Extron® Electronics

INTERFACING, SWITCHING AND DISTRIBUTION

Firmware Upgrade Procedure

Matrix Switchers

CrossPoint Plus, CrossPoint, MAV, Matrix 50

Firmware Upgrade Procedure

This procedure details how to replace a CrossPoint Plus, CrossPoint, MAV, or Matrix 50 firmware IC chip without disconnecting all of the input and output connections.

> **NOTE** *The IC that contains the firmware for the matrix switcher also contains the memory in which presets and audio levels are saved. When you replace the IC, these settings will be lost. You may want to record the presets and audio levels before you replace the IC.*

Remove Power

Disconnect the power cord from the switcher.

Partially Remove the Switcher from a Rack

To access screws on some switcher models and to make room for the front panel on other switcher models, the matrix switcher to be upgraded should be partially removed from its equipment rack as follows:

> **NOTE** *If the matrix switcher is not on the bottom of the rack or directly above another device, Extron recommends temporarily installing a device in the rack directly below the matrix switcher to be upgraded to support the weight of the switcher during this procedure.*

1. Remove the machine screws that secure the switcher to the rack.

2. Carefully pull the switcher forward 1" (2.5 cm) (figure 1). If your switcher has screws on the top and bottom that need to be removed, give yourself just enough room to access the screws on the top and bottom of the front of the switcher.

> **CAUTION** *Do not pull the switcher far enough forward that you strain the input, output, or other cables on the rear of the switcher.*

Remove two screws from top and bottom (if present) and four or ten screws from the front panel.

Pull the switcher out of the rack one inch.

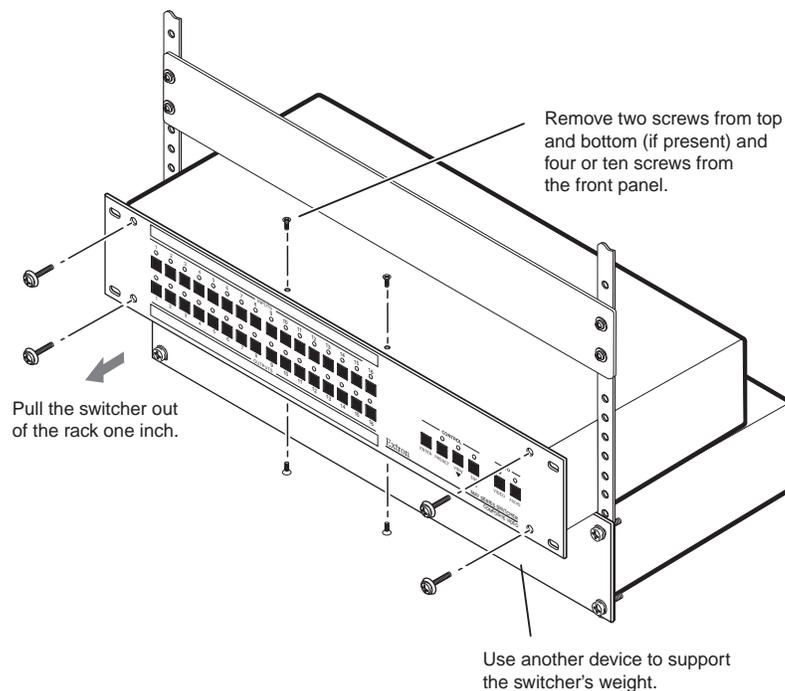Use another device to support the switcher's weight.

Figure 1 — Partially removing the matrix switcher from a rack and removing the front panel

Remove the front panel

Before you can replace the firmware IC, you must remove the matrix switcher's front panel as follows:

WARNING   *Power must be disconnected the cord from the switcher.*

1.   If the switcher has screws on its top and bottom, remove the two top and bottom screws (four screws total) on the front of the switcher (figure 1).

These screws are present and need to be removed only if the matrix switcher to be updated is **not** one of the following models:

- CrossPoint Plus 168
- CrossPoint 168
- CrossPoint Plus 1616
- CrossPoint 1616

2.   Remove the four or ten (depending on the switcher model) that secure the switcher's front panel in place.

3.   Carefully tilt the front panel away from the main body of the switcher.

CAUTION   *Do not touch the firmware IC or the components inside the switcher without being electrically grounded. Electrostatic discharge (ESD) can damage ICs, even if you cannot feel, see, or hear it.*

4.   On the front panel board, press the two receptacle tabs on the top cable outward as shown at the right, and pull back gently on the cable connector to remove it from the receptacle.

5.   Lay the front panel down in front of the switcher.
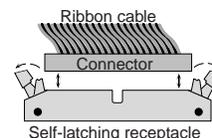
NOTE   *The reach of the remaining cables connected to the front panel board on CrossPoint Plus and CrossPoint 1616 and 168 switchers is just barely long enough. Slightly lift the front of the switcher and slide the panel under the switcher as you tip it away from the switcher.*

Replace the Firmware IC

Replace the firmware IC as follows:

1.   Locate IC U7 (figure 2) on the front panel board.

2.   Use a PLCC IC puller to remove the existing firmware IC. Squeeze the tool to align its hooks with the slots in opposite corners of socket U7. Insert the hooks, squeeze gently, and pull the IC straight out of the socket. Discard the IC.
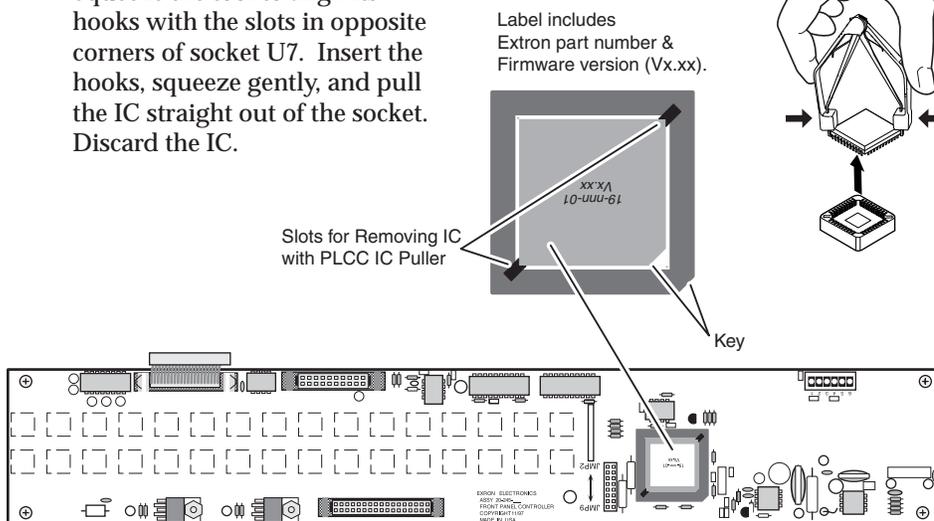

Figure 2 — Location of IC U7 on the front panel board

3. Note the key (angled corner) of the replacement firmware IC and the dot on the underside that indicates pin 1 (figure 3). Orient the IC to match the key and pin 1 (indicated by arrow) on the socket. While you support the front panel from the bottom, carefully press the IC in place.
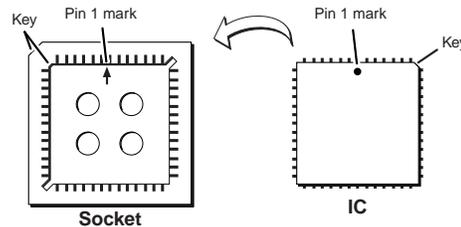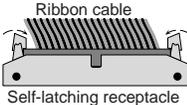

Figure 3 — Key and pin 1 mark

Reinstall the Front Panel and Initialize the Switcher

1. Tip the front panel into position close to the switcher and reinstall the cable removed in step **4** of *Remove the Front Panel*.
    To plug the self latching cable into the desired receptacle, align the holes in the connector with the pins in the receptacle, and press evenly until the receptacle tabs lock into place.

2. Replace all the front panel screws removed in step **2** of *Remove the Front Panel*.

3. If top and bottom screws were removed in step **1** of *Remove the Front Panel*, replace them.

4. Reinitialize the switcher to recognize the new IC as follows:

    a. Press and **hold** the Enter button while you connect the power cord to the switcher.

    b. Observe that the Input, Output, Preset, View, and Esc LEDs all flash.

    c. Release the Enter button.

5. Disconnect the power cord from the switcher.

6. Reset the switcher as follows:

    a. Press and **hold** the Esc button while you connect the power cord to the switcher.

    b. Observe that the Input, Output, Preset, View, and Esc LEDs all flash.

    c. Release the Esc button.

7. Ensure that the switcher is working properly.

8. If the switcher was removed from a rack, align the holes in the mounting bracket with those of the rack. Secure the switcher to the rack using the machine screws removed in step **1** of *Partially Remove the Switcher from a Rack*.