

Using Extended Serial/Power Cables with Your SMART Board 500 Series Interactive Whiteboard

What's In This Bulletin:

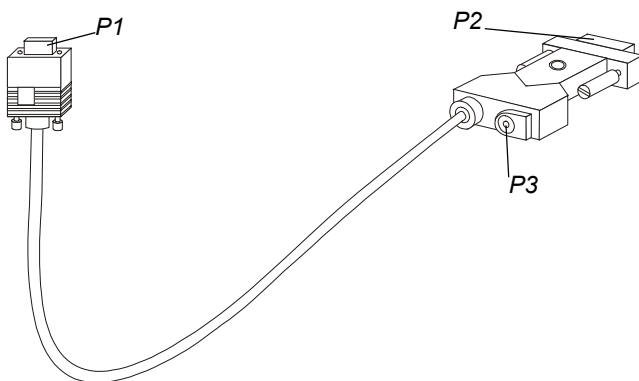
NOTE: This bulletin is highly technical. If necessary, call SMART Technical Support or your local dealer for assistance. This bulletin is an updated version of the one that was originally released as #99-02 on March 18, 1999.

- Warning regarding the modification or extension of the serial/power cable
- Warning regarding the use of external power supplies
- List of serial cable options that you can order from SMART Technologies
- Solution to noisy writing when using external power supplies

SMART Board™ 500 Interactive Whiteboard Series Cables: Using Extended Serial/Power Cables

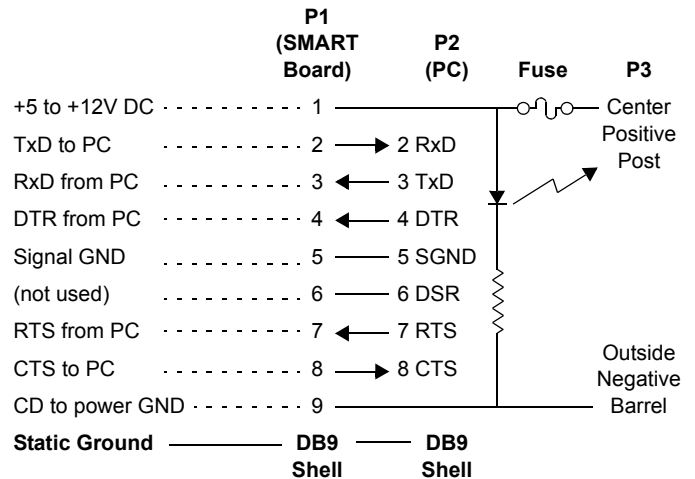
Preventing Damage from Electrostatic Discharge

When modifying or extending the 21'6" (6.6 m) serial/power cable (P/N 93-059-01) supplied by SMART Technologies with the SMART Board 500 series, you must take precautions to ensure that the new serial cable is grounded from connector shell to connector shell. The SMART Board 500 series requires a ground path through the serial/power cable. When working with the interactive whiteboard, users may introduce static via the interactive whiteboard or the SMART pen tray tool sensors. Without the static ground path in the serial/power cable, the serial controller inside the pen tray could be damaged. It's very important to maintain this ground path when modifying the serial cable. Refer to the following figures for details on cable construction.



P1 DB9 (female) to P2 DB9 (female), P3 DC Socket

Pin Assignments



IMPORTANT

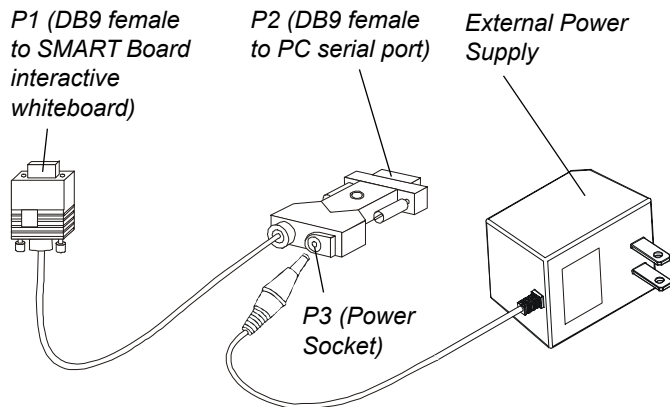


It is critical to maintain the ground path in the serial cable to avoid damaging the electrical components of the SMART Board interactive whiteboard. Any extended cables not supplied by SMART must be connected to a SMART-supplied cable at either the interactive whiteboard or the computer end. Maintain the orientation of the SMART serial cable with P1 directed towards the interactive whiteboard and P2 directed towards the computer.

If you can't provide a static ground path through the extended serial cable, you must use an external power supply with a ground connector to the building ground as an alternative. A suitable grounded 12V DC power supply (P/N 60-012) is available from SMART Technologies. If you are using a power supply not provided by SMART Technologies, ensure that it has the same characteristics as the 12V DC power supply listed on the next page. The negative polarity outside barrel of the 12V DC coaxial connector must be connected to the ground terminal on the AC power cable. This connection provides the static ground path.

Alternative to the Keyboard Power Cable

The keyboard power cable (P/N 93-061-01 (PS/2), P/N 93-062-01 (XT) or P/N 93-060-01 (Mac)) supplied by SMART Technologies can only be used with a serial cable that is not longer than 20' (6.1 m). A cable longer than 20' (6.1 m) could reduce the Pen Tray voltage to less than the 5V DC necessary to power the system. If you need to extend the serial cable beyond 20' (6.1 m), you must connect an external power supply to the power socket (P3) in the DB9 connector to the PC serial port (P2) as shown on the next page. This provides the required voltage.



External Power Supply Cable Connecting to Power Socket in Serial Cable

An external power supply must have the following characteristics:

- 2.1 mm inner diameter – positive center post
- 5.5 mm outer diameter – negative outer barrel
- 6V DC to 12V DC output
- minimum 200 mA output

IMPORTANT



It is critical that the 12V power connector polarity be observed. Reversed polarity will open the internal fuse in the serial cable and destroy the cable. The fuse has been molded inside the hood of the serial connector and cannot be repaired. If the fuse inside the serial cable is open, the green LED power light on the hood of the cable doesn't illuminate. Power doesn't reach the SMART Board interactive whiteboard, and the Ready Light on the interactive whiteboard doesn't light.

Serial/Power Cable Options

The following serial/power cables are available from SMART Technologies:

- 21'6" (6.6 m) serial cable – P/N 93-059-01
- 6' (1.8 m) serial cable – P/N 93-079-01
- 50' (15.2 m) serial cable – FRU-93-067-00
- angle adapter – P/N 93-078-00

- 12V DC external power supply
 - P/N 60-001, North America 120V
 - P/N 60-004, Europe 230V
 - P/N 60-005, UK 240V
 - P/N 60-007, Japan 100V
 - P/N 60-010, South Africa 240V
 - P/N 60-012, universal, grounded

NOTE: The angle adapter adjusts the direction of the connection between the interactive whiteboard and the serial cable by 90 degrees. The adapter allows you to make the connection horizontally from behind the interactive whiteboard, rather than from below. You can use two adapters together to place the serial cable connection behind the interactive whiteboard if it is installed 3/4" (1.9 cm) from the wall, or pass the cable through an opening in the wall.

Noisy Writing Solution when Using External Power Supplies

Pen trays that use v6.6 firmware may have difficulties with some unregulated 12V external power supplies. The unregulated output exceeds 18V DC, resulting in noisy writing. If your interactive whiteboard has problems with noisy writing, follow these steps to identify the firmware version:

1. Open the SMART Board Control Panel.
2. Press the **Log** button in the **Boards** tab.
3. Find the firmware version in the *Status Log* window that is similar to the following:
(6/1 7:29:11) - SMART Board (1) - on USB: Firmware version - **6.6**.

To resolve the noisy writing problem, you should use an external power supply with 9V DC output. You can purchase these power supplies locally or contact SMART Technologies to make arrangements to receive the appropriate power supply.

NOTE: If you purchase a 9V DC external power supply locally, ensure that it has the same characteristics as the 12V DC power supply listed previously.

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