

**X-Port™ 20 Switch  
(XP20-2000i-B)**

**Installation Guide  
for any**

**2000i**

**Equipped**

**with an**

**NEC VT465 or VT560 Projector**

**FCC Warning**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

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U.S. Patent Nos. 5,448,263; 6,141,000; 6,337,681. Canadian Patent No. 2,058,219. Other U.S., Canadian and foreign patents pending.

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# Contents

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**Installing an X-Port 20 Serial/Video Switch in a 2000i-DVS ..... 1**

    To mount the X-Port 20 switch ..... 1

    To connect the X-Port 20 switch ..... 5

    To connect a guest laptop ..... 8

**Customer Support ..... 10**

    Contacting SMART Technical Support ..... 10

    General Inquiries ..... 10

    Returning Defective Merchandise ..... 10

    Warranty Shipping Charges ..... 10



# Installing an X-Port™ 20 Switch in a 2000i with an NEC VT465 or VT560 Projector

## This kit contains:

- an antistatic wrist strap
- an X-Port 20 switch which includes two stacked circuit boards with installed gender changer and ribbon cable
- a serial (computer) switch label
- a video switch label
- two 6-32 x 1/4" pan head screws
- four #6 star tooth washers
- two 4-40 x 1/4" machine screws
- four tie wraps
- a 6" (15.2 cm) MOD4 cable
- a 6' (1.8 m) HD15 video cable
- a guest laptop cable bundle (includes serial, video and audio cables in a black velcro sleeving)

## Tools required (but not included):

- Phillips® screwdrivers
- a 5/32" hex key (available in the accessory kit for the 2000i)
- wire cutters or sturdy scissors

These instructions show you how to:

- install an X-Port 20 switch in the *Rear Projection SMART Board 2000i* interactive whiteboard that's equipped with an NEC VT465 or VT560 projector
- connect a guest laptop

The X-Port 20 switch is an RS-232 serial/RGB video switch for connecting a guest laptop to the interactive whiteboard. A user can then write over the displayed guest laptop image with a pen tray stylus and control the guest laptop by touching the interactive screen. With an X-Port 20 switch, the user can also toggle between the guest laptop, the resident computer and a VCR/DVD player from the cabinet Control Panel. If no X-Port 20 switch is installed, the user can only switch between the resident computer and a VCR/DVD player.

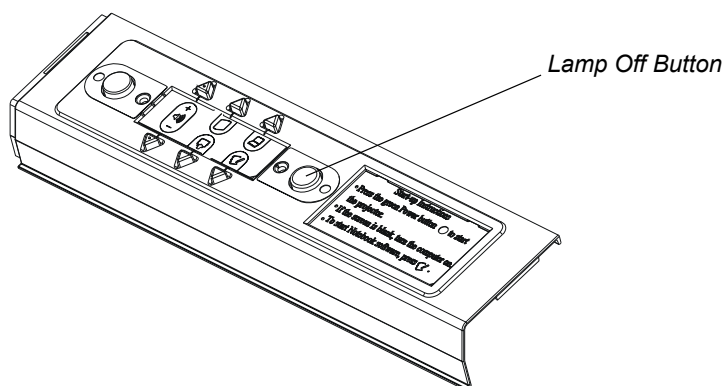
## CAUTION



Wear the supplied antistatic wrist strap throughout this installation. This wrist strap protects electronic components from damage due to electrostatic discharge. Attach the adhesive end of the strap to your wrist and wrap the copper tape on the other end around a grounded object.

## To mount the X-Port 20 switch

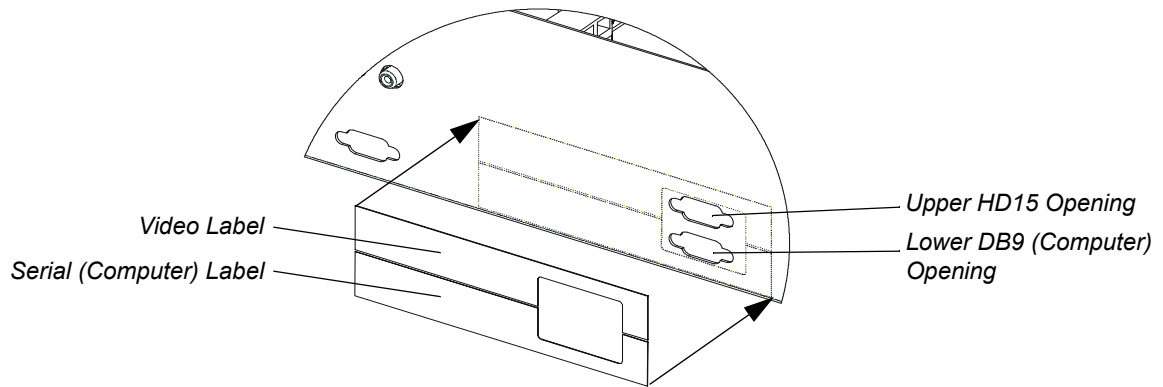
1. Shut down the resident computer. Then press and hold the **Lamp Off** button on the Control Panel for approximately three seconds. The lamp begins a 60 second cool-down period before powering off. Wait until you hear the projector cooling fan stop (3–4 minutes), and then unplug the 2000i from the power outlet.



2. Make sure the casters are locked and all four anti-tip feet are extended.

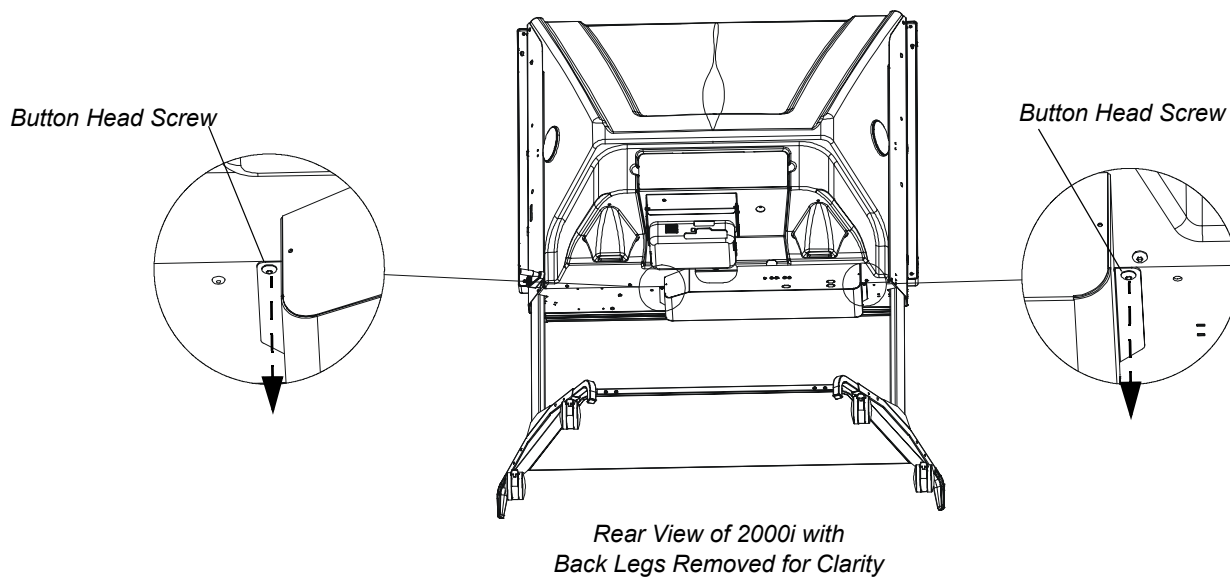


3. Remove the stickers covering the lower DB9 opening and the upper HD15 opening. Place the supplied serial (computer) label over the lower opening and the supplied video label over the upper opening, as illustrated below.



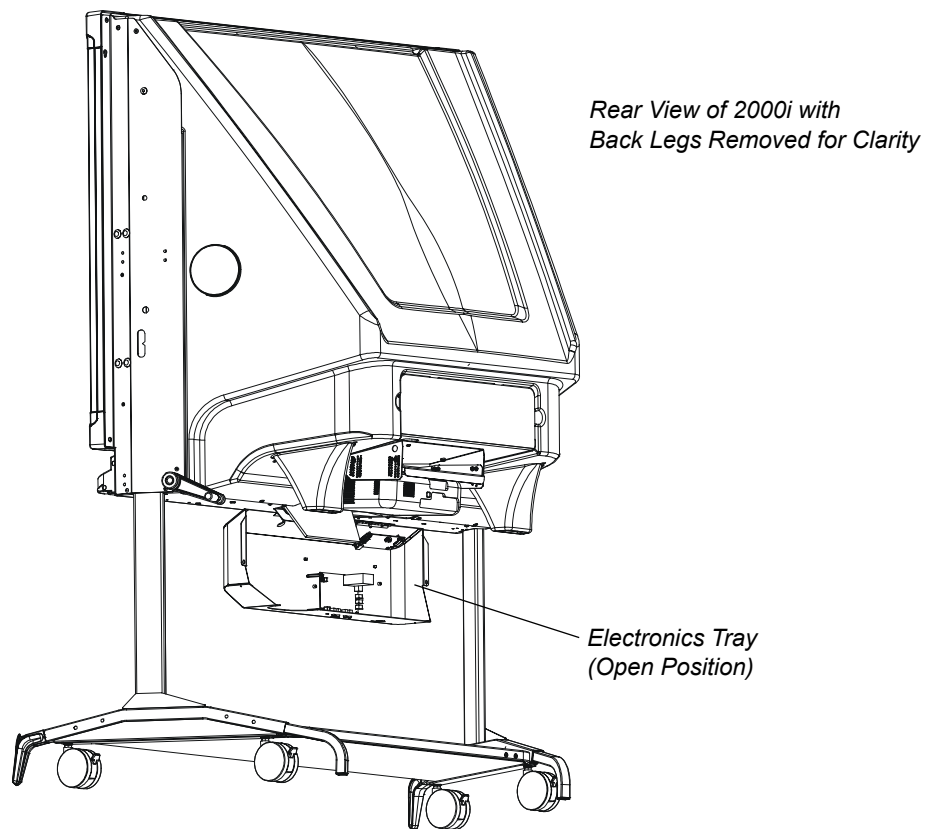
#### ***Replacing the Labels***

4. While propping up the electronics tray with one hand (so it doesn't fall suddenly), remove the two button head hex screws on either side of the tray using a 5/32" hex key (provided in the accessory kit for the 2000i). Put the hex screws in a safe place as you'll need them to secure the electronics tray at the end of this installation.



#### ***Location of Button Head Screws***

- Carefully swing the electronics tray down so it hangs vertically.



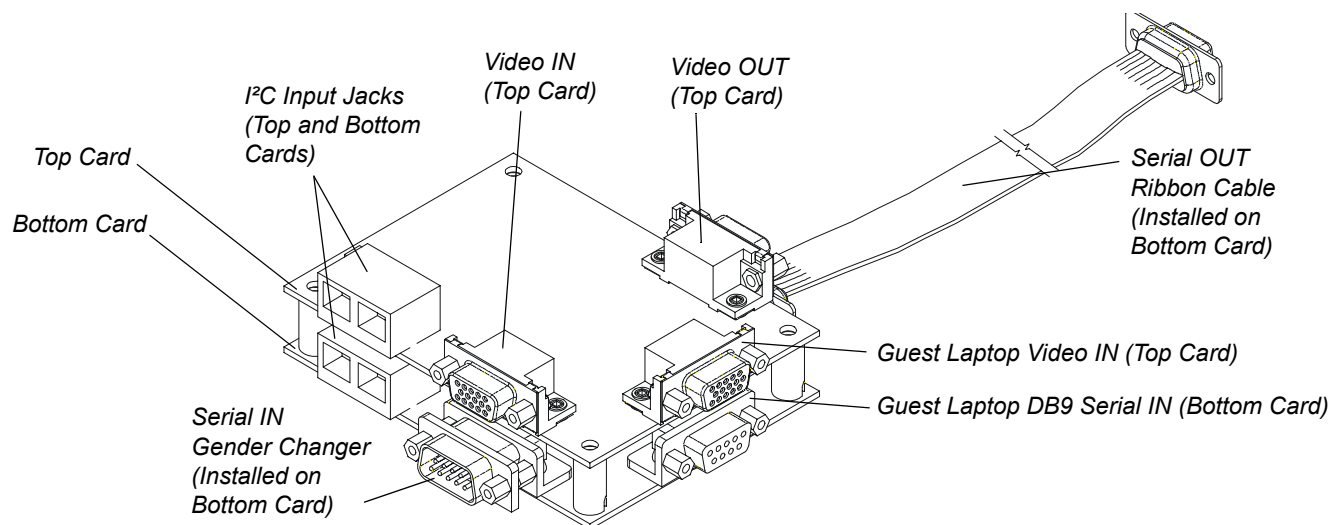
#### **Open Electronics Tray**

- Familiarize yourself with the components of the supplied X-Port 20 switch. In particular, take note of the I<sup>2</sup>C input jacks and the gender changer on the left side of the bottom card.

#### **IMPORTANT**

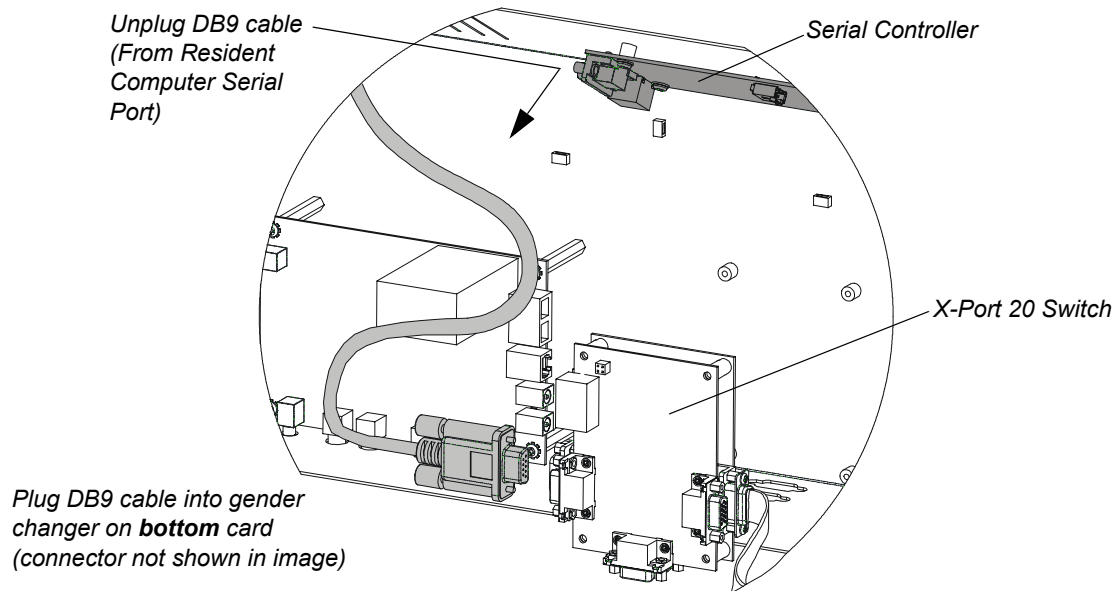


It is important to preserve the configuration of the X-Port 20 switch.  
Do not remove the ribbon cable, gender changer or separate the two cards.



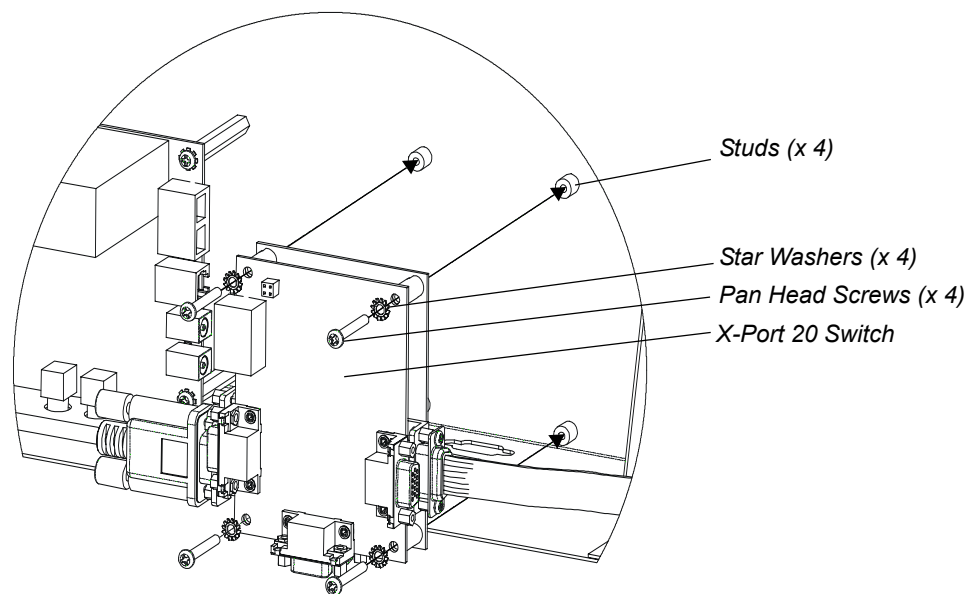
#### **Components of the X-Port 20 Switch**

7. Unplug the DB9 cable from the serial controller and plug it into the gender changer on the *bottom* card of the X-Port 20 switch.



#### ***Rerouting the DB9 Cable to the X-Port 20 Switch***

8. Using a Phillips No. 1 screwdriver, install the X-Port 20 switch on the studs in the electronics tray and secure it in place with the four supplied pan head screws and star washers.

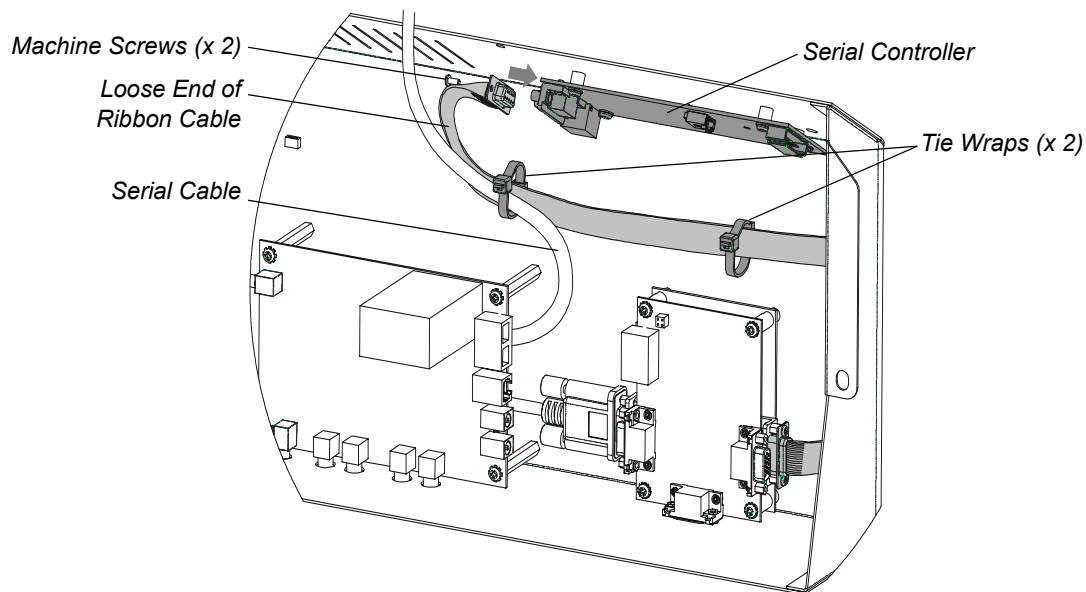


#### ***Installing the X-Port 20 Switch in the Electronics Tray***



## To connect the X-Port 20 switch

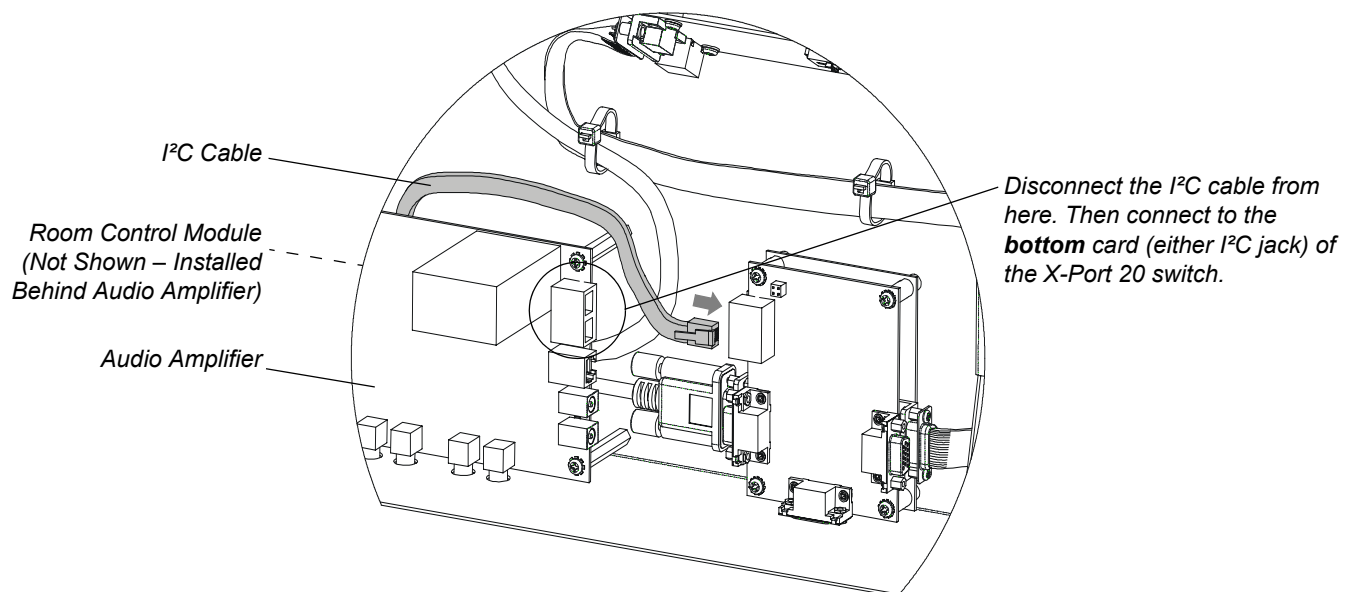
1. Attach the loose end of the DB9 female-to-female ribbon cable to the serial controller using the two supplied machine screws. Secure the ribbon cable and serial cable in place, as shown below, using two of the supplied tie wraps.



### Rerouting the Ribbon Cable

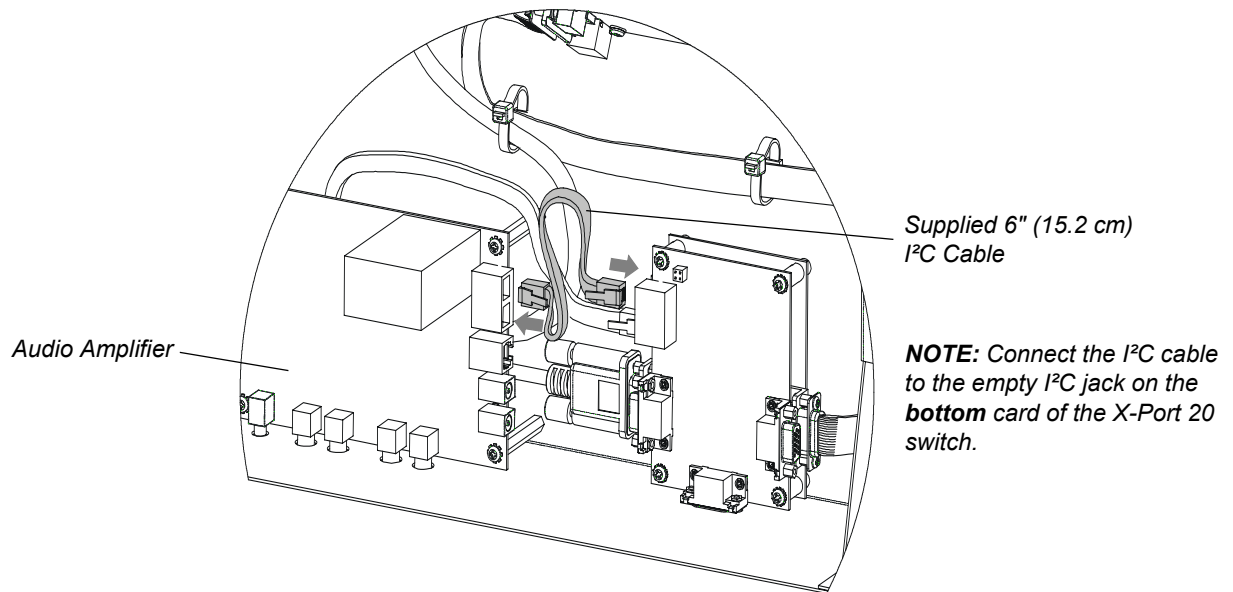
2. If you have a Room Control Module installed, disconnect the I<sup>2</sup>C cable (that runs between the audio amplifier and the Room Control Module) from the audio amplifier and connect it to the **bottom** card of X-Port 20 switch (either of the two I<sup>2</sup>C input jacks).

**NOTE:** If you don't have a Room Control Module installed, proceed to step 4.



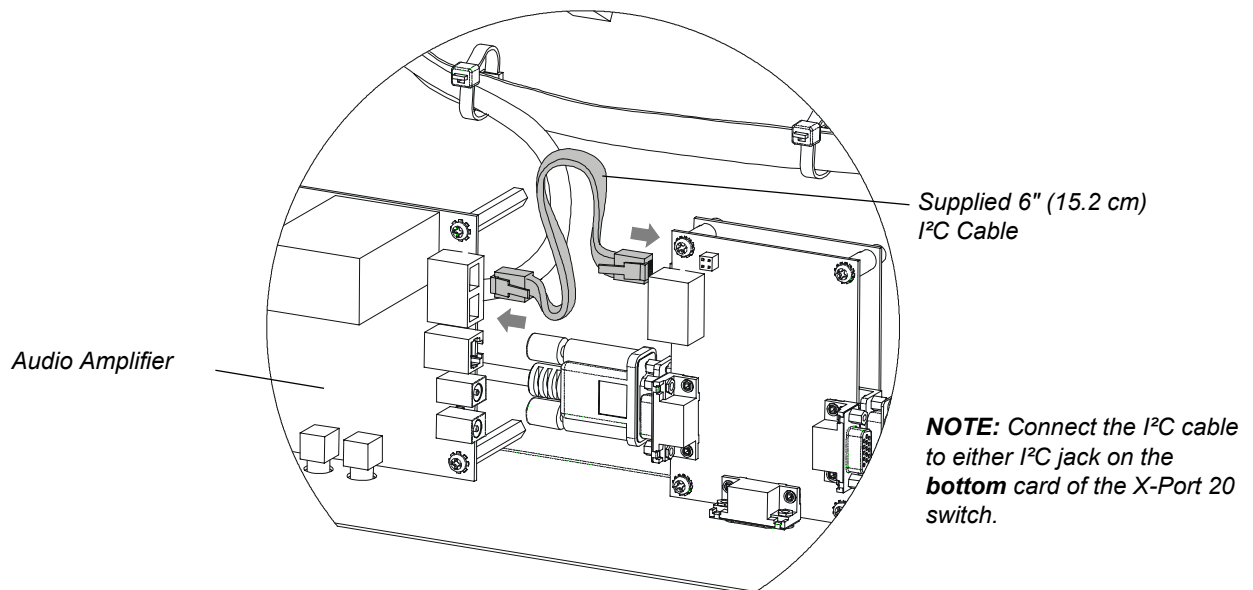
### Rerouting the Room Control Module (if applicable)

3. Connect the supplied 6" (15.2 cm) I<sup>2</sup>C cable between the audio amplifier (either I<sup>2</sup>C jack) and the empty I<sup>2</sup>C jack on the *bottom* card of the X-Port 20 switch.



#### **Connecting the Audio Amplifier to the X-Port Serial/Video Switch (Room Control Module Installed)**

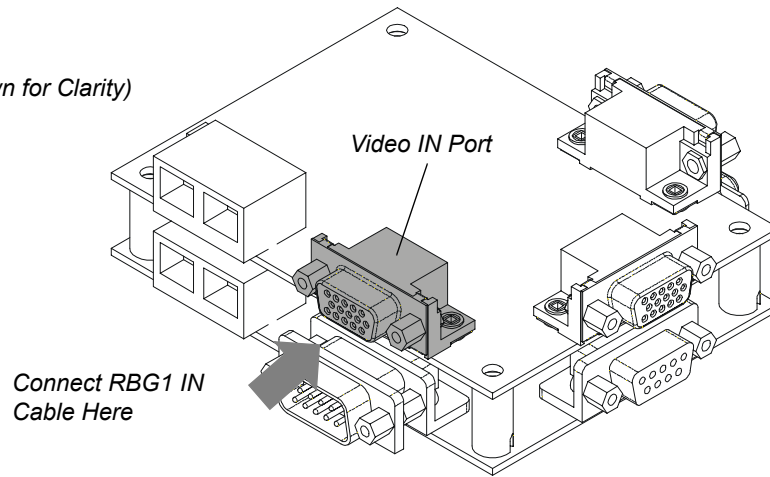
4. If you don't have a Room Control Module installed, attach the supplied 6" (15.2 cm) I<sup>2</sup>C cable between the audio amplifier (either of the two I<sup>2</sup>C jacks) and the *bottom* card of the X-Port 20 switch (either of the two I<sup>2</sup>C jacks).



#### **Connecting the Audio Amplifier to the X-Port Switch (Room Control Module Not Installed)**

5. Locate the tie-wrapped bundle of cables running along the underside of the cabinet. In this bundle is a video cable (labeled **RBG 1 IN**) that connects directly to the RGB IN port on the projector. Disconnect this cable from the back of the projector, carefully cut the tie wraps that hold the bundle together with a pair of wire cutters or sturdy scissors, and connect the cable to the Video IN port on the top card of the X-Port 20 switch.

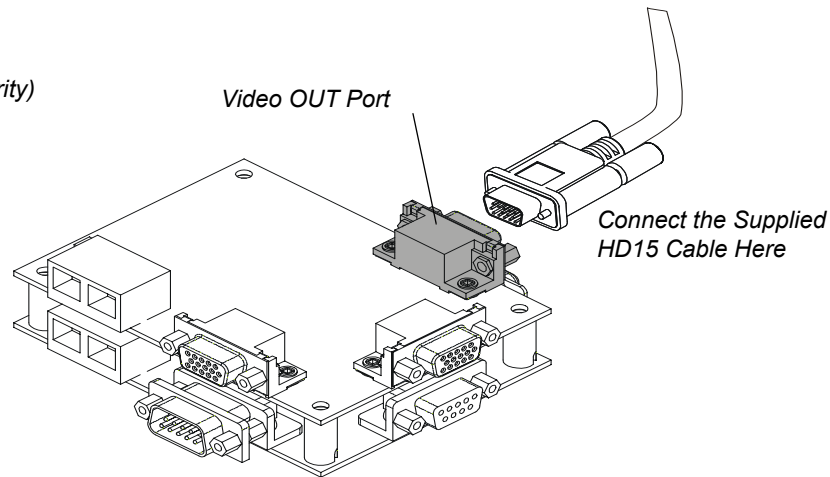
*X-Port 20 Switch  
(Cables Not Shown for Clarity)*



#### **Connecting the RGB 1 IN Cable to the X-Port 20 Switch**

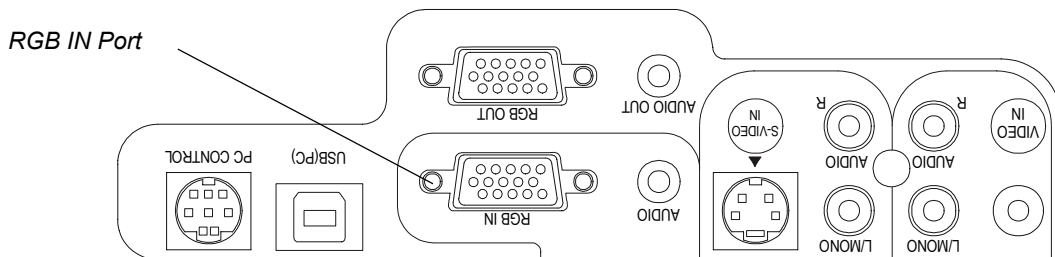
6. Connect one end of the supplied 6' (1.8 m) HD15 cable to the Video OUT port on the top card of the X-Port 20 switch.

*X-Port 20 Switch  
(Cables Not Shown for Clarity)*



#### **Connecting the Video Cable to the X-Port 20 Switch**

7. Connect the other end of this cable to the RGB IN port at the back of the projector.



**NOTE:**  
Connection panel  
is depicted  
upside down (as  
installed)

#### **Connecting the Video Cable to the Projector**

8. Swing the electronics tray back to its original position, and insert the two button head screws that you removed earlier.

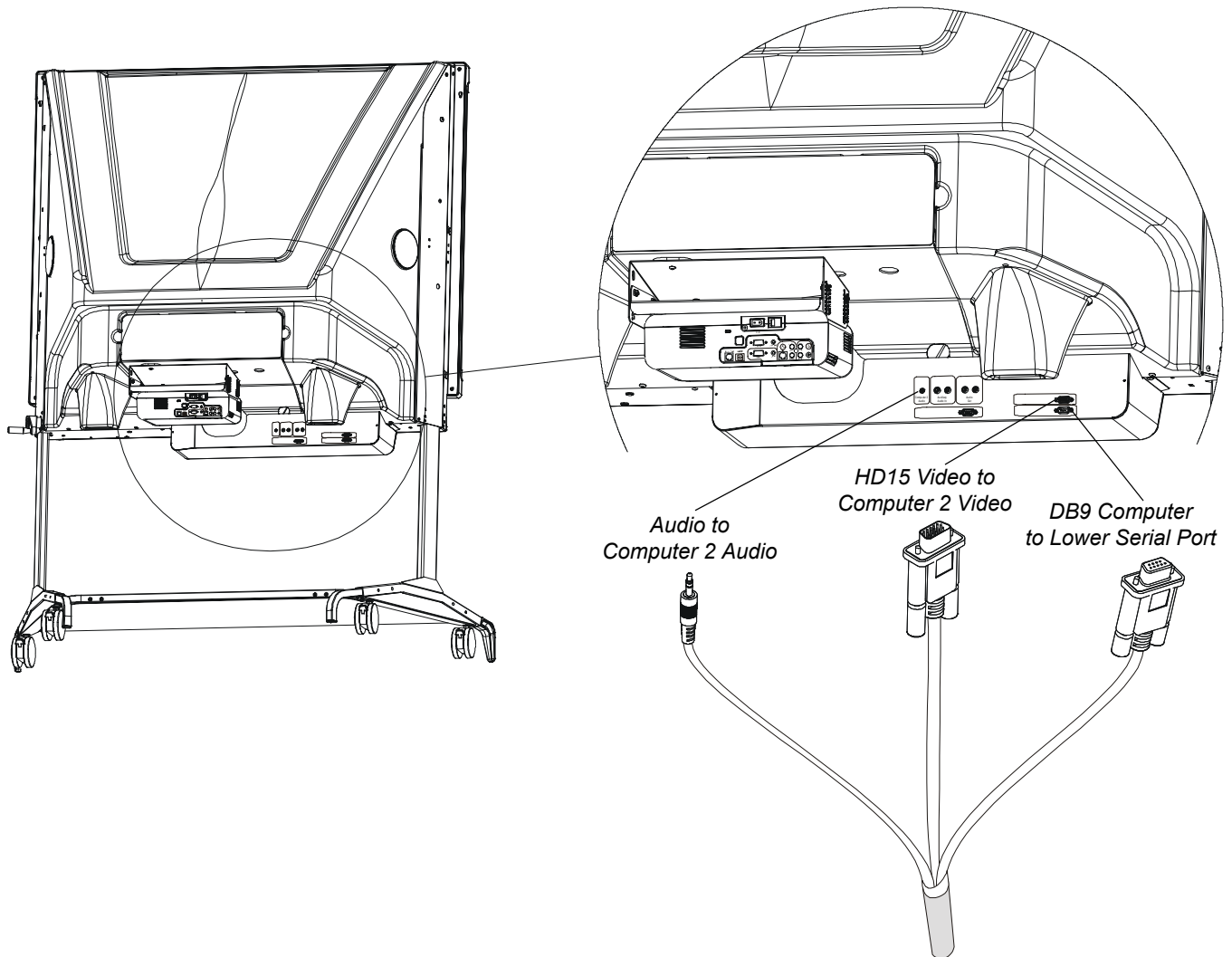
**IMPORTANT**

Before you close the electronics tray, ensure all cables are routed neatly.  
Use the supplied tie wraps to bundle the cables.

### To connect a guest laptop

Attach the supplied guest laptop cable bundle to the rear of the 2000i as follows:

- Connect the HD15 video cable to the Computer 2 Video port on the electronics tray.
- Connect the audio cable to the Computer 2 Audio port on the electronics tray.
- Connect the DB9 computer cable to the lower serial (computer) port on the electronics tray.



#### **Connecting the Guest Laptop Cable Bundle to the 2000i**

1. Make sure the laptop is turned off. With the guest laptop on the laptop/videoconferencing shelf, connect the three cables of the guest laptop bundle – the **Computer 2 Audio**, **Computer 2 Video** and **Computer 2 Serial** cables – to the appropriate connectors on the guest laptop.

**NOTE:** If the guest laptop has no available serial port or has USB ports only, a USB connection is possible. A SMART USB adapter cable was shipped with the 2000i and, if it is not used for connecting the resident computer, you could use it to connect a guest laptop. If necessary, you can order another SMART USB adapter cable (order number USB-ADP).

2. Turn on the guest laptop.
3. If it's still unplugged, plug in the 2000i and press the **Lamp On** button on the Control Panel.
4. Press the **Guest Laptop** button on the Control Panel to switch to the guest laptop video source.

**If the initialization screen does not appear on the interactive whiteboard**

Try activating the external video port on your guest laptop. Some laptops can't display their internal screens and activate the external video port or external monitor at the same time. You may also need to deactivate the internal video port on your guest laptop or put the internal and external video ports into simultaneous display mode, so that the guest laptop displays on both the guest laptop monitor and the interactive whiteboard at the same time.

With newer laptops, you can synchronize the internal and external video ports as follows:

**NOTE:** This procedure may vary for different operating systems.

- a. From the **Start** menu, select **Settings > Control Panel > Display**.
- b. Click the **Refresh** (or **Monitor Refresh**) tab.
- c. Click the **CRT/Panel** option to activate simultaneous monitor and external video port display.

This may not be possible with older laptop models, in which case you must switch back and forth between the internal and external video port. If you aren't sure which commands or keyboard combinations are required to do this, check the user's manual for your guest laptop.

You can now display the output of your guest laptop.

**If the image on the screen is too large or too small**

The projector and guest laptop resolution may not match. To adjust your guest laptop resolution to match the projector resolution, click the **Start** button, and select **Settings > Control Panel > Display**. Click the **Settings** tab, and adjust the resolution accordingly.

5. Insert the SMART Board software CD into the guest laptop's CD-ROM drive, and follow the on-screen instructions.
6. After you install SMART Board software, you should orient the interactive screen so that the cursor tracks your finger and the pen tray tools accurately.
7. Click the **Orient** button in the SMART Board tools and follow the on-screen instructions.

# Customer Support

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## 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 any 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:** 1.866.518.6791 (toll-free in Canada/U.S.) or +1.403.228.5940 (all other countries)  
(Available 7 a.m. – 6 p.m. Mountain time from Monday to Friday)

**Fax:** +1.403.806.1256

**E-mail:** [support@smarttech.com](mailto:support@smarttech.com)

**Web Site:** [www.smarttech.com/support](http://www.smarttech.com/support)

When you phone Technical Support, it will be helpful if you have access to your 2000i and the X-Port 20 switch during the call.

The support representative may ask you for the following information:

- the serial number of the unit
- the version of the software that's causing the problem and the version of your computer's operating system (if applicable)

## General Inquiries

**Main Switchboard:** 1.888.42.SMART (toll-free in Canada/U.S.) or +1.403.245.0333 (all other countries)

**Fax:** +1.403.228.2500

**E-mail:** [info@smarttech.com](mailto:info@smarttech.com)

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