Extron

FOX3 Matrix Series • Setup Guide

IMPORTANT: Go to www.extron.com for the complete user guide, installation instructions, and specifications before connecting the product to the power source.

General Setup

The FOX3 Matrix Switchers are configurable matrix switchers that distribute optical and audio signals. The FOX3 Matrix is primarily designed to support switching of FOX3 endpoints, FOX3 transmitters to FOX3 receivers. The matrix switcher routes any input signal to any combination of outputs. The FOX3 Matrix switcher can also route multiple input and output configurations simultaneously (see figure 1 for a FOX3 Matrix 80x configuration).

WARNING: The FOX3 Matrix switcher fiber optic I/O boards output continuous invisible light, which may be harmful to the eyes; use with caution. Do not look into the fiber optic cable connectors or into the fiber optic cables themselves. Plug the attached dust caps into the optical transceivers when the fiber cable is unplugged.

AVERTISSEMENT : Les cartes d'E/S fibre optique FOX3 Matrix switcher émettent une lumière invisible continue, qui peut être dangereuse pour les yeux ; à utiliser avec précaution. Ne pas fixer directement les connecteurs optiques ou les câbles fibre optique. Branchez les protections contre la poussière dans l'ensemble émetteur/récepteur lorsque le câble fibre optique est débranché.

NOTE: FOX3 Matrix is not compatible with FOX and FOX II signals unless a matrix partition is created and configured to support 4G signals in PCS (see the *FOX3 Matrix Series PCS Help File* for details on partitioning). In the event of a factory reset, the data rate resets to the factory default of 10G.

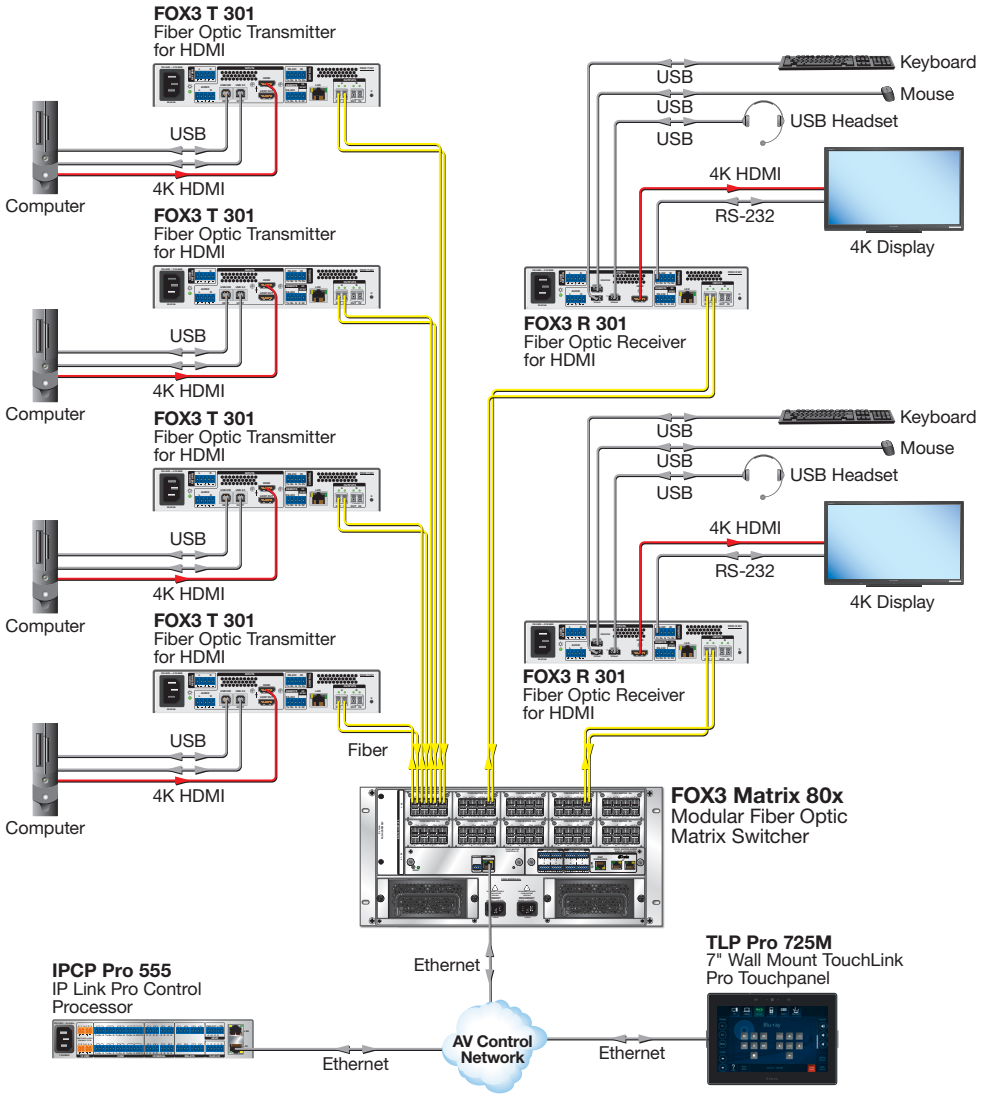


Figure 1. Typical FOX3 Matrix Application

The Extron proprietary fiber optic signal, generated by Extron fiber optic transmitters, can include video, stereo audio, USB 2.0, USB HID, return audio, IR, and 3D sync.

The matrix switcher can be remotely controlled via the rear panel Ethernet LAN port, rear panel RS-232 port (SIS only), or front panel USB port, using either the Windows®-based Extron Product Configuration Software (PCS) or Simple Instruction Set (SIS) commands.

NOTES:

- Compatible optical signals are digital signals up to 10 Gbps that are sent and received via fiber optic small form factor pluggable (SFP) modules, unless a matrix partition is created and configured to support 4G signals in PCS.
- The FOX3 transmitter-to-receiver communications, including the serial link, occupy one matrix switcher input and output. This matrix switcher supports the insertion, through the LAN port, of serial (pass through) communications from the matrix to the FOX3 transmitter or the FOX3 receiver.

The switcher has two hot-swappable 100 VAC to 240 VAC, 50-60 Hz power supplies that provide worldwide power compatibility and reliability.

Configurability and Transmission modes

The FOX3 Matrix Switchers are assembled from individual input/output (I/O) boards. The switchers can include multiple I/O boards, each I/O board supports up to 8 inputs and 8 outputs:

- FOX3 Matrix 24x — 24 inputs and outputs
- FOX3 Matrix 40x — 40 inputs and outputs
- FOX3 Matrix 80x — 80 inputs and outputs
- FOX3 Matrix 160x — 160 inputs and outputs
- FOX3 Matrix 320x — 320 inputs and outputs
- FOX3 Matrix 560x — 560 inputs and outputs
- FOX3 Matrix 840x — 840 inputs and outputs

The two types of I/O boards are:

- Singlemode (SM) fiber optic 8x8 I/O board — Very long distance, up to 20 km (12.43 miles)
- Multimode (MM) fiber optic 8x8 I/O board — Long distance, up to 500 m (1640 feet)

Increase or decrease the size of the FOX3 Matrix Switcher from an 8-input by 8-output matrix (one I/O board) to multiple-inputs by multiple-outputs matrix by adding or removing I/O boards.

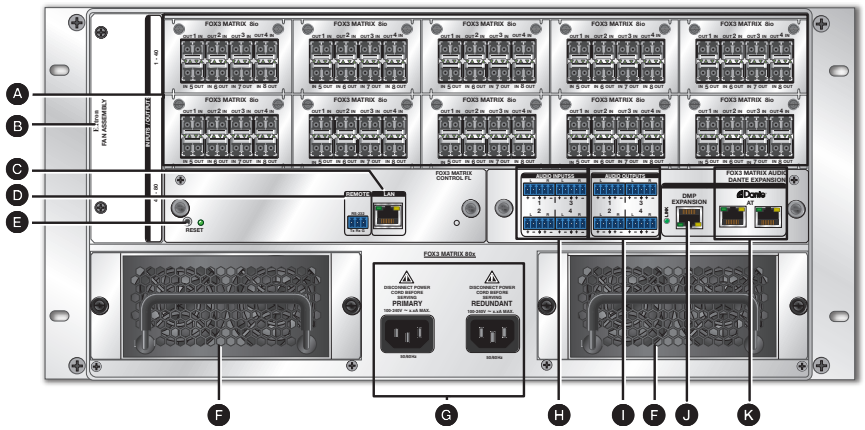
NOTE: Multimode and singlemode fiber optic I/O boards can be mixed in a FOX3 Matrix switcher, but it is imperative to connect the proper transmission mode fiber cables to the board.

Rear Panel

Each I/O board, in figure 2, is identified by the input and output numbers supported by the board position. The board position designators, printed beside the fan, correspond to the input and output numbers served by that position.

WARNING: This unit outputs continuous invisible light, which may be harmful to the eyes; use with caution. For additional safety, plug the attached dust caps into the optical transceivers when the fiber cable is unplugged.

AVERTISSEMENT : L'appareil émet une lumière invisible en continu, qui peut être dangereuse pour les yeux; à utiliser avec précaution. Pour une sécurité renforcée, associez les bouchons anti-poussière à l'ensemble émetteur/récepteur optique lorsque le câble fibre optique est débranché.



- A Fiber optic boards with connectors and LEDs
- B Replaceable fans
- C LAN Ethernet port
- D Remote RS-232 port
- E Reset button and LED
- F Power supplies
- G Power connectors
- H Audio Inputs
- I Audio Outputs
- J DMP Expansion port and LED
- K Dante Expansion ports

Figure 2. FOX3 Matrix 80x Switcher Rear Panel

Rear Panel Overview

A **Fiber optic boards with connectors and LEDs** — (see **figure 2** on page 2)

NOTES:

- Ensure the proper fiber cable for the I/O board is used. Typically, singlemode fiber has a yellow jacket and multimode cable has an orange or cyan jacket.
- The FOX3 Matrix switcher uses one connector (IN) on the block as an input and the second connector (OUT) on the same block as a separate output.

1 **Input connector** — Connect a fiber optic cable between each Input LC connector and a FOX3 transmitter or any other compatible Extron FOX device.

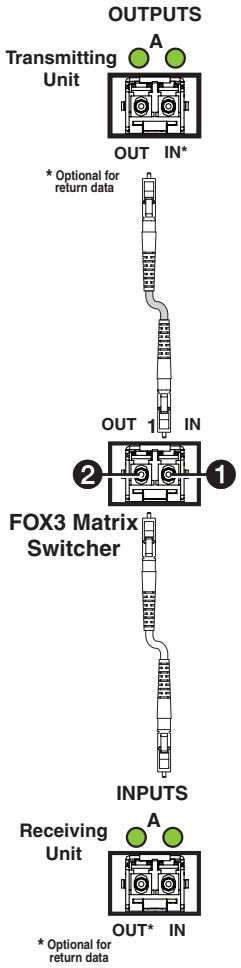
NOTE: For USB, return audio, and serial RS-232 (receiver-to-transmitter) function, connect the far end to the Optical Out connector on a FOX receiver.

Input LED — See **Fiber optic I/O board LED indication** on page 5.

2 **Output connector** — Connect a fiber optic cable between each output LC connector and a FOX3 receiver or any other compatible Extron FOX device (see **figure 1** on page 1).

NOTE: For USB, return audio, and Matrix LAN inserted serial RS-232 (receiver-to-transmitter) function, connect the far end to the Optical In connector on a FOX transmitter.

Output LED — See **Fiber optic I/O board LED indication**.



B **Replaceable fans** — This fan card has 3 or more removable fans (see **Replacing a Fan Assembly** on page 15 to replace a fan).

NOTE: The following information is for the standard LAN port, Remote RS 232 port, and Reset button and LED. If the Matrix has the IPCP Pro Matrix Q xi control card, which includes an AV LAN port, see **IPCP Pro Matrix Q xi Control Card** on page 5.

C **LAN Ethernet port** — Optionally, connect a network WAN or LAN hub, a control system, or a computer to the Ethernet RJ-45 port.

- **Network connection** — Wire as a patch (straight) cable.
- **Computer or control system connection** — Wire the interface cable as a crossover cable.

D **Remote RS-232 port** — Optionally, connect a control system or computer to the rear panel Remote RS-232 port (see figure 3 for wiring).

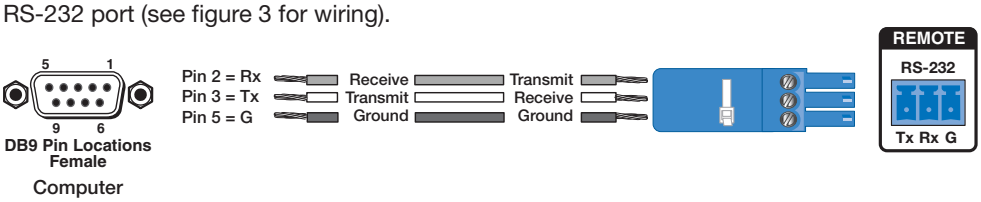


Figure 3. RS-232 Connector Wiring

E **Reset button and LED** — Initiate three levels of reset of the matrix switcher. For different reset levels, press and hold the recessed button while the switcher is running or while powering up the switcher (see the *FOX3 Matrix Series User Guide*, available at **www.extron.com** for more information on the reset modes).

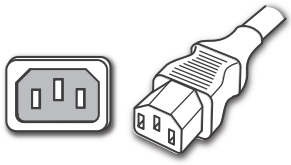
NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. In the event of a complete system reset, the passwords convert to the default, which is `extron` for the `Admin` and `User`.

F **Power supplies** — The primary and redundant power supplies are hot-swappable. There are two corresponding LEDs on the front panel that indicate the status of each power supply (see **Replacing a Power Supply Module** on page 15 to replace power supplies).

G **Power connectors** — Connect a power source to the AC power connector. See the **AC power requirements** on page 4 for each FOX3 matrix model.

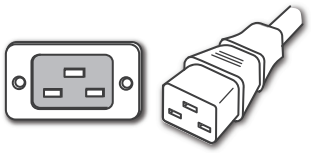
NOTE: For reliability, connect the redundant power cord to either an uninterruptible power source or to a power source that is completely independent from the primary power source.

FOX3 Matrix 24x, 40x, 80x, 160x —



- 100-240 VAC, 50-60 Hz power source.
- Connect via standard IEC power cord.

FOX3 Matrix 320x only —
North America —



- Nominal 120 VAC, 60 Hz, 20 A protected power source.

OR

- Nominal 240 VAC, 60 Hz, 15 A minimum protected power source.
- Connect via C19 power cord with NEMA 5-20 plug or 240V NEMA 6-20 plug.

Other regions –

- 100-120 VAC, 50-60 Hz, 15 A protected power source. Connect via C19 power cord and a plug configuration of 15 A minimum.

OR

- 200-240 VAC, 50-60 Hz, 13 A or 16 A protected power source. Connect via C19 power cord and a plug configuration of 7 A minimum.

FOX3 Matrix 560x and 840x —

North America — Terminated AC power cord

- Single phase, 200-240 VAC, 50-60 Hz, 20 A protected power source.
- Connect the 9.85 feet (3 m) terminated power cord to a NEMA L6-20R single phase 220 VAC, 60 Hz, 20 A protected power source.

L6-20R
North America



X: Hot Y: Hot
G: Ground

Other regions — Unterminated AC power cord

- Single phase, 200-240 VAC, 50-60 Hz, 20 A protected power source.
- Have either a licensed electrician or qualified personnel terminate the AC power cord with a region-specific power plug (not included). Ensure the wiring is in accordance with local electrical codes.
- Connect the 9.85 feet (3 m) terminated power cord to a single phase 200-240 VAC, 50-60 Hz, 20 A protected power source.

ATTENTION:

- For unbalanced audio, connect the sleeves to the ground contact. DO NOT connect the sleeves to the negative (-) contacts.
- Pour l'audio asymétrique, connectez les manchons au contact au sol. Ne PAS connecter les manchons aux contacts négatifs (–).

H **Audio Inputs** (see **figure 2** on page 2) — Connect audio input devices to an audio 5-pole captive screw port (see figure 4 to wire the captive screw connector).

I **Audio Outputs** — Connect audio output devices to an audio 5-pole captive screw port (see figure 4 to wire the captive screw connector).

J **DMP Expansion port and LED** —

- **Expansion Port** — Connect an STP cable between this port and the Expansion port on an optional Extron DMP Digital Matrix Processor for digital audio connection. Receive and transmit eight 2-channel stereo inputs and eight 2-channel stereo outputs via this RJ-45 connection.
- **Link LED** — Lights to indicate that the port is connected to a compatible device.

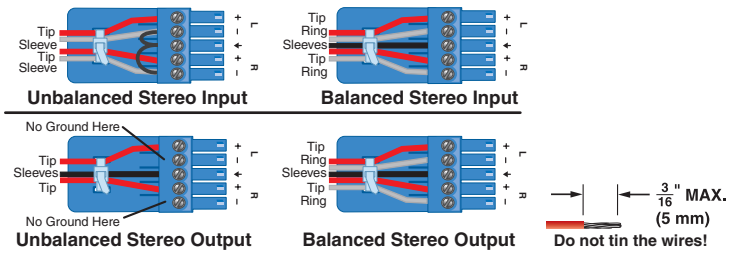


Figure 4. Audio Input Wiring Diagram

NOTE: Only connect Extron non-AT audio devices to the DMP Expansion port.

K **Dante Expansion ports** — Connect RJ-45 connectors to external Dante devices for digital audio networking. Receive and transmit 32 2-channel inputs and 32 2-channel outputs via these two RJ-45 connections.

IPCP Pro Matrix Q xi Control Card

The Extron IPCP Pro Matrix Q xi control card integrates Ethernet connectivity into AV systems to allow users to remotely control, monitor, and troubleshoot AV equipment, including display devices and switchers. Use Extron Toolbelt software to discover and manage the IPCP Pro control processor. Configure the control processor using Extron Global Configurator® software running in Global Configurator Professional (GC Professional) or Global Configurator Plus (GC Plus) mode, or program the control processor using Extron Global Scripter® (GS).

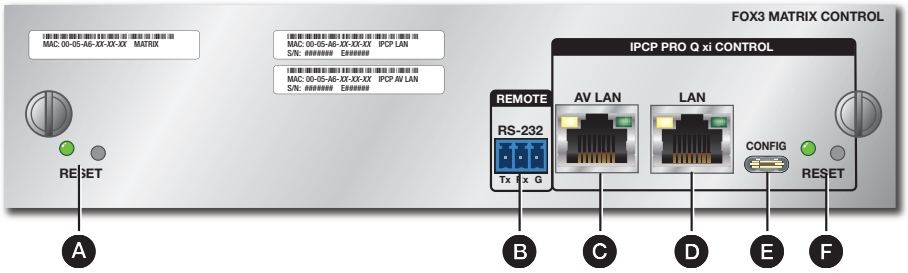


Figure 5. IPCP Pro Matrix Q xi Control Card Panel

NOTE: For detailed information on the IPCP control card, see the IPCP Pro Q xi guides available at **www.extron.com**.

A **Reset button and LED** — Initiate three levels of reset of the matrix switcher. For different reset levels, press and hold the recessed button while the switcher is running or while powering up the switcher (see the *FOX3 Matrix Series User Guide*, available at **www.extron.com** for more information on the reset modes).

NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. In the event of a complete system reset, the passwords convert to the default, which is `extron` for the `Admin` and `User`.

B **Remote RS-232 port** — Optionally, connect a control system or computer to the rear panel Remote RS-232 port (see **figure 3** on page 3 for wiring).

C **AV LAN Ethernet port** — Connect directly to the FOX3 Matrix.

D **LAN Ethernet port** — Connect the IPCP to an Ethernet network (for configuration and control of the IPCP and the devices connected to it). Plug a cable into this RJ-45 socket and connect the other end of the cable to a network switch, hub, router, or PC connected to a local network or the Internet.

E **USB-C Config port** — Connect a USB-C cable to this port for direct access to the IPCP Pro Q xi controller for configuration.

F **Reset button and LED** — Initiate six different resets or recovery of the IPCP Pro Matrix Q xi control card.

Fiber optic I/O board LED indication

On the fiber optic I/O boards, the input and output LEDs on the transceivers light green when 10G light is detected. The arrow LEDs point to the input and output port they represent.

In figure 6, SFP 1 and SFP 5 are examples of the LEDs that indicate the input and output port (different colors are used to indicate the connection only).

- Out 1 is red and the corresponding arrow LED is red.
- In 1 is blue and the corresponding arrow LED is blue.
- Out 5 is purple and the corresponding arrow LED is purple.
- In 5 is green and the corresponding arrow LED is green.

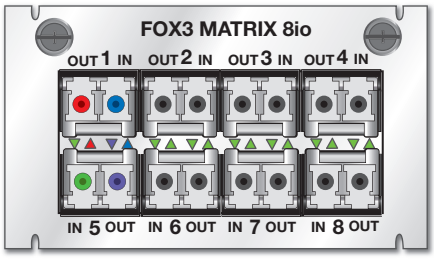


Figure 6. Fiber Optic I/O Board LEDs

Front Panel

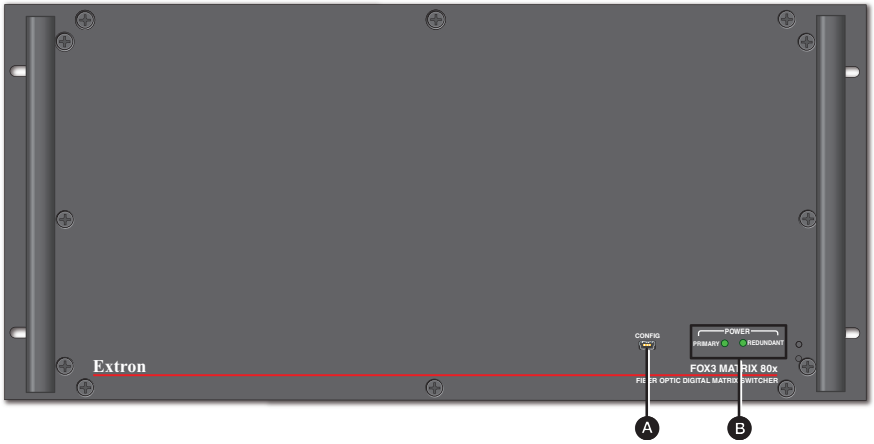


Figure 7. FOX3 Matrix 80x Switcher Front Panel

A **USB Config port** — If desired, connect a computer to the front panel Configuration port.

B **Primary and Redundant Power Supply LEDs** — Light to indicate the power supply status.

- **Green** — Indicates that the associated power supply is operating within normal tolerances.
- **Red** — Indicates that the associated power supply is operating outside the normal tolerances, there is no AC connected to the power supply, or the power supply has failed (see **Replacing a Power Supply Module** on page 15 to replace the power supply).
- **Unlit** — Indicates that the power supply is not connected

Matrix Operations

The FOX3 Matrix can be operated in one of two modes: Port mode and System Map mode.

NOTE: The FOX3 Matrix is initially in Port mode when it is powered for the first time.

- **In Port mode**, each physical SFP on the Matrix represents 1 Input and 1 Output, numbered according to its physical location on the Matrix.
- **In System Map mode**, multiple SFP modules can be combined via PCS to create a configuration map. This mode is used to simplify system switching and USB group switching for cross display applications (see the *FOX3 Matrix System Map Setup Guide* available at **www.extron.com** and *FOX3 Matrix Series PCS Help File* in PCS for detailed instructions).

Remote Control

This section describes using the remote control features of the FOX3 Matrix switchers to control the devices.

Use Simple Instruction Set (SIS) commands for operation and configuration of the matrix. Run these commands from a PC connected to:

- A LAN or WAN using the rear panel RJ-45 LAN port on a standard FOX3 Matrix (see **figure 2**, **C** on page 2), or AV LAN port on the IPCP Pro Matrix Q xi control card (see **figure 5**, **C** on page 5) via an SSH client and port `22023`.
- The Remote RS-232 port (see **figure 2**, **D**) via DataViewer.
- The front panel USB config port (see **figure 7**, **A** on page 6) via an SSH client, using IP address `203.0.113.22` and port `22023`.

NOTE: The table below is a partial list of SIS commands. For a complete listing of commands, see the *FOX3 Matrix Series User Guide*.

Command and Response Table for SIS Commands

Command	ASCII Command (Host to Unit)	Response (Unit to Host)	Additional Description
NOTE: Commands can be entered back-to-back in a string, with no spaces. For example: `1*1!002*002!003*003!`.			
Output switching			
NOTES: • The quick multiple tie and tie input to all output commands activate all I/O switches simultaneously. • The matrix switcher support 3-digit numeric (`001*001`) and 5- digit for Audio ties (`50001*50001`). • The **!** **tie** command connects all available signals for the Tx to the Rx. • When you create a tie where X1 = `00`, you tie no input to the specified output (X3) (untie X3). • When you create a tie where X3 = `00`, you untie all outputs from input X1. • If a System Map has been initiated, the Input number (X1) or Output number (X3) can represent a single physical SFP port or a group of SFP ports.			
Tie input to output	X1*X3!	OutX3•InX1•All↵	Tie input X1 to output X3, all signals.
Tie input to output	X1*X3%	OutX3•InX1•Vid↵	Tie input X1 to output X3, video only.
Tie input to output	X35*X36$	OutX36•InX35•Aud↵	Tie input X35 to output X36, audio.
Tie return audio source to destination	X37*X38&	OutX38•InX37•Rta↵	Tie return audio source to destination.
Tie input to output USB 2.0	X1*X3^	OutX3•InX1•Usb↵	Tie input X1 to output X3, USB 2.0.
Tie input to output HID	X1*X3#	OutX3•InX1•Hid↵	Tie input X1 to output X3, HID.
TIP: `0*!` clears all ties.			

KEY: X1 = Input number
X3 = Output number
X35 = Audio input number
X36 = Audio output number
X37 = Return audio source number
X38 = Analog audio destination number (to Tx)
		`00` – Maximum number of inputs for your configuration (`0` = untied)
		`00` – Maximum number of outputs for your configuration (`0` = untied)
		`00` – Maximum number of inputs or DMP Expansion `30001-30008`, Dante `40001-40032`, Analog `50001-50004`
		`00` – Maximum number of outputs or DMP Expansion `30001-30008`, Dante `40001-40032`, Analog `50001-50004`
		`00` – Maximum number of outputs (from an Rx unit, DMP Expansion `30001-30008`, Dante `40001-40032`, or Analog `50001-50004`)
		`00` – Maximum number of inputs (`50001-50004`)	

NOTE: The FOX3 Matrix 24x has only two analog outputs (`50001-50002`).			
Tie an input to all outputs			
Tie input to all outputs	X1*!	InX1•All↵	Tie video and audio input, 3D sync and IR signals to all outputs.
NOTE: USB 2.0, USB HID, and Return Audio are not switched with this command			
Tie input to all outputs	X1*%	InX1•Vid↵	Tie video input to all outputs.
Tie input to all outputs	X1*$	InX1•Aud↵	Tie audio input to all outputs.
KEY: X1 = Input number		`00` – Maximum number of inputs for your configuration (`0` = untied)	
Untie			
Untie all outputs	`0*!`	In00•All↵	Untie all outputs.
Untie an output	0*X3!	OutX3•In00•All↵	Untie a particular output.
Untie an input	X1*0!	Out00•InX1•All↵	Untie an input from all tied outputs.
KEY: X1 = Input number X3 = Output number		`00` – Maximum number of inputs for your configuration (`0` = untied) `00` – Maximum number of outputs for your configuration (`0` = untied)	

Command	ASCII Command (Host to Unit)	Response (Unit to Host)	Additional Description
Quick tie			

NOTES:
- The quick multiple tie and tie input to all outputs commands activate all I/O switches simultaneously.
- The matrix switchers support 3-digit numeric (001*001) and 5-digit for audio ties (50001*50001)
- The quick tie applies to fiber I/O, audio expansion, Dante, or analog audio sections.
- Commands can be made back to back with no spaces.

Quick multiple tie	Esc+Q X1 * X3 ! . . . X1 * X3 ! ←	Qik↵ or Qik14↵	Make multiple ties with one command. Qik14 responds back when part of the command is invalid or incorrect and some ties could not be made.

KEY: X1 = Input number — 00 – Maximum number of inputs for your configuration (0 = untied)
X3 = Output number — 00 – Maximum number of outputs for your configuration (0 = untied)

Matrix Status

Request Information	I/i Verbose mode 2/3	V X28 X X28 • A X1 X X35 • S X6¹ X6² . . . X6ⁿ↵ Inf00*V X28 X X28 • A X1 X X35 • S X6¹ X6² . . . X6ⁿ↵
Slot/LC connector information	0*X7I Verbose mode 2/3	X18 X18 X18 X18 X18 X18 X18 X18↵ Inf* X18 X18 X18 X18 X18 X18 X18 X18↵
Slot/LC 10G-4G data rate information	1*X7I Verbose mode 2/3	X17 X17 X17 X17 X17 X17 X17 X17↵ Inf* X17 X17 X17 X17 X17 X17 X17 X17↵
Request part number	N/n	60-*nnnn-nn*↵
View Extron serial number	19I/i Verbose mode 2/3	*Serial number*↵ Inf19**Serial number*↵
View power supply voltages, unit temperature, fan speeds and Power Supply status	S/s Verbose mode 2/3	X24ᵖ • X24ᴿ • X25 • X26¹ • X26² • X26³ . . . • X26ⁿ • X27ᵖ • X27ᴿ↵ Sts00* X24ᵖ • X24ᴿ • X25 • X26¹ • X26² • X26³ . . . • X26ⁿ • X27ᵖ • X27ᴿ↵
View temperature of the unit	Esc20STAT← Verbose mode 2/3	X25↵ 20Stat• X25↵

KEY:
- X1 = Input number — 00 – Maximum number of inputs for your configuration (0 = untied)
- X6 = I/O board type — 0 = No board detected, 1 = Active MM board, 2 = Active SM board, 3 = Passive MM board, 4 = Passive SM board, 5 = Unknown
- X7 = I/O board slot number — 1 – maximum number of slots (3 for 24x, 5 for 40x, 10 for 80x, 20 for 160x, 40 for 320x, 70 for 560x, 105 for 840x)
- X17 = SFP data rate — 0 = 10G (default), 1 = 4G
- X18 = SFP modules installed — 0 = No SFP, 1 = MM SFP, 2 = SM SFP, 3 = Unknown SFP
- X24 = Power supply voltage — P = Primary is listed first, R = Redundant is listed second
- X25 = Temperature — Degrees in Fahrenheit and Celsius (example: *xx.xx*F • *xx.xx*C)
- X26 = Fan speed — Revolutions per Minute (RPM) (example: *xxx*RPM)
- X27 = Power supply status — 0 = Power Supply inactive/Not installed, 1 = Power Supply active/Installed, 2 = Power Supply failed/Installed
- X28 = Maximum virtual video matrix size — inputxoutput (example: 80x80)
- X35 = Audio input number — 00 – Maximum number of inputs or Expansion 30001-30008, Dante 40001-40032, Analog 50001-50004

View status of power supplies (Primary, Redundant)	Esc21STAT← Verbose mode 2/3	X24ᵖ • X24ᴿ↵ 21Stat• X24ᵖ • X24ᴿ↵
View fan speeds	Esc22STAT← Verbose mode 2/3	X26¹ • X26² • X26³ . . . • X26ⁿ↵ 22Stat• X26¹ • X26² • X26³ . . . • X26ⁿ↵
View individual video input signal status	Esc X1 LS← Verbose mode 2/3	X19↵ In X1 • X19↵
View all video input signal status	Esc0LS← Verbose mode 2/3	X19¹ X19² . . . X19ⁿ↵ In00• X19¹ X19² . . . X19ⁿ↵

Each response is the video input status, starting from Input 1 and *n* = highest numbered installed input.

KEY:
- X1 = Input number — 00 – Maximum number of inputs for your configuration
- X19 = Video signal status — 0 = No video signal at input, 1 = Video Input signal detected
- X24 = Power supply voltage — P = Primary, R = Redundant
- X26 = Fan speed — Revolutions per Minute (RPM) (example: *xxxx*RPM)

Command	ASCII Command (Host to Unit)	Response (Unit to Host)	Additional Description
Verbose Mode			
Set verbose mode	Esc X20 CV ←	Vrb X20 ↵	
View verbose mode	Esc CV ←	X20 ↵	

NOTE: Verbose mode will revert back to default in the event of a power cycle, disconnect from dataviewer, or disconnect from the Ethernet.

KEY: X20 = Verbose mode
0 = Clear/none (default for Ethernet), 1 = Verbose mode (default for RS-232),
2 = Tagged response for queries, 3 = Verbose mode and tagged responses for queries

Product Configuration Software (PCS)

Another way to operate the switcher is via PCS, which runs on computers that use the Windows operating system. This program is available at **www.extron.com**. PCS can be run from a PC connected to the rear panel LAN port (see **figure 2**, C on page 2) or front panel configuration port (see **figure 7**, A on page 6) on the switcher.

NOTES:
- For details on operating PCS, see the *FOX3 Matrix Series PCS Help File*.
- An Extron Insider account is required to download and use PCS. Contact an Extron support representative, to obtain an Insider Account.

Installing the Program

Download and install all programs as follows:

1. Go to **www.extron.com** and mouse over the **Download** tab (see figure 8, 1).
2. Click the **PCS Product Configuration Software** link (2). The PCS Product Configuration Software page opens.
3. Click **Download** (see figure 9, 1).

TIP: Jump to the nearest page of downloads by clicking the desired filtering letter.

The download warns about downloads and asks to confirm the download.

4. Click **Run** to confirm that you want to run the installation.
5. Follow the on-screen instructions. The installation program creates the necessary directories and folders and installs the program.

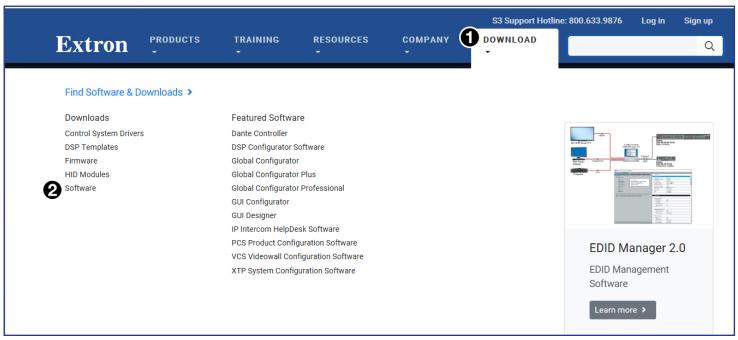


Figure 8. Download Drop-down List



Figure 9. Download Center Dialog Box

Connecting to PCS

The Extron Product Configuration Software window opens to the Device Discovery panel. Connect to the FOX3 Matrix using the Device Discovery panel or the TCP/IP panel (see **figure 10** on page 10).

To connect through the Device Discovery panel:

1. Open the Product Configuration Software program from the desktop shortcut.

   The Extron PCS window opens to the Device Discovery panel (see **figure 10**).

NOTES:
- If the FOX3 Matrix is connected to the front panel USB-C, the hardcoded IP address is 203.0.113.22. If connected to the rear panel AV LAN port, the FOX3 Matrix default IP address is 192.168.254.254. If connected to the rear panel IPCP control card LAN port, the default IP address is 192.168.253.250.
- If the FOX3 Matrix IP address is changed, the AV LAN IP address (192.168.254.250) **MUST** be changed in Toolbelt to the same subnet as the FOX3 Matrix in order to connect through the LAN port.

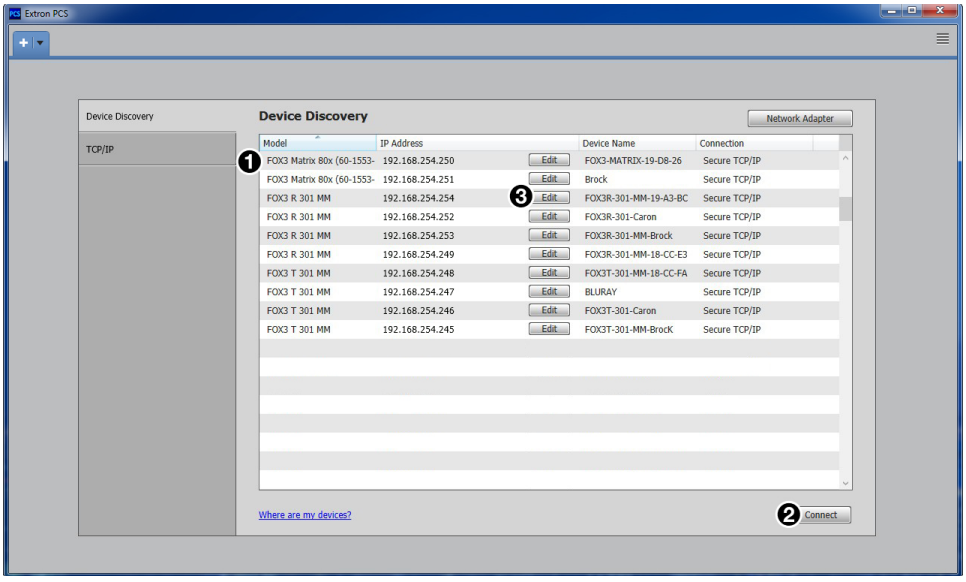


Figure 10. Device Discovery Panel

2. **If connecting through the front panel USB-C port or the rear panel AV LAN port,** select the **FOX3 Matrix** device by clicking on it to highlight it in the list (❶) and click **Connect** (❷).

   If connecting through the rear panel IPCP LAN port:

   - Select the **FOX3 Matrix IPCP Pro Control Card** device by clicking on it to highlight it in the list (❶) and click **Connect** (❷). After entering the password, the FOX3 Matrix becomes available.
   - Select the **FOX3 Matrix** device by clicking on it to highlight it in the list and click **Connect**.

3. Enter the password in the pop-up window and click **Continue**. The FOX3 Matrix PCS main page opens (see **figure 12** on page 11).

To connect through the TCP/IP panel:

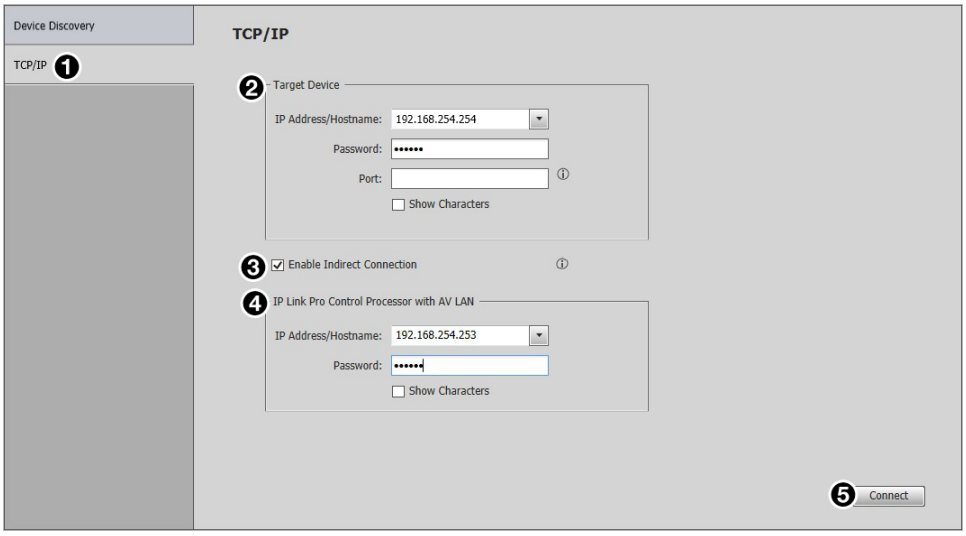


Figure 11. TCP/IP Panel

1. Click the **TCP/IP** tab (see figure 11, ❶).
2. **If connecting through the front panel USB-C port or the rear panel AV LAN port**, enter the **IP Address/Hostname** and **Password** in the Target Device panel (❷). Continue to **step 3** on page 11.

NOTES:

- If the FOX3 Matrix is connected to the front panel USB-C, the hardcoded IP address is 203.0.113.22. If connected to the rear panel AV LAN port, the FOX3 Matrix default IP address is 192.168.254.254. If connected to the rear panel IPCP control card LAN port, the default IP address is 192.168.253.250.
- If the FOX3 Matrix IP address is changed, the AV LAN IP address (192.168.254.250) **MUST** be changed in Toolbelt to the same subnet as the FOX3 Matrix in order to connect through the LAN port.

If connecting through the rear panel IPCP LAN port, enter the FOX3 Matrix **IP Address/Hostname** and **Password** in the Target Device panel (see figure 11, ❷ on page 10).

a. Select the **Enable Indirect Connection** checkbox (❸). The IP Link Pro Control Processor with AV LAN panel (❹) is enabled.

b. Enter the IPCP Pro Matrix Q xi control card **IP Address/Hostname** and **Password** in the IP Link Pro Control Processor with AV LAN panel.

> **NOTE:** The default IP address for the IPCP Pro Matrix Q xi control card LAN port is 192.168.253.250.

3. Click **Connect** (❺). The FOX3 Matrix PCS main page opens (see figure 12).

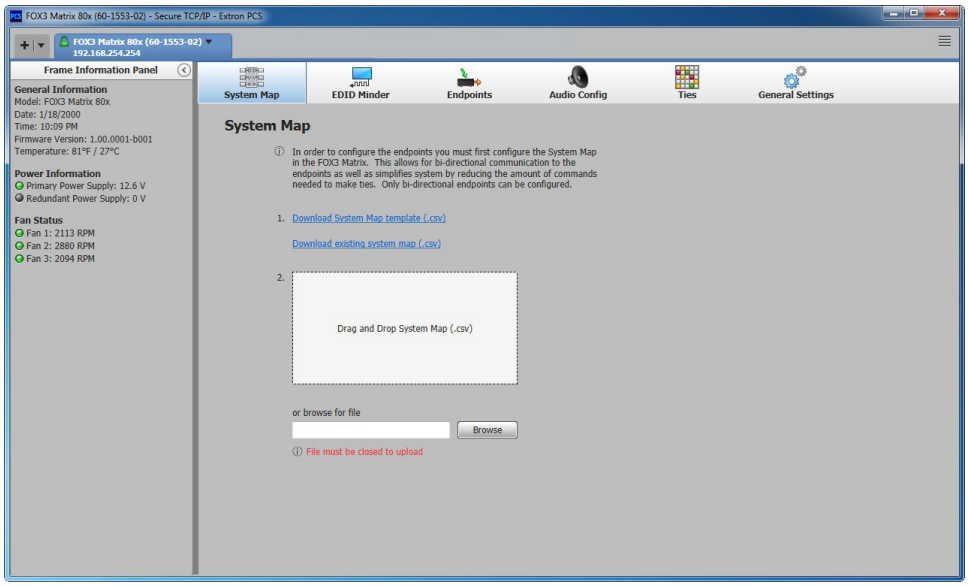


Figure 12. FOX3 Matrix PCS Main Page

To edit the IP address:

1. Click on the **Edit** button (see figure 10, ❸ on page 10). The Communication Settings box opens.
2. Click in the field to edit (see figure 13).
3. Click **Apply** to complete and close.

   Alternatively, click **Apply and Connect** to complete and connect to the device.

   Click **Cancel** to close the box without changes.

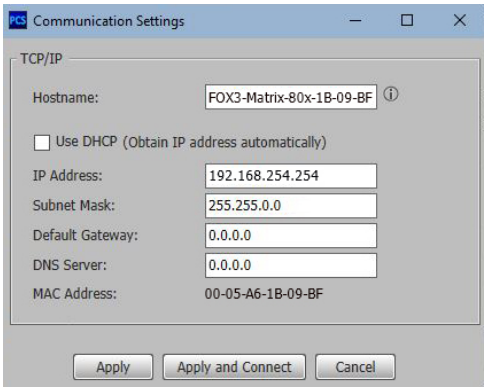


Figure 13. Communication Settings Box

Internal Web Pages

Another way to configure and operate the switcher is via its factory-installed internal web pages. The pre-loaded web pages on the switcher are accessible through the LAN port (see figure 2, Ⓒ on page 2) via a LAN or WAN connection or the front panel USB config port (see figure 7, Ⓐ on page 6) using a web browser such as Microsoft® Internet Explorer®.

Disabling Compatibility Mode

The internal web page does not support compatibility mode in Microsoft Internet Explorer.

To check compatibility view settings:

1. From the Tools menu of the browser, select **Compatibility View Settings**. The Compatibility View Settings dialog box opens.
2. Be sure the **Display all websites in Compatibility View** checkbox is clear, and the IP address of the matrix is not in the list of websites that have been added to Compatibility View.

Accessing the Internal Web Page

Access the FOX3 Matrix internal web page as follows:

1. Connect the FOX3 Matrix to a LAN or WAN using the rear panel RJ-45 LAN port on the standard FOX3 Matrix (see **figure 2**, C) or the front panel USB config port (see **figure 7**, A).

   NOTE: If connected to the FOX3 Matrix through the IPCP Pro Matrix Q xi control card, use the AV LAN port (see **IPCP Pro Matrix Q xi Control Card** on page 5). **DO NOT** use the LAN port.

2. Open a web browser on a connected PC.

   NOTE: Compatible web browsers are Microsoft Edge®, Mozilla® Firefox®, Google Chrome™, and Apple® Safari®.

3. Enter the FOX3 Matrix IP address in the browser **`Address`** field.

   NOTES:
   - If the local system administrators have not changed the value, the factory specified default for the LAN or WAN connection is `192.168.254.254`.
   - The default for the USB connection is `203.0.113.22` (this IP address cannot be changed).

4. Press the <**`Enter`**> key on the keyboard.

5. The FOX3 Matrix is password protected. Enter **`user`** or **`admin`** in the **`Username`** field and the password in the **`Password`** field when prompted (see figure 14).

   NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. In the event of a complete system reset, the passwords convert to the default. The default password is **`extron`** for the **`admin`** and **`user`**.

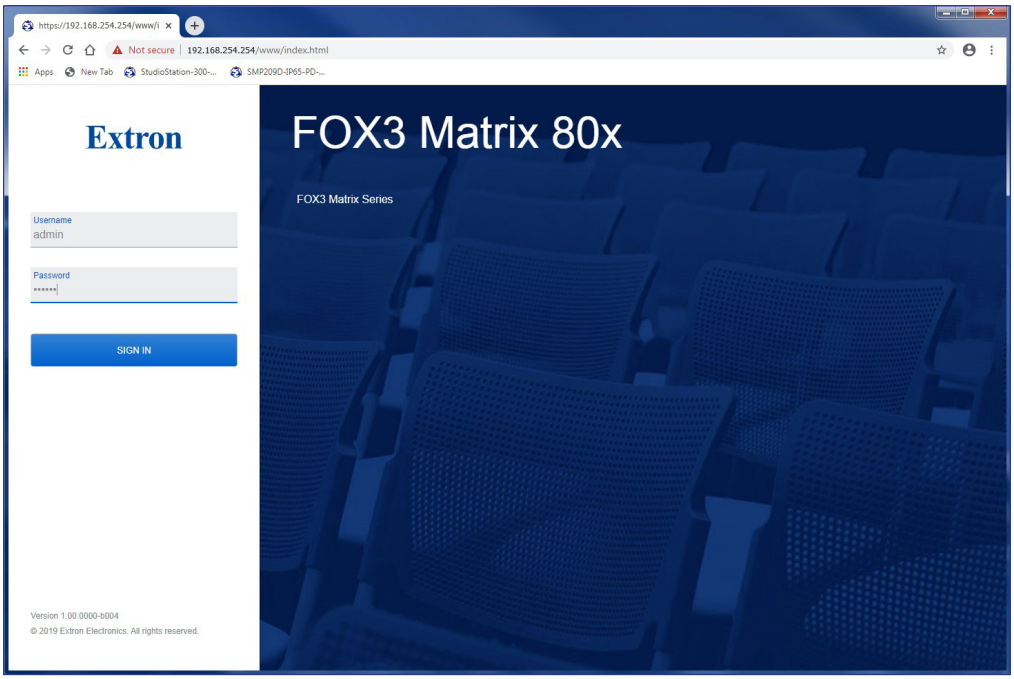


Figure 14. Network Password Prompt

6. Click the **`Sign in`** button. The internal web page opens (see **figure 15** on page 13).

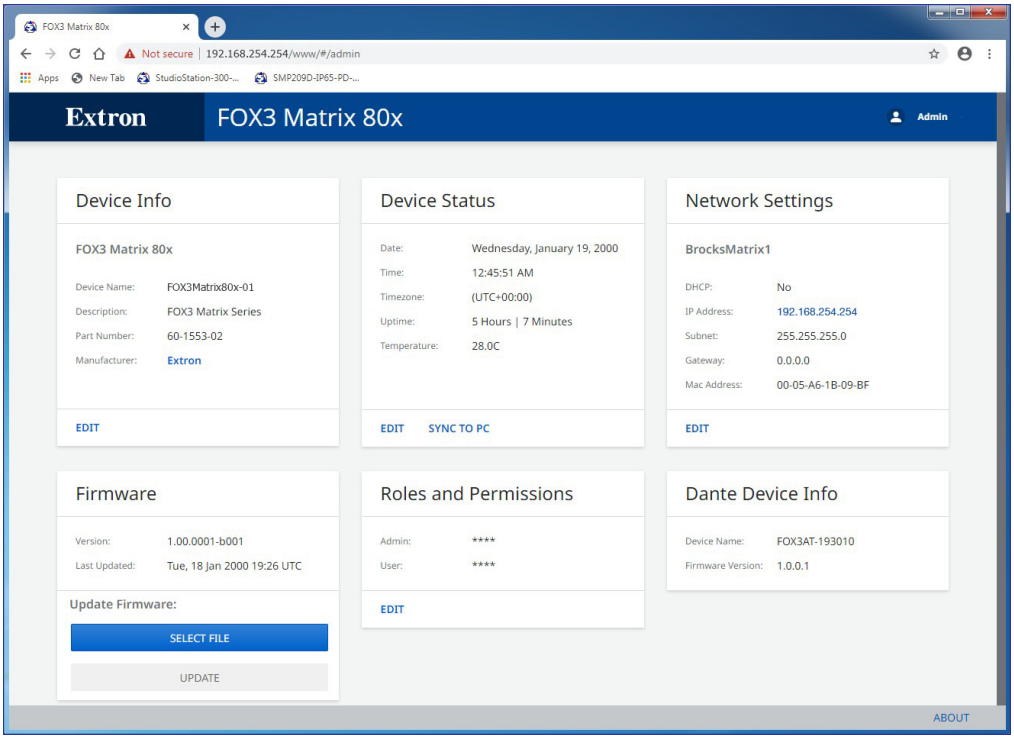


Figure 15. Internal Web Main Page

NOTE: For detailed information about the internal web page, see the *FOX3 Matrix Series User Guide* available at www.extron.com.

Maintenance and Modifications

This section describes repairing and reconfiguring the FOX3 Matrix switchers by replacing components.

NOTE: All the diagrams in this section show the 40x frame, which is similar in function to all the other matrix frames.

Removing and Installing a Module

The I/O module, control card and audio card can all be added or replaced by the user. Input/Output modules can be added or removed to increase or decrease the I/O configuration (size) of the switcher. The control card can be upgraded with the FOX3 Matrix IPCP Pro Control Card. The Audio card can be replaced.

WARNING: The fiber optic I/O modules of the FOX3 Matrix switchers output continuous invisible light, which may be harmful to the eyes; use with caution.

Do not look into the fiber optic cable connectors or into the fiber optic cables themselves.

Plug the attached dust caps into the optical transceivers when the fiber cable is unplugged.

AVERTISSEMENT: L'appareil émet une lumière invisible en continu qui peut être dangereuse pour les yeux ; à utiliser avec précaution.

Ne regardez pas dans les connecteurs de câble fibre optique sur le panneau arrière ou dans les câbles fibre optique eux-mêmes.

Branchez les protections contre la poussière dans l'ensemble émetteur/récepteur lorsque le câble fibre optique est débranché.

ATTENTION:

- Do not touch the electronic components or the connectors on the backplane or on the circuit boards without being electrically grounded. Handle circuit boards by their edges only. Electrostatic discharge (ESD) can damage circuits, even though you cannot feel, see, or hear it.
- Ne pas toucher les composants électroniques ou les connecteurs sur la carte mère ou sur les circuits imprimés sans être électriquement relié à la terre. Manipuler les circuits imprimés en les tenant seulement par leurs bords. Les décharges électrostatiques (ESD) peuvent endommager l'équipement, même si vous ne pouvez pas le sentir, le voir ou l'entendre.

- Thumbscrews should be tightened with a tool after both initial installation and subsequent access to the panel.
- Les vis doivent être serrées avec un outil adapté après la première installation et l'accès postérieur au panneau.

NOTES:

- On a fiber optic I/O module as delivered from Extron, all transceiver modules are configured the same: either all multimode or all singlemode. Multimode and singlemode fiber optic I/O modules can be mixed in a FOX3 Matrix switcher, but ensure the proper transmission mode fiber cables are connected to the board.
- Typically, singlemode fiber has a yellow jacket and multimode cable has an orange or cyan jacket.
- For proper cooling and air flow, boards or blank panels should be installed in all locations during normal switcher operations.
- The FOX3 Matrix Switcher components that are user-replaceable are hot-swappable. The switcher does not need to be powered down to remove or replace a component.

Replace a module or card as follows:

1. Disconnect any connected cables.
2. Rotate the left and right captive panel screws to completely loosen the screws (see figure 16 and figure 17).
3. Gently pull on the captive panel screws to loosen the module from the backplane.
4. Slide the module out of the chassis.
5. Place the removed module on an anti-static surface or in an anti-static container.
6. Align the replacement module with the left and right chassis guides.
7. Gently slide the replacement module into the enclosure. Slide the module toward the front panel until it meets resistance.
8. Gently seat the replacement module in the backplane.
9. Use a screwdriver to tighten the left and right captive panel screws to lock the replacement module in place.

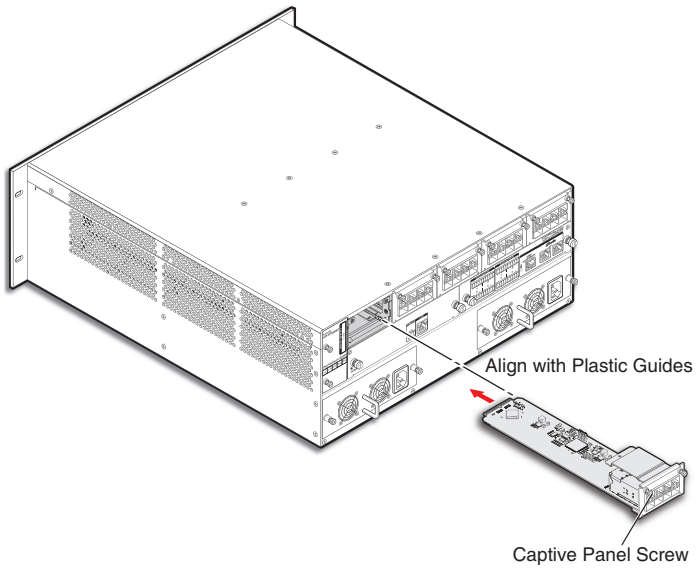


Figure 16. Replacing an I/O Board

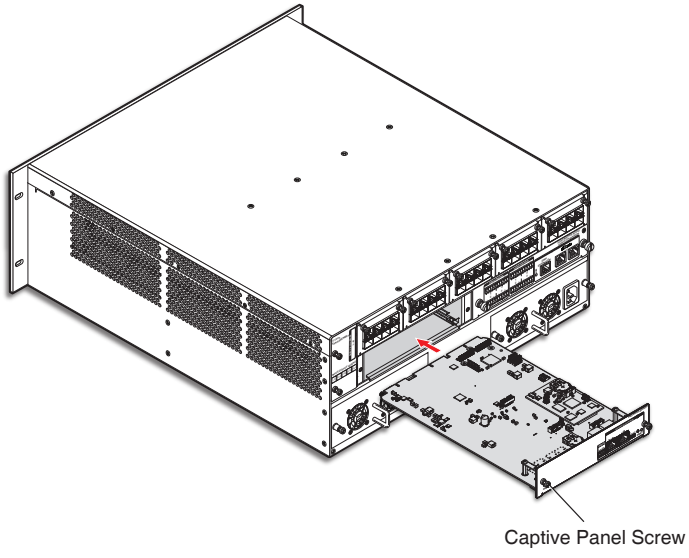


Figure 17. Replacing a Control Card

Replacing a Power Supply Module

The two power supply modules (primary power supply and redundant power supply) are identical. Each power supply module has a 2-color LED, visible on the front panel, that indicates the status of the power supply outputs. If the LED is lit green, the power supply is operating normally. If the LED is lit red, the supply has failed and should be replaced at the earliest opportunity.

ATTENTION:

- Disconnect both power supply cords before servicing.
- Débranchez les deux câbles de la source d'alimentation avant l'entretient.

NOTE: Power supply modules are not interchangeable between other FOX3 Matrix models.

1. Rotate the left and right captive panel screws to completely loosen the screws (see figure 18).
2. Gently pull on the handle to loosen the power supply from the backplane.
3. Slide the power supply out of the chassis.
4. Orient the replacement power supply module to be installed with the handle turned up.
5. Align the flanges on the replacement power supply module with the left and right power supply guides.
6. Gently slide the replacement power supply module into the enclosure until the power supply meets resistance.
7. Gently seat the replacement power supply in the backplane.
8. Use a screwdriver to tighten the left and right captive panel screws to lock the replacement power supply in place.

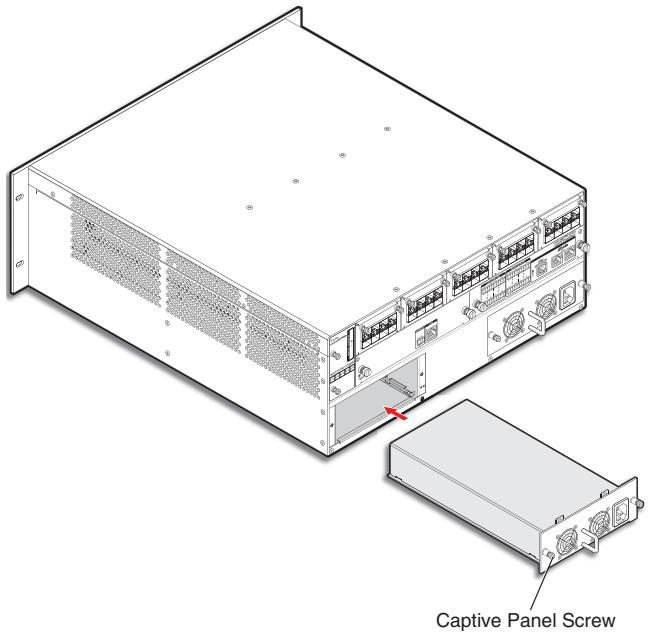


Figure 18. Replacing a Power Supply

Replacing a Fan Assembly

The FOX3 Matrix has a single fan assembly or multiple fan assemblies with multiple fans. If the fan fails, the fan assembly should be replaced at the earliest opportunity.

1. Rotate the top and bottom captive panel screws to completely loosen the screws (see figure 19).
2. Gently pull on the captive panel screws to loosen the fan from the backplane.
3. Slide the fan assembly out of the chassis.
4. Align the flanges on the replacement fan assembly with the top and bottom fan guides.
5. Gently slide the replacement fan assembly into the enclosure until the fan meets resistance.
6. Gently seat the replacement fan assembly into the backplane.
7. Use a screwdriver to tighten the top and bottom captive panel screws to lock the replacement fan assembly in place.

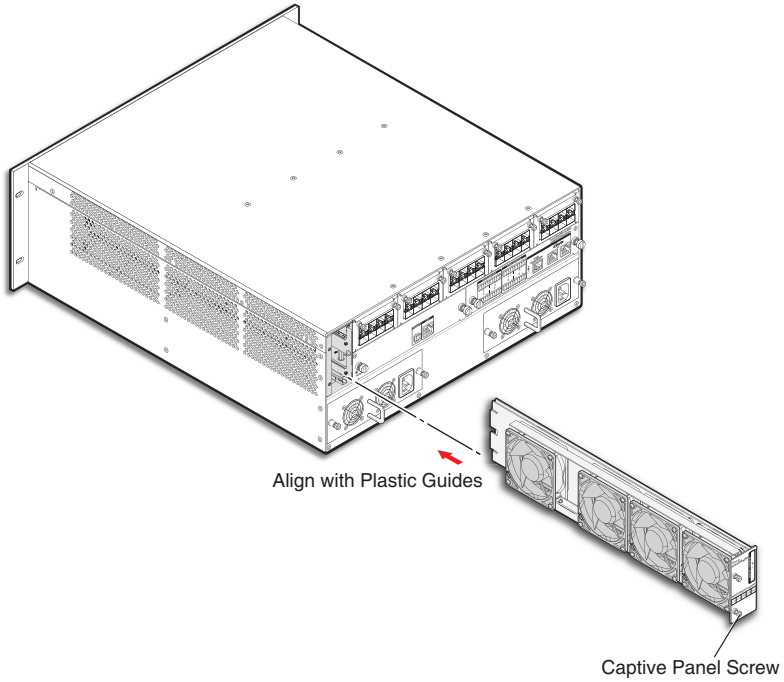


Figure 19. Replacing a Fan Assembly

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the **Extron Safety and Regulatory Compliance Guide** on the Extron website.

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