



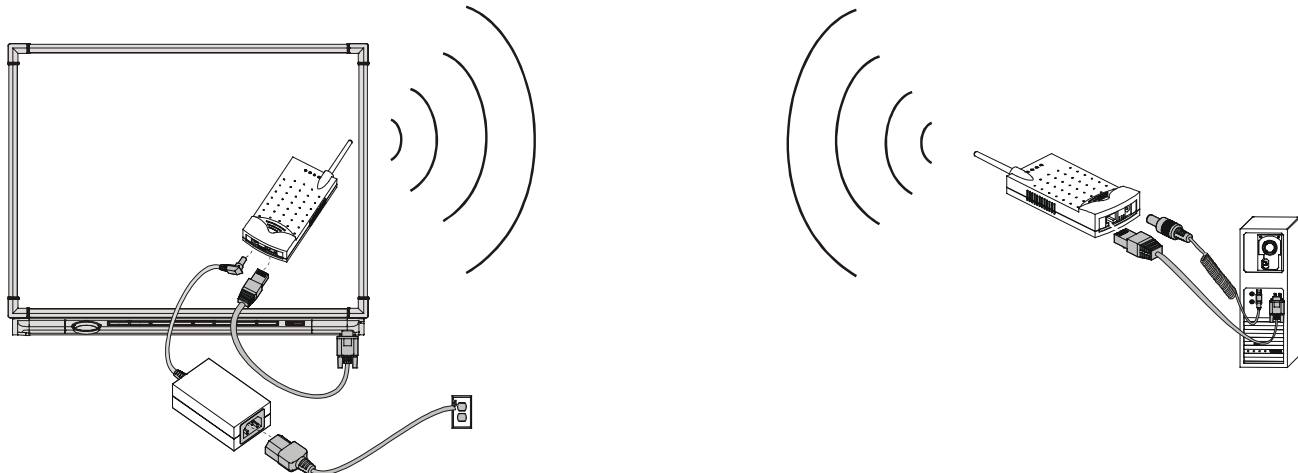
TECHNICAL BULLETIN

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In This Issue: The SMART WC2 Wireless Serial Adapter

Traditionally, you connected the SMART Board™ interactive whiteboard to a computer using a serial or SMART USB adapter cable. SMART now offers a wireless option for the entire family of SMART Board interactive whiteboards – SMART Board, *Rear Projection SMART Board* and *SMART Board for Plasma Displays* – as well as the SMART Symposium™ interactive lectern. This new wireless radio option eliminates the need for a cable between the interactive whiteboard and the computer, so the connecting cable need no longer dictate where you place the interactive whiteboard in a room. These radios have a range of 300' to 1200' (depending on physical obstructions), so installing a SMART Board interactive whiteboard at some distance from a computer (or where a connecting cable is an inconvenience) is no longer a problem.



The WC2 Wireless Serial Adapter at Work

The wireless serial adapter consists of two paired radios with accompanying power supplies. The radio that connects to the computer draws power from a USB power-adaptor cable that plugs into the computer's USB port. If your computer doesn't have a USB port, connect the SMART PS/2 Keyboard Power Adapter (that came with your interactive whiteboard) to the computer, and then connect both the keyboard cable and the radio to this adapter. The power supply for the whiteboard radio is a 5V DC universal-switching adapter that connects to a wall outlet. Data is transmitted through a pair of RJ45/DB9 serial cables that connect the radios to the serial ports on the whiteboard and on the computer. If your computer doesn't have a serial port, use the SMART USB adapter cable (order number USB-ADP) or the USB-FRU (with a 9-pin male/male gender bender) to complete your setup. We do not recommend using third-party USB adapters with the WC2 Wireless Serial Adapter.

IMPORTANT NOTES:

- The Wireless Serial Adapter is not compatible with SMART serial controllers that predate version SC7 or SMART serial controllers that do not use the 8N1 protocol. On shipment, the SC7 serial controller is set to 802 protocol, and, while it's possible to alter the protocol setting to 8N1, it isn't necessary. To establish communication between the interactive whiteboard and the computer, the SMART Board service will switch to 8N1 mode, creating an initial time lag of approximately 25–40 seconds. If you prefer, you can switch the SC7 controller to consistently use 8N1 protocol (see Technical Bulletin 2002-5, *Setting the SC7 Controller to Use 8N1 Protocol*) to eliminate the time lag. If you have a multiple computer/whiteboard installation that includes a matrix switch, you must switch the SC7 to always use 8N1 protocol for compatibility.
- Do *not* switch the radio serial cables (labeled *To Computer* and *To Board*). If you accidentally connected the *To Board* serial cable to the computer, the power directed from the cable could seriously damage the unit.

Wireless Serial Connection Issues (SMART Board Software 7.1.1 and older)

Issue 1: Computer Radio Shutdown and Warm-Up Causes Communication Failure


Problem:

Some customers may experience problems establishing communication between the computer and the interactive whiteboard after performing a cold reboot. When you power down the computer, the computer radio, which derives its power from the computer's USB port, is also powered down. When you reboot the computer, the SMART Board service will send its handshake signal to the computer's COM port before the computer radio has warmed up sufficiently. As a result, the radios are not set to RTS high and communication between the interactive whiteboard and the computer is not established. You'll then receive the message "**No data is being received on this port**" in the **Status** area of the *Control Panel* dialog box.

Solution:

From the *Control Panel* dialog box, disconnect the interactive whiteboard from the COM port. Then, reconnect the interactive whiteboard to the COM port to restore normal functionality. This procedure is described in detail below.

To disconnect/reconnect the COM port:

- 1 Click the SMART Board icon in the system tray  and select **Control Panel**.
- 2 On the Boards tab, ensure the COM port is selected and click the Disconnect button under **Serial Ports**.
- 3 Click the **Connect** button under **Serial Ports**.
The *Select COM Port* dialog box will appear.
- 4 Under **Manual**, select the COM port to which the SMART Board interactive whiteboard is connected, and then click the **Select** button.

NOTE: Do *not* click the **Detect SMART Hardware** button because automatic port selection will not work in this instance.

You'll see the message "**The SMART Board interactive whiteboard is working properly**" in the **Status** area of the *Control Panel* dialog box.

Workaround:

You can avoid this problem altogether by keeping the computer radio constantly turned on using a 5V DC (positive tip) power supply, circumventing the synchronicity failure caused by the computer radio warm-up period.

Issue 2: A Power Interruption to Interactive Whiteboard Radio Causes Communication Failure

Problem:

If the power supply to the interactive whiteboard radio and the SMART Board interactive whiteboard is interrupted, the radio loses the RTS high setting required for the interactive whiteboard to communicate with the computer. Consequently, data transmission terminates from the SC7 controller, and the interactive whiteboard no longer responds to touch. If you check in the **Status** area of the *Control Panel* dialog box, the following message will appear: "**No data is being received on this port.**"

Solution:

To re-establish communication, follow the above procedure to disconnect and then reconnect the interactive whiteboard to the computer COM port.

Wireless USB Adapter Connection Issues

If your computer doesn't have an available serial port for the radio's RJ45/DB9 serial cable, use a SMART USB adapter cable to connect the radio to the computer. Our testing indicates that third-party USB-to-serial adapter cables may not be a satisfactory substitute for the SMART USB adapter cable.

Just like with the wireless serial connection, some customers that use the SMART USB adapter may have trouble establishing communication between the computer and the board after performing a cold reboot. Communication problems may also occur if the power supply to the board radio is interrupted.

Issue 1: Computer Radio Shutdown and Warm-Up Causes Communication Failure

Problem:

When you turn off the computer, the computer radio, which derives its power from the computer's USB port, also powers down. When you reboot the computer, the SMART Board service will send its handshake signal to the computer's COM port before the computer radio has warmed up sufficiently. As a result, the radios will not be set to RTS high and communication between the interactive whiteboard and the computer will not be established. You will receive the message **"Data is being received, but communication to the SMART Board is not working correctly. The LEDs will not function."** If you access the Status log (by clicking the Log button in the Control Panel) this recurring message will appear: **"ERROR: Cannot write data to SMART Board on SMART Board (x) on USB."**

Solution:

While this problem is similar to the serial connection issue (on page 2), the solution is very different. *Do not perform the software disconnect/reconnect procedure described on the previous page.* Because the SMART USB adapter is a plug-and-play device, it can't be disconnected via software. Instead, you must physically disconnect the SMART USB adapter at the computer, and then reconnect the adapter.

Workaround:

You can avoid this problem altogether by keeping the computer radio constantly powered on using a 5V DC (positive tip) power supply. A constant power supply circumvents the synchronicity failure caused by the computer radio warm-up period.

Issue 2: Power Interruption to Board Radio Causes Communication Failure

Problem:

If the 5V DC power to the board radio is interrupted, the radio loses the RTS high setting required for the board to communicate with the computer. Consequently, data transmission from the SC7 controller will cease, and you'll notice a sudden lack of touch sensitivity when the board is pressed. The following status message will appear in the *Control Panel* dialog box: **"Data is being received, but communication to the SMART Board is not working correctly. The LEDs will not function."**

Solution:

- 1 Reconnect the 5V DC power supply to the interactive whiteboard radio.
- 2 Wait until the radio link is established (the radio LEDs turn solid green) and the SC7 LED turns solid red.
- 3 Disconnect and reconnect the USB cable at the computer.

System Requirements for the WC2 Wireless Serial Adapter

- A SMART Board interactive whiteboard equipped with an SC7 serial controller
- A Windows® 95, 98, 2000, ME, XP or Windows NT® 4.0 (SP-4) operating system, running SMART Board driver 5.61B, 6.x or 7.x
- Macintosh OS 9.2 (with SMART Board driver 6.0.2) and 10.2 (with SMART Board driver 6.0.3) and a SMART USB adapter cable (*not* a third-party USB adapter)

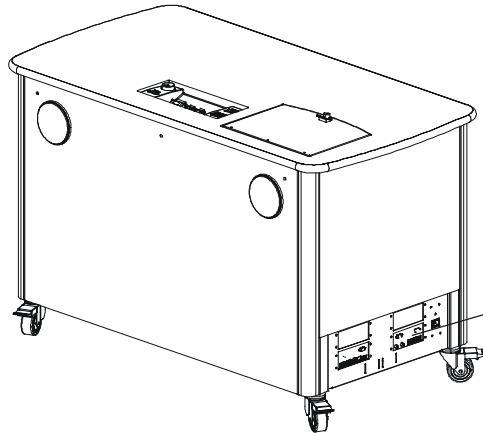
NOTES:

- A Macintosh OS 8.6 computer running on a Power PC with a MINI DIN8 serial connection is *not* compatible with the WC2 Wireless Serial Adapter.
- The radios work well with an Expression™ 503, connected to either the host computer or a guest laptop and a SMART Board interactive whiteboard. You should give the workaround described above, in which the computer radio receives constant power via an external power supply, special consideration if the internal computer in the 503 is powered off while a guest laptop is in operation.

WARNING



If you're using the SMART PS/2 Keyboard Power Adapter to power the radio, do NOT plug it into the PS/2 connector in the Expression Connection Panel. This connector is a 12-volt power outlet intended to power a SMART Board interactive whiteboard and *only* a SMART Board interactive whiteboard. The radio can handle just 5 volts of power and would be destroyed if you connected it to the PS/2 connector on the Expression cabinet. Instead, use a five-volt external power supply.



If you're using a SMART PS/2 Keyboard Power Adapter to power your wireless radio, do NOT plug it in here!

Consider connecting the radio to a five-volt external power supply, securing that power supply inside the cabinet, and plugging it into cabinet power bar. With this setup, the internal PC does not need to be powered up – or even present – to control the laptop by touching the interactive whiteboard.

Using the Wireless Serial Adapter with Other 802.11b Devices

When they initialize, the radios auto-scan for other 802.11b devices in the immediate area and select an open channel from the 11 that are available. If the number of device pairs (such as other radio pairs) exceeds four, they may select adjacent bands as transmission channels, which can result in cross-talk problems. Consequently, you should use no more than four device pairs in any given area.

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