

Extending the SMART Board™ 600 Series USB Cable

Your SMART Board™ 600 series interactive whiteboard includes a 16' (5 m) USB cable (Part No. 93-00507-00). If this cable isn't long enough to connect your interactive whiteboard, you can extend your cable several ways.

Types of Cable Extensions Available

To extend your USB cable, you have these options:

- Option 1: Use up to four USB extender cables (Part No. USB-XT) to extend the SMART USB cable. This is not a plenum rated solution.
- Option 2: Use a Cat 5 to USB extender (Part No. CAT5-XT) with plenum rated cable, as required.
- Option 3: Use a RS-232 Serial Connection option (Part No. RS232-R1) with your SMART interactive product and connect it with the included 25' (7.6 m) straight-through DB9 male-to-female serial cable or Cat 5 custom serial cable (plenum rated, as required) up to 100' (30.5 m).
- Option 4: Use the Wireless Bluetooth Connection option (Part No. WC6-NA) to eliminate connection cables.

IMPORTANT

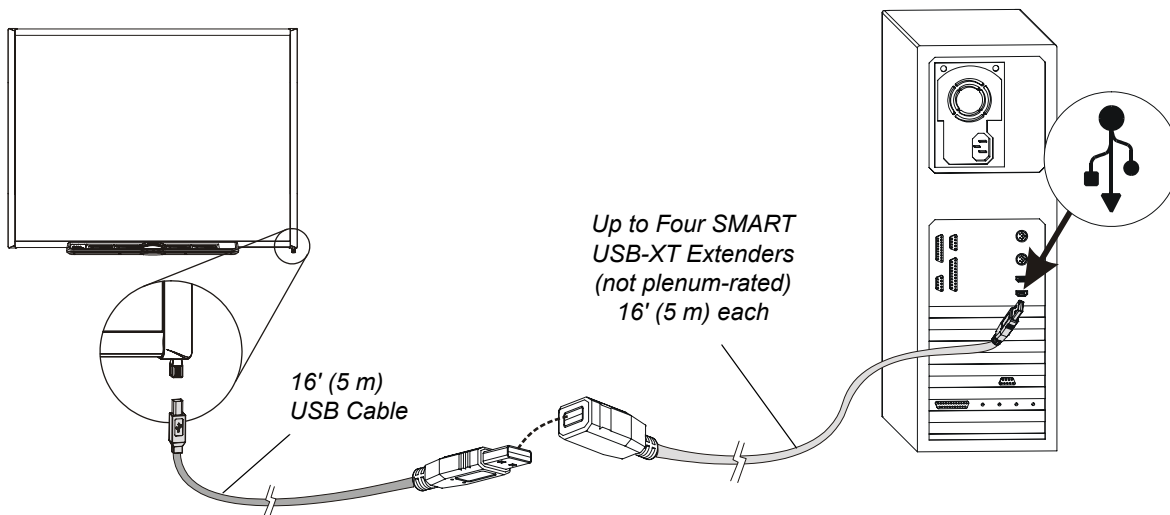


- For USB connections shorter than 80' (25 m) and the cables aren't routed through a conduit, or that do not require plenum-rated cables, you can use USB extension cables.
- For connections (up to 120' or 36.6 m), or where extension cables are routed through conduit, you can use a Cat 5 to USB cable extender. Use plenum rated Cat 5 cable as required.

NOTE: Don't use passive "USB A plug to USB A receptacle" USB extension cables. The included 16' (5 m) USB cable meets USB maximum length specifications. Extending these cables with a passive extension will cause the total cable length to exceed USB 2.0 specifications.

Option 1: Use USB Extender Cables (Part No. USB-XT)

You can use up to four active USB extension cables, such as the USB-XT extender, to extend the 16' (5 m) cable included with your SMART Board 600 series interactive whiteboard to a total length of 80' (25 m). This is not a plenum rated solution.



CAUTION: Do not use more than four USB hubs (or extenders, which have the same properties as hubs) to extend the 16' (5 m) USB cable. USB 2.0 specifications allow up to five hubs in a circuit, and your computer's USB interface acts as a hub.

Option 2: Use a Cat 5 to USB Extender (Part No. CAT5-XT)

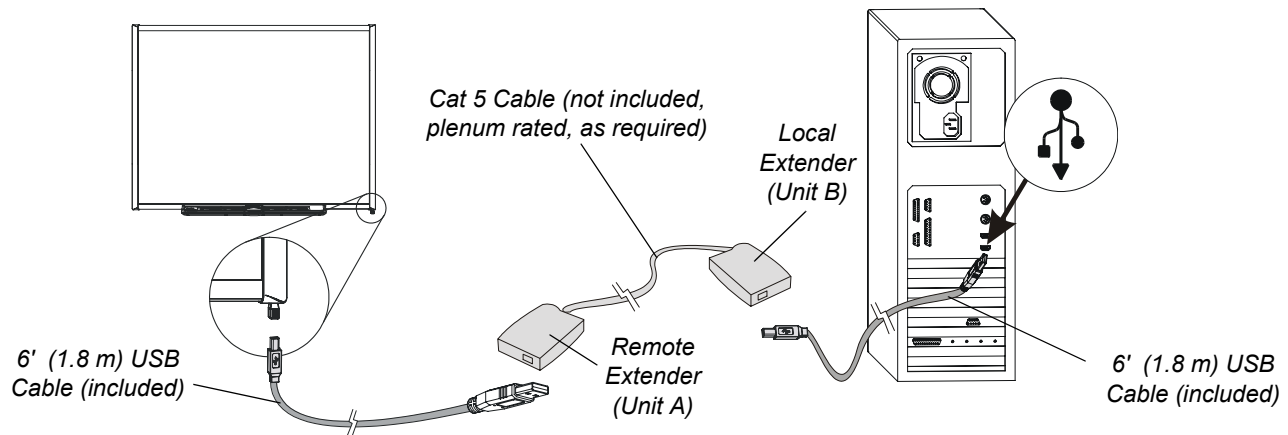
You can use a Cat 5 to USB extender (Part No. CAT5-XT) to connect your SMART Board interactive whiteboard to your computer. This USB 1.1 extension system consists of a local extender (Unit B) and a remote extender (Unit A), and supports full-speed (12 Mbps) and low-speed (1.5 Mbps) USB devices. You can use up to 120' (36.6 m) of Cat 5 cable when used with Windows computers, or up to 90' (27.5 m) when used with Mac computers.

NOTES

- Because the remote and local extenders together act as a single hub, you can further extend the connection using up to three USB hubs or extenders in series.
- Each additional hub or extender reduces the maximum Cat 5 cable length by 33' (10 m).
- Depending on your computer, additional bus-powered hubs or extenders may reduce the USB power available to the interactive whiteboard's below its required 300 mA. If this happens, you can connect a powered hub between the Unit A and the interactive whiteboard.

To install Cat 5 to USB extenders

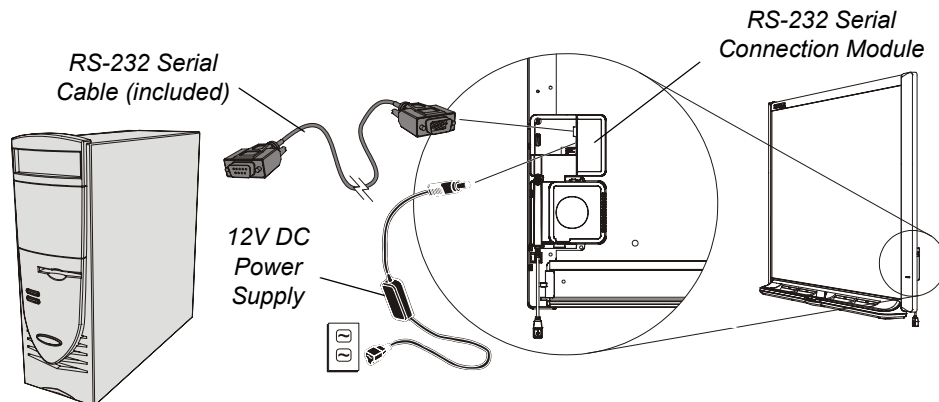
1. Connect the local extender (Unit B) directly to the computer using one of the 6' (1.8 m) USB cables included with the extender.
2. Connect the remote extender (Unit A) to the interactive whiteboard using the other included 6' (1.8 m) cable.
NOTE: Don't use the 16' (5 m) USB cable included with your interactive whiteboard. Only use the included 6' (1.8 m) cables to connect the Cat 5 to USB extenders to other devices, extenders and hubs.
3. Connect a Cat 5 cable with RJ45 connectors (not included) between Unit A and Unit B.



NOTE: This option also works with the Symposium ID250 interactive pen display.

Option 3: Use a SMART RS-232 Serial Connection (Part No. RS232-R1)

You can use the optional RS-232 Serial Connection option (Part No. RS232-R1) with the included 25' (7.6 m) straight-through DB9 male-to-female serial cable (not plenum rated) or with a custom Cat 5 serial cable extension (plenum rated, as required) up to 100' (30.5 m). The RS-232 Serial Connection's 12V DC switching power supply provides power to the module and the interactive whiteboard.



NOTE: If your computer doesn't have an RS-232 serial interface, use a SMART USB adapter cable (Part No. USB-FRU or USB-ADP) to adapt the serial cable to the computer's USB receptacle. To connect the USB-FRU, you also need a DB9 male-to-male adapter to connect the serial cable from the RS-232 conversion module to the adapter cable. To support the 19,200 bps speed of the RS-232 module, you can only use the short USB adapter cable (Part No. USB-ADP) with Part No. 93-00585 on its label.

To make a custom Cat 5 serial cable

CAUTION: Only perform this procedure if you have experience soldering or crimping wires onto DB9 connector pins.

You can create a custom serial cable by modifying a standard Cat 5 cable (4 pairs, 8 wires). Use the following pin assignments for both ends of the cable when creating your cable.

Pin	Function
1	Not connected
2	RxD (receive data)
3	TxD (transmit data)
4	DTR (data terminal ready)
5	SG (signal ground)
6	Not connected
7	RTS (request to send)
8	CTS (clear to send)
9	Not connected

IMPORTANT: Cat 5 cables have four twisted pairs of wires. For best performance

- Connect one twisted pair to pins 4 and 7.
- Connect another twisted pair to pins 5 and 8.
- Connect one wire of a twisted pair to pin 2 leaving the other wire disconnected.
- Connect one wire of the fourth twisted pair to pin 3, leaving the other wire disconnected.

Option 4: Use a SMART Wireless Bluetooth Connection (Part No. WC6)

This option eliminates the need for cables between the computer and the SMART Board interactive whiteboard. The included 7V DC switching power supply provides power to the Wireless Bluetooth Connection module and the interactive whiteboard.

Verifying Power to SMART Board 600 Series Interactive Whiteboards

After you extend the USB cable, verify that your interactive whiteboard is receiving sufficient power and that it's working properly.

To check the interactive whiteboard's USB voltage

1. Click the **SMART Board** icon in the Windows notification area or the Mac Dock, and then select **Control Panel**
2. Click **About Software and Product Support**.

The *Contact Support* dialog box appears.

3. Click the **Diagnostics** button

The *SMART Board Diagnostics* window appears showing the log file.

4. Find the following text in the log: "SMART Board (0x1) - on USB: Voltage USB Power".

If a value between 4.06V and 5.60V appears, the voltage is sufficient to power the interactive whiteboard. However, if the voltage is less than 4.06V, a USB hub or extender may be faulty, or the USB extension may be too long.

If you are using the RS-232 Serial Connection, or Wireless Bluetooth Connection, and the interactive whiteboard isn't receiving enough voltage, check the external power supply connections.

To check that the interactive whiteboard is working

- A green Ready light indicates that the interactive whiteboard is receiving power and is communicating properly with its computer.
- A red Ready light indicates that the interactive whiteboard is receiving power, but isn't communicating with its computer. To enable communication, start SMART Board software.