the floor stand are tight.

3. Partially screw two of the bolts provided into the top holes in the rear of the interactive whiteboard leaving a 1/8" (3.2 mm) space between the bolt heads and the surface.

4. With an assistant's help, hang the interactive whiteboard on the floor stand, lowering the two bolts onto the top hooks on the stand posts.



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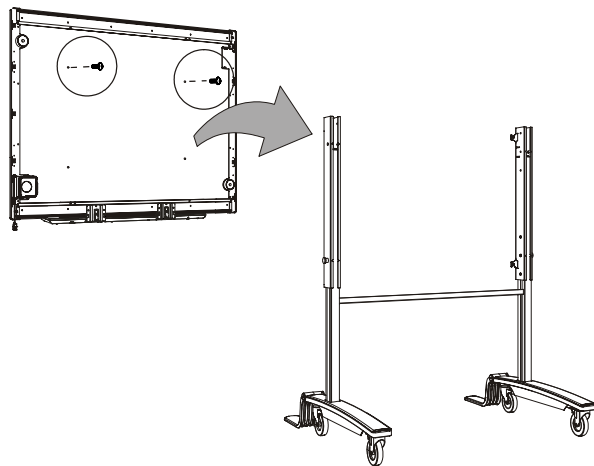
5. Insert the bottom two bolts, and use the provided hex key to tighten all four bolts.
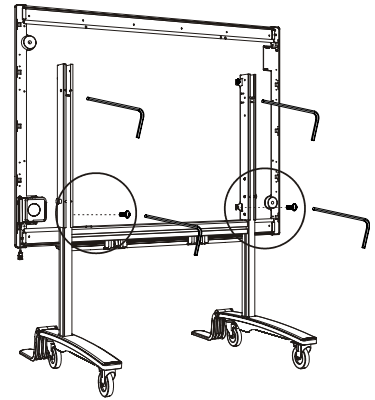
# Wall-Mounting SMART Board 600 Series Interactive Whiteboards

> **WARNING**
>
> ⚠️    It requires two people to safely mount the interactive whiteboard on a wall.

## Recommended Heights for Wall-Mounting

You should consider the general height of your user community when you choose a location for your wall-mounted interactive whiteboard. If the interactive whiteboard is too low, it may force tall people to bend over uncomfortably; if it's too high, short people may need to reach up too far. Also, remember to leave enough room on either side so that you can stand beside it. Use these guidelines to determine the optimal height for your front-projection interactive whiteboard.

### For Children and Adults in Wheelchairs
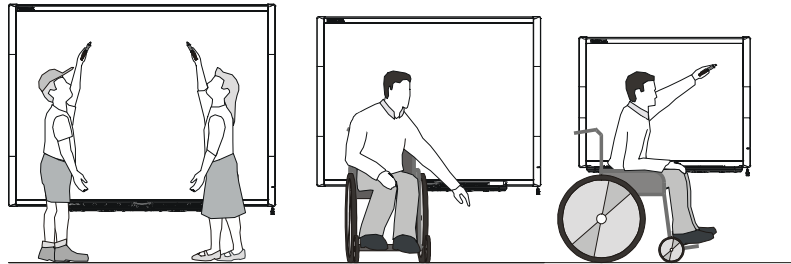
| Interactive Whiteboard Model | Distance from Floor to Bottom of Bracket | Distance from Floor to Top of Interactive Whiteboard |
|---|---|---|
| 680/690 | 59 1/2" (151.1 cm) | 63 3/4" (161.9 cm) |
| 660 | 56 1/2" (143.5 cm) | 60 3/4" (154.3 cm) |
| 640 | 51 1/2" (130.8 cm) | 55 3/4" (141.6 cm) |

### For Adults of Average Height
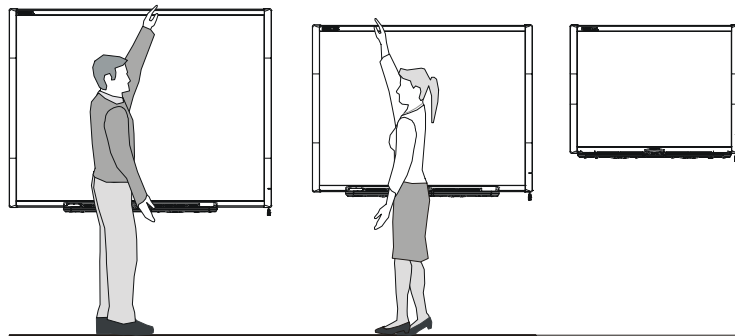
| Interactive Whiteboard Model | Distance from Floor to Bottom of Bracket | Distance from Floor to Top of Interactive Whiteboard |
|---|---|---|
| 680/690 | 77 1/2" (196.8 cm) | 81 3/4" (207.6 cm) |
| 660 | 69 1/2" (176.5 cm) | 73 3/4" (187.3 cm) |
| 640 | 69 1/2" (176.5 cm) | 73 3/4" (187.3 cm) |
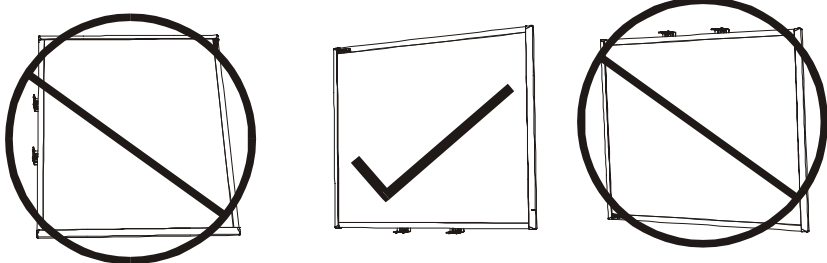
**For Children, Short Adults and for Clearing Obstructions to the Projected Image**

If the users of the interactive whiteboard model 640 are of shorter stature, you may want to mount the interactive whiteboard lower on the wall while keeping it high enough so that furniture or other objects do not obstruct the projected image.
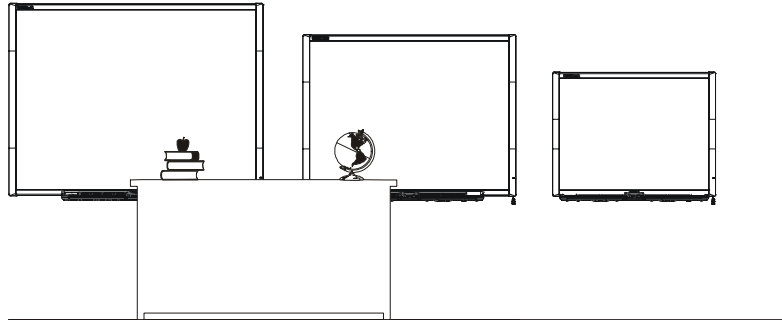
| Interactive Whiteboard Model | Distance from Floor to Bottom of Bracket | Distance from Floor to Top of Interactive Whiteboard |
|---|---|---|
| 640 | 59 1/2" (151.1 cm) | 63 3/4" (161.9 cm) |

| | |
|---|---|
| **CAUTION** | 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 that can sustain the weight of the interactive whiteboard. |

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

**To mount SMART Board 600 Series interactive whiteboards**

The following procedure illustrates the mounting of the 600 series interactive whiteboards onto a wall surfaced with gypsum or drywall.

Tools required:

- a Phillips® No. 2 screwdriver
- a ruler or tape measure
- a carpenter's level
- a pencil, or other marking device
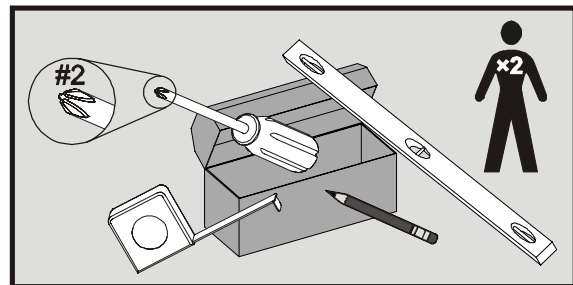
1. Using a pencil, a carpenter's level and a measuring tape or ruler, draw a horizontal line on the wall, centered on the mid-point of the interactive whiteboard's future position

   **NOTE:** The illustration to the right shows a common height for model 680 interactive whiteboards. Refer to the previous pages for recommended mounting heights for other models and audiences.



77 1/2"
(196.9 cm)
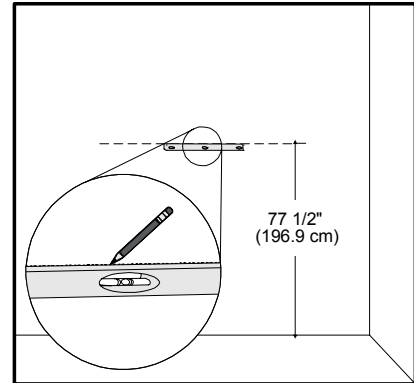
2. Using the mounting bracket as a template, mark the location of the five mounting holes on the wall.
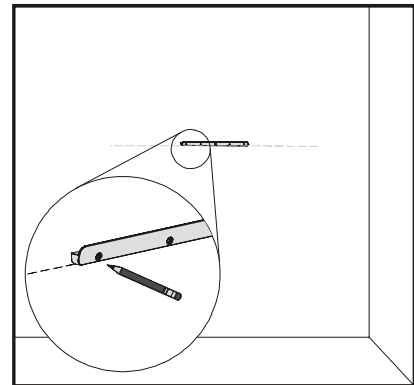


3. At each mark, screw in one of the provided self-tapping wall anchors. *Do not* use a hammer to tap these anchors into the wall.

   If you find it impossible to screw an anchor flush to the wall, you may have encountered a stud. If this is the case, you don't need to use an anchor in this location. The stud will provide adequate support for the screw that secures the bracket to the wall.
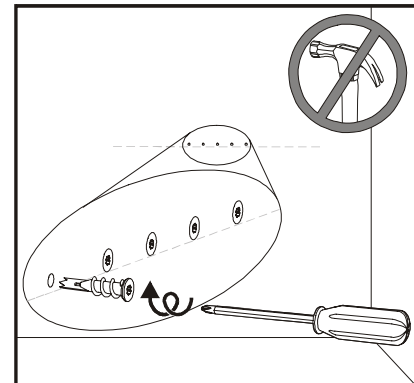


4. Attach the wall mount bracket, using five of the provided screws.

5. Temporarily hang the interactive whiteboard on the wall mount bracket.
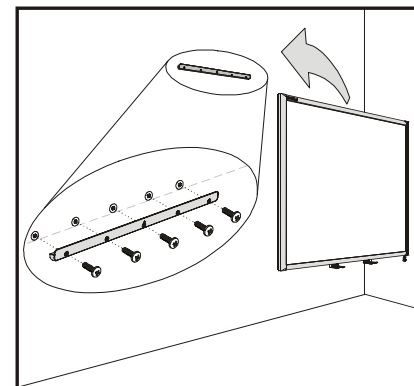
6. Below the bottom frame, you'll find two L-shaped metal brackets. In the center of each bracket there is a metal tab. Push this tab back until it contacts the wall and, using a pencil, mark the location of the mounting holes.
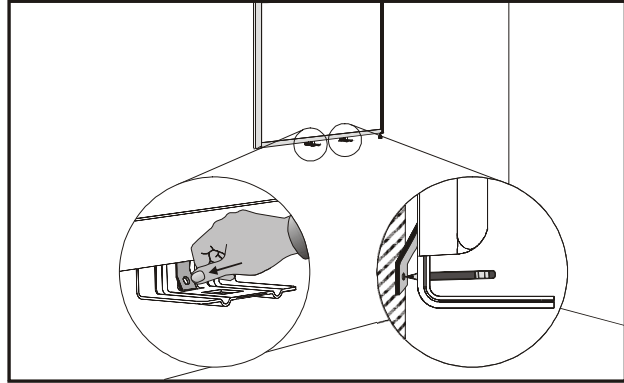


7. Remove the interactive whiteboard from the wall, and screw in one of the self-tapping wall anchors at each mark.
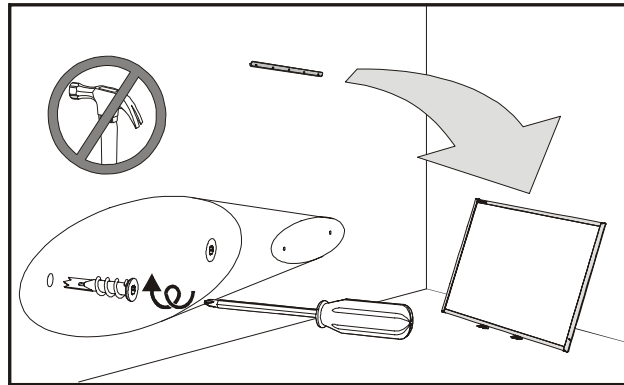


8. Put the interactive whiteboard back on the wall mount bracket, and screw the L-shaped metal brackets to the wall anchors.

    **NOTE:** If you want to lock your interactive whiteboard with a security cable, see *To lock the pen tray to the interactive whiteboard* on page 15 before securing in the brackets.
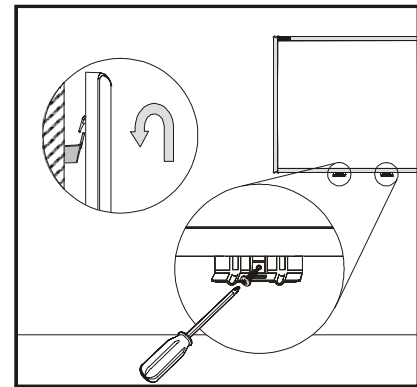


9. Position the pen tray in line with the two L-shaped metal brackets, and slide it toward the wall until it is firmly seated.
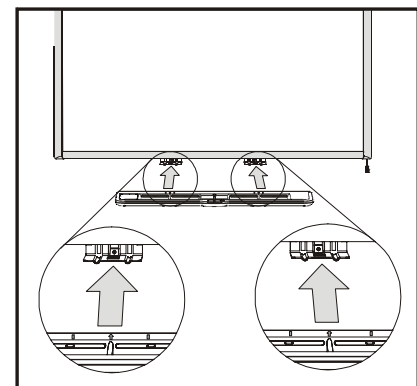
10. Route the modular I²C cable under the lower-right end of the pen tray, and insert it into connector number **1** on the bottom of the pen tray. Press the cable into the strain relief channel on the bottom of the tray. This protects the modular cable's RJ11 connector from damage if the pen tray is removed without first disconnecting the cable.

11. Place the four pens and the eraser into their respective recesses in the pen tray.
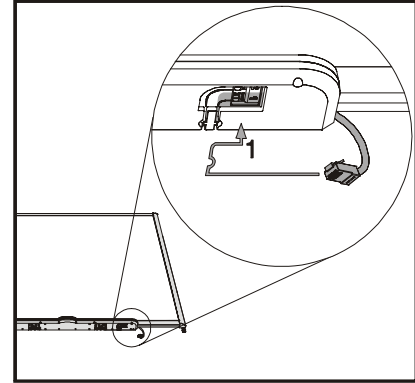
# Securing the Pen Tray and Interactive Whiteboard

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, and must be removed to detach the pen tray. In effect, when you secure the pen tray, you're also securing the interactive whiteboard, if the security cable is tight.

## To lock the pen tray to the interactive whiteboard

Underneath the pen tray, you'll find a lock slot that accommodates a security cable, such as a Kensington® lock.



*Lock Slot*
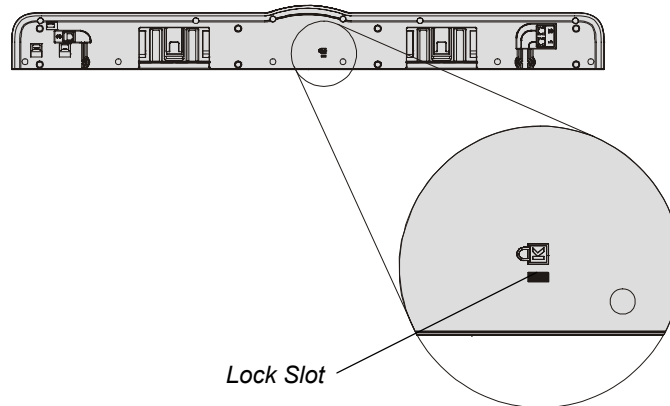
Loop your security cable behind the pen tray brackets before you screw them to the wall, as shown in step 8 on page 13, and then thread the lock end of the cable through the loop end of the cable. Verify that the cable is tight enough that you can't remove the pen tray while the lock is in place, and then install the pen tray. Insert the prong-end of the security cable into the lock slot and then complete the pen tray installation by screwing it to the wall.

## To secure the pen tray to the pen tray brackets

Since 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 provided) into the holes shown in the illustration below. Note that older units do not have this feature.



*Screw Location*
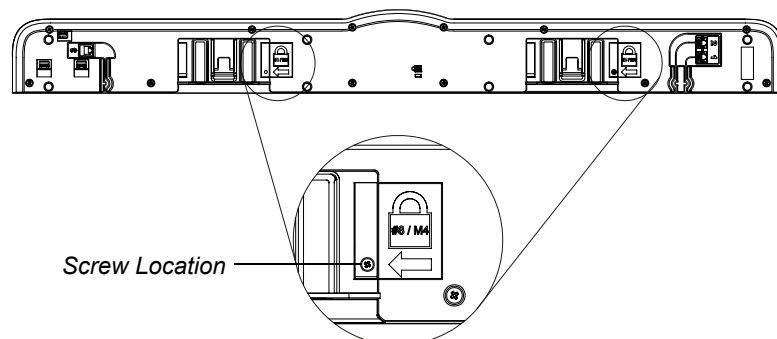
# Removing the Pen Tray

It might be necessary to remove the pen tray for purposes of transporting or repairing the interactive whiteboard.

**NOTE:** There are no user serviceable parts inside the pen tray. Only qualified personnel should disassemble the pen tray's printed circuit boards, and it must be done with proper Electrostatic discharge (ESD) protection. If dust or small items are preventing the buttons from being pressed or are causing constant button contact, remove the obstruction carefully.

### To remove the pen tray

**NOTE:** ESD protection is not required for this operation.

1. Turn off the interactive whiteboard by disconnecting the USB cable to the computer or by unplugging the expansion module's power supply, as appropriate.
2. Remove the pens and the eraser from the pen tray.
3. Reach underneath the pen tray, and disconnect the modular cable.
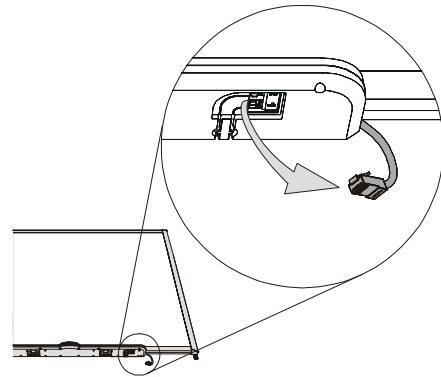


4. If you have secured the pen tray to its brackets using two screws (see page 15), remove these screws.
5. If you have secured the pen tray using a Kensington lock or similar device, unlock and remove the lock.
6. Reach underneath the pen tray and pull down on the two large plastic clips on the bottom of the pen tray. The ends of these clips project slightly downwards, so they're easy to locate.

*The Pen Tray as Seen from Below*



*Plastic Clips*
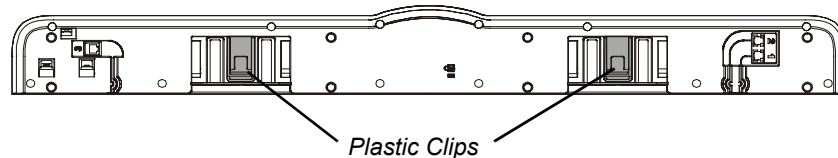
7. While continuing to apply downward pressure to the clips, gently slide the pen tray toward you until it's free of the two L-shaped metal brackets.

**NOTE:** To re-install the pen tray, simply reverse these steps.

# Connecting the Interactive Whiteboard to a Computer

First connect your computer to the interactive whiteboard. You can connect all 600 series interactive whiteboards to a computer using the provided USB interface. You can also use the optional RS-232 serial or wireless Bluetooth connection expansion modules. In either case, SMART may provide the USB or serial cables, or you can purchase them locally.

Your interactive whiteboard will be touch sensitive after you install SMART Board software on the connected computer.

After connecting the interactive whiteboard to the computer, you must perform a brief orientation procedure (see page 25).

## System Power Safety and Precautions

| | |
|---|---|
| **IMPORTANT** | For operating safety and to avoid damage to the SMART Board interactive whiteboard, you must connect the USB connector of the interactive whiteboard *only* 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. |
| | If you're using an RS-232 serial expansion module, a wireless Bluetooth connection expansion module or a USB audio system, *only* use the power supply that came with that product. These products do not use the same power supplies. Using the wrong power supply may 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. |

# Connecting with a USB Cable

SMART Board 600 series interactive whiteboards have a *high-power* USB 2.0 full-speed peripheral interface that runs at speeds of up to 12 Mbps. The unit works with USB 2.0- and USB 1.1-compliant USB interfaces.

The interactive whiteboard's main USB connection is a captive flying lead cable. The connector is a USB Type-B receptacle.

This cable provides convenient access to the USB receptacle without having to remove the interactive whiteboard from the wall. You can also place the flying lead and the USB cable in the channel on the back of the interactive whiteboard where it won't be visible.



*Flying Lead USB Cable*
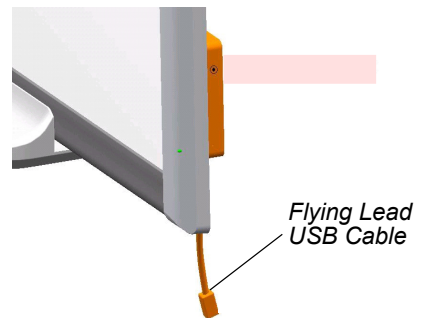
## To connect using a USB cable

1. Connect a USB cable to the USB flying lead cable behind the lower-right corner of the interactive whiteboard.

   **NOTE:** You must apply approximately 10 oz. (300 g) of downward pressure to unplug a USB cable from the flying lead USB receptacle. Because an entire 16' (5 m) USB cable weighs approximately 7 oz. (200 g), there is no need to tape or otherwise secure the USB cable to the flying lead. This design ensures that if someone trips on the cable it will simply disconnect rather than cause injury or damage to the controller module.



2. Plug the other end of the USB cable in to a USB receptacle on your computer.

   – If you are using a Mac computer (with OS X operating system), or if you already have the appropriate USB driver installed on your Windows computer, the Ready light on the lower-right frame immediately turns red, and then flashes green. If this happens, you can skip to the next page to install SMART Board software.

   – If the appropriate driver isn't installed, a *Found New Hardware* wizard helps you locate the driver for the newly connected USB Human Interface Device, or HID (the interactive whiteboard).
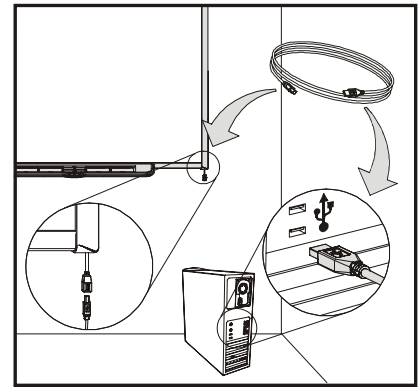
## To install the USB driver (Windows only)

1. Click the **Next** button to direct the wizard to search for an appropriate driver.
2. Click **Next** again to have the Windows operating system search the driver database on your hard drive for the appropriate driver.

   **NOTE:** If the Windows operating system fails to find the correct driver, insert the Windows 98/ 2000/Me/XP CD in your CD drive and install a USB HID driver. USB HID is a subclass of USB devices, and the drivers are not always included in a default installation. Computers must have these drivers before a USB cable will work properly.

3. Click the **Finish** button after the driver search or driver installation is complete.

   The Ready light now turns red and then flashes green, indicating that the controller is receiving power from the USB connection and is operating in HID Mouse mode.

---

**To install SMART Board software**

1. Insert the SMART Board software CD into your CD drive and follow the on-screen instructions.

   **NOTE:** If your computer already has SMART Board software installed, use this opportunity to upgrade the software to ensure compatibility.

   Immediately following the SMART Board software installation, the Ready light on the pen tray turns from flashing green to solid green. This indicates that the SMART Board interactive whiteboard is communicating with SMART Board software, and you can use the pen tray tools.

2. If the SMART Board tools do not open automatically, select **Start > Programs > SMART Board Software > SMART Board Tools**, or double-click the **SMART Board Tools** icon on your desktop.

   The SMART Board icon appears in the system tray. You can now pick up a pen from the pen tray and write over any projected application, and you can capture your notes into any Ink Aware application. Your *SMART Board Software User's Guide* lists Ink Aware applications.

## USB Extender Cables and Hubs

The 16' 5" (5 m) USB cable provided with the interactive whiteboard conforms to the USB 2.0 standard for maximum length. If the provided USB cable isn't long enough, you can use active USB extender cables, USB extenders or hubs.

The illustration to the right shows the SMART active USB extension cable (Part No. USB-XT). Typically, you can use up to four cables to extend the length to about 80' (25 m), which is the limit of the USB specification. Note that passive USB extension cables are not supported.

**NOTE:** Some computers use internal active hubs to provide more USB receptacles. The computer's operating system may see these internal hubs as external devices, limiting the number of USB extenders that you can use.

Alternately, USB extenders that use Cat 5 cabling can extend the range to approximately 325' (100 m), at a much higher cost. The more economical SMART USB extender pair (Part No. CAT5-XT) shown below can extend the USB connection up to 120' (36.6 m) using an RJ45 Cat 5 cable.

These units require that the cables and connectors meet the vendor's specifications. Impedance mismatches and poor connections can cause signal degradation and performance problems with the interactive whiteboard.

USB hubs should also work well with interactive whiteboards. If you also use streaming audio through the USB hub, ensure that the Microsoft USB drivers are up-to-date or the interactive whiteboard's performance might become choppy, intermittent or otherwise unacceptable.

USB extenders and hubs must be USB 1.1 or USB 2.0 compliant to work correctly. They must also provide at least 300 mA to the interactive whiteboard. Note that some self-powered extenders and hubs provide only up to 100 mA to the device, and therefore won't work.

# Connecting Using the Optional RS-232 Serial Expansion Module

The optional RS-232 serial expansion module provides an alternate method of connecting a 600 series interactive whiteboard to a computer. The module also uses its own external power supply to provide power to the SMART Board interactive whiteboard.

You can use a standard straight-through DB9 male-to-female RS-232 cable to connect the RS-232 serial expansion module to your computer.

### To connect using the RS-232 serial expansion module

1. If you haven't already installed SMART Board software, insert the SMART Board software CD into your CD drive.

   The SMART Board software setup program should start automatically. If it doesn't, select **Start > Run** and type **x:\autorun.exe** (where x: is your CD drive). Follow the on-screen instructions to install SMART Board software.

   **NOTE:** We recommend that you reply *yes* when asked to add the SMART Board icon to your Startup Folder. Then the SMART Board tools will always be open, and your interactive whiteboard will be fully functional without any further action.

2. Connect the DB9M plug of the provided male-to-female serial cable (or a suitable substitute) into the 9-pin socket on the side of the RS-232 module, located behind the lower-right corner of the SMART Board interactive whiteboard.

   **NOTE:** The DB9 connector on the expansion module does not have captive nuts that would allow you to secure the serial cable to it. A "post" feature on the RS-232 expansion module routes the serial cable so that if something pulls the cable, the force is perpendicular to the connector. If someone accidentally trips or pulls the cable, the unsecured cable will simply disconnect, preventing damage to the module's connector or its pins.
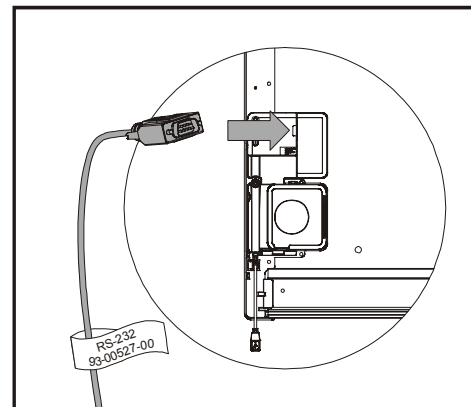
   

   You can also route the serial cable through the channel on the back of both the RS-232 expansion module and the controller module when mounting the interactive whiteboard on the wall to prevent strain on the cable.

3. Connect the power supply to the expansion module. You can also route the power cable through the same channel as the RS-232 cable.

   **NOTE:** Only use the power supply that comes with the RS-232 serial expansion module. The use of other power supplies may create a safety hazard or damage the equipment.

   While the interactive whiteboard won't be damaged if you connect a power supply with reversed polarity, a computer or extender that is connected to the USB interface may be damaged.

   

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*Connecting the Interactive Whiteboard to a Computer*
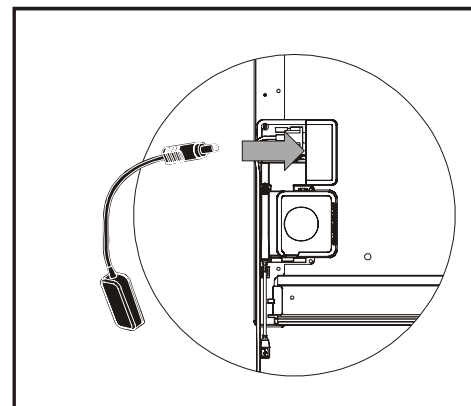
4. Connect the other end of the serial cable to a serial connector on your computer.

5. Plug the power cable into the power supply, and then plug it into a suitable wall outlet.

   The Ready light turns red. This indicates that the interactive whiteboard is receiving power.
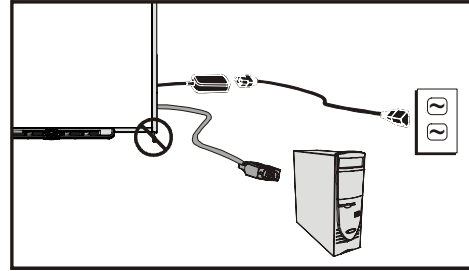
## To configure a serial connection (COM port) on your computer

**NOTE**: Install SMART Board software on the computer, connect and turn on the interactive whiteboard (as shown in step 1 on the previous page) before performing this procedure.

1. Start SMART Board software; restart it if it is already running.

   When SMART Board software starts, and there aren't any SMART products connected through USB, it won't detect automatically that there is a SMART product connected, and opens the *SMART Board* message shown here.

   

   SMART Board

   Could not find a functioning SMART Board connected to your computer. If you have a SMART Board connected by a serial cable to your COM port, click the Connect button on the Control Panel to configure the COM port. Do you want to configure your COM port now?

   ☐ Don't show this dialog again.     Yes     No
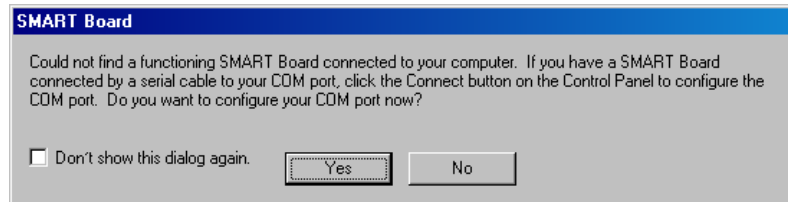
   If the message does not appear, see *To configure the computer's COM port manually* below.

2. Click **Yes**.

3. Click the **Add SMART product** button to initiate an automatic detection of new hardware.

   After several seconds, the dialog box message changes to show that the interactive whiteboard is operating normally, and the Ready light on the pen tray turns from red to green. This indicates that the interactive whiteboard is now touch-sensitive.

**NOTE:** You may need to manually configure your computer's serial interface if:

• the *SMART Board* message above fails to appear

• you plugged in your interactive whiteboard *after* you started your computer

• the Ready light remains red rather than turning green

## To configure the computer's COM port manually

1. Click the **SMART Board** icon in the system tray, and select **Control Panel**.

   The *SMART Board Control Panel* appears.

2. Click the **SMART Board Connection Wizard** button, and then select the **Connect the SMART product to your computer** option.

3. Click **Next**.

   For several seconds, the wizard shows the progress of the automatic search for SMART products. When complete, the wizard suggests that you orient the interactive whiteboard.

   The Ready light changes from red to green, indicating the interactive whiteboard is now touch-sensitive.

4. Click **Finish** to complete the procedure.

# Connecting with the Wireless Bluetooth Connection Option

**NOTE:** Use this procedure only if your interactive whiteboard has been fitted with the optional Wireless Bluetooth Connection expansion module.

The optional Wireless Bluetooth Connection kit uses Bluetooth technology to provide another way to connect an interactive whiteboard to a computer. The expansion module also powers the SMART Board interactive whiteboard using its external power supply.

| CAUTION | Use only the power supply that comes with the Wireless Bluetooth Connection kit. Other power supplies may create a safety hazard or damage the equipment. |
| --- | --- |
| | If you connect a power supply with a negative voltage on the connector's tip to the controller module, the interactive whiteboard will not be damaged. However, a computer or extender that is connected to the USB interface may be damaged by reverse polarity. |

In addition to the external power supply, the Wireless Bluetooth Connection kit consists of two key components:

• a Bluetooth-to-USB expansion module that connects to the controller module
• a Bluetooth-to-USB converter that connects to the computer

**NOTE:** The SMART Board Bluetooth-to-USB converter can't be used as a general-purpose USB-to-Bluetooth dongle. It only works with the SMART Board Bluetooth-to-USB expansion module.

## To prepare the computer and the interactive whiteboard

| IMPORTANT | You must have SMART Board software 9.1.4 or later running on your computer, and the 600 series interactive whiteboard must have controller firmware 2.0.6.0 or later installed before you can use the Wireless Bluetooth Connection kit. |
| --- | --- |
| | If you already have SMART Board software 9.1.4 installed on your computer, remove it and install the SMART Board software that comes with the Wireless Bluetooth Connection kit, even if it is of the same version. This ensures that you have enabled all of the software's necessary features. |

Before setting up the Wireless Bluetooth Connection, ensure that the computer can communicate with the interactive whiteboard using a wired USB connection by following the *To connect using the USB adapter cable* procedure on page 18.

This step also provides an opportunity to check that SMART Board software and the firmware version support the Wireless Bluetooth Connection kit components.

**To verify the SMART Board software version**

1. Click the **SMART Board** icon in the system tray, and select **Control Panel**.
   The *SMART Board Control Panel* appears.
2. Click the **About Software and Product Support** button.
3. In the *About This Software* field, select **Version Information**
   The pop-up shows the SMART Board software version. Record the version, and click **OK.**

   If the version is earlier than 9.1.4, go to http://smarttech.com/support and download and install the latest version of SMART Board software. Included in the installation are several current flash update files.

**To verify the SMART Board firmware version**

1. If SMART Board software is not already running, click the **SMART Board Tools** icon on your desktop.

2. Click the **SMART Board** icon in the system tray, and select **Control Panel**.

   The *SMART Board Control Panel* appears.

3. Click the **SMART Board Settings** button.

4. If you have more than one interactive whiteboard connected, select the icon for the correct SMART Product.

   The *Hardware Info & Settings* dialog opens, displaying a summary of the hardware, software and firmware installed in the interactive whiteboard.

5. If the *Firmware Version* displayed is earlier than 2.0.6.0, open Windows Explorer and navigate to C:\Program Files\SMART Board Software.

6. Locate and double-click the latest **SB-W.X.Y.Z Flash.exe** file (*W.X.Y.Z* represents the version number of the firmware) to open the *SMART Firmware Upgrade Wizard.*

7. Follow on-screen instructions to install the flash file.

   When the computer and the interactive whiteboard are communicating over USB, using the latest software and firmware, you are ready to setup the Wireless Bluetooth Connection kit.

8. Disconnect the USB cable from the computer and interactive whiteboard.

## To set up the wireless USB adapter

1. Turn on both your computer and the interactive whiteboard with the Wireless Bluetooth Connection expansion module installed.

   The LED indicator on the expansion module and the Ready light immediately start flashing.

   – The Ready light flashes green continuously, indicating that the interactive whiteboard is communicating with the USB interface of the Wireless Bluetooth Connection expansion module.

   – The expansion module's LED flashes green fourteen times, then turns red for approximately five seconds, then repeats the sequence. This pattern indicates that the expansion module is not communicating with its Bluetooth-to-USB converter.

2. Connect the Bluetooth-to-USB converter to an unused USB receptacle on your computer.

   – If both the Ready light and the expansion module's LED turns steady green, indicating that the Wireless Bluetooth Connection components are paired, you are finished.

   – If the expansion module's LED does not stop flashing, press the pairing button on both the expansion module and the Bluetooth-to-USB converter. See *Wireless Component Pairing* on the next page, for more information. The Ready light and the expansion module's LED turn steady green indicating successful communication.
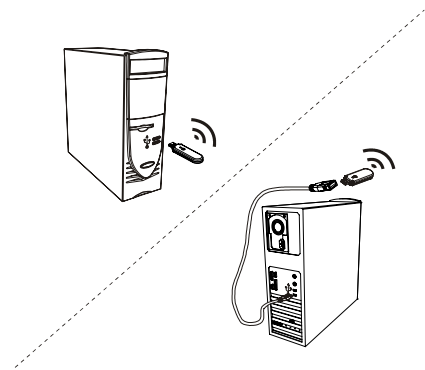
## Wireless Component Pairing

The expansion module and the Bluetooth-to-USB converter are "paired" at the factory so that they will only communicate with each other. You can synchronize the components at any time, as required.

Both the wireless USB expansion module and its USB converter have a pairing button. First, install both the expansion module and the converter, then press the pairing button on one of the devices. It stays in pairing mode for up to 2 minutes, giving you time to press the companion device's button. When you press the pairing button on the other device, they detect each other and enter Discovery mode. If pairing doesn't occur within this interval, the devices returns to normal. Once an expansion module and its USB converter are paired, they remain associated with each other indefinitely.

*Pairing Buttons*

*Expansion Module*

*Bluetooth-USB Converter*
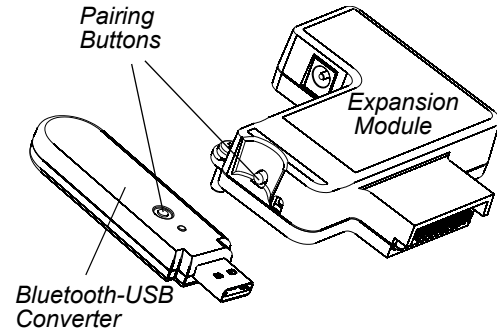
# Orienting the SMART Board Interactive Whiteboard

At the factory, we load a default manufacturing orientation data set into the interactive whiteboard's controller module that it uses if you haven't oriented the interactive whiteboard with SMART Board software. An orientation performed with SMART Board software is called a *User Orientation.*

### Default Manufacturing Orientation

When the interactive whiteboard uses the default manufacturing orientation data, the touch point on the screen corresponds fairly well to the projected computer desktop image, provided the projected image fills the entire interactive screen. The default orientation is a simple 2-point orientation, which may result in the projected touch point being offset from the actual contact location. You can resolve this problem by performing a more accurate orientation such as a 9-, 12- or 20-point orientation.

**NOTE:** You can restore the default orientation by holding the Reset button on the controller module for more than three seconds.

### 4- and 9-Point User Orientation

When you use SMART Board software to perform a quick 4-point or the standard 9-point orientation, the software saves the orientation data in the flash memory of the interactive whiteboard's controller module (i.e., the orientation data stays with the interactive whiteboard). If you attach a different computer, the orientation data for the interactive whiteboard remains unchanged.

### 12 or 20-Point User Orientation

You can also perform a 12-point or 20-point user orientation. Unlike the 4- and 9-point orientations, the software saves the 12- and 20-point orientation data in the computer, and therefore it stays with the computer and not the interactive whiteboard. Resetting the controller module doesn't clear the 12- or 20-point orientation data from the computer.

If you attach a different computer, the interactive whiteboard uses the highest level of orientation data that resides in the controller's memory.

### To orient the interactive whiteboard

To orient the unit, you must follow on-screen instructions for touching specific points on the interactive whiteboard's screen. This procedure can be four, nine or twenty touches, depending on your Alignment/Orientation Precision setting. The next procedure shows how to change the precision setting.

Shown to the right is an example of a 9-point orientation screen.

To access the orientation screen, press and hold the two large pen tray buttons at the same time, or you can press the **Help** button on the pen tray and select **Align/Orient the SMART Board**.



Press center of target.

**NOTE:** Use a fine-point tool such as a pen tray pen instead of your finger for greater precision when touching the targets.
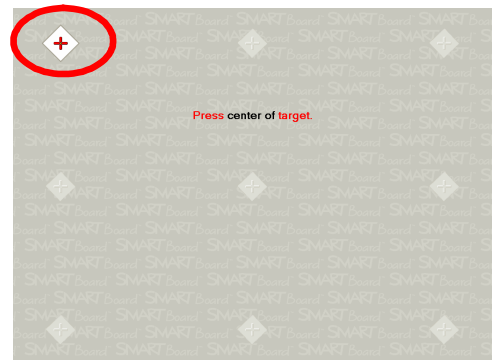
**To set the orientation precision**

To select a 4-, 9-, 12- or 20-point orientation procedure from the Windows **System Tray** or Mac **Dock**:

1. Press the **SMART Board** icon.
2. Press **Control Panel.**
3. Press the **SMART Board Settings** button.
4. If you have more than one SMART product connected, select the appropriate interactive whiteboard.
5. Select **Orientation/Alignment Settings** from the drop-down list.
6. Select the desired orientation setting, and press **OK.**

**NOTE:** You must perform the orientation procedure after changing the orientation precision for the changes to take effect.

# Connecting a Guest Laptop

If you want to connect a guest laptop without installing SMART Board software on it, you can simply disconnect the USB cable from the resident computer and connect it to the laptop. You'll immediately have touch control of the interactive whiteboard. However, you will need to connect a video cable between the laptop and the projector.

**NOTES**

• With this setup, the Ready light on the interactive whiteboard will continuously blink. This is normal. See page 32 for more information about Ready light states.
• If the interactive whiteboard connects to the resident computer with an RS-232 serial cable or a Wireless Bluetooth Connection, you don't have to disconnect them. The USB cable connection to the guest laptop overrides the expansion module connection.

# Connecting Multiple SMART Interactive Products

You can connect more than one SMART interactive product to one computer. For example, you can have two SMART Board interactive whiteboards connected to one computer and have touch control of either interactive whiteboard.

**NOTE:** If you're using more than one front projection SMART Board interactive whiteboard, you'll need a projector for each unit.

After you set up your equipment, you must configure SMART Board software.

First, decide how you want the displays to work together.

• You can present the same desktop on all products, which allows people in various locations to see the same image. To achieve this effect, you can daisy chain the projectors or use a distribution amplifier to send the computer's video signal to more than one display or projector.
• You can also present different views of the same desktop across the interactive products. With this option, you have the flexibility of opening one window on each screen, or splitting one application across multiple screens. To set this up, you must send the video signal from the computer to each display or projector. To do this, your setup must include one of the following:
  – a separate video card in your computer for each projector or each display
  – a video card that splits the video signal and sends it to multiple displays
  – a video distribution amplifier between the computer and the projectors or displays

If you're stretching your computer's desktop across more than one interactive screen and you're using an older operating system, you must tell SMART Board software how your products are arranged. To do this, open the **SMART Board Control Panel**, press **SMART Board Settings** and select **Arrange Video Output** from the drop-down list. Depending on your setup, you may need to change the computer's display settings. For more information, read the documentation for your computer's video card.

You must orient each interactive product separately so that the pointer is properly aligned when you touch the product. To do this, open the **SMART Board Control Panel** and select **Align/Orient the SMART Board**. Refer to the Help Center for the specific procedure to orient each display.

After you set up your multiple displays, each display has touch control. However, some applications can't accept cursor commands/mouse input from more than one source at a time.

To enable the multiple touch setting, read the topics under *How To > Changing the SMART Board Software Settings > Mouse Settings* in the Help Center for instructions.

For more information on setting up multiple SMART products, read the Technical Bulletin *Connecting Multiple Interactive Whiteboards to One Computer* that's available at www.smarttech.com/support.

## Where to Find More Information

The Help Center contains links to a wide range of information, including procedures for using each component (How To's), descriptions of each tool and the concepts around using the components, troubleshooting hints, and more.

To access the Help Center press the pen tray's **Help** button. This button also gives you access to the orientation screen and contact information for SMART Technologies.

You should also check www.smarttech.com for more resources. At this site, you'll find information on each product, including setup instructions and specifications. This website's Training Center has learning resources, free hands-on lessons and information on how to get more training. You'll find up-to-date, product-specific information in the Support area, including frequently asked questions (FAQs), technical bulletins and resource centers.

*Connecting the Interactive Whiteboard to a Computer*

# Using and Maintaining 600 Series Interactive Whiteboards

## Tips for Trouble-Free Performance

• Ensure that the interactive whiteboard is connected to a USB or serial interface that's recognized by the operating system and that's not being used by another application.

• Make sure all the pens and the eraser are placed securely in the pen tray if you want to use your finger to touch the interactive screen. If you lose a pen, place another object in its pen tray slot. Otherwise, the interactive whiteboard senses which tool is missing from the pen tray and the software assumes that the missing tool is the one you're currently using on the interactive surface.

---

**Safety Tips for Teachers**

• Tell students 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 class, they should take a big step (or even two) sideways.

• Make sure you don't look directly into the light beam from the projector. Keep your back to the class when you write over a projected image. Step to the side of the interactive whiteboard before you turn and face the class.

• Tell your students not to touch the projector, as it can become extremely hot during normal operation.

• Don't use a chair to increase a student's reach. If your students can't reach the top of the interactive whiteboard, lower it. You may need to remount a wall-mounted unit to a lower position. If your interactive whiteboard is mounted on a floor stand, lower it with the help of another adult.

• Tell students not to run in the vicinity of the floor stand, as they may trip over the floor stand's feet.

---

### Preventing Damage to the Interactive Whiteboard

Although the SMART Board 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.

# Keeping the Writing Surface Clean

| | |
|---|---|
| **IMPORTANT** ☞ | • Before you clean your SMART Board interactive whiteboard shut down or disconnect the computer. Otherwise, you may scramble the desktop icons or inadvertently activate applications when you wipe the screen. |
| | • To view dirt or streaks more easily, put your projector on standby (lamp off). |

With proper care, your SMART Board interactive whiteboard will provide years of trouble-free service. Follow these tips to keep the screen surface clean:

• 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 show 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 marks, clean the writing surface with a household glass cleaner, such as Windex®, daily, weekly or as required.

• Use dry-erase marker cleaner, such as EXPO Cleaner, if you can still see marks after erasing

• *Do not* spray cleaner directly onto the screen's surface. Instead, spray a light amount of cleaner on a cloth and then gently wipe the screen.

• 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.

## Removing Permanent Marker Ink Stains

To remove marks made with a permanent marker, you can use a cleaner such as the Sanford EXPO Dry Erase Board Doctor. Just write directly over the permanent ink stain with the Board Doctor pen, 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 work to remove permanent ink. Cover the permanent ink with the dry-erase ink and wipe with a soft cloth while it 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 or non-scented dry-erase markers. They don't contain the appropriate solvents. |

# No Projector? Use Non-Projected Mode

The default mode for SMART Board software is the Projected (Mouse) mode. However, if you're using your interactive whiteboard without a projector, you should change the software mode to Non-Projected (Whiteboard) mode. To access this option, open the **SMART Board Control Panel**, select **SMART Board Settings** and then select the **Non-Projected (Whiteboard Mode)** option. Otherwise, when you write anywhere other than on the Notebook page, you may accidentally activate menu commands or other program elements.

**NOTE:** If you're using SMART Board software in non-projected mode, you can only connect one SMART interactive product to your computer.

In Non-Projected (Whiteboard) mode, you can write on the screen with dry-erase markers just as you would on an ordinary whiteboard. However, unlike an ordinary whiteboard, what you write displays simultaneously on a Notebook page.

In this mode, the computer automatically scales the size of the writing area in Notebook software to the size of the interactive screen.

## Setting Up the Pen Tray for Non-Projected Use

In Non-Projected mode, the upper pen tray button is the New Page button. When you press this button, a new page opens in the current Notebook file to receive your notes. The bottom button is the Print Page button, which sends your current page of notes to the computer's default printer. You can change these default setting using SMART Board software.

To equip the pen tray, purchase a set of dry-erase markers in black, blue, red and green. Refer to page 3 and page 30 for recommendations on dry-erase markers. Place each pen in the matching color slot of the pen tray.

# Indicators and Controls

The 600 Series interactive whiteboards have the following indicators and controls:

- the Ready light
- the pen tray buttons, sensors and LEDs (see page 33)
- the optional SystemOn control panel's indicators and controls (see page 34)
- the optional Wireless Bluetooth Connection components' LED and pairing buttons (see *Connecting Using the Optional Wireless Bluetooth Connection* on page 22
- the controller module's Reset button (see *Resetting the Interactive Whiteboard* on page 35)

## The Ready Light

You can see the Ready light LED in the lower-right part of the frame. The frame has a light-pipe to carry the light from the controller module's LED to the surface of the frame. The Ready light indicates the operational states of the controller module.
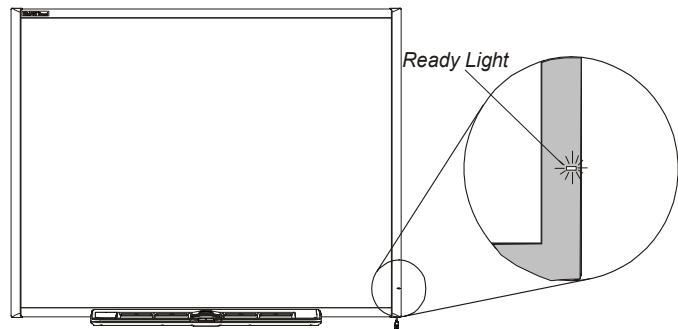
*Ready Light*

**NOTE:** The following table shows the *normal* states of the Ready light. If the indicator's behavior doesn't match a state listed here, refer to the *Troubleshooting* section starting on page 35.

| This Ready light state... | Indicates that... |
|---|---|
| Solid red | the interactive whiteboard is receiving power (either from the USB cable or an optional expansion module's power adapter), but it's not communicating with a computer. |
| Solid green | the interactive whiteboard is receiving power and that it's successfully communicating with SMART Board software. |
| Flashing green | the interactive whiteboard is receiving power and that it's successfully communicating with the USB HID driver of the computer's operating system. <br><br> **NOTE:** In HID mode, the SMART Board tools (such as the pens and the eraser) won't work, but you can move the mouse pointer and perform mouse functions with simple touch anywhere on the interactive screen. The Right-Click button on the pen tray may work (depending on the version of Windows operating system you're using). Neither the Keyboard nor the Help button will work. |
| Flashing or solid amber | the controller module is in a service mode or it has detected a software error. Refer to the *Troubleshooting* section on page 35. |

# The Pen Tray

In addition to providing a convenient place to hold the pens and the eraser, the pen tray has several controls, sensors and indicators.

## Pen Tray Buttons

In the center of the pen tray, there are three buttons. In Projected mode, the two large rectangular buttons default to Keyboard (the left button) and Right-Click (the right button) functions. In Non-Projected mode, the buttons are assigned Print Page and New Page functions respectively. In either mode, you can customize the buttons using SMART Board software to provide several other functions, including printing, changing pages, launching applications and capturing the screen. Pressing both buttons simultaneously starts the orientation process. The third button (the small round one) launches the online Help, where you'll also find an alignment icon for orienting the interactive whiteboard.



*Help button*

*Keyboard button*

*Right-Click button*
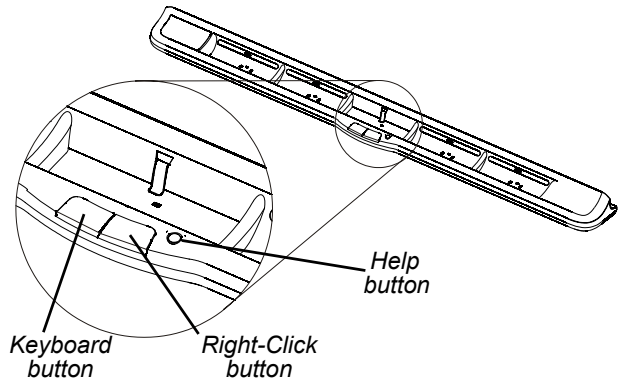
## Pen Tray LEDs and Sensors

When you turn on or reset the interactive whiteboard, the indicator lights on the pen tray cycle twice. When the system is operational, the lights come on only when you remove a tool. Only one comes on at a time, indicating the last tool removed from the pen tray. The pen tray detects the removal of the pens and the eraser using reflective infrared (IR) sensors similar to the ones that detect the presence of paper in photocopiers.

**NOTE:** The pen tray tools must reflect infrared light. Old-style black SMART Pen Tray pens (as used with the 500 Series interactive whiteboards) may not reflect infrared light reliably.

### Cleaning the Pen Tray's Sensors

If the infrared sensors in the bottom of your pen tray's recesses become obstructed by dirt, the sensors won't detect when the pen or the eraser is removed. The recess LED won't light, and the lifted tool won't work.
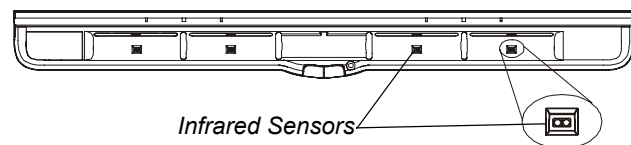


*Infrared Sensors*

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

---

## SystemOn Control Panel Controls and Indicators

Located at the left end of the pen tray, the
optional SystemOn Control Panel has one
large, illuminated On button and four status
lights.

*System Status
(Green)*

*Illuminated
On Button*  *Sleep Status
(Amber)*  *Computer
Fault (Red)*  *Projector
Fault (Red)*
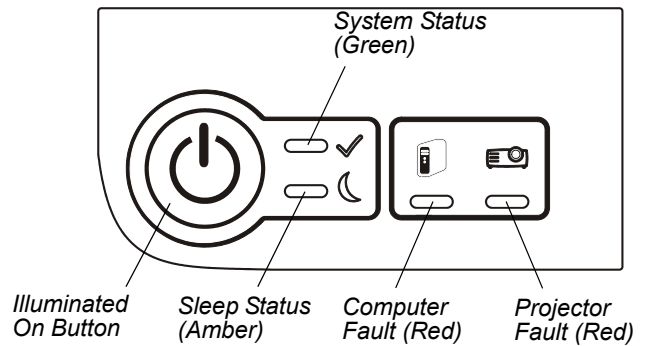
| | |
|---|---|
| **On button** | Illuminates when all the cables are connected properly and the system is receiving power. |
| **System Status** | Flashes green as the system is warming up and remains solid green when the system is operating correctly. |
| **Sleep Status** | Flashes amber when the system is shutting down and remains solid amber when everything has shut down correctly. |
| **Computer Fault** | Flashes red when there is a problem with the computer. |
| **Projector Fault** | Flashes red when there is a problem with the projector. |

# Troubleshooting 600 Series Interactive Whiteboards

## Adjusting the Projected Image

You can fix many image problems by shifting the projector or adjusting its zoom lens. Optimally, you should have a margin of approximately 3/8" (1.0 cm) on both the right and left sides of the screen.

You should ensure that the resolution settings for your projector and computer match. Set the projector to its optimal image resolution by following the instructions in your projector's manual. Then set your computer's resolution to match.

If the resolutions don't match, the computer's image output won't properly fill the interactive screen and may shimmer or be distorted. You can change your computer's resolution in the Windows Control Panel or in the Mac System Preferences. If you need further help setting your computer resolution, see the Help for your operating system.

## Resetting the Interactive Whiteboard

If your interactive whiteboard behaves erratically (possibly because of a static discharge or power fade) you may be able to restore normal operation simply by resetting the interactive whiteboard.

You can reset the interactive whiteboard completely by disconnecting and then reconnecting the USB cable, or by removing and replacing the power plug to the expansion module, if it is used. This turns the power off and back on, resetting all components of the SMART Board interactive whiteboard.

### The Reset Button

The Reset button on the edge of the controller module lets you reset the controller easily. The recessed Reset button cannot be triggered accidentally. You can use the tip of a pen tray pen or other pointed object (such as a ball-point pen) to press the button.



Reset Button

You can press the Reset button if the controller module stops responding or is in the wrong mode. For example, the interactive whiteboard might be unresponsive because of an electrostatic discharge, a power fade or some other event. After you press the Reset button, the controller module resets and operates normally.
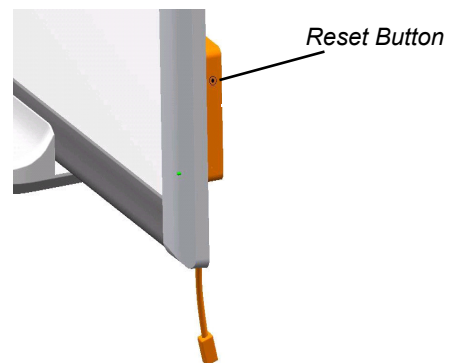
**NOTE:** Pressing and holding the Reset button for longer than three seconds clears any saved 4- or 9-point orientation data from the controller module's memory, and the alignment defaults to factory settings. However, because 20-point orientation data is stored on the computer, it is retained after a reset (see page 25).

# Troubleshooting Using the Ready Light

Should you experience a problem with your interactive whiteboard, you can troubleshoot it by using the Ready Light, in conjunction with other observable symptoms and behaviors. Before you start troubleshooting, see page 32 to locate the Ready Light, and familiarize yourself with its states during normal operation.

Flowchart 1 below directs you to the next stage in your troubleshooting process.

## Flowchart 1: Getting Started
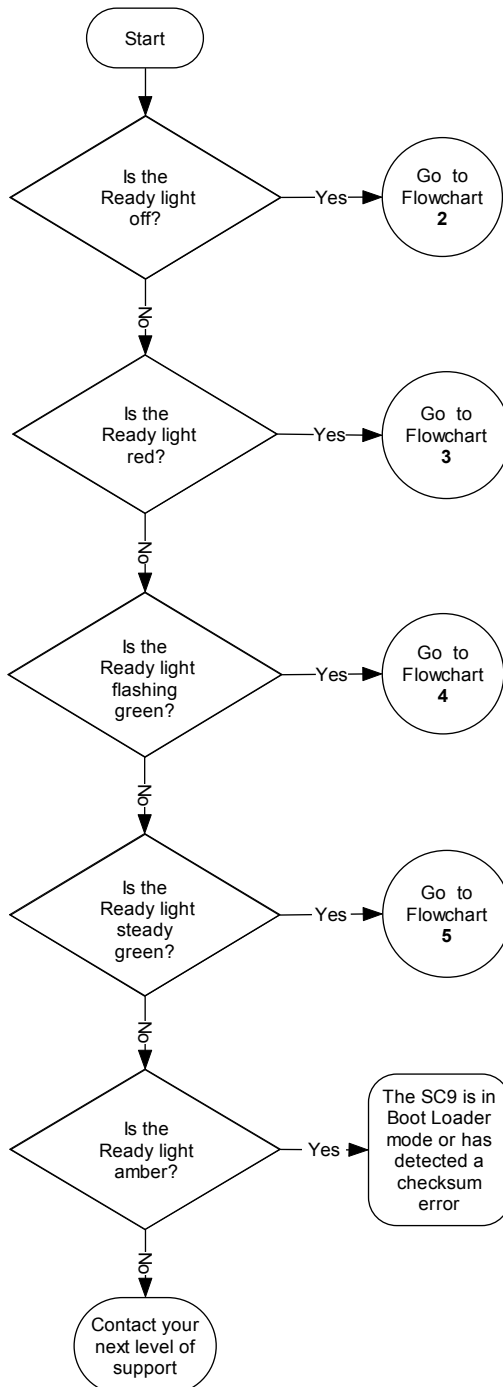


The interactive whiteboard is not receiving power. Go to *Flowchart 2* on page 37 to locate the problem.

The interactive whiteboard is receiving power but is not communicating correctly with your computer. Go to *Flowchart 3* on page 38 to isolate the problem.

A flashing green Ready light may be normal, if you want touch-only operation of the interactive whiteboard. If you want to use the SMART Board tools or use the pen tray pens, go to *Flowchart 4* on page 39.

A steady green Ready light indicates normal operation. To diagnose problems that may occur in other components of the interactive whiteboard, refer to *Flowchart 5* on page 40.

If the Ready light is flashing or steady amber, reset the interactive whiteboard's SC9 controller (see page 35). If the problem persists, you may have to be reload the controller's the flash memory, or you may have to replace the controller module. Escalate the problem to your next level of support.

If none of these descriptions applies to the Ready light, contact your next level of support.

**Flowchart 2: Ready Light Off**

```
                    ┌───────────────┐
                    │  Ready Light  │
                    │    not on     │
                    └───────┬───────┘
                            │
                            ▼
        ╱────────────╲              ┌──────────────┐      ╱──────────────╲
       ╱  Is the      ╲─── No ────▶ │  Turn on the │ ──▶ ╱  Is the         ╲─── Yes ─▶
       ╲  computer    ╱             │   computer   │      ╲  Ready light    ╱
        ╲ turned on? ╱              └──────────────┘       ╲  on now?      ╱
         ╲──────────╱                                       ╲────────────╱
            │ Yes                                                 │ No
            │◀──────────────────────── No ───────────────────────┘
            ▼
        ╱─────────────────╲         ┌──────────────┐      ╱──────────────╲
       ╱  Is the           ╲─ No ─▶ │Verify/replace│ ──▶ ╱  Is the         ╲─ Yes ─▶
       ╲  USB cable connected       │  USB cable   │      ╲  Ready light    ╱
        ╲ to the computer and       │ connections  │       ╲  on now?      ╱
         ╲ the SC9?        ╱         └──────────────┘       ╲────────────╱
          ╲──────────────╱                                       │ No
            │ Yes                                                 │
            │◀──────────────────────── No ───────────────────────┘
            ▼
        ╱─────────────────╲         ┌──────────────┐      ╱──────────────╲
       ╱  Is the USB driver ╲─ No ▶ │ Install and  │ ──▶ ╱  Is the         ╲─ Yes ─▶
       ╲  installed and            │ enable driver │      ╲  Ready light    ╱
        ╲ running on the           └──────────────┘        ╲  on now?      ╱
         ╲ computer?       ╱                                 ╲────────────╱
          ╲──────────────╱                                        │ No
            │ Yes                                                  │
            │◀──────────────────────── No ────────────────────────┘
            ▼
    ┌───────────────┐
    │  Substitute   │
    │   another     │
    │   computer    │
    └───────┬───────┘
            ▼
        ╱──────────╲
       ╱  Is the    ╲
       ╲ Ready light ╱
        ╲ on now?   ╱
         ╲─────────╱
            │ No
            ▼
    ┌───────────────┐
    │  Substitute   │
    │  another SC9  │
    │ controller module │
    └───────┬───────┘
            ▼
        ╱──────────╲
       ╱  Is the    ╲
       ╲ Ready light ╱
        ╲ on now?   ╱
         ╲─────────╱
            │ No
            ▼
    ┌───────────────┐
    │ Contact your  │
    │  next level of │
    │    support     │
    └───────────────┘
```

Non-powered USB hubs or repeaters can't provide enough power to the interactive whiteboard.

If you haven't installed a USB driver on the computer, the USB interface can't provide power to the interactive whiteboard.

If possible, replace the computer with another that you have used successfully with a SMART Board interactive whiteboard. Refer to the product specifications for minimum computer hardware and software requirements.

**NOTE:** Before substituting the controller module, contact your next level of support to ensure that you have checked all other possibilities.

Replace the controller module with another that you have tested on an interactive whiteboard.

Go Back to Flowchart 1

---

## Flowchart 3: Ready Light Red

A red Ready light indicates that the interactive whiteboard is receiving power but isn't communicating reliably with the computer. In most cases, pen tray LEDs won't turn on and the screen isn't responsive to touch.
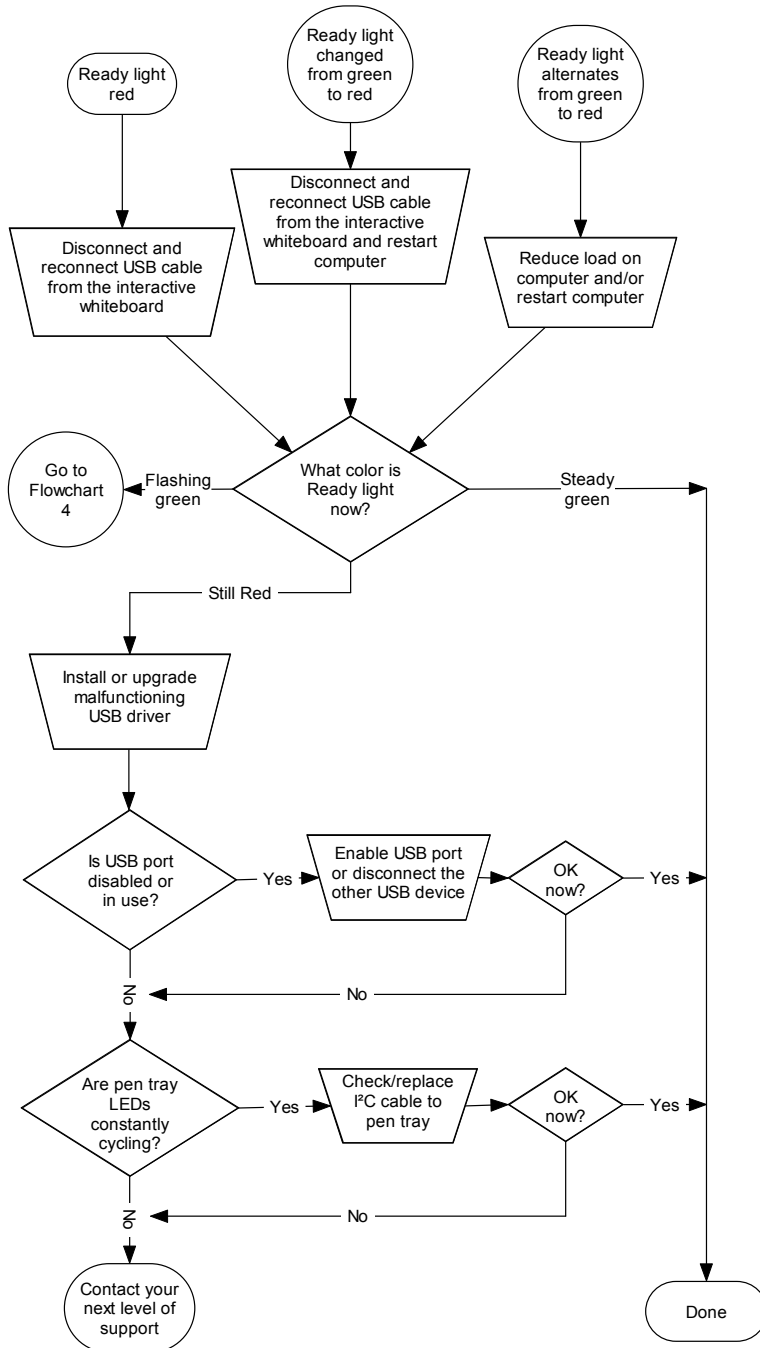
Things to try first:

- Disconnect and then reconnect the USB cable at both ends to reset the interactive whiteboard and reestablish the link.
- If the Ready light changed from green to red while the computer was running, the computer may have become unresponsive. Restart the computer.
- An alternating red/green light may indicate that your computer is running too many other applications or doesn't meet minimum specifications. Reduce the load on the computer (by closing unnecessary applications), or replace it with a more powerful computer.

Make sure that the operating system has all USB HID drivers and current upgrades installed. (The Windows 98 and 98SE operating systems require the installation disk to install the HID drivers.)

The computer's USB interface might have become disabled or been assigned to another device. Try to reassign the interface or enable it using your computer's device manager.

A faulty I²C pen tray cable can cause the pen tray LEDs to cycle constantly and the Ready light to remain red.

A powered USB hub or extender may have failed or become unplugged from the computer. Check the connections, or replace the failed component.

**NOTE:** If the interactive whiteboard's controller detects that its firmware is not fully secure, it flashes the Ready light red and disables touch capability. Contact SMART Technical Support immediately.

## Flowchart 4: Ready Light Flashing Green

**NOTES**

- This is the normal Mouse mode state when SMART Board software is not installed on the computer.
- This mode may be desirable for occasional or guest users who don't require the use of SMART Board tools or pen tray functions.
- Windows 98 and 98SE operating systems require that you install the HID drivers from the Windows installation CD. Also, on Windows 98 and 98SE, right-click is not supported. The Windows 2000 and Windows XP operating systems include the full HID Mouse mode.

Ready light is flashing green

Do you want to use the SMART Board tools, or operate in Mouse mode?
— Mouse mode → Done
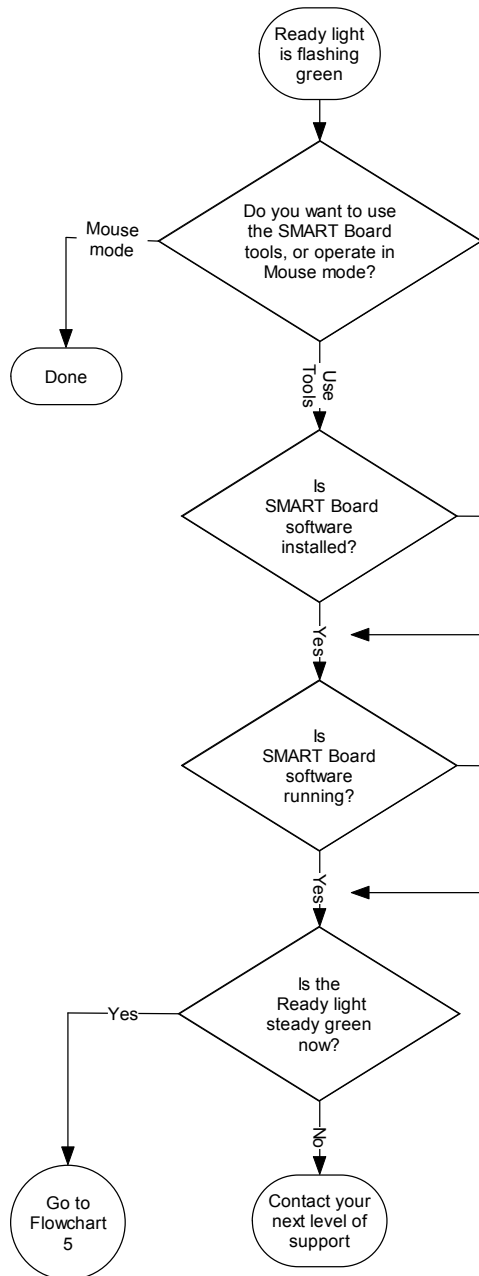
Remember that you may not want to use the SMART Board tools or the pen tray pens. See the notes above.

Use Tools

Is SMART Board software installed? — No → Install it now

You can install SMART Board software from the CD provided with your interactive whiteboard, or you can download it from the SMART Technologies website at www.smarttech.com/support/.

Yes

Is SMART Board software running? — No → Start it now

Use the Windows Control Panel or the Mac Activity Monitor to ensure that the SMART Board software service is running.

Yes

Is the Ready light steady green now? — Yes → Go to Flowchart 5

The Ready light should now be steady green, and the interactive whiteboard should operate normally.

No → Contact your next level of support

---

## Flowchart 5: Ready Light Steady Green

**NOTE:** Before you can use the SMART Board tools or use the pen tray pens or the eraser, SMART Board software must be running. If the SMART Board icon ⬛ doesn't appear in the Windows system tray, click the **SMART Board Tools** icon on your desktop, or open the **SMART Board Software** folder in the **Start** menu's list of programs and select **SMART Board Tools**. The icon appears and the pen tray tools should now function as expected.
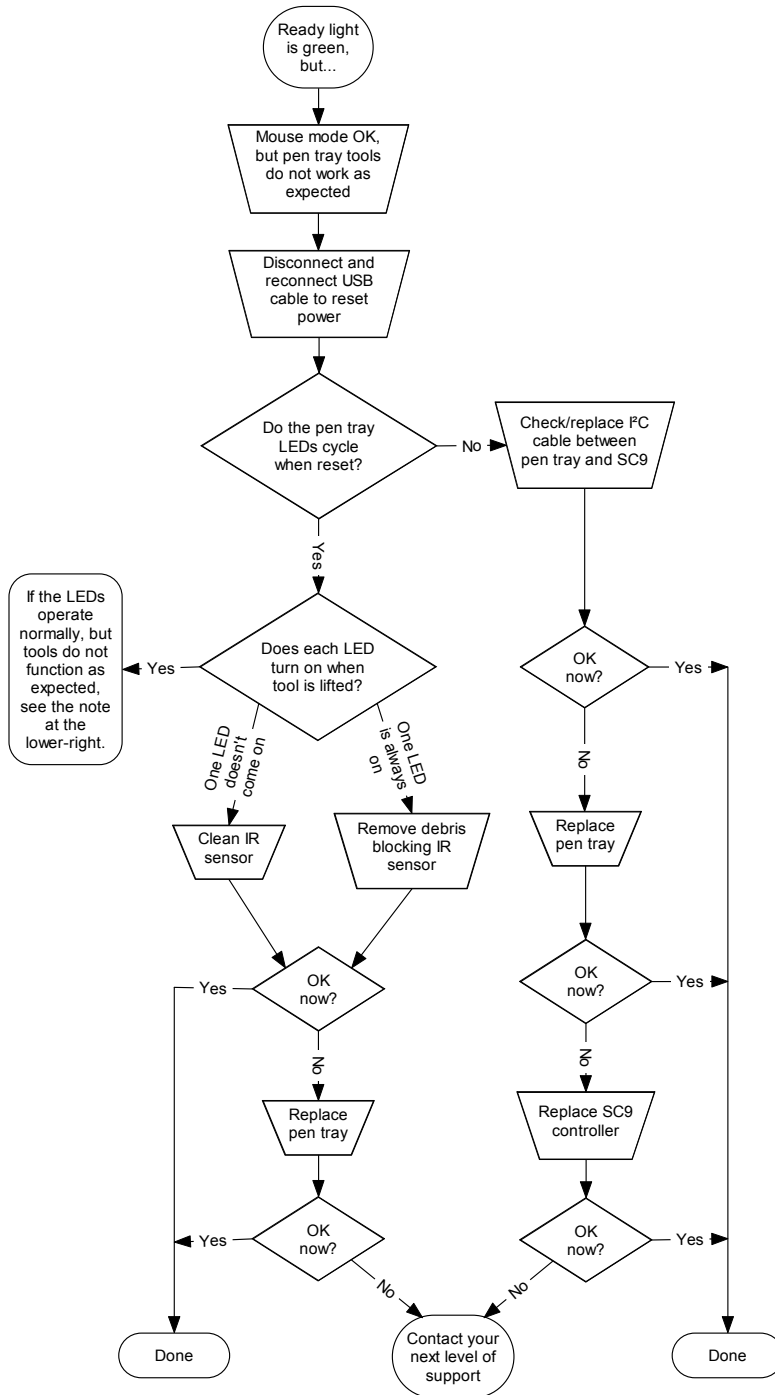
A steady green Ready light indicates that the controller is operating normally. If the pen tray has failed or is not communicating with the controller, the interactive whiteboard will still operate in Mouse mode.

When you reset the interactive whiteboard (as described on page 35), all of the pen tray LEDs flash sequentially twice, indicating successful communication with the controller. If they do not cycle correctly, or do not stop cycling, replace the cable between the controller and the pen tray.

Obstructed or dirty infrared (IR) sensors in the pen tray recesses can prevent the detection of pen or eraser removal or show that they are removed when they are not.

- Remove any obstructions and clean the IR sensors with a cotton swab moistened with household glass cleaner, like Windex.
- If a sensor or the pen tray controller has failed, contact your next level of support.

**NOTE:** If another user has reassigned the pen, eraser or pen tray button functions, you can return them to normal operation using the SMART Control Panel.

# General Troubleshooting

Refer to this table if the Ready light indicates that your interactive whiteboard is operating normally, but you are still experiencing problems.

| Symptom/Observation | Action/Remedy |
|---|---|
| The projected image is blurry or doesn't fill the screen fully. | Adjust your projector's position, zoom and focus settings. The computer's video resolution settings may not match your projector's native resolution. Consult your projector's manual for the correct resolution, and then go to the Windows Control Panel or the Mac System Preferences to change the video resolution. |
| Touch is not accurate. The pointer does not appear directly below your finger. When you write on the screen, your writing appears at a slight distance from the pen. | Orient the interactive whiteboard.  To start the orientation, press and hold both the **Keyboard** and **Right-click** buttons on the pen tray at the same time, or open the SMART Board Control Panel and press **Orient/Align the SMART Board**. |
| No pointer is visible on the screen, and when you touch the screen, a colored line appears. | A pen is missing or not positioned properly in its pen tray recess. A pen, dry erase marker, or old style (black) SMART stylus is not reflective to infrared light, so pen tray sensors can't detect it. Put tape on the pen to make it more reflective. |
| The pointer snaps back to one location when you lift the pen or your finger from the screen. | The analog resistive surfaces are in constant contact at the location to which the pointer returns. An object hitting or pressing on the front sheet, leaving a permanent depression can cause this. Gently pull the front sheet away from the back sheet using a piece of tape or a small suction cup. If the problem goes away while you pull but returns when you release the tape or suction cup, you may have to return the interactive whiteboard for repair. |
| The pointer moves erratically or gaps appear when you draw with the pen. | The USB voltage from the computer or USB extender may be too low to power the interactive whiteboard reliably. Substitute another computer, eliminate or substitute the USB extender, or install a powered USB hub. |

# 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.

# Contacting SMART Technologies

## Contacting SMART Technical Support

SMART's Technical Support team welcomes your call. However, you may first want to contact your local reseller if you experience difficulties with your SMART product, as they may be able to solve the problem without delay.

All SMART products include free telephone, fax and e-mail support.

**Telephone**: +1.403.228.5940 or Toll Free 1.866.518.6791 (Canada/U.S.)
(Available 7 a.m. – 6 p.m. Mountain time from Monday to Friday)

**Fax**: +1.403.806.1256

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

**Website**: www.smarttech.com/support

When you phone Technical Support, it will be helpful if you can access your computer during the call. The support representative may ask you for the following information:

- the serial number of your interactive product
- the version of the software that's causing the problem and the version of your computer's operating system

## General Inquiries

**Telephone**: 1.888.42.SMART (toll-free in Canada/U.S.) or +1.403.228.0333 (all other countries)

**Fax**: +1.403.228.2500

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

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

## 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

A User Registration card was included with your SMART product. To help us serve you better, fill in and mail this card to SMART Technologies Inc. or register online at www.smarttech.com/registration.

## Sending Feedback

You can help us improve our documentation by e-mailing your comments to TechnicalDocumentation@smarttech.com. We'd love to hear from you!

## Obtaining More Information

Visit www.smarttech.com/support to:

- – download PDF versions of our user guides, installation instructions and more
- – read technical bulletins, FAQs and tips
- – troubleshoot a problem
- – explore our resource centers to learn about conferencing and room control systems

# Index

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