

DXP DVI Pro DXP HDMI

DVI and HDMI
Matrix Switchers

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



Extron® Electronics
INTERFACING, SWITCHING AND CONTROL

68-1370-50 Rev. C
03 12

Safety Instructions • English



This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.



This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Consignes de Sécurité • Français



Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).



Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions • Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conservier les instructions • Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Éviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Sicherheitsanleitungen • Deutsch



Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.



Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits- und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Instrucciones de seguridad • Español



Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.



Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaución

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean específicamente recomendados por el fabricante, ya que podrían implicar riesgos.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Lithium battery • There is a danger of explosion if battery is incorrectly replaced. Replace it only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Avvertimento

Alimentazioni • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

Déconnexion de l'alimentation • Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquerait de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Lithium Batterie • Il y a danger d'explosion s'il y a un remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stromversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegen gestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder anderer Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Lithium-Batterie • Explosionsgefahr, falls die Batterie nicht richtig ersetzt wird. Ersetzen Sie verbrauchte Batterien nur durch den gleichen oder einen vergleichbaren Batterietyp, der auch vom Hersteller empfohlen wird. Entsorgen Sie verbrauchte Batterien bitte gemäß den Herstelleranweisungen.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearla ni eliminarla.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alajamiento, es para evitar el sobrecalentamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

Batería de litio • Existe riesgo de explosión si esta batería se coloca en la posición incorrecta. Cambiar esta batería únicamente con el mismo tipo (o su equivalente) recomendado por el fabricante. Eliminar las baterías usadas de acuerdo con las instrucciones del fabricante.

安全须知 • 中文



这个符号提示用户该设备用户手册中有重要的操作和维护说明。



这个符号警告用户该设备机壳内有暴露的危险电压，有触电危险。

注意

阅读说明书 • 用户使用该设备前必须阅读并理解所有安全和使用说明。

保存说明书 • 用户应保存安全说明书以备将来使用。

遵守警告 • 用户应遵守产品和用户指南上的所有安全和操作说明。

避免追加 • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

警告

电源 • 该设备只能使用产品上标明的电源。设备必须使用有地线的供电系统供电。第三条线（地线）是安全设施，不能不用或跳过。

拔掉电源 • 为安全地从设备拔掉电源，请拔掉所有设备后或桌面电源的电源线，或任何接到市电系统的电源线。

电源线保护 • 妥善布线，避免被踩踏，或重物挤压。

维护 • 所有维修必须由认证的维修人员进行。设备内部没有用户可以更换的零件。为避免出现触电危险不要自己试图打开设备盖子维修该设备。

通风孔 • 有些设备机壳上有通风槽或孔，它们是用来防止机内敏感元件过热。不要任何东西挡住通风孔。

锂电池 • 不正确的更换电池会有爆炸的危险。必须使用与厂家推荐的相同或相近型号的电池。按照生产厂的建议处理废弃电池。

FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

The Class A limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

NOTE: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance with FCC emissions limits.

Conventions Used in this Guide

In this user guide, the following are used:

CAUTION: A caution indicates a potential hazard to equipment or data.

NOTE: A note draws attention to important information.

TIP: A tip provides a suggestion to make working with the application easier.

WARNING: A warning warns of things or actions that might cause injury, death, or other severe consequences.

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Introduction

This section gives an overview of the Extron DXP 44/48/84/88 DVI Pro and DXP 44/48/84/88 HDMI Series Digital Matrix Switchers and provides application examples. The following topics are covered:

- [About this Guide](#)
- [About the DXP DVI Pro and DXP HDMI Series Matrix Switchers](#)
- [Application Diagram Examples](#)

NOTE: For more information on any subject in this guide, see the *DXP DVI Pro and DXP HDMI Series Digital Matrix Switchers User Guide*, available on the *Extron Product Software DVD* or at www.extron.com.

About this Guide

This setup guide allows you to easily and quickly set up and configure your DXP matrix switcher. Step by step instructions show you how to connect the hardware and to perform basic operations using both the front panel controls and selected Simple Instruction Set (SIS™) commands. The guide also shows you how to load and start up the Matrix Switchers Control Program and how to connect to the built-in HTML pages, which you can use to operate the switcher.

The terms “DXP,” “switcher,” and “DXP switcher” are used interchangeably in this guide to refer to all DXP models. “DXP DVI Pro” refers to the four DVI models and “DXP HDMI” refers to the four HDMI® models.

About the DXP DVI Pro and DXP HDMI Series Matrix Switchers

The Extron DXP DVI Pro and DXP HDMI series are digital matrix switchers that route single link DVI-D signals or HDMI signals from multiple sources to any or all of up to eight DVI- or HDMI-equipped display devices. All DXP matrix switchers support resolutions of up to 1920x1200 and HDTV 1080p/60, and are HDCP-compliant, enabling simultaneous distribution of a single source signal to one or more compliant displays.

The following matrix sizes are available:

- **DXP 44 DVI Pro** and **DXP 44 HDMI**: 4 inputs by 4 outputs
- **DXP 48 DVI Pro** and **DXP 48 HDMI**: 4 inputs by 8 outputs
- **DXP 84 DVI Pro** and **DXP 84 HDMI**: 8 inputs by 4 outputs
- **DXP 88 DVI Pro** and **DXP 88 HDMI**: 8 inputs by 8 outputs

The DXP DVI Pro and DXP HDMI series all provide easy integration in applications that require reliable DVI or HDMI signal routing. (A "DVI Pro" signal is HDCP-compliant; a standard DVI signal is not.)

They include several convenience features common to Extron matrix switchers such as the QuickSwitch Front Panel Controller (QS-FPC™), global presets, IP Link®, and Ethernet control.

- NOTES:**
- The DXP DVI Pro fully supports HDMI video and embedded audio signals when optional Extron DVI-to-HDMI adapters are used.
 - The DXP HDMI fully supports single-link DVI video and embedded audio signals when the optional Extron HDMI-to-DVI adapters are used.

Application Diagram Examples

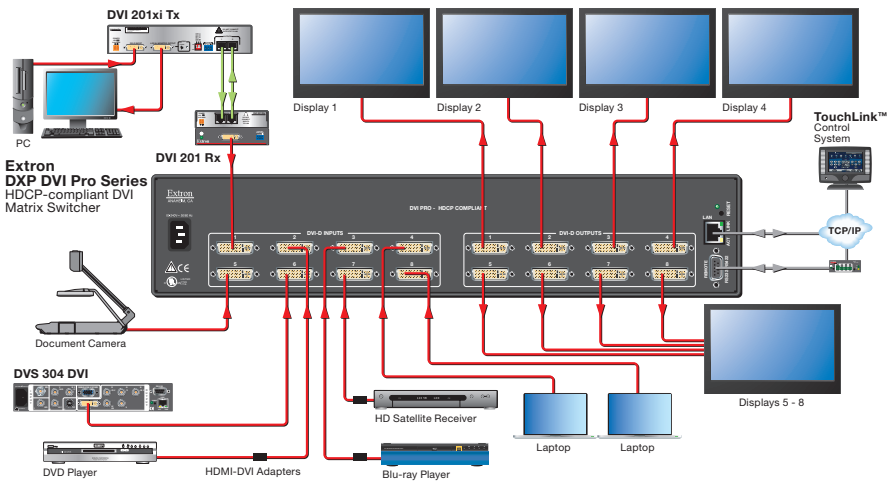


Figure 1. Typical DXP DVI Pro Application

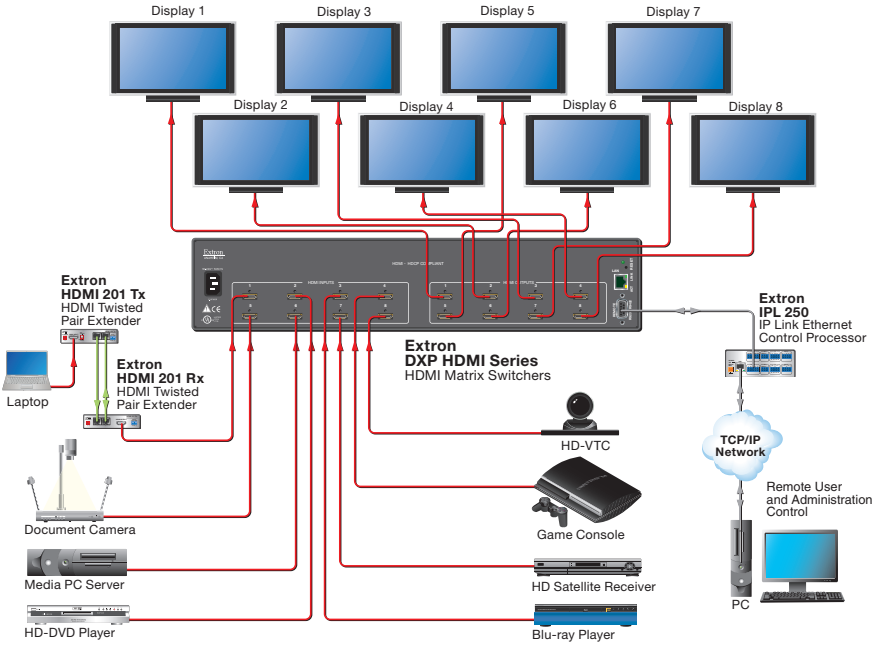


Figure 2. Typical DXP HDMI Application

Setup

This section describes the rear panels of the DXP switchers and provides instructions for cabling. It covers the following topics:

- [Setup Procedure](#)
- [Rear Panels and Connections](#)
- [Front Panel Config Port](#)

Setup Procedure

Follow these steps to set up and start operating the DXP switcher. See the "[Operation](#)" section for additional configuration procedures you may want to perform to set up the switcher.

1. Turn off power to the input and output devices and disconnect their power cords.
2. Connect DVI or HDMI input devices to the rear panel input connectors (see "[② Input connectors](#)" on page 7).
3. Connect DVI or HDMI output devices to the rear panel output connectors (see "[③ Output connectors](#)" on page 8).
4. Change any required button labels (optional) (see "Replacing Button Labels" in the "Reference Information" section of the *DXP DVI Pro and DXP HDMI Series User Guide*).
5. If desired, connect a computer or control system to the Remote RS-232/RS-422 port or to the front panel Config RS-232 port (see "[⑦ Remote RS232/RS422 connector](#)" on page 10).
6. If desired, connect a network WAN or LAN hub, a control system, or a computer to the rear panel Ethernet RJ-45 port (see "[④ Ethernet port](#)" on page 8).
7. Plug the DXP switcher into a grounded AC source, and connect power to the input and output devices.
8. Select EDID files to apply to inputs as desired, using SIS commands, the Matrix Switchers Control Program, or the DXP web pages. See "[EDID \(Extended Display Identification Data\)](#)" in the "Remote Control" section, or see the control program help file and the *DXP DVI Pro and DXP HDMI User Guide* for details.
9. Create ties as desired (see "[Creating a Tie](#)" in the "Operations" section).

Rear Panels and Connections

Most of the connectors are on the rear panels of the DXP switches. The following figures show the rear panels of the four DVI models and the four HDMI models.

NOTE: The illustrations below show **DXP 88 DVI Pro** and **DXP 88 HDMI** models, with 8 input and 8 output connectors. The rear panels of the other DXP models are identical to these models except for the number of inputs and outputs (see "[About the DXP DVI Pro and DXP HDMI Series Matrix Switchers](#)" in the "Introduction" section for the available matrix sizes).

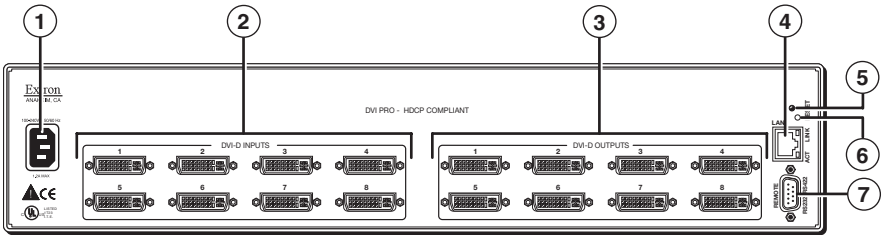


Figure 3. DXP DVI Pro Rear Panel

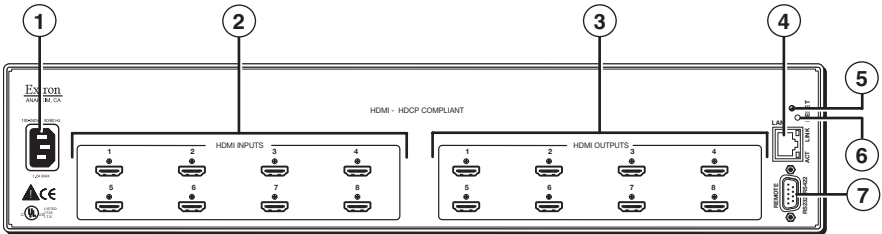


Figure 4. DXP HDMI Rear Panel

WARNING: Remove power from the system before making any connections.

CAUTION: Use electrostatic discharge precautions (be electrically grounded) when making connections. Electrostatic discharge (ESD) can damage equipment, although you may not feel, see, or hear it.

- ① **AC power connector** — Plug a standard IEC power cord into this connector to connect the switcher to a 100 VAC to 240 VAC, 50 or 60 Hz power source.

② Input connectors —

- **DVI Pro series:** Connect DVI-D source devices to these female 29-pin DVI-I input connectors. Only single-link DVI-D signals are supported.
- **HDMI series:** Connect HDMI source devices to these female 19-pin type A HDMI input connectors.

LockIt™ cable lacing brackets, one for each HDMI input and output connector, are provided with the DXP HDMI. These brackets can be used to secure the HDMI cables to the DXP connectors to reduce stress on the HDMI connectors and prevent signal loss due to loose cable connections.

To securely fasten an HDMI cable to the DXP using LockIt brackets:

1. Plug the HDMI cable into the panel connection.

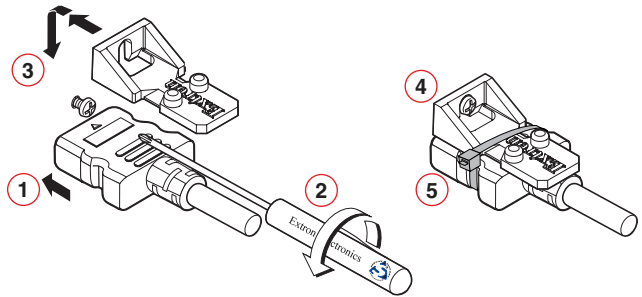


Figure 5. Installing the LockIt Lacing Bracket

2. Loosen the HDMI connection mounting screw from the panel enough to allow the LockIt lacing bracket to be placed over it. The screw does not have to be removed.
3. Place the LockIt lacing bracket on the screw and against the HDMI connector, then tighten the screw to secure the bracket.

CAUTION: Do not overtighten the HDMI connector mounting screw. The shield to which it fastens is very thin and can easily be stripped.

4. Loosely place the included tie wrap around the HDMI connector and the LockIt lacing bracket as shown.
5. While holding the connector securely against the lacing bracket, use pliers or similar tools to tighten the tie wrap, then remove any excess length.

③ Output connectors —

NOTE: The switchers do not alter the video signal in any way. The signal that is output by the switcher is in the same format as the input signal.

- **DVI Pro series:** Connect DVI output devices to these female 29-pin DVI-I output connectors.
- **HDMI series:** Connect HDMI output devices to these female 19-pin type A HDMI output connectors.

- ④ **Ethernet port** — If desired, connect the DXP switcher to a computer, a network WAN or LAN hub, or a control system via this RJ-45 connector. With the Ethernet connection, you can use a computer to control the networked switcher with SIS commands, the Matrix Switchers Control Program, or the embedded HTML pages on the switcher.

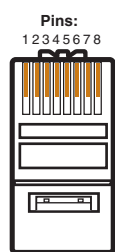
Ethernet connection indicators — The Link and Act LEDs indicate the status of the Ethernet connection.

- **Link:** Indicates that the switcher is properly connected to an Ethernet LAN. This green LED should light steadily.
- **Act (Activity):** Indicates transmission of data on the RJ-45 connector. This yellow LED should flicker as the switcher communicates.

Ethernet links use Category (CAT) 3, 5e, or 6 unshielded twisted pair (UTP) or shielded twisted pair (STP) cables, terminated with RJ-45 connectors. Ethernet cables are limited to 328 feet (100 m).

NOTES:

- Do not use standard telephone cables. Telephone cables do not support Ethernet or Fast Ethernet.
- Do not stretch or bend the cables because this can cause transmission errors.



Insert Twisted
Pair Wires
RJ-45
Connector

Crossover Cable

Pin	End 1 Wire Color	End 2 Wire Color
1	White-green	White-orange
2	Green	Orange
3	White-orange	White-green
4	Blue	Blue
5	White-blue	White-blue
6	Orange	Green
7	White-brown	White-brown
8	Brown	Brown

T568A

T568B

A cable that is wired as T568A at one end and T568B at the other (Tx and Rx pairs reversed) is a "crossover" cable.

Straight-through Cable

Pin	End 1 Wire Color	End 2 Wire Color
1	White-orange	White-orange
2	Orange	Orange
3	White-green	White-green
4	Blue	Blue
5	White-blue	White-blue
6	Green	Green
7	White-brown	White-brown
8	Brown	Brown

T568B

T568B

A cable that is wired the same at both ends is called a "straight-through" cable, because no pin or pair assignments are swapped.

Figure 6. RJ-45 Connector and Pinout Tables

The cable you use depends on your network speed. The switcher supports both 10 Mbps (10Base-T — Ethernet) and 100 Mbps (100Base-T — Fast Ethernet), half-duplex and full-duplex, Ethernet connections.

- 10Base-T Ethernet requires CAT 3 or higher UTP or STP cable.
- 100Base-T Fast Ethernet requires CAT 5e or higher UTP or STP cable.

Terminate the Ethernet cable as required:

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

NOTE: The factory default IP address is 192.168.254.254.

- ⑤ **Reset LED** — When the unit is being reset, this LED blinks the appropriate number of times to indicate the level of reset that has been performed.
- ⑥ **Reset button** — This recessed button initiates four levels (modes) of reset. Use a pointed object such as a small Phillips screwdriver or a stylus to press and hold the Reset button while the switcher is running or being powered up.
 - **Hard reset (mode 1)** — Hold the Reset button while powering up the switcher to restore the DXP to the default factory conditions. This reset restores the factory-installed firmware.

NOTE: This type of reset does not clear the current configuration.

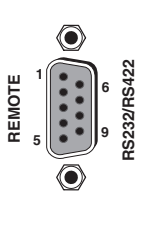
- **Events reset (mode 3)** — Press and hold the Reset button for 3 seconds, then release and press it again momentarily to toggle events monitoring on and off.
- **IP settings reset (mode 4)** — Press and hold the Reset button for 6 seconds, then release it and press it again momentarily to reset the switcher IP functions.

NOTE: IP settings reset does not replace any user-installed firmware.

- **Absolute reset (mode 5)** — Press and hold the Reset button for 9 seconds, then release it and press it again momentarily to restore the switcher to the default factory conditions.

For more details on these reset modes, see the *DXP DVI Pro and DXP HDMI User Guide*, available on the provided *Extron Product Software DVD* or the Extron website at www.extron.com.

- ⑦ **Remote RS232/RS422 connector** — Connect an RS-232 capable host device such as a computer or a touch panel control to the switcher via this 9-pin D connector for serial RS-232 or RS-422 control.



Pin	RS-232	Function	RS-422	Function
1	—	Not used	—	Not used
2	Tx	Transmit data	Tx-	Transmit data (-)
3	Rx	Receive data	Rx-	Receive data (-)
4	—	Not used	—	Not used
5	Gnd	Signal ground	Gnd	Signal ground
6	—	Not used	—	Not used
7	—	Not used	Rx+	Receive data (+)
8	—	Not used	Tx+	Transmit data (+)
9	—	Not used	—	Not used

Figure 7. Remote RS232/RS422 Connector

In the "Remote Control" section, see "[SIS Commands](#)" for definitions of some of the SIS commands (serial commands to control the switcher via this connector) and "[Installing and Starting the Matrix Switchers Control Program](#)" for details on how to install and use the control software.

Front Panel Config Port

If desired, connect a control system or computer to the front panel RS-232 Config port. Protocol for the port is:

- 9600 baud
- 8 data bits
- 1 stop bit
- No parity
- No flow control

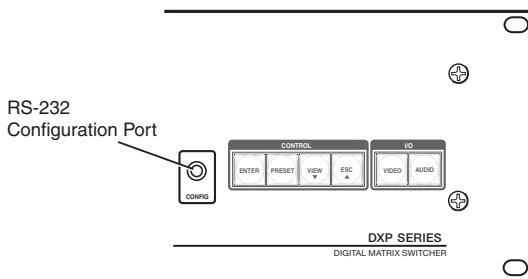


Figure 8. Front Panel Config Port

An optional 9-pin D to 2.5 mm mini jack TRS RS-232 cable, part number **70-335-01**, is available to connect to this port. (The port does not support RS-422.) The figure below shows the pin assignments for this cable.

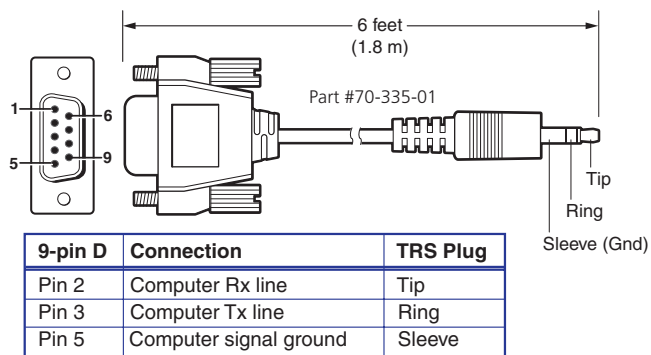


Figure 9. 2.5 mm Connector Cable for the Configuration Port

Operation

This section describes the DXP front panel controls and the procedures to configure and begin to operate the DXP switches. For additional operations and more details, see the *DXP DVI Pro and DXP HDMI Series User Guide*, available from the provided Extron software disc or from the Extron website at www.extron.com. Topics include:

- **Front Panel Features**
- **Operations**

Front Panel Features

The front panels of all DXP models have the same controls and layout (shown below). The front panel buttons are grouped into two sets, with the input and output buttons located on the left side of the control panel and the control buttons on the right side.

These illuminated push buttons can be labeled with text or graphics. You can set the buttons to have amber background illumination all the time, or you can disable the illumination (see "Setting the Background Illumination" in the "Operation" section of the *DXP DVI Pro and DXP HDMI Series User Guide* for the procedure).

The front panel buttons have multiple functions. The primary functions are listed in this section. For details on the primary and secondary button functions, see the DXP user guide.

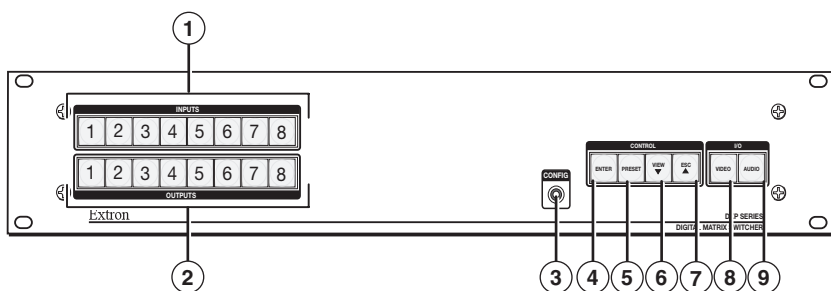


Figure 10. DXP Switchers Front Panel

- ① **Input buttons** — The input buttons have two primary functions:
 - Select an input.
 - Identify the selected input.
- ② **Output buttons** — The output buttons have two primary functions:
 - Select outputs.
 - Identify the selected outputs.

- ③ **Config port** — This RS-232 port is an alternative to the rear panel Remote RS232/RS422 connector. It supports RS-232 only. For more information about the Config port, see "[Front Panel Config Port](#)" in the "Setup" section.
- ④ **Enter button** — The Enter button has three primary functions:
- Saves changes that you make on the front panel.
 - Indicates that a potential tie has been created but not saved.
 - Indicates that a global preset has been selected to be saved or recalled but the preset action has not been accomplished.
- ⑤ **Preset button** — The Preset button has two primary functions:
- Places the switcher in preset saving mode to save a configuration as a preset, and in preset recalling mode to activate a previously-defined preset.
 - Indicates when preset saving mode is active (blinks) and when preset recalling mode is active (lights steadily).
- ⑥ **View ▼ button** — The View ▼ button has two primary functions:
- Places the switcher in view-only mode to display the current configuration.
 - Indicates that the DXP is in view-only mode.
- ⑦ **Esc ▲ button** — The Esc ▲ button has two primary functions:
- Cancels operations or selections in progress and resets the front panel button indicators.

NOTE: The Esc ▲ button does **not** reset the current configuration or any presets.

- Indicates that the escape function has been activated (flashes once).
- ⑧ **Video button** — The Video button has one primary function:
Selects and deselects video for a configuration that is being created or viewed. It lights green to indicate that video is available for configuring or for viewing.
- ⑨ **Audio button** — The Audio button has one primary function:
Selects and deselects audio for a configuration that is being created or viewed. It lights red to indicate that audio is available for configuring or for viewing.

Operations

Creating a Tie

To tie an input to an output:

1. Press and release the Esc button to clear any input button, output button, or control button indicators that may be lit.
2. Press and release the Video and Audio I/O buttons to select or deselect video and audio as desired.

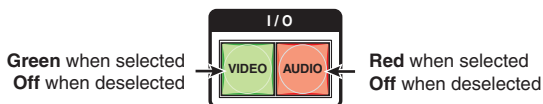


Figure 11. Audio and Video I/O Buttons

NOTE: Audio or video can be broken away (selected, not tied) by pressing **only** the Video or **only** the Audio button.

3. Press and release the desired input button.

The button lights to indicate the selection.

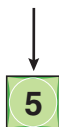


Figure 12. Select an Input for the Tie

4. Press and release the desired output buttons.

Amber indicates a **video** and **audio** tie.

Green indicates a **video**-only tie.

Red indicates an **audio**-only tie.

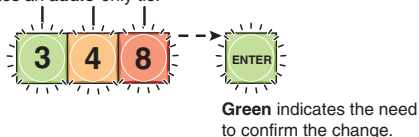


Figure 13. Select an Output for the Tie

5. Press and release the Enter button. All button indicators turn off.

Saving or Recalling a Preset

1. **Save** a preset — Press and **hold** the Preset button until it flashes.

Recall a preset — Press and release the Preset button.

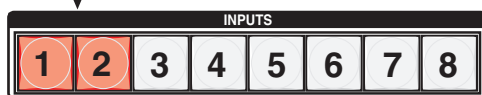
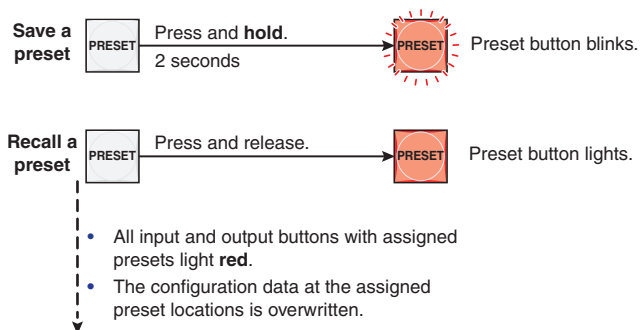


Figure 14. Saving or Recalling a Preset

2. Press and release the desired input or output button.

The button blinks **red** to indicate that this **preset** is selected to save or recall.

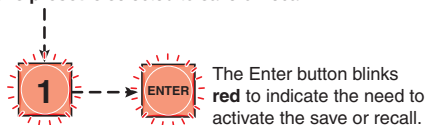


Figure 15. Press an Input or Output Button to Select a Preset

3. Press and release the Enter button.

Locking and Unlocking the Front Panel (Executive Modes)

The matrix switcher has three levels of front panel security lock that limit the operation of the switcher from the front panel:

- **Lock mode 0** — The front panel is completely unlocked.
- **Lock mode 1** — All changes are locked from the front panel (except for setting lock mode 2). Some functions can be viewed.
- **Lock mode 2** — Basic functions are unlocked. Advanced functions, such as setting video and audio mute, are locked and can be viewed only.
 - **Basic** functions consist of:
 - Making ties
 - Saving and recalling presets
 - Changing lock modes

- **Advanced** features consist of:
 - Setting video and audio output mutes
 - Creating I/O groups
 - Setting the RS-232/RS-422 port protocol and baud rate

NOTE: The switcher is shipped from the factory in lock mode 2.

Selecting lock mode 2 or toggling between lock modes 2 and 0

- NOTES:**
- If the switcher is in lock mode 0 or 1, this procedure selects mode 2.
 - If the switcher is in lock mode 2, this procedure selects mode 0 (unlocks the switcher).

Toggle the lock on and off by pressing and holding the Enter, Video, and Audio buttons simultaneously until the following buttons blink twice (approximately 2 seconds).

- The Esc, Video, and Audio buttons blink if the DXP is now in lock mode **2**.
- The Video and Audio buttons blink if the DXP is now in lock mode **0**.

Press and **hold** simultaneously.

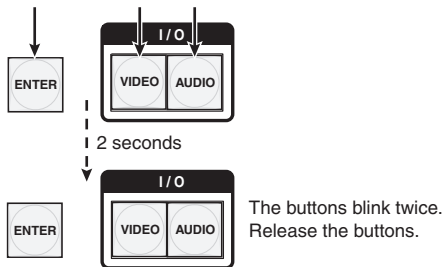


Figure 16. Press and Hold the Enter and the Two I/O Buttons Simultaneously

Selecting lock mode 2 or toggling between modes 2 and 1

- NOTES:**
- If the switcher is in lock mode 1, this procedure selects mode 2.
 - If the switcher is in lock mode 2, this procedure selects mode 1 (locks all switcher functions except selecting mode 2).

Toggle the lock on and off by pressing and holding the Video and Audio buttons until the following buttons blink twice (approximately 2 seconds).

- The Esc, Video, and Audio buttons blink if the DXP is now in lock mode **2**.
- The Video and Audio buttons blink if the DXP is now in lock mode **1**.

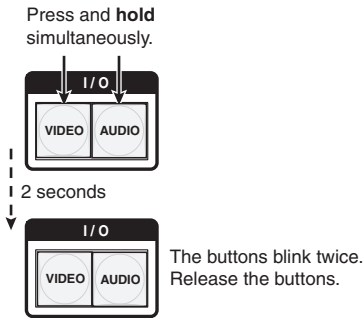


Figure 17. Press and Hold the Two I/O Buttons Simultaneously

NOTE: To switch from lock mode 1 (front panel is completely locked) to lock mode 0 (front panel is unlocked), you must first switch to mode 2, then from mode 2 to mode 0.

Viewing Ties (and Muting Outputs)

1. Press the View button. Output buttons light for outputs that have no ties established.

NOTES:

- If an output button blinks, that output is muted. **To toggle mute on and off**, press and hold the output button for 2 seconds.
- Mutes are protected when front panel lock mode 2 is selected. You can view the status of the output (muted or unmuted) in lock mode 2 but you cannot change it from the front panel (see "[Locking and Unlocking the Front Panel \(Executive Modes\)](#)" on page 16).

To enable changes to the mute settings, set the lock mode to 0.

2. Press an input button. The buttons for all tied outputs light (amber for video and audio, green for video only, and red for audio only).
3. Press an output button. The buttons for the tied input and all tied outputs light.
4. Press the View button. All input and output buttons become unlit.

Selecting the RS-232/RS-422 Port Protocol and Baud Rate (Rear Panel)

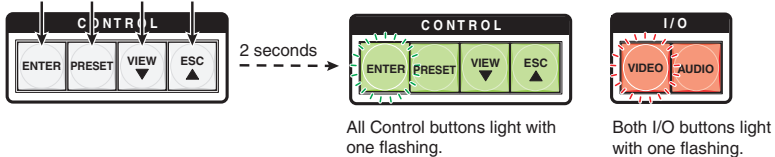
NOTE: The serial port settings are protected when front panel lock mode 2 is selected. You can view the settings in lock mode 2 but you cannot change them from the front panel.

To enable changes to the mute settings, set the lock mode to 0.

To view and configure the serial communications settings for the switcher from the front panel:

1. Simultaneously press and **hold all** four Control buttons (Enter, Preset, View, and Esc) until all of them light or blink (approximately 2 seconds). In addition:
 - The Control button that represents the current baud rate blinks.
 - The I/O button that represents the protocol blinks.

Press and **hold** the Enter, Preset, View, and Esc buttons.



All Control buttons light with one flashing.

Both I/O buttons light with one flashing.

The Control button that continues flashing indicates the **baud rate** as follows:

Enter — 9600 **Preset** — 19200
View — 38400 **Esc** — 115200

The I/O button that continues flashing indicates the **protocol** as follows:

Video — RS-232 **Audio** — RS-422

In this example, the port is set to RS-232 at 9600 baud.

Figure 18. RS-232/RS-422 and Baud Rate Display

2. Release the Control buttons.

3. To change a value, press and release the button that relates to the desired value:

Press and release the buttons to configure the RS-232/RS-422 port as follows:

Baud rate:

Enter — 9600 **Preset** — 19200

View — 38400 **Esc** — 115200

Serial protocol:

Video — RS-232 **Audio** — RS-422

The selected buttons blink and the others remain lit.

In this example, the port is set to RS-422 at 38400 baud.

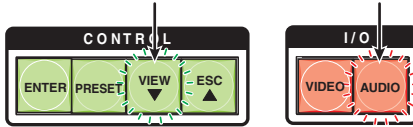


Figure 19. RS-232/RS-422 and Baud Rate Selection

4. Press and release an output button to exit the Serial Port Configuration mode.

Remote Control

This section describes selected SIS commands that pertain to system setup. It also contains instructions for obtaining, installing, and starting the Matrix Switchers Control Program and for accessing the DXP HTML pages. The following topics are discussed:

- [Establishing a Network \(Ethernet\) Connection](#)
- [SIS Commands](#)
- [Installing and Starting the Matrix Switchers Control Program](#)
- [Accessing the HTML Pages](#)

Establishing a Network (Ethernet) Connection

You can send SIS commands over an Ethernet link (rear panel RJ-45 LAN port) or a serial connection (front panel Config port or rear panel Remote RS232/RS422 port). The network connection procedure is described below; for information about the serial connection, see the *DXP DVI Pro and DXP HDMI Series User Guide*.

Establish a network connection as follows:

1. Open a TCP socket to port 23 using the switcher IP address.

NOTE: The factory default IP address is 192.168.254.254.

The switcher responds with a message consisting of the copyright date, the name of the product, firmware version, part number, and the current date and time.

Example (with an Internet connection):

```
(c) Copyright 20nn, Extron Electronics DXP DVI - HDMI,  
Vn.nn, 60-nnnn-01 ←
```

```
Ddd, DD Mmm YYYY HH:MM:SS ←
```

- NOTES:**
- If the switcher is not password-protected, the device is now ready to accept SIS commands.
 - If the switcher is password-protected, a password prompt appears.

2. If the switcher is password-protected, enter the appropriate password.
3. If the password is accepted, the switcher responds with Login User or Login Administrator.
4. If the password is not accepted, the Password prompt reappears.

Connection Timeouts

The Ethernet link times out and disconnects after a designated period of no communications. By default, this timeout value is set to 5 minutes but the value can be changed.

NOTE: Extron recommends leaving the default timeout at 5 minutes and periodically issuing the Query (Q) command to keep the connection active or disconnecting the socket and reopening the connection when necessary.

Number of Connections

A switcher can have up to 200 simultaneous TCP connections, including all HTTP sockets and Telnet connections. When the connection limit is reached, the switcher accepts no new connections until some have been closed. No error message or indication is given that the connection limit has been reached. To maximize performance of your switcher, keep the number of connections low and close unnecessary open sockets.

Verbose Mode

Telnet connections to a switcher can be used to monitor for changes that occur on the switcher, such as front panel operations and SIS commands from other Telnet sockets or a serial port. For a Telnet session to receive change notices from the switcher, the Telnet session must be in verbose mode 1 or 3 (see the [Set verbose mode](#) command in the Command and Response Table for SIS Commands).

SIS Commands

The switchers have SIS commands that you can use for operation and configuration. You can issue these commands from a PC connected to either of the DXP serial ports or the Ethernet port (see "[Rear Panels and Connections](#)" in the "Setup" section for connection information).

Host-to-switcher Instructions

The switcher accepts SIS commands through the LAN port or through either serial port. SIS commands consist of one or more characters per command field. They do not require any special characters to begin or end the command character sequence. Each switcher response to an SIS command ends with a carriage return and a line feed (CR/LF = ↵), which signals the end of the response character string. A string is one or more characters.

EDID (Extended Display Identification Data)

EDID is a communications protocol or instruction set for the identification of display devices to computers using the DDC (Display Data Channel) transmission standard. EDID information consists of the resolution, refresh rate, and pixel clock information of a display device.

You can apply an EDID to a selected input by selecting one of the following categories of EDID files, shown in the [EDID table on the next page](#).

- The EDID of the display connected to an output (numbers 1 through the number of outputs on your DXP)
- One of 28 factory-loaded EDID files (numbers 9 through 36)
- One of the four user-defined files, to which you have assigned your own EDID values (numbers 37 through 40)

NOTES: • Multi-channel audio consists of:

PCM	2-channel audio (stereo)	DTS	8-channel audio
AC-3	6-channel audio	E-AC-3	8-channel audio
PCM	8-channel audio	DTS-HD	8-channel audio
AC-3	8-channel audio	MLP	8-channel audio

- 2-channel audio consists of PCM, 2-channel audio (stereo).

EDID Table — DDC Source Selection					
SIS Value X19	Resolution	Refresh (Hz)	SIS Value X19	Resolution	Refresh (Hz)
1	Output 1		21	1280x1024	60
2	Output 2		22	1280x1024	75
3	Output 3		23	1365x768	60
4	Output 4		24	1365x768	75
5	Output 5		25	1366x768	60
6	Output 6		26	1366x768	75
7	Output 7		27	1400x1050	60
8	Output 8		28	1600x1200	60
9	640x480	60	29	480p 2-channel audio	60
10	640x480	75	30	576p 2-channel audio	60
11	800x600	60	31	720p 2-channel audio	50
12	800x600	75	32	720p (default) 2-channel audio	60
13	852x480	60	33	1080p Multi-channel audio	60
14	852x480	75	34	1080i 2-channel audio	60
15	1024x768	60	35	1080p 2-channel audio	50
16	1024x768	75	36	1080p 2-channel audio	60
17	1024x852	60	37	User assigned	
18	1024x852	75	38	User assigned	
19	1280x768	60	39	User assigned	
20	1280x768	75	40	User assigned	

Command and Response Table for SIS Commands

NOTE: The following table is a partial list of SIS commands. For a complete listing, see the *DXP DVI Pro and DXP HDMI Series User Guide*, "SIS Configuration and Control" section.

Command Function	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
Output Switching			
<p>NOTES: Commands can be entered back-to-back in a string, with no spaces. For example: 1*1!02*02&003*003%4*8\$.</p> <ul style="list-style-type: none"> The matrix switchers support 1-, 2-, and 3-digit numeric entries (1*1!, 02*02&, or 003*003%). The & tie (output switching) command for RGB and the % tie command for video can be used interchangeably. The & view ties command for RGB and the % view ties command for video can be used interchangeably. 			
Tie input $\boxed{x2}$ to output $\boxed{x3}$, video and audio <i>Example</i>	$\boxed{x2}*\boxed{x3}!$ 1*3!	Out $\boxed{x3}$ •In $\boxed{x2}$ •A11← Out3•In1•A11←	Tie video and audio of input $\boxed{x2}$ to output $\boxed{x3}$. Tie input 1 video and audio to output 3.
Tie input $\boxed{x2}$ to output $\boxed{x3}$, RGB only <i>Example</i> (See second note, above.)	$\boxed{x2}*\boxed{x3}\&$ 8*4&	Out $\boxed{x3}$ •In $\boxed{x2}$ •RGB← Out4•In8•RGB←	Video breakaway Tie input 8 RGB to output 4.
Tie input $\boxed{x2}$ to output $\boxed{x3}$, video only <i>Example</i> (See second note, above.)	$\boxed{x2}*\boxed{x3}\%$ 7*5%	Out $\boxed{x3}$ •In $\boxed{x2}$ •Vid← Out5•In7•Vid←	Video breakaway Tie input 7 video to output 5.
Tie input $\boxed{x2}$ to output $\boxed{x3}$, audio only <i>Example:</i>	$\boxed{x2}*\boxed{x3}\$$ 6*4\$	Out $\boxed{x3}$ •In $\boxed{x2}$ •Aud← Out4•In6•Aud←	Audio breakaway Tie input 6 audio to output 4.

NOTE: $\boxed{x2}$ = Input number \emptyset – maximum number of inputs for your model (\emptyset = untied)
 $\boxed{x3}$ = Output number 1 – maximum number of outputs for your model

Command Function	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
Quick Multiple Tie			
Tie multiple inputs to multiple outputs, audio and video	<code>[Esc]+Q[X2]*[X3]% ... [X2]*[X3]!</code> ←	<code>Qik</code> ←	Tie multiple inputs [X2] to multiple outputs [X3].
Tie an Input to All Outputs			
Tie an input to all outputs, audio and video	<code>[X2]*!</code>	<code>In[X2]•All</code> ←	Tie input [X2] to all outputs, audio and video.
Tie an input to all outputs, RGB only	<code>[X2]*&</code>	<code>In[X2]•RGB</code> ←	Video breakaway
Tie an input to all outputs, video only	<code>[X2]*%</code>	<code>In[X2]•Vid</code> ←	Video breakaway
Tie an input to all outputs, audio only	<code>[X2]*\$</code>	<code>In[X2]•Aud</code> ←	Audio breakaway
View Ties			
View audio and video tie	<code>[X3]!</code>	<code>[X2]</code> ←	Video or audio tie [X2] is tied to output [X3].
View RGB output tie	<code>[X3]&</code>	<code>[X2]</code> ←	RGB input [X2] is tied to output [X3].
View video output tie	<code>[X3]%</code>	<code>[X2]</code> ←	Video input [X2] is tied to output [X3].
View audio output tie	<code>[X3]\$</code>	<code>[X2]</code> ←	Audio input [X2] is tied to output [X3].

NOTE: [X2] = Input number
[X3] = Output number

∅ – maximum number of inputs for your model (∅ = untied)
1 – maximum number of outputs for your model

Command Function	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
Video and Audio Mute			
Video mute	$\boxed{X3} * 1B$	Vmt $\boxed{X3} * 1 \leftarrow$	Mute output $\boxed{X3}$ (video off).
Video unmute	$\boxed{X3} * 0B$	Vmt $\boxed{X3} * 0 \leftarrow$	Unmute output $\boxed{X3}$ (video on).
View individual output mute	$\boxed{X3}B$	$\boxed{X4} \leftarrow$	View video mute status for output $\boxed{X3}$. For $\boxed{X4}$: 0 = unmuted, 1 = muted
Global Video mute	1 * B	Vmt1 \leftarrow	Mute all video outputs.
Global Video unmute	0 * B	Vmt0 \leftarrow	Unmute all video outputs.
Audio mute	$\boxed{X3} * 1Z$	Amt $\boxed{X3} * 1 \leftarrow$	Mute output $\boxed{X3}$ audio (audio off).
Audio unmute	$\boxed{X3} * 0Z$	Amt $\boxed{X3} * 0 \leftarrow$	Unmute output $\boxed{X3}$ audio (audio on).
View audio mute	$\boxed{X3}Z$	$\boxed{X4} \leftarrow$	View audio mute status for output $\boxed{X3}$.
Global audio mute	1 * Z	Amt1 \leftarrow	Mute all audio outputs.
Global audio unmute	0 * Z	Amt0 \leftarrow	Unmute all audio outputs.
View all output mutes	$\boxed{Esc}VM \leftarrow$	$\boxed{X9}^1 \boxed{X9}^2 \dots \boxed{X9}^n \leftarrow$	Each $\boxed{X9}$ response is the mute status of an output, starting from output 1. n = the maximum number of outputs.
<i>Example:</i> DXP 88 HDMI	$\boxed{Esc}VM \leftarrow$	Mut02202000 \leftarrow	Audio for output 2, 3, and 5 is muted. Audio for all other outputs is unmuted.
NOTE: The "Mut" portion of the response appears only when the switcher is in verbose mode 2 or 3 (see the Set verbose mode command under "IP Setup Commands," on page 31).			

NOTE:	$\boxed{X3}$ = Output number	1 – (maximum number of outputs for your model)
	$\boxed{X4}$ = Mute status for individual output	0 = unmuted 1 = muted
	$\boxed{X9}$ = Mute status for all outputs (VM)	0 = no mutes 1 = video mute 2 = audio mute 3 = video and audio mute

Command Function	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
Save and Recall Presets			
NOTE: If you try to recall a preset that is not saved, the matrix switcher responds with the error code E11.			
Save current configuration as a global preset <i>Example:</i>	[X7], 9,	Spr[X7]↵ Spr09↵	Save global preset [X7]. Command character is a comma. Save current set of ties as preset 9.
Recall a global preset <i>Example:</i>	[X7]. 5.	Rpr[X7]↵ Rpr05↵	Command character is a period. Recall preset 5, which becomes the current configuration.
Front Panel Lock (Executive) Modes			
NOTE: See " Locking and Unlocking the Front Panel (Executive Modes) " in the "Operation" section for more on the lock modes.			
Lock all front panel functions	1X	Exe1↵	Enable lock mode 1.
Lock advanced front panel functions	2X	Exe2↵	Enable lock mode 2.
Unlock all front panel functions	0X	Exe0↵	Enable lock mode 0.
View lock status (executive mode)	X	[X4]↵	Display current lock mode [X4].
EDID (Extended Display Identification Data) Commands			
Assign EDID data to an input	[Esc] A [X1]*[X19]EDID←	EdidA[X1]*[X19]↵	Assign EDID file [X19] to input [X1].
Assign EDID data to all inputs	[Esc] A [X19]*EDID←	EdidA00*[X19]↵	Assign EDID information files to all inputs. See the EDID Reference Table on page 24 for a list of values contained in each EDID file.
NOTE:			
[X1] = Input number	1 – maximum number of inputs for your model		
[X4] = Current front panel lock mode	0 = unlocked	1 = all front panel functions locked	2 = basic functions unlocked
[X7] = Global preset number	01 – 32		
[X19] = EDID file reference number	01 – 40 (32 = default 720p @ 60 Hz)		

Command Function	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
EDID (Extended Display Identification Data) Commands (Continued)			
Save output 1 EDID to user location (User-assigned file 37–40)	[Esc] S <u>X19</u> EDID←	EdidS <u>X19</u> ←	Store the EDID of output 1 as user-assigned EDID file <u>X19</u> . <u>X19</u> = 37–40.
Export EDID file data	[Esc] E <u>X19</u> EDID←	<u>X20</u> ←	Export binary data <u>X20</u> contained in EDID file <u>X19</u> to the computer.
Import EDID file to a user file location	[Esc] I <u>X19</u> EDID← <u>X20</u>	EdidI <u>X19</u> ←	Import EDID file binary data <u>X20</u> to user-assigned EDID file <u>X19</u> . <u>X19</u> = 37–40.
View EDID input data assignment	[Esc] A <u>X1</u> EDID←	<u>X19</u> ←	View number of EDID file assigned to input <u>X1</u> .
Information Requests			
Information request	I	V <u>X14</u> X <u>X15</u> •A <u>X14</u> X <u>X15</u> ←	V <u>X14</u> X <u>X15</u> is the video matrix size. A <u>X14</u> X <u>X15</u> is the audio matrix size.
<i>Example:</i> DXP 84 DVI Pro	I	V8X4•A8X4←	The matrix is eight video and audio inputs by four video and audio outputs.
Request part number	N	60-nnn[n]-01←	

NOTE: X1 = Input number
X14 = Total inputs
X15 = Total outputs
X19 = EDID file reference number
X20 = EDID file data block

1 – maximum number of inputs for your model
Total number of inputs for this switcher
Total number of outputs for this switcher
01 – 40 (32 = default 720p @ 60 Hz)
256 bytes of binary data

Command Function	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
Information Requests (Continued)			
Query controller firmware version	Q	X21 ←	
<i>Example:</i>	Q	1.23 ←	The factory-installed controller firmware version is 1.23 (sample value only).
Request system status	S	X16•X16•X17•X18•X4 ←	
<i>Example:</i>	S	3.29•4.85•+077.00•03750•1 ←	<p>Display voltages X16, internal temperature X17, fan speed X18, and power supply status X4. For X4: 0 = not OK, 1 = OK</p> <pre> Internal Temperature 3.3 V Power System at 3.29 3.29 • 4.85 • +077.00 • 03750 • 1 ← 5 V Power System at 4.85 V Fan 1 rotating at 3750 RPM </pre> <p>Power supply is on and ok.</p>
IP Setup			
Set IP address	Esc X36 CI ←	Ipi X36 ←	
Read IP address	Esc CI ←	X36 ←	
Set subnet mask	Esc X36 CS ←	Ips X36 ←	
Read subnet mask	Esc CS ←	X36 ←	

NOTE: X4 = Mute status for individual output 0 = unmuted 1 = muted
X16 = Voltage
X17 = Internal temperature in degrees F
X18 = Fan speed in RPM
X21 = Firmware version number to second decimal place (n.nn)
X36 = IP or Gateway address or subnet mask nnn.nnn.nnn.nnn

Command Function	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
IP Setup (Continued)			
Set gateway IP address	Esc X36CG ←	IpgX36 ←	
Read gateway IP address	Esc CG ←	X36 ←	
Set DHCP on and off	Esc X46DH ←	IdhX46 ←	
Read DHCP on/off status	Esc DH ←	X46 ←	
Configure current port timeout	Esc ∅*X58TC ←	Pti∅*X58 ←	
Read current port timeout	Esc ∅TC ←	X58 ←	
Configure global IP port timeout	Esc 1*X58TC ←	Pti1*X58 ←	
Read global IP port timeout	Esc 1TC ←	X58 ←	
Set verbose mode	Esc X53CV ←	VrbX53 ←	
Read verbose mode	Esc CV ←	X53 ←	

NOTE: X36 = IP or Gateway address or subnet mask *nnn.nnn.nnn.nnn*
 X46 = DHCP status ∅ = DHCP off, 1 = DHCP on
 X53 = Verbose mode ∅ = clear or none (default for Telnet connection)
 1 = verbose mode (default for RS-232/RS-422 connection)
 2 = tagged responses for queries
 3 = verbose mode and tagged for queries
 X58 = Port timeout interval 1 (10 seconds) – 65000 (default is 30 = 300 seconds = 5 minutes)

Command Function	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
Reset			
System reset to factory defaults	<code>[Esc]ZXXX←</code>	Zpx↵	Clear all ties and presets and reset unit to factory default settings.
NOTE: This command excludes IP settings such as IP address, subnet mask, and gateway address. It does not remove the file system.			
Absolute system reset	<code>[Esc]ZQQQ←</code>	Zpq↵	Clear all ties and presets and reset unit to factory default settings.
NOTE: This command includes resetting the IP address to 192.168.254.254 and the subnet mask to 255.255.0.0. The firmware version remains the same.			

Installing and Starting the Matrix Switchers Control Program

Another way to operate the switcher is via the Matrix Switchers Control Program. This program is contained on the *Extron Software Products DVD* (included with the switcher). Run this program on a PC connected to either of the switcher serial ports or the Ethernet port. See "[4 Ethernet port](#)", "[7 Remote RS232/RS422 connector](#)," and "[Front Panel Config Port](#)" in the "Installation" section for connection information. The program must be installed on a computer; it cannot be run from the software disc.

NOTE: For details on operating the program, see the *DXP DVI Pro and DXP HDMI User Guide*, "Matrix Software" section, and to the control program help file.

Installing the Program

1. Insert the DVD into the drive. The disc should start automatically. The Extron software DVD window appears.



Figure 20. Software Button on the Software DVD Window

NOTE: If the DVD does not self-start, run Launch.exe from the disc.

2. Click the **Software** tab.

3. Scroll to the Matrix Switchers Control Program and click **Install**.

Matrix Switchers Control software for most Extron matrix switchers, including MAV Series (except MAV 62), MAV Plus, Matrix 50, CrossPoint, CrossPoint Plus, CrossPoint 300 8x4 and larger, CrossPoint 450 Plus, CrossPoint Ultra, DXP, HDXP Plus, MVX, MVX Plus, MTPX, MTPX Plus, TPX, Fiber Matrix, FOX 4G Matrix 14400, and MPX 866. Release Notes	79-520-01	7.5	Mar 20, 2009	5.5 MB	Install
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Figure 21. Matrix Switchers Control Program Install Link

4. Follow the on-screen instructions. The installation program creates a C:\Program Files\Extron\Matrix_Switchers directory and an "Extron Electronics\Matrix Switchers" group folder. It installs the following four programs:
- MATRIX Switcher + Control Program
 - MATRIX Switcher + Help
 - Uninstall MATRIX Switcher
 - Check for Matrix Updates

Starting the Program

1. To run the Matrix Switcher program, click **Start > All Programs > Extron Electronics > Matrix Switchers > MATRIX Switcher + Control Pgm**. The Comm Port Selection window appears.

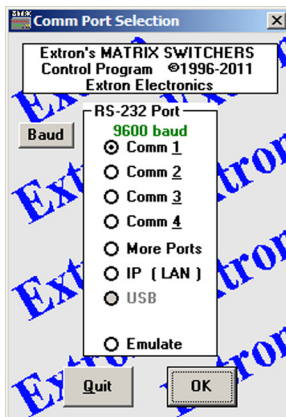


Figure 22. Comm Port Selection Screen

2. Select the Comm (serial) port that is connected to the switcher or select **IP [LAN]**.
3. If you selected a Comm port, check the baud rate (shown in green above the ports list). If you need to change it, click the **Baud** button and double-click the desired baud rate option on the drop-down menu that opens.

4. Click **OK**.

- **If you selected a serial port in step 2**, the Matrix Switchers Control Program is ready for operation.
- **If you selected IP [LAN] in step 2**, the IP Connection window appears.

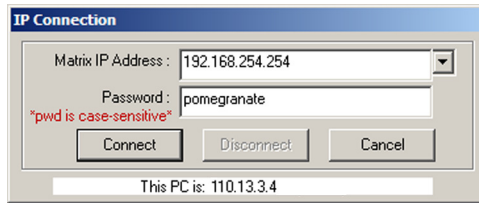


Figure 23. Password Prompt for Control Program

- a. Check the **Matrix IP Address** field, which displays the last Matrix IP address entered. If necessary, enter the correct IP address for your switcher in the field.

NOTE: 192.168.254.254 is the factory-specified default value for this field.

- b. If the switcher is password protected, enter the administrator or user password in the **Password** field.
- c. Click **Connect**. The Matrix Switchers Control Program main window opens.

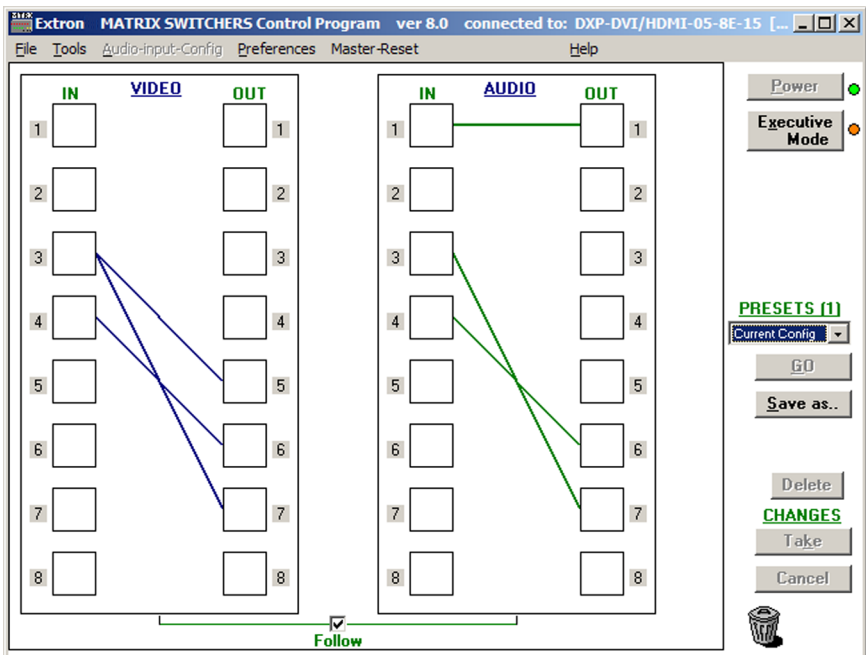


Figure 24. Matrix Switchers Control Program Window

Accessing the HTML Pages

Another way to operate the switcher is via its factory-installed HTML pages, which are always available and cannot be erased or overwritten. The switcher HTML pages are accessible through its LAN port, connected via a LAN or WAN, using a web browser such as Microsoft® Internet Explorer® (see ④ **Ethernet port** in the "Setup" section for connection information).

Loading the Start-up Page

NOTE: If your Ethernet connection to the matrix switcher is unstable, try turning off the proxy server in your web browser as follows:

1. In Microsoft Internet Explorer, click **Tools > Internet Options > Connections > LAN Settings**.
2. Clear the **Use a proxy server...** check box.
3. Click **OK**.

For details on operating the switcher via HTML pages, see the *DXP DVI*, *DXP DVI Pro*, and *DXP HDMI Series User Guide*, "HTML Operation" section.

1. Open the web browser.
2. In the browser address field, enter the DXP IP address.

NOTE: 192.168.254.254 is the factory-specified default value for this field.

3. Press the keyboard <Enter> key.
4. **If the switcher is not password protected**, it checks and downloads the HTML start-up page.

If the switcher is password protected, the Enter Network Password window opens.

NOTE: A User name entry is optional.

5. Enter the appropriate administrator or user password in the **Password** field and click **OK**.



Figure 25. Password Prompt for Web Pages

6. If you want your password to be filled in every time you open the browser, select the **Remember my password** check box.

The System Status HTML page opens.

Figure 26. System Status Page (Start-up Page)

Using the Web Pages to Configure the DXP

In addition to the System Status page, the DXP has three other pages: Configuration, File Management, and Control. These pages are accessed by clicking the tabs at the top of the screen.

Status page

This page, shown in figure 27, allows you to monitor the system. The settings shown are not configurable from this page. The page has two sub-pages, which you can display by clicking their links on the sidebar menu: **System Status** and **DSVP and HDCP**.

Configuration page

This page enables you to view and change IP administration and system settings, including e-mail settings and passwords. Sub-pages, selectable from the left sidebar menu, include: **System Settings**, **Passwords**, **Email Settings**, and **Firmware Upgrade**.

The screenshot displays the Extron Electronics web interface. At the top, there is a navigation bar with tabs for 'Status', 'Configuration', 'File Management', and 'Control'. The 'Configuration' tab is active. The page title is 'System Settings'. Below the title, there is a sidebar menu with links for 'System Settings', 'Passwords', 'Email Settings', and 'Firmware Upgrade'. The main content area contains the following settings:

System Settings

Below are your Unit's basic System Settings. Most units will work with the default IP Settings without making any changes. If you require help changing your settings, please refer to the user guide.

IP Settings

Unit Name: DXP-DVI/HDMI-05-8E-15
DHCP: On Off MAC Address: 00-05-A6-05-8E-15
IP Address: 10.13.195.67 Firmware: 1.13
Gateway IP Address: 10.13.0.100 Model: DXP 88 HDMI
Subnet Mask: 255.255.0.0 Part Number: 60-882-01

Date/Time Settings

Date: 9 / 2 / 2010
Time: 9 : 50 AM
Zone: (GMT-08:00) Pacific Time (US & Canada), Tijuana
Daylight Saving: Off USA Europe Brazil

Figure 27. System Settings Page

File Management page

This page enables you to upload files to the server within the DXP and to manage them.

Control page

This page lets you control ties and presets on the DXP.

The screenshot shows the 'Set and View Ties' interface for a DXP 88 HDMI device. The page has a blue header with the Extron Electronics logo and navigation tabs: Status, Configuration, File Management, and Control. The user is logged in as 'Admin'. The main content area is titled 'Set and View Ties' and includes a description: 'This screen allows you to tie Inputs to Outputs. Select an I/O type (Video, Audio, Follow), click on the Inputs and Outputs that need to be tied, and click 'Take'. To tie all Outputs to a single Input, click on the input number itself, and then 'Take'.' Below this is a 'Signal Type' selector with three buttons: 'Video Only' (highlighted in green), 'Audio Only' (highlighted in red), and 'Video & Audio' (highlighted in yellow). The interface is divided into three main sections: 'Set & View Ties' (a grid of 8x8 output connections), 'Output Adjustments' (A/V Mute buttons for Output 1-8, with Output 8 currently 'Muted'), and 'EDID Configuration' (Save Output #1, User 1-4, and Input 1-8 settings).

Figure 28. Control Web Page

Select the following sub-pages from the left sidebar menu.

- The **User Control** sub-page lets you view and set input to output ties, mute and unmute audio and video signal, and select EDID information for each input.
- On the **Presets** sub-page, you can save and recall global presets.

NOTE: For full details on using the web pages, see the *DXP DVI Pro and DXP HDMI User Guide*, available at www.extron.com.

Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

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Chiyoda-ku, Tokyo 102-0082
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China

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This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions, or modifications made to the product that were not authorized by Extron.

NOTE: If a product is defective, please call Extron and ask for an Application Engineer to receive an RA (Return Authorization) number. This will begin the repair process.

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Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

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