TECHNICAL BULLETIN

SMART Technologies Inc.

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In This Issue: Upgrading the Rear Projection SMART Board™ 3000i Interactive Whiteboard Control Panel Firmware 2.12

NOTE: Do not attempt this firmware upgrade on 3000i-DV Models.

These instructions explain how to upgrade the Control Panel firmware for your 3000i from version 2.0, 2.10 or 2.11 to version 2.12. If necessary, you'll also need to install the I^2C Control Panel flash cable. This bulletin includes instructions for installing this cable are.

Version 2.12 of the Control Panel firmware:

- supports the integration of a room control system
- corrects the lockup that can occur if a user presses any button other than the Standby button while in reversible standby mode
- has a 10-second delay built into the source-changing functionality
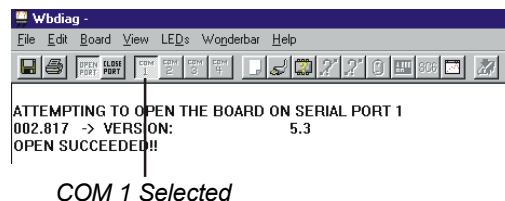
NOTE: If your Control Panel firmware is version 2.12 or greater, you don't need to perform this upgrade. If you're unsure of your firmware version number, see *Determining Your Firmware Version* below.

Verify that the last four digits of the serial number on your 3000i are higher than 05000, because Control Panel firmware 2.x is only compatible with units that have a serial number higher than this. The reason is that these units contain the SMART X-Port™ 20 switch. You'll find serial number labels in two places: on the patch panel at the rear of the cabinet and inside the right door on the front of the cabinet.

Determining Your Firmware Version

To determine your firmware version

1 Disconnect the port in the SMART Board Control Panel as follows:

   a) Click the SMART Board icon ![icon] in the system tray and select **Control Panel**.

   The *SMART Board Control Panel* opens.

   b) On the Boards tab, select the port for your interactive whiteboard.

   c) Click the **Disconnect** button.

2 Open the WBDiag application as follows:

   a) On the **Boards** tab, click the **Log** button.

   The *Status Log* opens.

   b) Click the **Diagnostics** button.

   The WBDiag application opens.

3 Open the port in WBDiag as follows:

   a) There are four numbered COM port buttons on the WBDiag toolbar. Ensure that the correct one for your interactive whiteboard is selected.

COM 1 Selected

   b) Click the **Open Port** button.

   When the port is successfully opened, an **OPEN SUCCEEDED!!** message appears.

4 Select **Wonderbar > Hardware Info** and note the firmware version in the dialog box that appears.

5 If the firmware version is 2.0, 2.10 or 2.11, upgrade the firmware as explained on page 7.

OR

If the firmware version is *2.12 or higher*, there's no need to upgrade the Control Panel firmware. Close the *WBDiag* window as follows.

    a) Select **File > Exit** in the *WBDiag* window.

    b) Click the **Close** button ☒ in the *Status Log*.

       The *SMART Board Control Panel* appears.

    c) On the Boards tab, click the **Connect** button.

       The *Select COM Port* dialog box opens.

    d) Select the correct COM port from the list and then click the **Select** button.

       OR

    e) Click the Detect SMART Hardware button.

       The system searches for the presence of the interactive whiteboard.

Tools Required for Updating the Control Panel Firmware

To upgrade the firmware, you will need:

- an antistatic wrist strap
- the hex file for upgrading the Control Panel firmware
- a Phillips® No. 2 screwdriver and either cutting pliers or wire cutters
- a custom I^2C flash adapter cable if the serial number is between 05000 and 05999 (part No. 93-00350-00) Alternatively, you may want to alter the wires on the flat end of the I^2C cable. Call technical support for instructions.

Tasks Required for Updating the Control Panel Firmware

The procedure for updating the Control Panel firmware varies, depending on the serial number of your 3000i.

Tasks Required if the Serial No. is between 05000 and 05999
- Connect the I^2C flash adapter cable to the I^2C Control Panel flash cable and the SC7 serial controller (page 3)
- If the Control Panel firmware version is 2.0, 2.10 or 2.11, upgrade the firmware to version 2.12 (page 7)

Tasks Required if the Serial No. is between 06000 and 06999
- No cable installation required
- If the Control Panel firmware version is 2.0, 2.10 or 2.11, upgrade the firmware to version 2.12 (page 7)

Tasks Required if the Serial No. is between 07000 and 07999
- Connect the I^2C Control Panel flash cable to the SC7 serial controller (page 5)
- If the Control Panel firmware version is 2.0, 2.10 or 2.11, upgrade the firmware to version 2.12 (page 7)

Tasks Required if the Serial No. is 08000 or higher
- No cable installation required
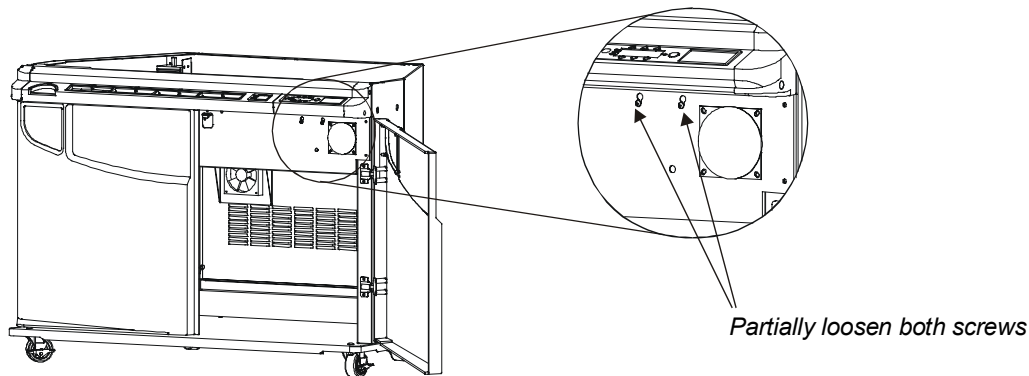- If the Control Panel firmware version is 2.0, 2.10 or 2.11, upgrade the firmware to version 2.12 (page 7)

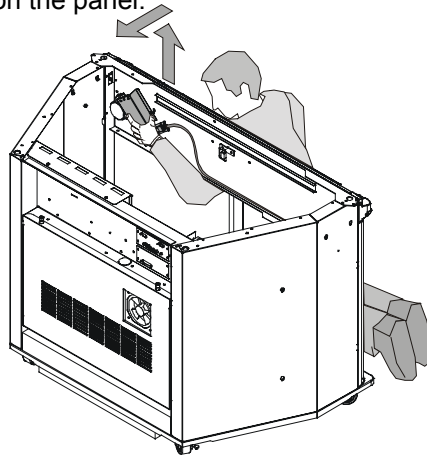# Connecting the I^{2}C Flash Adapter Cable (Serial No. 05000–05999)

If the serial number on your 3000i is between 05000 and 05999, you must insert the I^{2}C flash adapter cable between the I^{2}C Control Panel flash cable and the SC7 serial controller before you attempt to upgrade the Control Panel firmware.

1   Open the right door of the cabinet and partially loosen the two screws that attach the serial controller metal housing to the front panel. Two or three turns will suffice. You'll find these screws on the outside of the front panel.
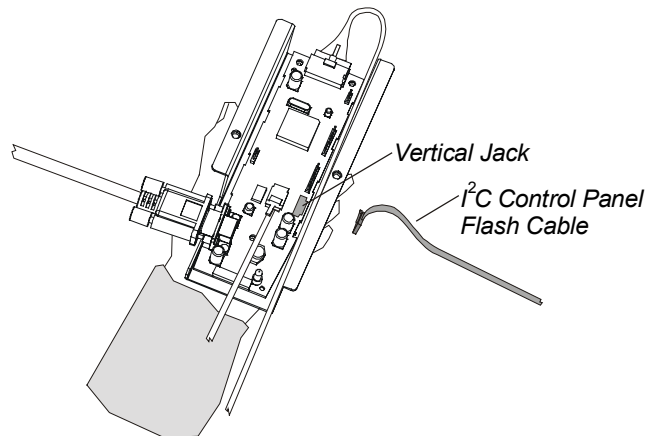

Partially loosen both screws

2   Reach inside the cabinet, behind the front panel. Lift the serial controller metal housing up and then back to release it from the keyholes on the panel.
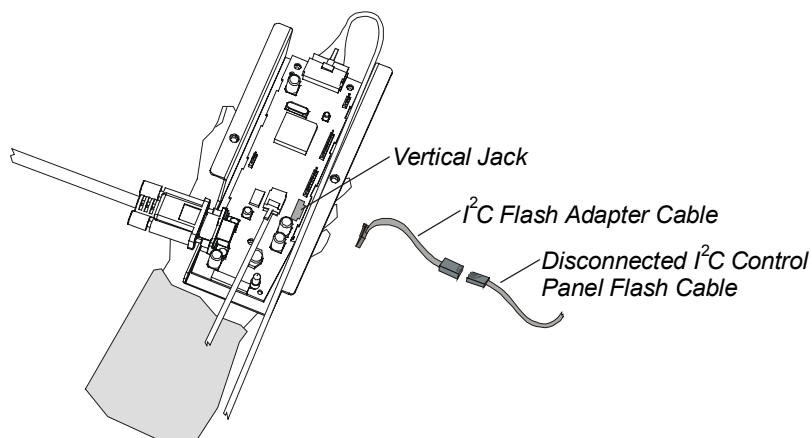

3   Without disconnecting the cables, carefully lower the serial controller through the opening in the front panel.
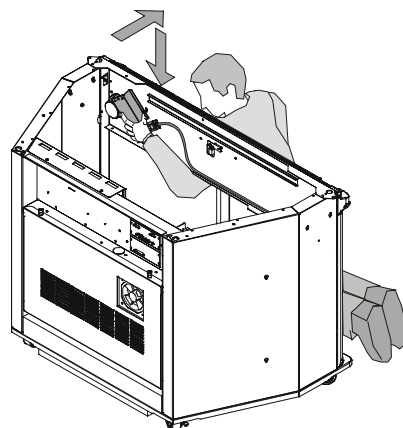
4   Disconnect the I^2C Control Panel flash cable from the vertical jack on the serial controller.

Vertical Jack

*I^2C Control Panel
Flash Cable*

5   Connect this cable to the female end of the I^2C flash adapter cable. Then connect the male end of the flash adapter cable to the vertical jack on the serial controller.

Vertical Jack

I^2C Flash Adapter Cable

*Disconnected I^2C Control
Panel Flash Cable*

6   Reach inside the cabinet and attach the serial controller metal housing to the inside of the front panel. To do this, fit the two partially inserted screws on the metal housing into the keyholes on the front panel.

NOTE:
*Avoid pinching any of the
cables between the metal
housing and the cabinet.*

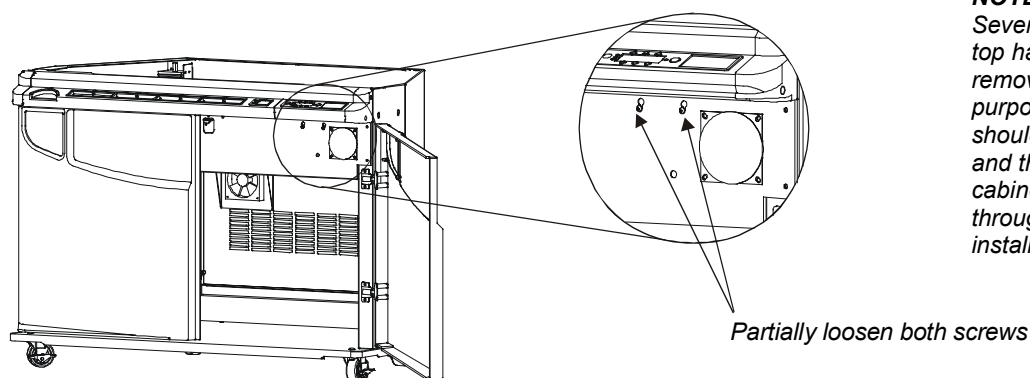**NOTE:** The flash adapter cable will remain in the cabinet.

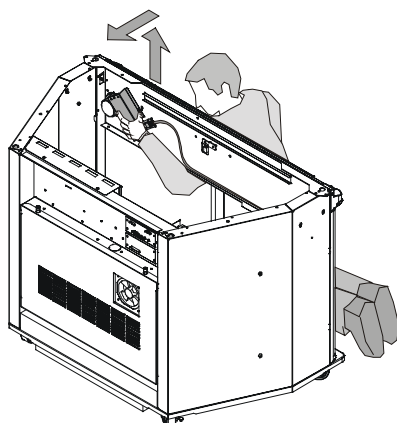# Connecting the I^{2}C Flash Adapter Cable (Serial No. 07000–07999)

If the serial number on your 3000i is between 07000 and 07999, you must connect the I^{2}C Control Panel flash cable to the SC7 serial controller before you can upgrade the Control Panel firmware.

1   Open the right door of the cabinet and partially loosen the two screws that attach the serial controller metal housing to the front panel. Two or three turns will suffice. You'll find these screws on the outside of the front panel.
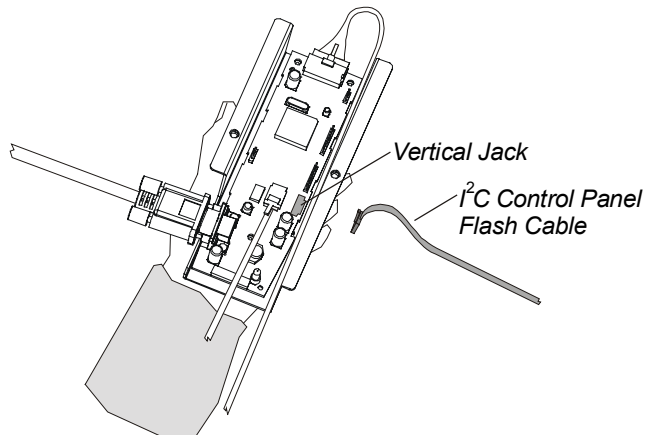
NOTE:
Several figures show the top half of the cabinet removed for illustration purposes. However, you should leave the screen and the top half of the cabinet attached throughout the installation procedure.

Partially loosen both screws

2   Reach inside the cabinet, behind the front panel. Lift the serial controller metal housing up and then back to release it from the keyholes on the panel.

3   Without disconnecting the cables, carefully lower the serial controller through the opening in the front panel.

You'll notice that the I^{2}C Control Panel flash cable is bundled with the DB9 serial cable.
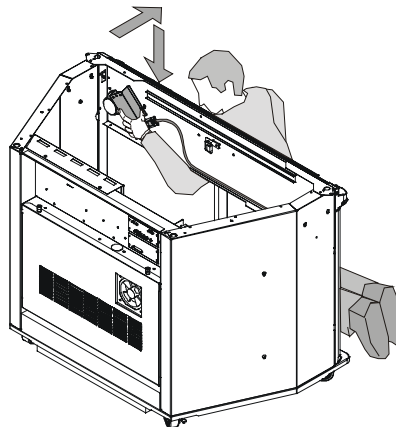
4 Using cutting pliers or wire cutters, cut the tie wraps as required to free the Control Panel flash cable.

5 Connect this cable to the vertical jack on the serial controller.

Vertical Jack

I^2C Control Panel
Flash Cable

6 Reach inside the cabinet and attach the serial controller metal housing to the inside of the front panel. To do this, fit the two partially inserted screws on the metal housing into the keyholes on the panel.

NOTE:
Avoid pinching any of the
cables between the metal
housing and the cabinet.

NOTE: The Control Panel flash cable will remain in the cabinet.

Upgrading the Control Panel Firmware

If the Control Panel card in your 3000i uses firmware version 2.0, 2.10 or 2.11, you'll need to upgrade to version 2.12.

NOTE: This procedure takes between 20 and 30 minutes. If you use a laptop computer to complete the following steps, make sure it's connected to a continuous power source.

To upgrade the Control Panel firmware

Before you begin, verify that the port for your interactive whiteboard is still disconnected in the SMART Board Control Panel. If it isn't, follow the instructions in step 1 on page one. In addition, make sure the WBDiag application is still open. If it isn't, follow the instructions in step 2 on page one.

1   Copy the hex file to the hard drive of your laptop or internal computer. This file is available on our Web site at: www.smarttech.com/support/firmware.

   NOTE: The appropriate port should still be open in WBDiag. If it isn't, select the COM port for your interactive whiteboard in WBDiag and click the **Open Port** button.

WARNING:

*Do not click the ![icon] button or the **Download Firmware** command on the **Board** menu, as that would replace your serial controller firmware with firmware intended for the Control Panel, thereby rendering your system inoperable.*

2   Select **Wonderbar > Download Firmware**.

   The *Open* dialog box appears.

4   Browse to the hex file and open it. The download process takes approximately 20 to 30 minutes. We recommend that you not disturb this process by performing any work on the laptop or internal computer for the duration of the download.

   During the download, a series of messages appear. The following appears at the end.

   ATTEMPTING TO PROGRAM THE FIRMWARE ON THE WONDERBAR
   010.808   -> WONDERBAR IN BOOTLOADER CODE
   011.058   -> WONDERBAR BOOTLOADER VERSION: 3.11
   016.088   ->   (0x00, 0x00, 0x00, 0x00) - ERROR FLAG SET:0x0002
   ....
   ....
   ....
   DOWNLOAD SUCCESS!

5   To check the downloaded version, select **Wonderbar > Hardware Info**. You should see the following values:

   WONDERBAR F/W VERSION: 2.12
   WONDERBAR CHECKSUM: F721h

   NOTE: If you were to download a version other than 2.12 from our Web site, the values for the Control Panel version and checksum would differ from those shown above.

6   Select **File** > **Exit**.

7   Press the **Close** button ![X] in the *Status Log*.

8   Reconnect the serial port in the *SMART Board Control Panel* as follows:

   a   Click the **Connect** button.

      The *Select COM Port* dialog box opens.

   b   Select the COM port from the list and click the **Select** button.

      OR

      Click the **Detect SMART Hardware** button. The system searches for the presence of the interactive whiteboard.