User Guide

HDMI Switchers

SW HD 4K Series

HDMI Switchers



Extron

68-2884-01 Rev. F
05 20

Safety Instructions

Safety Instructions • English

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안전 지침 • 한국어

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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. The Class A limits 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 interference. This interference must be corrected at the expense of the user.

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ＶＣＣＩ－Ａ

Conventions Used in this Guide

Notifications

The following notifications are used in this guide:

CAUTION: Risk of minor personal injury.

ATTENTION : Risque de blessure mineure.

ATTENTION:

- Risk of property damage.
- Risque de dommages matériels.

NOTE: A note draws attention to important information.

Software Commands

Commands are written in the fonts shown here:

```
^AR Merge Scene,,Øp1 scene 1,1 ^B 51 ^W^C.Ø
[Ø1] R ØØØ4 ØØ3ØØ ØØ4ØØ ØØ8ØØ ØØ6ØØ [Ø2] 35 [17] [Ø3]
Esc X1 *X17* X20* X23* X21 CE←
```

NOTE: For commands and examples of computer or device responses used in this guide, the character "**Ø**" is used for the number zero and "O" is the capital letter "o."

Selectable items, such as menu names, menu options, buttons, tabs, and field names are written in the font shown here:

From the **File** menu, select **New**.

Click the **OK** button.

Specifications Availability

Product specifications are available on the Extron website, **www.extron.com**.

Extron Glossary of Terms

A glossary of terms is available at **http://www.extron.com/technology/glossary.aspx**.

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Introduction

This section gives an overview of the Extron SW HD 4K Series switchers. Topics include:

- **About this Guide**
- **About the SW HD 4K Series Switchers**
- **Features**
- **Application Diagram**

About this Guide

This guide describes the SW HD 4K Series switchers and discusses how to install, configure, and operate them.

In this guide, the terms “SW HD 4K Series” and “SW HD 4K” refer to the SW2 HD 4K, SW4 HD 4K, SW6 HD 4K, and SW8 HD 4K switchers.

About the SW HD 4K Series Switchers

The SW HD 4K Series are two, four, six, and eight input HDMI switchers for 4K video signals. They switch 4K signals from multiple HDMI source devices to a single display. The switchers support computer and video resolutions up to 4K and 1080p/60 with Deep Color, as well as data rates up to 10.2 Gbps, 3D, Lip Sync, and HD lossless audio formats. All models feature EDID Minder, which maintains continuous EDID communication with connected devices and ensures that the HDMI sources power up properly and maintain correct video output. The switchers provide automatic input cable equalization up to 50 feet (15 meters) on Extron HDMI Pro Series cable. The SW HD 4K Switchers can be controlled via the front panel, RS-232 interface, USB, contact closure, auto-input and can be integrated into various environments. You can select inputs by pressing the front panel buttons and IR 102, enabling auto-input switching, attaching a jumper or a contact closure device to the Contact port, or entering Simple Instruction Set (SIS) commands via RS-232 or USB.

Features

- **Switches HDMI video and embedded multi-channel digital audio**
- **Inputs: Two, four, six, or eight female HDMI type-A connectors**
- **Output: 1 female HDMI type-A connector**
- **Supports computer and video resolutions up to 4K, including 1080p/60 Deep Color** — Resolutions up to 4096x2160/30 with 4:4:4 chroma sampling at 8 bits of color.
- **EDID Minder automatically manages EDID communication between connected devices** — EDID Minder ensures that all sources power up properly and reliably output content for display.
- **Automatic input cable equalization to 50 feet (15 meters) when used with Extron HDMI Pro Series cable** — Actively conditions incoming HDMI signals to compensate for signal loss when using long HDMI cables, low quality HDMI cables, and source devices with poor HDMI signal output.

- **HDCP compliant** — Ensures display of content-protected media and interoperability with other HDCP-compliant devices.
- **User-selectable HDCP authorization** — Allows individual inputs to appear HDCP compliant or non-HDCP compliant to the connected source, which is beneficial if the source automatically encrypts all content when connected to an HDCP compliant device. Protected material is not passed in non-HDCP mode.
- **HDCP authentication and signal presence LED indicators**
- **Automatic color bit depth management** — The switcher automatically adjusts color bit depth based on the display EDID, preventing color compatibility conflicts between source and display.
- **Provides +5 VDC, 250 mA power on the output for external peripheral devices**
- **Easy setup and commissioning with the Extron Product Configuration Software** — Conveniently configure multiple products using a single software application.
- **Multiple control options including front panel, RS-232, USB, IR, contact closure, and auto-input switching**
- **Contact closure remote control with tally output** — Allows for remote selection of an input channel. +5 VDC is provided to light an LED to indicate the currently selected input.
- **Power supply** —
  - **SW2 and SW4 HDMI:** An energy-efficient, external 12 VDC, 1 A universal power supply with a 2-pole captive screw connector accepts 100 to 240 VAC.
  - **SW6 and SW8 HDMI:** An 50-60 Hz, internal universal power supply with a standard IEC connector accepts 100 to 240 VAC.
- **Includes LockIt HDMI cable lacing brackets**
- **Rack and Furniture Mounting** — The SW HD 4K switchers can be mounted on a rack shelf or under a desk or podium with an optional mounting kit.

Application Diagram

Figure 1 shows a typical application for an SW4 HD 4K.

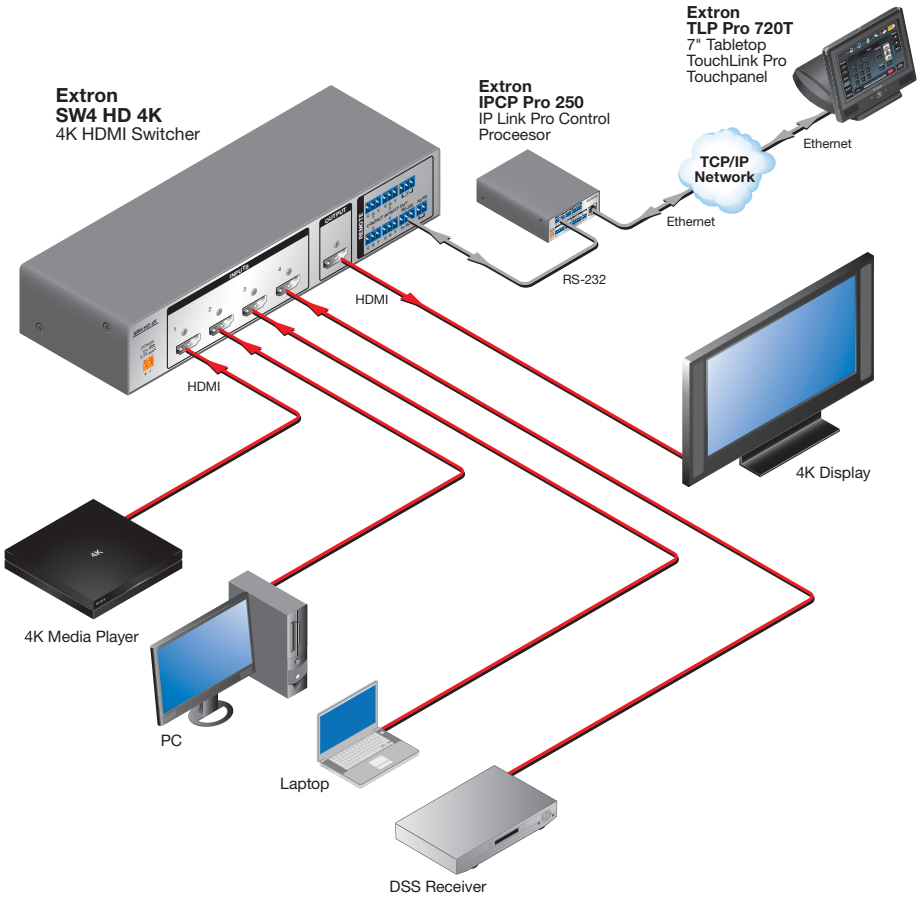


Figure 1. Application Diagram for an SW4 HD 4K Switcher

Installation

This section describes the installation and setup of the SW HD 4K Series switchers. Topics include:

- **Installation Overview**
- **Rear Panel Features**
- **Wiring the Power Connector — SW2 and SW4 HD 4K Only**
- **Wiring for RS-232 Control and Auto Switching**
- **Connecting to the USB Port**
- **Enabling Auto Switching (Optional)**
- **Wiring the Contact Closure Connectors**
- **Wiring the Tally Out Port to Indicate the Input Selection**
- **LockIt Lacing Bracket Installation Guide**

Installation Overview

To install and set up the SW HD 4K switcher:

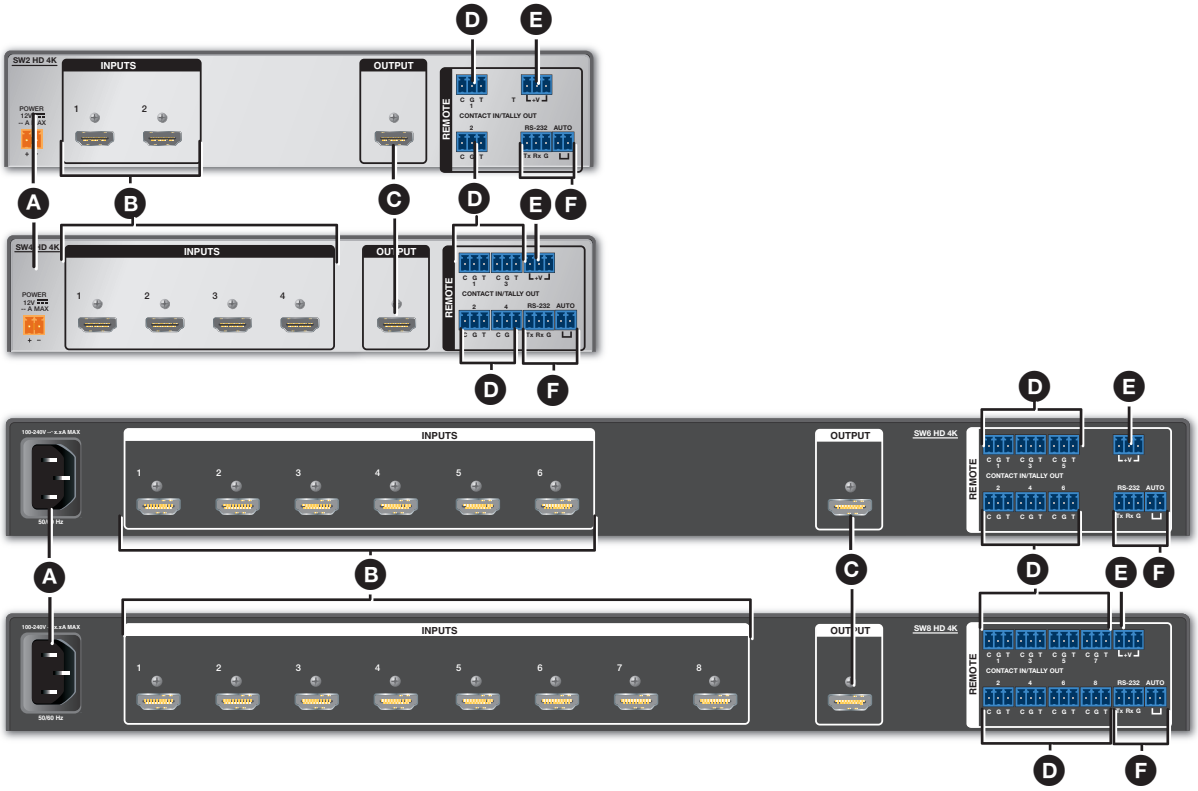
1. **Turn off all equipment** and disconnect it from the power source.
2. **(Optional) Mount the switcher** on a rack shelf or furniture (see **Mounting the SW HD 4K Switchers** on page 38).
3. **Connect HDMI input sources** to one or more of the SW HD 4K input connectors.

   NOTE: LockIt cable lacing brackets are provided to secure the HDMI cables to the rear panel ports to reduce stress on the HDMI connectors and prevent signal loss due to loose cable connections (see **LockIt Lacing Bracket Installation Guide** on page 12).

4. **Connect an HDMI output device** to the output connector. By default, the EDID of this device is stored at the HDMI inputs.
5. **Connect control devices.** Connect your computer to either of the following SW HD 4K ports to configure and control the switcher via SIS commands:
   - **RS-232 port** — Pins 1, 2, and 3 of the 3-pole RS-232 connector for serial RS-232 control (see **Wiring for RS-232 Control and Auto Switching** on page 9).
   - **Config port** — USB Mini-B connector for USB control (see **Connecting to the USB Port** on page 10 for connection procedures)
6. **(Optional) Enable auto-input switching.** Use a jumper to connect the two pins of the 2-pole captive screw connector, next to the 3-pole RS-232 connector (see **Enabling Auto Switching (Optional)** on page 10).
7. **(Optional) Enable input switching by contact closure.** Connect an input device to an SW HD 4K Contact In connector (directly or through a contact closure device) and, if desired, to a Tally Out connector (see **Wiring the Contact Closure Connectors** on page 11).

8. **Power on the output display.**
9. **Connect power to the switcher** (see **Powering On the Switcher** on page 15).
10. **Configure the EDID Minder** (see **EDID Modes** on page 17).
11. **Power on the source devices.**

Rear Panel Features



- **A** Power connector
- **B** **Input connectors**
- **C** **Output connector**
- **D** **Contact closure input and Tally output connectors**
- **E** **+V connectors**
- **F** **RS-232 and auto switching connectors**

Figure 2. SW HD 4K Series Rear Panel

A Power connector

- **SW2 and SW4 HD 4K** — Plug the provided external 12 VDC, 1 A power supply into this 2-pole, 3.5 mm captive screw connector and into an AC power outlet.

ATTENTION:

- Do not connect any external power supplies until you have read the **ATTENTION notices** on page 8.
- Ne branchez pas de sources d'alimentation externes avant d'avoir lu les **mises en garde** sur la page 8.

- **SW6 and SW8 HD 4K** — Plug the provided AC power cord into this male IEC connector and into an AC power outlet.

B **Input connectors** — Connect HDMI video input sources to these female Type-A HDMI connectors.

> **NOTE:** LockIt cable lacing brackets are provided with the SW HD 4K units. These brackets secure the HDMI cables to the rear panel connectors and reduce stress on the connectors, preventing signal loss due to loose cable connections (see **LockIt Lacing Bracket Installation Guide** on page 12).

C **Output connector** — Connect an HDMI display device to this female Type-A HDMI connector.

The EDID information is read from the connected output device via this connector and is written to memory on each input whenever the output device is connected to this port and powered on.

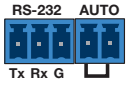
> **NOTE:** The EDID information is also read and stored whenever power is recycled to the connected output device or when the output device is replaced.

D **Contact closure input and Tally output ports**

- **Contact closure input** — (Optional) Connect a push-button contact closure device to a Contact In connector to enable input switching via contact closure (see **Wiring the Contact Closure Connectors** on page 11 for more information).
- **Tally Out port** — (Optional) To identify the currently selected input when the front panel buttons are not visible, connect a device such as an LED to the Tally Out connector and +V connector. When the input you are using is selected, the corresponding Tally Out pin (T) shorts to ground, activating the connected indicator (see **Wiring the Tally Out Port to Indicate the Input Selection** on page 11 for more information).

E **+V connectors** — These pins constantly output +5 VDC with 200 mA total (shared between pins). Use these pins when power is needed for external Tally LEDs, such as with Extron Show Me cables.

F **RS-232 (3-pole) and auto switching (2-pole) connector** — Use this 3-pole, 3.5 mm captive screw connector for RS-232 communication with the switcher (including firmware updates) and this 2-pole, 3.5 mm captive screw connector to enable auto-input switching.



SW HD 4K Series Switcher Rear Panel Remote Port

- **To enable RS-232 control**, connect the Tx (transmit), Rx (receive) and G (ground) pins to the serial port of your computer (see **Wiring for RS-232 Control and Auto Switching** on page 9).
- **To enable auto-input switching**, short the two pins of this connector together. In auto-input switch mode, the switcher automatically switches to the highest numbered active input (see **Enabling Auto Switching (Optional)** on page 10).

Wiring the Power Connector — SW2 and SW4 HD 4K Only

A 12 VDC, 1 A power supply is provided with the SW2 and SW4 HD 4K. Follow the following instructions to wire the 2-pole captive screw connector to your power supply:

CAUTION: The wires must be kept separate while the power supply is plugged in. Remove power before wiring.

ATTENTION : Les deux cordons d'alimentation doivent être tenus à l'écart l'un de l'autre quand l'alimentation est branchée. Couper l'alimentation avant de faire l'installation électrique.

ATTENTION:

- Do not connect any external power supplies until you have read the **ATTENTION notices** on page 8.
- Ne branchez pas de sources d'alimentation externes avant d'avoir lu les **mises en garde** sur la page 8.

1. Cut the DC output cord to the length needed.
2. Strip the jacket to expose 3/16" (5 mm) of the conductors.
3. Slide the leads into the supplied 2-pole captive screw plug and secure them, using a small screwdriver.
4. To verify the power cord polarity before connecting the plug, connect the power supply with no load and check the output with a voltmeter.
5. Use the supplied tie wrap to strap the power cord to the extended tail of the connector.

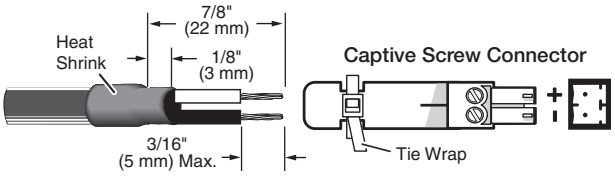


Figure 3. Wiring the Power Connector

See additional **AAttention notes** on the next page.

ATTENTION:

- Always use a power supply supplied and or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the end product.
- Utilisez toujours une source d'alimentation fournie ou recommandée par Extron. L'utilisation d'une source d'alimentation non autorisée annule toute conformité réglementaire et peut endommager la source d'alimentation ainsi que le produit final.

- If not provided with a power supply, this product is intended to be supplied by a power source marked "Class 2" or "LPS" and rated at 12 VDC and a minimum of 1.0 A.
- Si ce produit ne dispose pas de sa propre source d'alimentation électrique, il doit être alimenté par une source d'alimentation de classe 2 ou LPS et paramétré à 12 V et 1.0 A minimum.

- The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70, article 725 and the Canadian Electrical Code part 1, section 16. The power supply shall not be permanently fixed to building structure or similar structure.
- Cette installation doit toujours être en accord avec les mesures qui s'applique au National Electrical Code ANSI/NFPA 70, article 725, et au Canadian Electrical Code, partie 1, section 16. La source d'alimentation ne devra pas être fixée de façon permanente à une structure de bâtiment ou à une structure similaire.

- Power supply voltage polarity is critical. Incorrect voltage polarity can damage the power supply and the unit. The ridges on the side of the cord (see **figure 3** on the previous page) identify the power cord negative lead.
- La polarité de la source d'alimentation est primordiale. Une polarité incorrecte pourrait endommager la source d'alimentation et l'unité. Les stries sur le côté du cordon permettent de repérer le pôle négatif du cordon d'alimentation (voir l'illustration **figure 3** sur la page 7).

- To verify the polarity before connection, plug in the power supply with no load and check the output with a voltmeter.
- Pour vérifier la polarité avant la connexion, brancher l'alimentation hors charge et mesurer sa sortie avec un voltmètre.

- The length of the exposed (stripped) copper wires is important. **The ideal length is 3/16 inch (5 mm)**. Longer bare wires can short together. Shorter wires are not as secure in the connectors and could be pulled out.
- La longueur des câbles exposés est primordiale lorsque l'on entreprend de les dénuder. **La longueur idéale est de 5 mm (3/16 inches).** S'ils sont un peu plus longs, les câbles exposés pourraient se toucher et provoquer un court circuit. S'ils sont un peu plus courts, ils pourraient sortir, même s'ils sont attachés par les vis captives.

- Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities.
- Sauf mention contraire, les adaptateurs AC/DC ne sont pas appropriés pour une utilisation dans les espaces d'aération ou dans les cavités murales.

Wiring for RS-232 Control and Auto Switching

Use a female 9-pin D to bare wire RS-232 cable or a universal control cable (UC50' or UC100') to connect your computer or control system to the RS-232 pins of the Remote connector.

1. Wire the unterminated end of the RS-232 cable to the provided 3-pole captive screw plug as described below. Connect the transmit, receive, and ground wires of the cable to the **first three pins** on the connector, starting at the left:
   - Connect the transmit wire to pin 1, which plugs into the Tx (transmit) port.
   - Connect the receive wire to pin 2, which plugs into the Rx (receive) port.
   - Connect the ground wire to pin 3, which plugs into the G (ground) port.
2. Plug the 3-pole connector into the RS-232 receptacle on the rear panel of the switcher.
3. Connect the other end of the cable to the appropriate computer or control system connector.

Figure 4 shows how to wire this shared connector for RS-232.

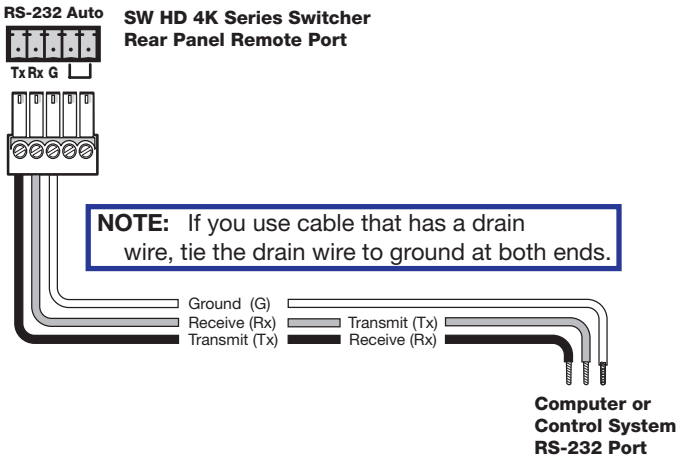


Figure 4. RS-232 Connector Pin Assignments

Connecting to the USB Port

The USB mini-B port is located on the SW HD 4K front panel. Use this port to configure the switcher via SIS commands. Connect a USB A to Mini-B cable between the USB Config port on the switcher front panel and a USB port on the computer (see figure 5).

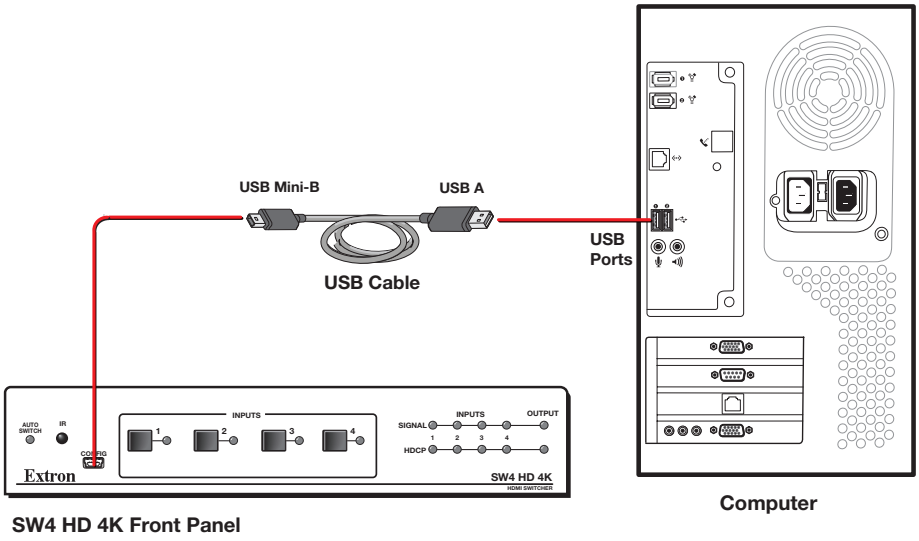


Figure 5. USB Port Connection

Configure the switcher as desired using SIS commands (see the **Remote Communication and Control** on page 19, for information on available commands) or PCS (see **Using the Product Configuration Software** starting on page 31).

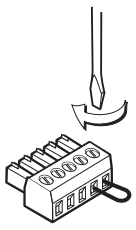
Enabling Auto Switching (Optional)

The SW HD 4K can automatically select the active, connected input based on detection of an active video signal (TMDS clock activity). If two or more inputs are active, the highest-numbered input port with an active signal is selected (for example, input 4 on an SW4 HD 4K switcher). When auto-input switching is in effect, the green Auto Switch LED on the front panel lights and the front panel input buttons are disabled.

To enable auto-input switching:

1. Cut a small piece of wire to use as a jumper.
2. Insert the ends of the wire into the Auto slots (slot 4 and 5) of the provided 2-pole captive screw plug, connecting pins 4 and 5 together.
3. Use a small screwdriver to tighten the two screws above pin slots 4 and 5 of the plug so that the jumper wire ends remain securely in place (see **figure 4** on page 9).
4. Insert the plug into the 2-pole Auto captive screw connector on the rear panel (see **figure 2** on page 5).

The figure at right shows an SW4 HD 4K with a jumper connecting pins 4 and 5 to enable auto-input switching.



Auto-input switching remains in effect as long as the jumper wire connects the two Auto pins of the 2-pole captive screw Auto port.

Wiring the Contact Closure Connectors

To enable input switching via contact closure, connect a push-button contact closure device to a Contact In/Tally Out connector (**figure 2** on page 5).

NOTE: The number of the Contact In/Tally Out port must match the number of the HDMI Input.

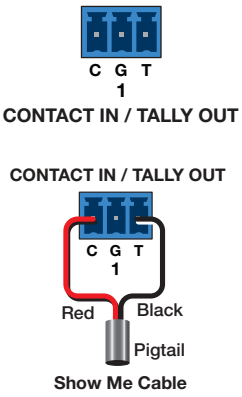
1. Wire and plug one of the provided 3-pole connectors into a Contact In/Tally Out connector representing the desired input number on the SW HD 4K (1 or 2 for SW2 models: 1, 2, 3, or 4 for SW4 models, 1 through 6 for SW6 models, and 1 through 8 for SW8 models).
   - Pin 1 = Contact closure input (C)
   - Pin 2 = Contact and Tally Ground (G)
   - Pin 3 = Tally output (T)
2. Insert the ground wire of the contact device into the Ground slot of the Contact/Tally connector (pin 2).
3. Press the button on the contact closure device to switch the connected input to the output.
4. Insert the ground wire of the contact device into the Ground slot of the Contact/Tally connector (pin 2).
5. Press the button on the contact closure device to switch the connected input to the output.

Wiring the Tally Out Port to Indicate the Input Selection

To identify the currently selected input when the front panel buttons are not visible, connect a device such as an LED to the Contact In/Tally Out connector (see **figure 2**, D, on page 65) and +V connector (E). When the input you are using is selected, the corresponding Tally Out pin shorts to ground, activating the connected indicator.



1. Wire and plug one of the provided 3-pole connectors into a Contact In/Tally Out connector (see the image at right).
   - Pin 1 = Contact closure input (C)
   - Pin 2 = Contact and Tally Ground (G)
   - Pin 3 = Tally output (T)
2. Insert the power wire for the contact indicator device into the +V connector.



TIP: The Contact and Tally connectors can be used with Extron Show Me cables. For each cable, connect the red pigtail to the Contact Closure input pin and the black pigtail to the Tally Out pin (see the diagram at right).

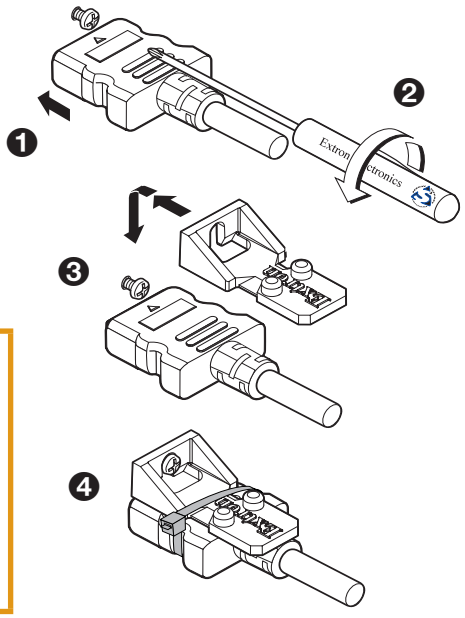
LockIt Lacing Bracket Installation Guide

The Extron LockIt lacing bracket makes it possible to simply and universally secure a standard HDMI cable to most HDMI devices.

NOTE: The HDMI device must have an HDMI connection mounting screw for this bracket to be used.

To securely fasten an HDMI cable to a device:

1. Plug the HDMI cable into the panel connection (see ❶ in the illustration at right).
2. Loosen the HDMI connection mounting screw from the panel enough to allow the LockIt lacing bracket to be placed over it (❷). 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 (❸).



ATTENTION:

- Do not overtighten the connector mounting screw. The shield it fastens to is very thin and can easily be stripped.
- Ne serrez pas trop la vis de montage du connecteur. Le blindage auquel elle est attachée est très fin et peut facilement être dénudé.

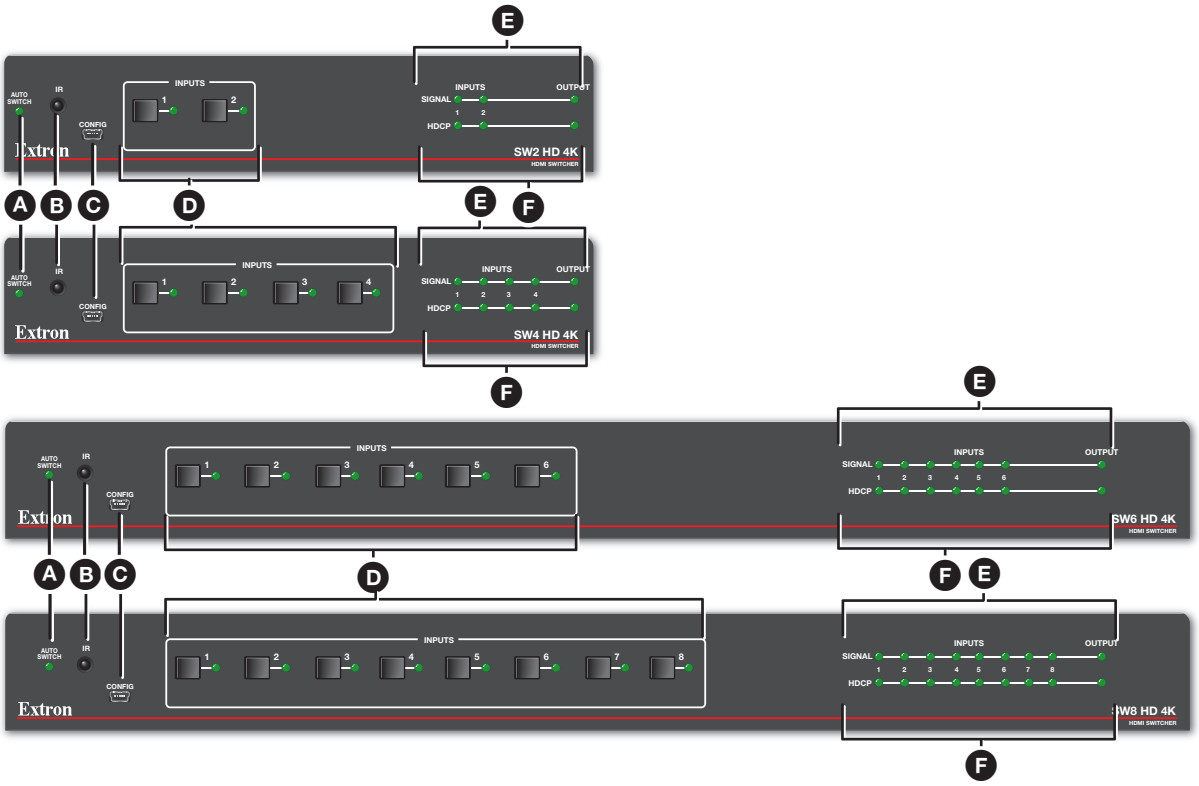
4. Loosely place the included tie wrap around the HDMI connector and the LockIt lacing bracket as shown (❹).
5. While holding the connector securely against the lacing bracket, tighten the tie wrap, then remove any excess length.

Operation

This section describes the operation of the SW HD 4K Series switchers. Topics include:

- Front Panel Features
- Powering On the Switcher
- Selecting an Input
- Resetting
- Using the Optional IR 102 Remote Control
- Locking and Unlocking the Front Panel (Executive Mode)
- EDID Modes

Front Panel Features



- A Auto Switch LED
- B IR receiver port
- C Config port
- D Input selection buttons
- E Signal Status LEDs
- F HDCP Status LEDs

Figure 6. SW HD 4K Series Front Panels

A **Auto Switch LED** — This LED lights when auto-input switching is enabled (see **Enabling Auto Switching (Optional)** on page 10 for the procedure to set up automatic input selection).

B **IR receiver port** — This sensor detects infrared signals from the optional IR 102 remote control at a distance of up to 30 feet (9.1 meters) and within 40 degrees off the axis (see **Using the Optional IR 102 Remote Control** on page 16).

C **Config port** — Connect a USB cable (USB A to mini-B) between your computer and this female USB mini-B port to configure and control the switcher via SIS commands or the Universal Switcher Control Program and to update the firmware (see **Connecting to the USB Port** on page 10).

D **Input selection buttons and LEDs** — Two, four, six, and eight for the SW2/4/6/8 SW HD 4K switchers respectively. Press one of these buttons to select an input to switch to the output. The LED at the right of each button lights when the corresponding input is selected. If auto-input switching is in effect, these buttons are disabled, but the LEDs continue to light to indicate the selected input.

E **Signal status LEDs**

- **Inputs** — Two, four, six, and eight LEDs for the SW2/4/6/8 HD 4K switchers respectively. Each input has a corresponding numbered Signal LED, which lights when a source is connected to the input connector and TMDS clock activity is detected on it.

  NOTE: If the source device connected to the selected input is HDCP encrypted, the corresponding signal LED may not light unless HDCP has been authenticated.

- **Output** — Two, four, six, eight LEDs for the SW2/4/6/8 HD 4K switchers respectively. The Output Signal LED lights when an active sink (output) device is connected to the HDMI output.

The input buttons are also used to initiate a system reset (see **Resetting** on page 16) and to enable and disable front panel lockout (see **Locking and Unlocking the Front Panel (Executive Mode)** on page 17).

F **HDCP status LEDs**

- **Inputs** — Each input has a corresponding numbered HDCP LED. If the connected source requires HDCP, the corresponding LED lights when authentication is successful.

  NOTE: HDCP is authenticated on each input regardless of the currently selected source.

- **Output** — The Output HDCP LED lights if the currently selected input requires HDCP and the connected output device has been successfully authenticated.

  NOTE: HDCP is re-authenticated on the output whenever a new input is selected.

Powering On the Switcher

To power on the SW HD 4K switchers:

1. Connect all input and output devices to the rear panel connectors on the switcher (see **Rear Panel Features** on page 5 for the rear panel connections).
2. Power on the display.
3. **Power on the SW HD 4K:**
   - **SW2 and SW4 HD 4K:** Plug the power supply into the 2-pole captive screw power connector on the switcher rear panel.
   - **SW6 and SW8 HD 4K:** Plug the provided IEC cord into the rear panel IEC connector and an AC outlet.

   After approximately 4 seconds, the following happens:
   - The unit performs a self-test, during which the front panel Auto Switch, Input, Signal, and HDCP LEDs each blink once in sequence from left to right. When the self-test completes, the LED for the most recently selected input remains lit.
   - The switcher reads the available EDID information from the connected output device and writes it to memory on each input. When power is removed, these settings remain in memory and are in effect when power is reapplied.

   ATTENTION:
   - Do not connect any external power supplies until you have read the **attention notifications** on page 8.
   - Ne branchez pas de sources d'alimentation externes avant d'avoir lu les **mises en garde** sur la page 8.
4. Power on the input devices.

Selecting an Input

To switch an input to the output, you have the following options:

- **Front panel buttons** — Press the desired input button on the front panel (ensure that auto-input switching is not enabled). The LED corresponding to the selected input button lights.
  - The appropriate front panel input LED lights to indicate the selected input. The LED remains lit until a new input is selected.
  - Only one input can be switched to the output at a time.

  NOTE: Buttons are disabled in auto-switch mode.

- **Contact closure** — Plug one of the provided 3-pole captive screw connectors into the rear panel Contact port. Wire either of the following to the port:
  - **Contact closure device:** If a push-button contact closure device is attached to the Contact port, press the button that is connected to the slot that corresponds to the desired input.
  - **Jumper wire:** On the connector attached to a Contact In/Tally Out port, momentarily short one of the Contact Closure pins (C) to the ground pin (G) using a jumper wire. Input is switched immediately when the jumper contacts both pins.

  NOTE: If an input pin is latched permanently to the ground pin, input switching by any other method is disabled while those pins are connected.

  See **Wiring the Contact Closure Connectors** on page 11 for more information.

Other ways to select an input include using SIS commands (see **Input Selection** on page 22) and optional IR remote control (see **Using the Optional IR 102 Remote Control**).

Resetting

To reset the switcher to its factory default settings:

1. Press and hold the Input 1 button while powering on the unit.
2. Continue holding the Input 1 button until the power-up sequence completes.

Using the Optional IR 102 Remote Control

The optional hand-held IR 102 Remote Control lets you remotely perform functions that are also available through the front panel buttons and SIS commands.

The IR receiver port on the front panel is located to the right of the Auto Switch LED. It receives signals from the remote control if they are sent from within a 40-degree arc to the right or left of the IR receiver sensor, and from no more than 30 feet (9 m) away (see figure 7).

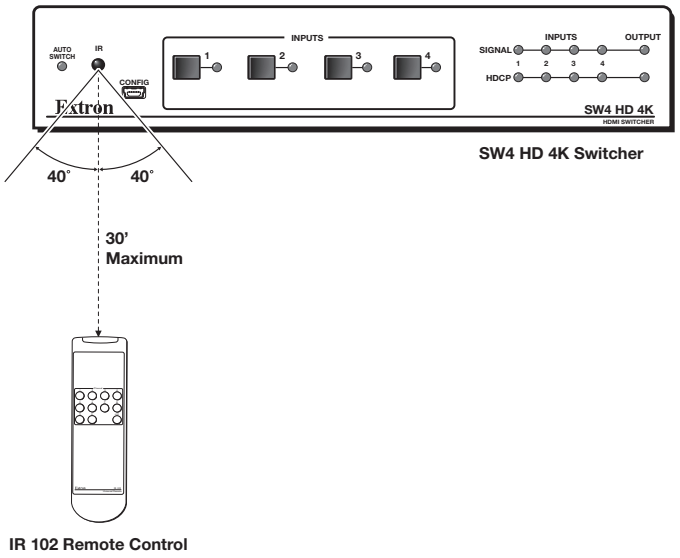


Figure 7. Area for Remote Signal Reception

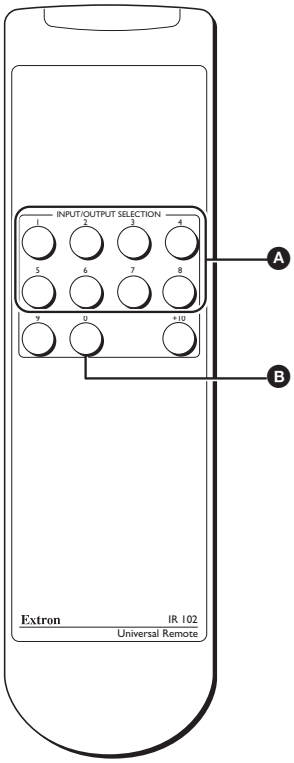
Remote Control Buttons

On the IR 102 remote control, buttons **1** through **8** select inputs (see the illustration at right).

Ⓐ **Input Selection buttons** — Press buttons to select an input:

- **1** and **2** on the SW2 HD 4K
- **1** through **4** on the SW4 HD 4K
- **1** through **6** on the SW6 HD 4K
- **1** through **8** on the SW8 HD 4K

Ⓑ **Input mute button (Ø)** — Press this button to deselect all inputs, effectively muting the output.



Locking IR remote access

The SW HD 4K switchers can be set to lock out users from using the IR 102 to control the switcher. Remote access can be enabled and disabled via SIS commands (see **Front Panel IR Receiver Enable and Disable** on page 24). When remote access is disabled, all switcher controls remain available through the SW HD 4K front panel.

Locking and Unlocking the Front Panel (Executive Mode)

Front panel lock mode disables all front panel controls, locking out users from those functions (RS-232, USB, and IR control remain available). Locking the switcher enhances security by protecting against inappropriate or accidental changes to settings. If a front panel button is pressed during lock mode, all front panel LEDs blink once.

To lock or unlock the front panel, press and hold Input buttons 1 and 2 simultaneously for 3 seconds, then release. The front panel LEDs blink three times, indicating that executive mode has been enabled or disabled (see figure 8).

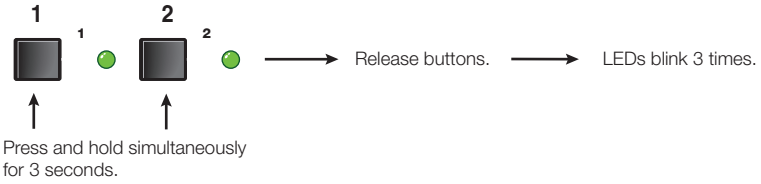


Figure 8. Enabling or Disabling Executive Mode

EDID Modes

The SW HD 4K switchers use the EDID Minder, which maintains EDID communication to all connected sources, whether or not any of the sources are selected. EDID information consists of the display resolution, refresh rate, data rate, supported audio formats, and other parameters. By factory default, the EDID stored on all inputs contains information for a native resolution of 720p @ 60 Hz, 2-channel audio.

EDID Minder can be configured in two modes: **automatic** (see "Automatic EDID Mode") and **user-assigned** (see **User-assigned EDID Mode** on the next page).

Automatic EDID Mode

In automatic mode, the switcher automatically stores EDID from the connected display and communicates it to the inputs; no other configuration is required. This is the default mode.

- **Reading and storage process** — Each time a display is connected to the HDMI output while the power is connected, the SW HD 4K reads the EDID from the display device and stores it in memory for each input. This information is retained after the display is disconnected. However, it is overwritten if a new display is connected or a user assigned EDID file is selected.
- **Default EDID** — When the switcher is in automatic mode, the default EDID (720p @ 60 Hz, 2-channel audio) is stored at each input until a display is connected, at which time it is overwritten.

User-assigned EDID Mode

In this mode, you can select an EDID file that is stored on the switcher. The selected EDID is stored in memory for the inputs and is not overwritten. The switcher does not obtain EDID information from the display.

You may want to use this mode if there is a problem with automatic communication of the EDID information from the attached display, and you want to ensure that the correct information is stored on the inputs. Also, because this mode disables automatic EDID reading and storage, you can retain one set of EDID information on the inputs and not have it changed when another display is connected.

- **Factory-loaded EDID files** — You can select from a list of 12 EDID files that are loaded on the switcher at the factory. Each EDID file contains a unique native resolution and audio support if applicable (see **EDID Table** on page 23 for a list of EDID files that are provided with the switchers).
- **User-loaded EDID files** — In addition to the 12 EDID files provided with the switcher, two empty memory locations (slots 14 and 15) are provided. Use these memory locations to save the EDID of the display that is currently connected to the output port of the switcher. These two EDID files can be selected as one of the user-assigned EDID files.

Remote Communication and Control

This section describes remote operation of the SW HD 4K switchers. Topics include:

- **Using Simple Instruction Set (SIS) Commands**
- **Downloading the SW HD 4K Series Firmware**

Using Simple Instruction Set (SIS) Commands

The SW HD 4K can be remotely set up and controlled via Extron SIS commands that are issued from a host computer or other device, such as a control system. SIS commands can be issued via RS-232 from the computer serial port to the rear panel Remote port, or via USB from the computer USB port to the front panel Config port (see **Wiring for RS-232 Control and Auto Switching** on page 9 or **Connecting to the USB Port** on page 10 to connect to these ports).

Host-to-switcher Communications

SIS commands consist of one or more characters per field. No special characters are required to begin or end a command sequence. You can enter these commands from your computer using a communication software program such as Extron DataViewer or HyperTerminal. When the switcher determines that a command is valid, it executes the command and sends a response to the host device.

Responses from the SW HD 4K to the host computer end 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.

Switcher-initiated Messages

When a local event such as a front panel selection or change in signal status takes place, the switcher responds by sending a message to the host, indicating what change has occurred. No response is required from the host.

The switcher sends the following message when it is first powered on:

`(C) Copyright 20nn, Extron Electronics SW HD 4K Switcher Series, Vn.nn, 60-148n-01`

`20nn` is the year in which the copyright for the firmware was registered, `Vn.nn` is the firmware version number, and `60-148n-nn` is the switcher part number:

- SW2 HD 4K — 60-1483-01
- SW4 HD 4K — 60-1484-01
- SW6 HD 4K — 60-1485-01
- SW8 HD 4K — 60-1486-01

NOTE: This message is displayed at power-up only with an RS-232 connection.

Error Responses

If the switcher is unable to execute a command it receives because the command is invalid or contains invalid parameters, the switcher returns an error response to the host. The following error response codes can be sent:

`E01` – Invalid input channel (out of range)
`E06` – Invalid input during auto-input switching
`E10` – Invalid command
`E13` – Invalid value (out of range)

Using the Command and Response Table

The **Command and Response Table for SIS Commands** starting on page 22 lists valid ASCII and hexadecimal command codes, the switcher responses to the host, and a description of the command function or the results of executing the command.

The conversion table below is for use with the command and response table.

ASCII to Hex Conversion Table

Space →	20	!	21	"	22	#	23	$	24	%	25	&	26	'	27	Esc	1B
(	28	)	29	*	2A	+	2B	,	2C	-	2D	.	2E	/	2F	CR	0D
0	30	1	31	2	32	3	33	4	34	5	35	6	36	7	37	LF	0A
8	38	9	39	:	3A	;	3B	<	3C	=	3D	>	3E	?	3F		
@	40	A	41	B	42	C	43	D	44	E	45	F	46	G	47		
H	48	I	49	J	4A	K	4B	L	4C	M	4D	N	4E	O	4F		
P	50	Q	51	R	52	S	53	T	54	U	55	V	56	W	57		
X	58	Y	59	Z	5A	[	5B	\	5C	]	5D	^	5E	_	5F		
`	60	a	61	b	62	c	63	d	64	e	65	f	66	g	67		
h	68	i	69	j	6A	k	6B	l	6C	m	6D	n	6E	o	6F		
p	70	q	71	r	72	s	73	t	74	u	75	v	76	w	77		
x	78	y	79	z	7A	{	7B	|	7C	}	7D	~	7E	DEL	7F		

Figure 9. ASCII to Hex Conversion Table

Symbol Definitions

↵ = CR/LF (carriage return with line feed) (hex `0D 0A`)
← or | = Soft carriage return (no line feed)
• = Space
Esc or `W` = Escape

X1 = Input number
`1` through the maximum number of inputs on the unit
`0` = Deselect (mute) all inputs

X2 = On and off, or mute status
`0` = Off or unmuted
`1` = On or muted

X3 = Video color bit depth mode
`0` = Automatically truncate based on output (default)
`1` = Force truncation to 8-bit

X4 = EDID mode and file selection
`0`-`15` = Factory-supplied EDID number (for a list of available EDID files, see the **EDID Table** on page 23).
`9` = Default

X5 = Current EDID information in hexadecimal format (128 or 256 bytes of hex data)

X6 = Native resolution and refresh rate

X7 = Unit name. The name can have up to 24 alphanumeric characters including hyphens (-), with no spaces. The first character must be a letter, and the last character cannot be a hyphen. The default is SW-HD-4K-SERIES.

X8 = Switch mode
- 0 = Manual
- 1 = Auto

X9 = Firmware version (to the second decimal place)

X10 = Output HDCP mode
- 0 = (Default) Encrypt as required by input. Continuous trials for HDMI sinks, attempt for 10s on DVI sinks (then fail).
- 1 = Always encrypt. Continuous trials for HDMI sinks, attempt for 10s on DVI sinks (then fail).
- 2 = Encrypt as required by input. Continuous trials for HDMI and DVI sinks.
- 3 = Always encrypt. Continuous trials for HDMI and DVI sinks.

X11 = TMDS output format
- 0 = Auto (default)
- 1 = DVI RGB 444
- 2 = HDMI RGB “Full”
- 3 = HDMI RGB “Limited”
- 4 = HDMI YUV 444 “Limited”
- 5 = HDMI YUV 422 “Full”

X12 = Verbose mode
- 0 = Clear/none
- 1 = Verbose mode (default)
- 2 = Tagged responses for queries
- 3 = Verbose mode and tagged responses for queries

X13 = Video mute
- 0 = Video mute disabled
- 1 = Video mute enabled (TMDS)
- 2 = Video and sync mute

X14 = Contact closure Status
- 0 = Stays in current channel if re-selected (default)
- 1 = Select 0 channel if current channel is re-selected

X15 = Tally pin mode on channel mute
- 0 = Always on (default)
- 1 = Off when muted
- 2 = Blinks when muted

NOTE: Unless otherwise indicated, commands are **not** case-sensitive.

X16 = 5 V output hot plug mode
- 0 = 5 V is always enabled (default)
- 1 = Auto. 5 V is enabled only when a source with 5 V is present.

Command and Response Table for SIS Commands

Command	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
Input Selection			
Select input (audio and video)	X1!	InX1•All↵	Select input X1. X1 = input number: 1 through the highest numbered input on the unit (2, 4, 6, or 8) 0 = deselect all inputs (disable output)
Video Muting			
Video mute	X13B	X13↵ VmtX13↵	Mute the video output signal. Verbose mode 2 and 3
Query video mute status	B	X13↵ VmtX13↵	Show video muting status X13. For X13: 0 = unmuted (default), 1 = video muted, 2 = video and sync muted Verbose mode 2 and 3
Audio Muting			
Audio mute	X2Z	AmtX2↵	Mute the audio output signal.
Query audio mute status	Z	X2↵ AmtX2↵	Show audio muting status X2. For X2: 1 = muted, 0 = unmuted (default) Verbose mode 2 and 3
Video Color Bit Depth			
Set video color bit depth mode	EscVX3BITD←	BitdVX3↵	Select color bit depth mode X3. For X3:
Query video color bit depth mode	EscVBITD←	X3↵ BitdVX3↵	0 = automatic, based on the EDID of the connected output (default) 1 = Force 8-bit color Verbose mode 2 and 3
Signal Status			
Request status of all signals	EscLS←	X2•...•X2*X2↵ SigX2•...•X2*X2↵	inputs 1 - max * output Show signal presence or absence for all inputs and the output. For X2: 0 = undetected 1 = detected Verbose mode 2 and 3
Request HDCP status	EscHDCP←	X2• ...•X2*X2↵ HdcpX2•...•X2*X2↵	Show HDCP status X2 for all inputs and outputs. For X2: 0 = undetected 1 = detected Verbose mode 2 and 3
EDID Minder			
Assign EDID to specific input	EscAX1*X4EDID←	EdidAX1*X4↵	X4 = EDID file slot number (09 = default)
Assign EDID to all inputs	EscAX4EDID←	EdidAX4↵	
Query EDID assignment	EscAEDID←	X4•X4•...X4↵ EdidAX4•X4•...X4↵	X1 = inputs 1 - max inputs Verbose mode 2 and 3
Query EDID in hex format	EscRX1EDID←	X5↵ X5↵	View the current EDID assignment in hexadecimal (256 bytes). X5 = current EDID information in hex. Verbose mode 2 and 3

Command	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
EDID Minder (continued)			
Save display EDID to user location	Esc S X4 EDID ←	EdidS X4 ↵	Store the EDID of the connected display as user-assigned EDID file X4 X4 = 14 or 15
Query EDID native resolution	Esc N X1 EDID ←	X6 ↵ X6 ↵	Show native resolution and refresh rate from current EDID selection Verbose mode 2 and 3
Example	Esc N X1 EDID ←	1600x1200 @ 60.0 Hz ↵	

EDID Table

EDID listed in this table are listed by rate type: IT or CE. Within each rate type grouping, the EDID are listed in order of resolution.

X4	Native Resolution	Refresh Rate	Rate Type	Video Format	Audio Type
1	1280x800	60 Hz	IT	HDMI	2-Ch
2	1440x900	60 Hz	IT	HDMI	2-Ch
3	1600x900	60 Hz	IT	HDMI	2-Ch
4	1680x1050	60 Hz	IT	HDMI	2-Ch
5	1920x1200	60 Hz	IT	HDMI	2-Ch
6	2560x1440	60 Hz	IT	HDMI	2-Ch
7	2560x1600	60 Hz	IT	HDMI	2-Ch
8	720p	50 Hz	CE	HDMI	2-Ch
9[1]	720p	60 Hz	CE	HDMI	2-Ch
10	1080p	50 Hz	CE	HDMI	2-Ch
11	1080p	60 Hz	CE	HDMI	2-Ch
12	4K/UHD	30 Hz	CE	HDMI	2-Ch
13	Output 1				
14	User Loaded Slot 1				
15	User Loaded Slot 2				

[1] Default

Command	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
HDCP Input Authorization			
Enable or disable HDCP authentication per input	Esc E X1 * X2 HDCP ←	HdcpE X1 * X2 ↵	Set HDCP authentication for input X1 to X2. For X2: 0 = Disable HDCP authentication. 1 = Enable HDCP authentication (default).
Enable or disable HDCP authentication for all inputs	Esc E X2 HDCP ←	HdcpE X2 ↵	Set HDCP authentication to X2 for all inputs.
Query HDCP authentication status	Esc EHDCP ←	X2 • X2 • ... X2 ↵ HdcpE X2 • X2 • ... X2 ↵	View the current HDCP authentication setting. Verbose mode 2 and 3
Output HDCP Mode			
Set output HDCP mode	Esc S X10 HDCP ←	HdcpS X10 ↵	See X10 **definition** on page 22.
Query output HDCP mode	Esc SHDCP ←	X10 ↵ HdcpS X10 ↵	Show executive mode status. Verbose mode 2 and 3
TMDS Output Format			
Set format	Esc X11 VTPO ←	Vtpo X11 ↵	See X11 **definition** on page 22.
Query setting	Esc VTPO ←	X11 ↵ Vtpo X11 ↵	Show TMDS output setting. Verbose mode 2 and 3
5 V Output Hot Plug Mode			
Set output hot plug mode (5 V)	Esc M X16 HPLG ←	HplgM X16 ↵	Set the output hot plug mode to X16. For X16: 0 = 5 V is always enabled (default). 1 = Auto. 5 V is enabled only when a source with 5 V is present.
View output hot plug mode status	Esc MHPLG ←	X16 ↵ HplgM X16 ↵	View the current hot plug mode. Verbose mode 2 and 3
Front Panel Lockout			
Enable or disable lock mode	X2 X	Exe X2 ↵	Select front panel lock mode X2. For X2: 0 = off (default), 1 = on
Query lockout status	X	X2 ↵ Exe X2 ↵	Show executive mode status. Verbose mode 2 and 3
Front Panel IR Receiver Enable and Disable			
Enable and disable IR receiver	X2 *65#	IRDisable X2 ↵	Disable the IR remote receiver on the front panel from receiving signals from the IR remote control.
Query IR status	65#	X2 ↵ IRDisable X2 ↵	View IR receiver status X2. For X2: 0 = IR is enabled (default) 1 = IR is disabled Verbose mode 2 and 3
Unit Name			
Set unit name	Esc X7 CN ←	Ipn • X7 ↵	Assign name X7 for the switcher. X7 can consist of up to 24 alphanumeric characters, including the hyphen (-).
Set name to factory default	Esc • CN ←	Ipn • SW-HD-4K-SERIES ↵	
Query unit name	Esc CN ←	X7 ↵ Ipn • X7 ↵	Show the current switcher name X7. Verbose mode 2 and 3

Command	ASCII Command (Host to Switcher)	Response (Switcher to Host)	Additional Description
Information Requests			
Request information	I	V**X1**•A**X1**• F**X8**•Vmt**X2**•Amt**X2**↵	
Request part number	N	60-*nnnn-nn*↵	Show the part number of the switcher: **SW2 HD 4K:** 60-1483-01 **SW4 HD 4K:** 60-1484-01 **SW6 HD 4K:** 60-1485-01 **SW8 HD 4K:** 60-1486-01
Query firmware version	Q	**X9**↵	Show firmware build number **X9**, expressed to the second decimal place.
Example:	Q	1.01↵	
Query auto-input switching status	72#	Asw**X8**↵	Show status of auto-input switching. For **X8**: **0** = manual, **1** = auto
Verbose Mode			
Set verbose mode	**Esc** **X12** CV←	Vrb**X12**↵	**0** = Clear/none **1** = Verbose mode (default) **2** = Tagged responses for queries **3** = Verbose mode and tagged responses for queries
View verbose mode	**Esc** CV←	**X12**↵ Vrb**X12**↵	Verbose mode 2 and 3
Resetting			
Reset	**Esc** ZXXX←	Zpx↵	Reset the switcher to its factory default values.
Behavior of Contact/Tally Pin			
Set mode	**Esc** **X14** * **X15** MUTM←	Mutm**X14** * **X15**↵	**X14** = Disable or enable, which selects 0 channel if reselect input via contact closure. **X15** = Configure tally pin when enabled.
View Setting	**Esc** MUTM←	**X14** * **X15**↵	

Downloading Updated Firmware

1. On **www.extron.com**, click the **Download** tab (see figure 10, ❶).
2. Click the **Firmware** link (❷) in the Downloads column.

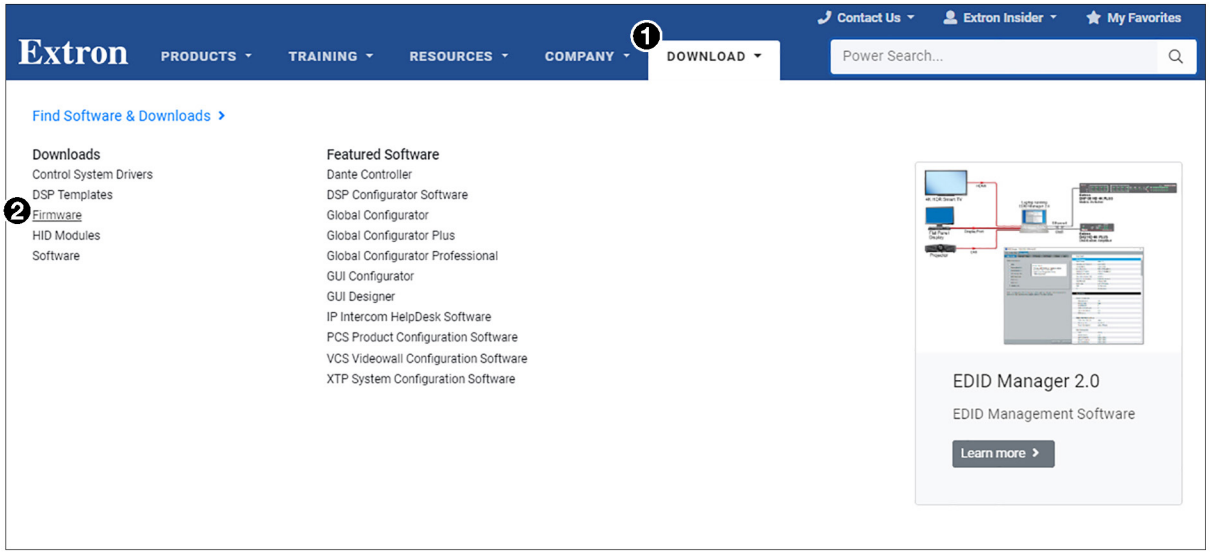


Figure 10. Downloading Firmware from the Extron Website

3. On the Download Center screen, click the **S** link (see figure 11, ❶).

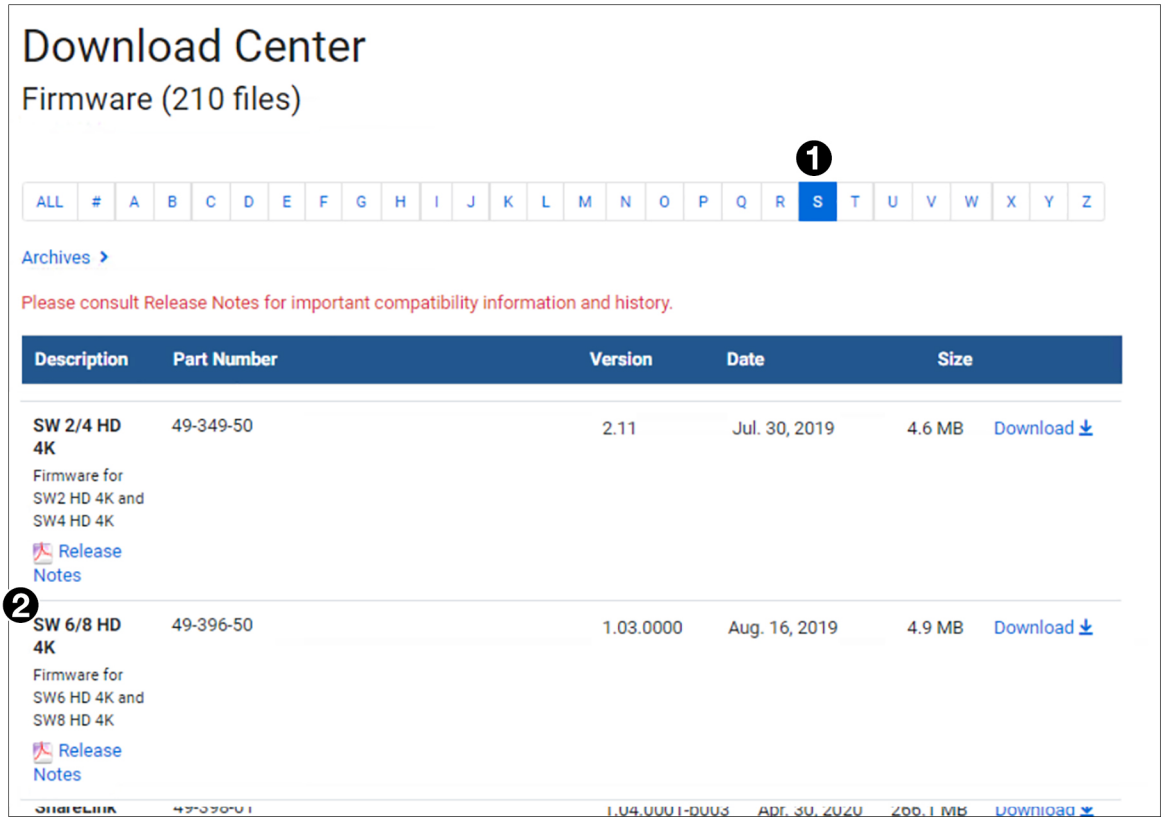


Figure 11. D Link on Firmware Download Center Page

4. If necessary, scroll to locate your device: SW 2/4 HD 4K or SW 6/8 HD 4K (❷).

5. Ensure the available firmware version is later than the current one on your device.

   NOTE: The firmware release notes provide details about the changes between different firmware versions. The file can be downloaded from the same page as the firmware.

6. Click the **Download** link to the right of your SW HD 4K device.



Figure 12. Firmware Download Link for SW 6/8 HD 4K

7. On the login page that appears next, fill in the required information to log in to **www.extron.com** (if you need an ID number, see your Extron representative).
8. Follow the instructions on the subsequent screens to complete the software program installation. By default, the configuration program files are stored on your computer at `C:\Program Files(x86)\Extron\Firmware\SW HD 4K`.

   If there is not already an Extron folder in your Program Files x86 folder, the installation program creates it as well.

Configuration Software

The Extron Product Configuration Software (PCS) offers another way to control the switchers via USB. The graphical interface includes many of the same functions as those on the device front panel and through SIS commands.

This section describes the software installation and communication. For detailed information about configuring the device with PCS, see the *SW HD 4K Help* file, provided with the software. Topics in this section include:

- **Downloading and Installing the Product Configuration Software**
- **Using the Product Configuration Software**

PCS is compatible with most Microsoft® Windows operating systems. The software is available at **www.extron.com**.

Downloading and Installing the Product Configuration Software

To download PCS from the **Extron website**, locate it on the `Download Center` page or go to the `PCS` product page.

Software Download Center Page

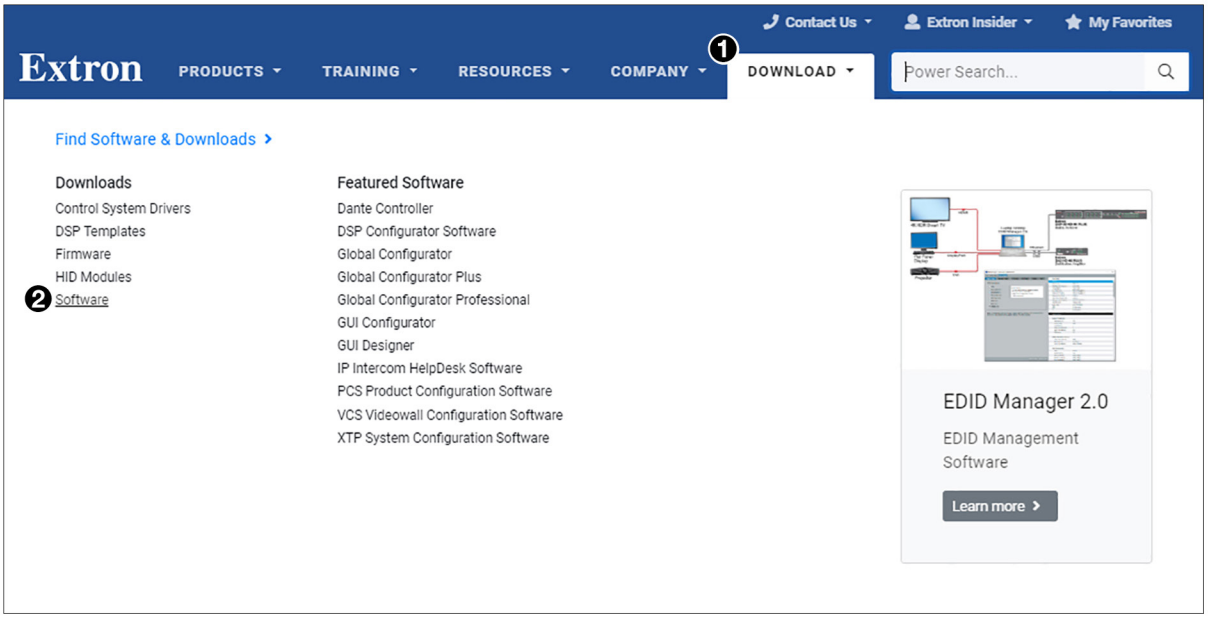


Figure 13. Download Center Page on the Extron Website

1. On the Extron website, select the **`Download`** tab (see figure 13, ❶).
2. Move the pointer to the **`Software`** link (❷) in the `Downloads` column and click it.

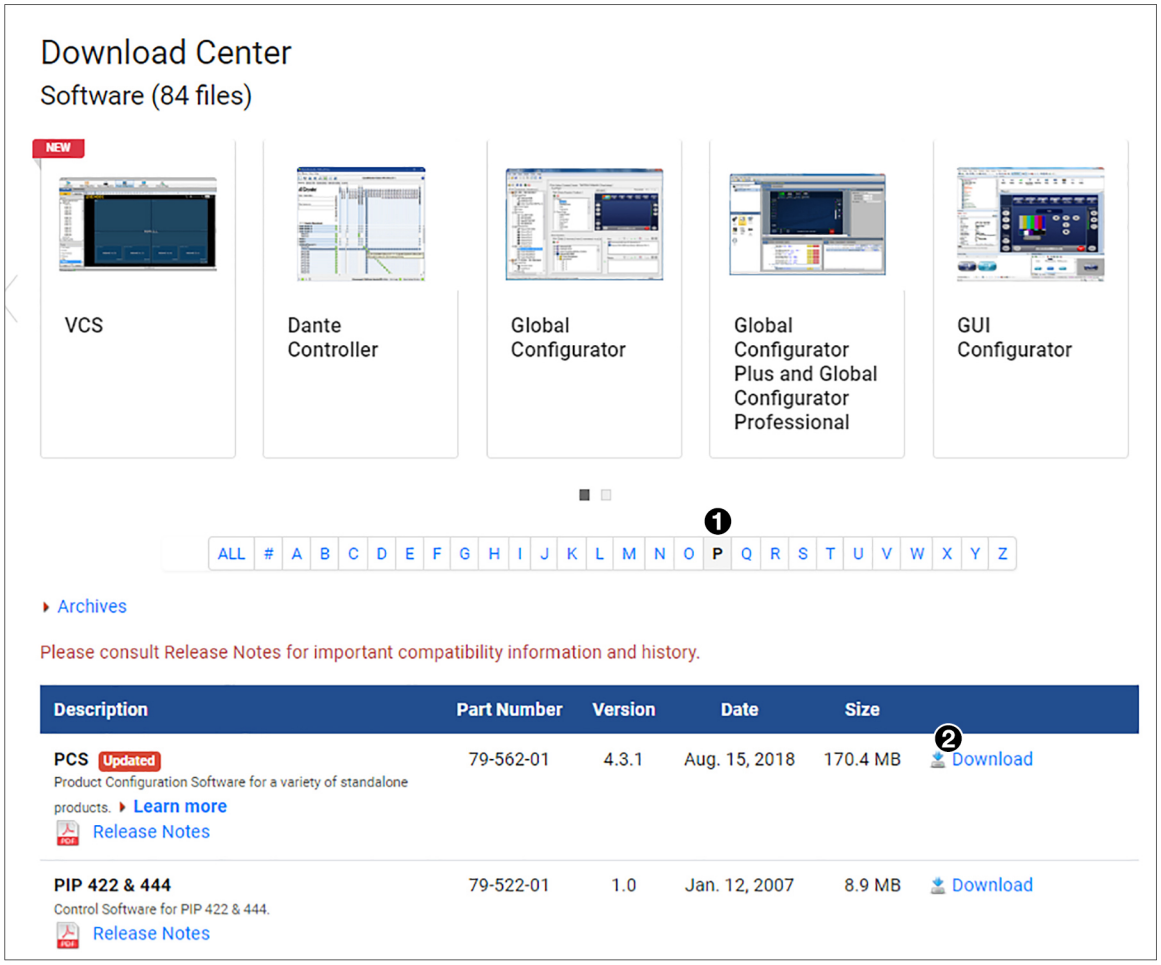


Figure 14. PCS Download Link

3. On the `Download Center Software` page, click the **P** link (see figure 14, ❶).
4. If necessary, scroll to locate PCS from the list of available software programs and click the **`Download`** link to the right of the name (❷).
5. On the login page that appears next, fill in the required information to log in to **www.extron.com** (if you need an ID number, see your Extron representative).
6. Follow the instructions on the subsequent screens to complete the software program installation. By default, the configuration program files are stored on your computer at: `C:\Program Files (x86) \ Extron \ Extron PCS`.

   If there is not already an Extron folder in your `Program Files (x86)` folder, the installation program creates it as well.

PCS Product Page

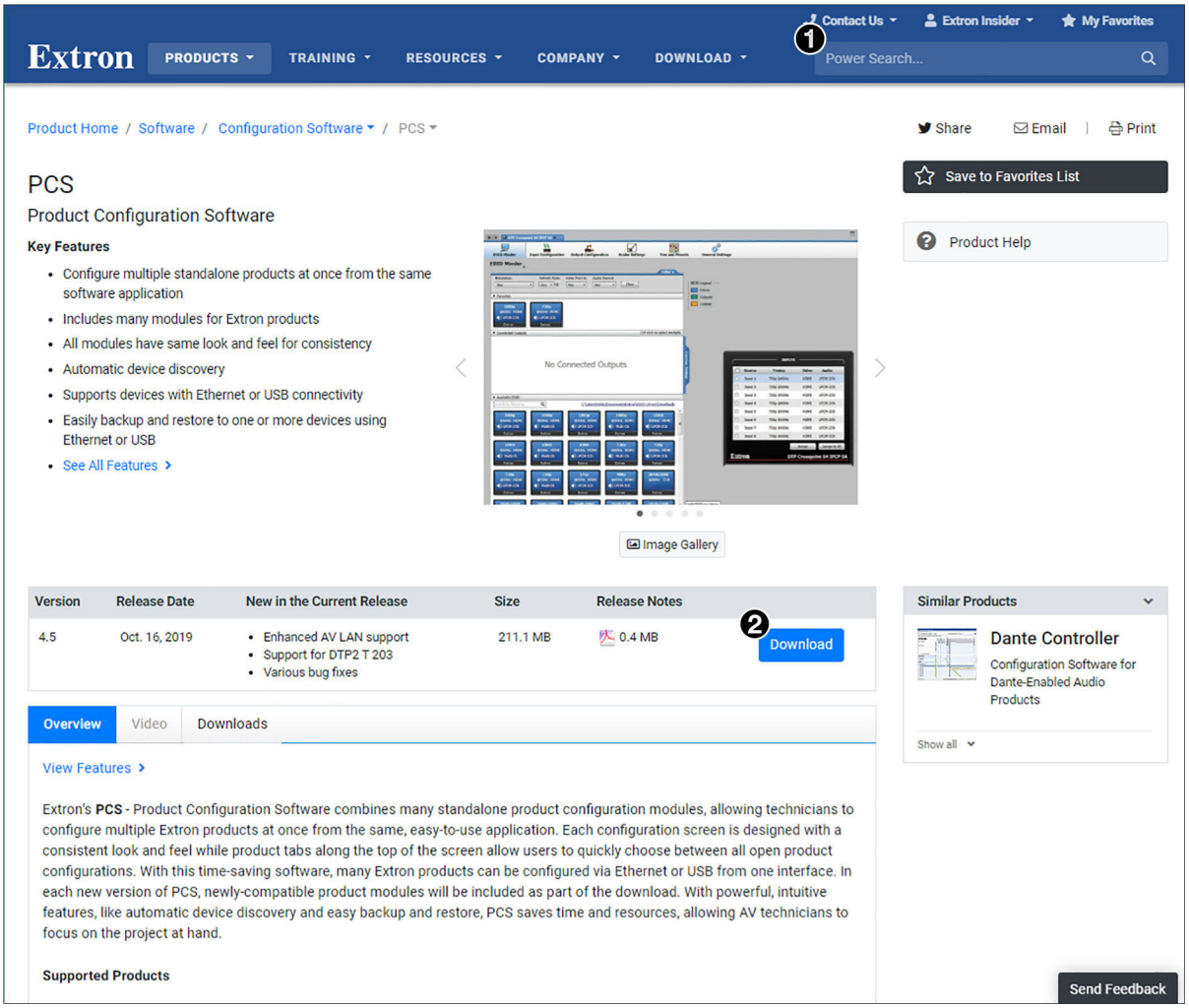


Figure 15. PCS Product Page

1. In the **Power Search** field (see figure 15, ❶), type **PCS**. A drop-down menu of selected search results appears under the field.
2. Press <**Enter**> on the keyboard or select **PCS** from the drop-down menu.
3. Click the **Download** button (❷).
4. Submit any required information to start the download. Note where the file is saved.
5. Open the executable (.exe) file from the save location.
6. Follow the instructions that appear on the screen. By default, the installation creates a directory in the **Program Files** or **Program (x86)** folder.

Using the Product Configuration Software

Starting PCS

Start the Extron Product Configuration Software as follows:

1. Click **Start** > **Programs** > **Extron Electronics** > **Extron Product Configuration Software** > **Extron Product Configuration Software**. The Product Configuration Software opens to the **Device Discovery** window (see figure 16).

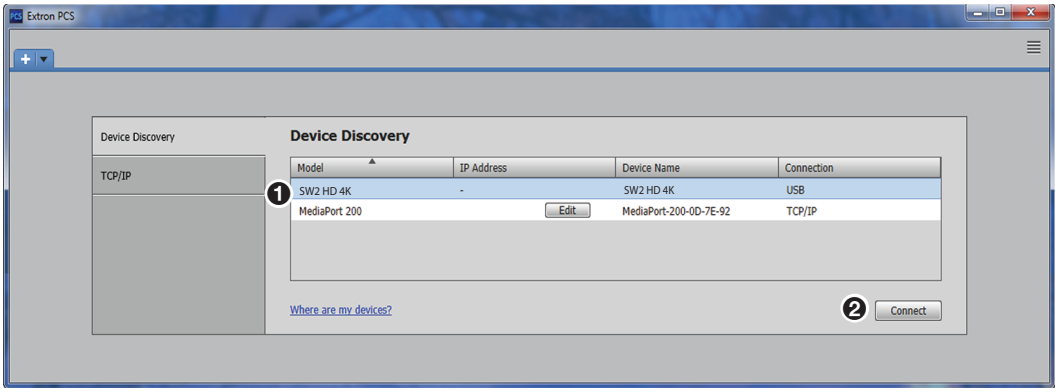


Figure 16. Device Discovery Window

2. Select a device (one of the switchers in the SW HD 4K Series) or the USB port (❶).
3. Click **Connect** (❷). The Product Configuration Software opens to the **Input/Output Configuration** window (see figure 17).

Input/Output Configuration Screen

The **Input/Output Configuration** screen allows you to configure the input and output features of the switcher.

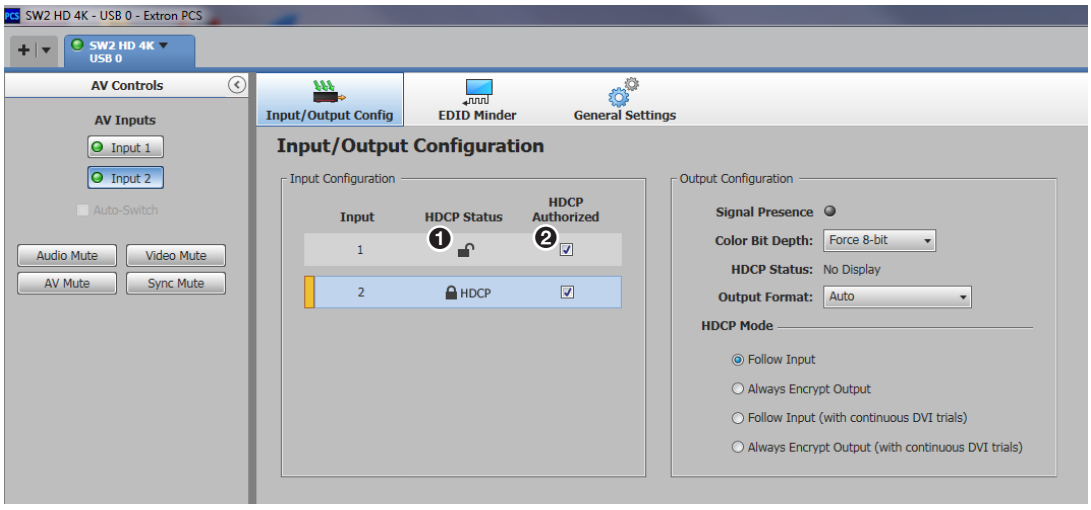


Figure 17. Input/Output Configuration Window

Input Configuration panel

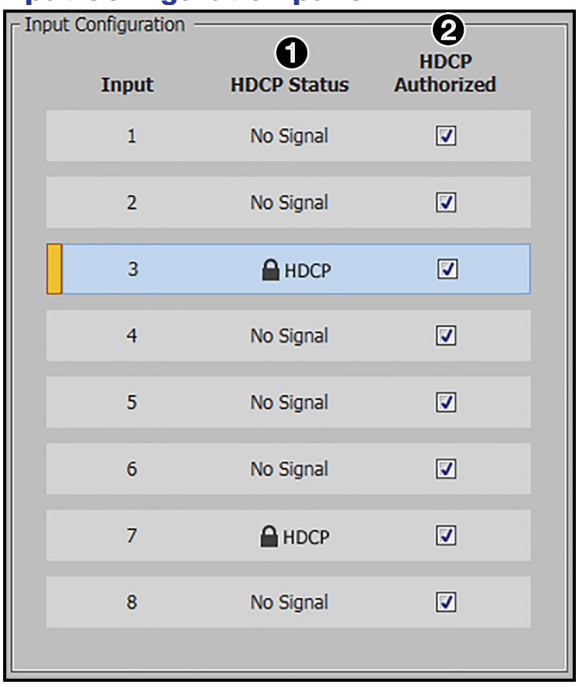


Figure 18. Input Configuration Panel

❶ **HDCP Status** — If no signal is detected, then the words No Signal are displayed. If signal is detected:

- HDCP — Indicates that a signal is detected and has copyright encryption applied.
- — Indicates that a signal is detected but is not copyright protected.

❷ **HDCP Authorized checkbox** — Select this checkbox to allow the unit to appear HDCP compliant to the connected source (default). turn HDCP authorization on (default) or off. When this checkbox is cleared, HDCP authorization is disabled, and the output displays a green screen if HDCP-encrypted data is sent.

Output Configuration

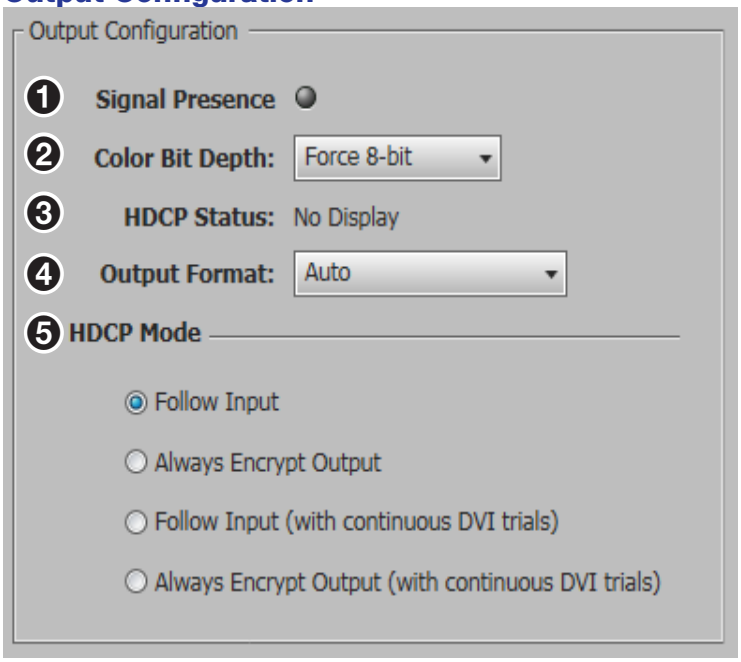


Figure 19. Output Configuration Panel

❶ **Signal Presence indicator light** — Shows green when active HDMI signal is present.

❷ **Color Bit Depth** — Select the color bit depth from the drop-down menu, either **`Auto`** (default) or **`Force 8-bit`**.

❸ **HDCP Status** — Indicates whether the display connected to the output is HDCP compliant.

❹ **Output Format** — Select the HDMI output format from the drop-down menu. The choices are:

- **`Auto`** — (based on the sink EDID, default)
- **`DVI RGB 444`**
- **`HDMI RGB 444 Full`**
- **`HDMI RGB 444 Limited`**
- **`HDMI YUV 444 Limited`**
- **`HDMI YUV 422 Limited`**

❺ **HDCP Mode** — Select the radio button to set the switcher to either follow the current input, or to always encrypt the output. Choices are:

- **`Follow Input`** — Encrypts the output only when required by the selected input source (default).
- **`Always Encrypt Output`** — Always authenticates and encrypts the output, regardless of the HDCP status of the input source.
- **`Follow Input (with continuous DVI trials)`** — Always authenticates the output but encrypts the output only when required by the input source. Use this setting when DVI sink devices initially pass HDCP encrypted content, but intermittently display a green HDCP notification screen after a power cycle or when resuming from sleep mode.
- **`Always Encrypt Output (with continuous DVI trials)`** — Always authenticates and encrypts.

EDID Minder Menu

EDID Minder is an EDID management tool that manages the EDID information (resolution and refresh rate) between the switcher and one or more HDMI input and output sources. Click the **EDID Minder** configuration tab (see figure 20, ❶) on the global navigation bar to open the EDID Minder menu. EDID can be set to match output rate, a custom user-defined EDID, or a factory setting (see **EDID Table** on page 23 for EDID data).

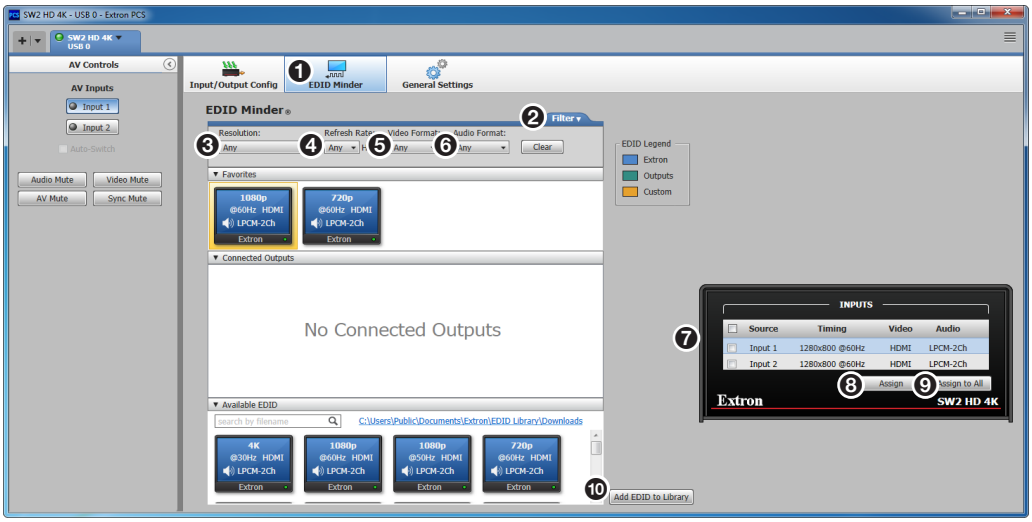


Figure 20. EDID Minder Menu Window

Filtering Available EDID

Use the Filter tab (❷) to limit the number of available EDID displayed in the Favorites, Connected Outputs, and Available EDID panels.

1. From the Resolution drop-down menu (❸) select a specific resolution or **Any**.
2. From the Refresh Rate drop-down menu (❹) select a specific refresh rate or **Any**.
3. From the Video Format drop-down menu (❺) select **HDMI** or **Any**.
4. From the Audio Format drop-down menu (❻) select **LPCM-2Ch**, **None**, or **Any**.

Assigning EDID

To assign EDID to selected inputs:

1. From the Inputs panel (❼), select the checkboxes for the desired inputs.
2. From the Favorites, Available EDID, or Connected Outputs panel on the left, select the desired EDID.
3. Either:
   - Click the **Assign** button (❽) to assign EDID to one or more selected inputs, **or**
   - Drag and drop the EDID icon from the Favorites, Available EDID, or Connected Outputs panels (❶) to one or more selected inputs.

To assign EDID to all inputs:

1. From the Favorites, Available EDID, or Connected Outputs panels (❶), select an EDID.
2. From the Inputs panel, click the **Assign to All** button (❾).

NOTE: Unchecked inputs are ignored when assigning an EDID to all inputs

Adding EDID to the EDID Library

1. Click the **Add EDID to Library** button (see **figure 20**, ⑩, on the previous page). The Browse Add EDID to Library window opens (see figure 21).

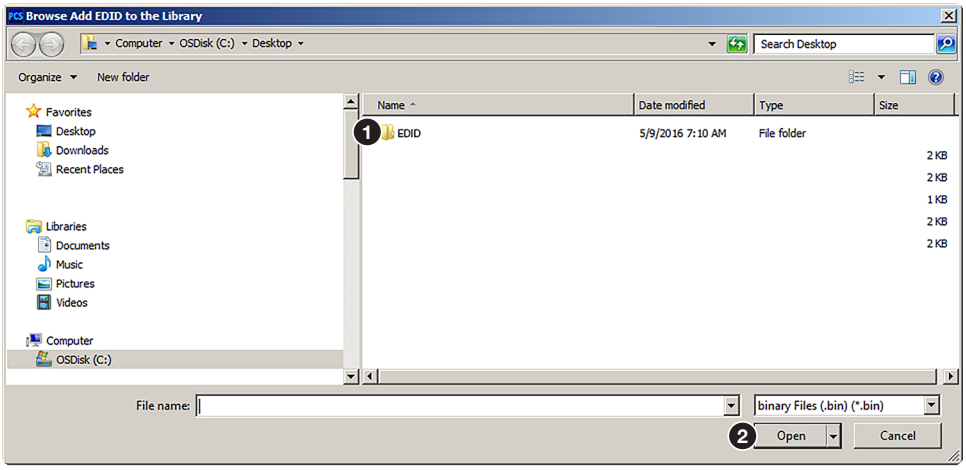


Figure 21. Add EDID to Library Window

2. Navigate to the desired EDID file location and select it.

NOTE: Valid EDID files have a .bin extension.

3. Click the **Open** button. The EDID is added to the **Available EDID** panel.

General Settings Menu

This menu is used to view the **Hardware Settings** (see figure 22, ❶) and enable **Front Panel Lockout** (❷).

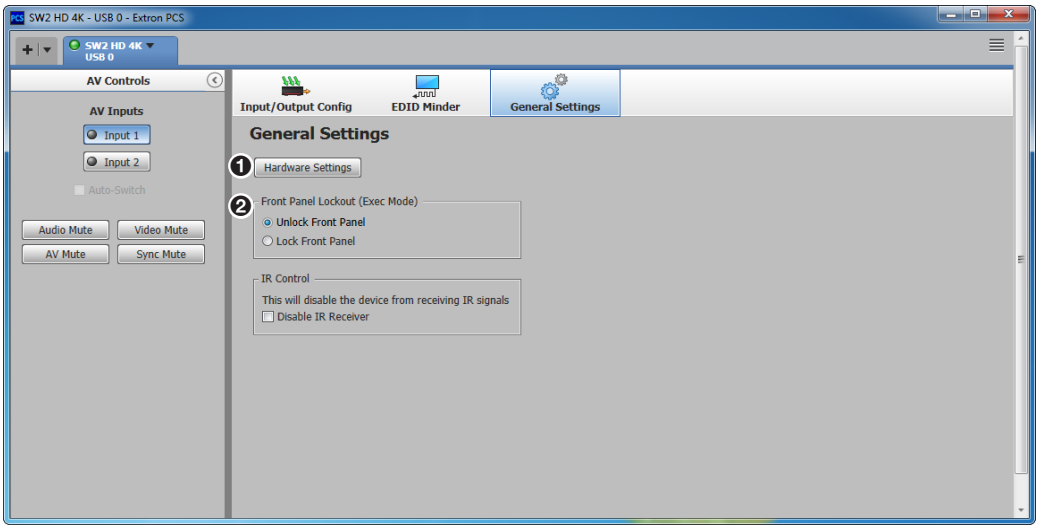
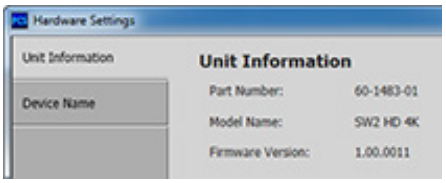


Figure 22. General Settings Window

1. Click the **Hardware Settings** button (see figure 22, ❶, on the previous page) to view the Unit information screen (see the figure on the right), which includes:



   - Part Number
   - Model Name
   - Firmware version

2. Click the **Front Panel Lockout (Exec Mode)** radio button as desired (❷).
   - Unlock the front panel.
   - Lock the front panel.

AV Controls Panel

The AV Controls panel is available on all three of the PCS configuration pages for the SW2 HD 4K (see the image below right). It can be used to switch inputs, view active inputs, select Auto-Switch, and mute or unmute video and audio signals.

NOTE: This panel can be hidden or revealed on any page by clicking on the arrow button (❸ in the image below, right) on the top right of the panel.

1. Click an **AV Inputs** button to select the input (❶ in the illustration at right).
2. Click the following buttons to mute audio, video or sync: (❷)
   - Click the **Audio Mute** button to globally mute only the audio. The button turns red.
   - Click the **Video Mute** button to mute only the video signal. The button turns red.
   - Click the **AV Mute** button to mute both video and audio simultaneously. The button turns red, along with the **Video Mute** and **Audio Mute** buttons.
   - Click the **Sync Mute** button to mute video and sync. The button turns red.
3. Click the appropriate button to unmute any signal. The button reverts to the default color, indicating the signal has been unmuted.



Menus

Device Menu

The **Device** menu (see the image at right) allows you to:

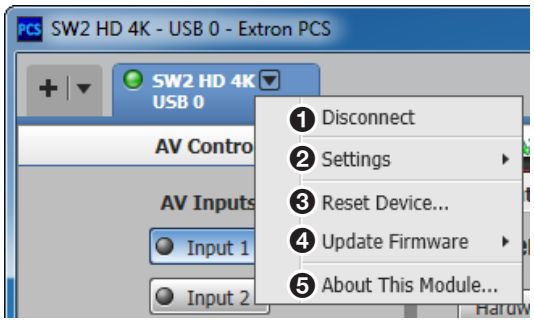
❶ **Disconnect** the device from PCS.

❷ View the hardware **Settings**.

❸ **Reset Device** to factory default.

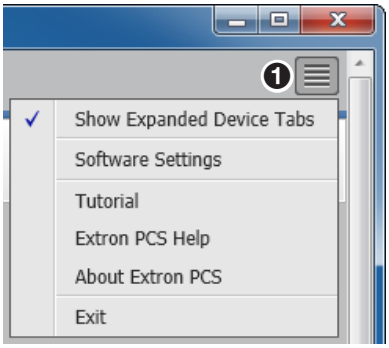
❹ **Update Firmware**.

❺ View information **About This Module**.



PCS Help file

For assistance, the *Extron PCS Help* contains complete information about using the PCS program to configure the SW2 HD 4K. To access the *Extron PCS Help*, click the button in the upper-right corner of the PCS program screen (see the image at right, ❶).



Reference Information

Mounting the SW HD 4K Switchers

The SW HD 4K switchers can be set on a table, mounted on a rack shelf, or mounted under a desk, podium, or table.

ATTENTION:

- Installation and service must be performed by authorized personnel only.
- L'installation et l'entretien doivent être effectués par le personnel autorisé uniquement.

Tabletop Use

Four self-adhesive rubber feet are included with the SW HD 4K units. For tabletop use, attach one foot at each corner on the bottom of the unit, and place the switcher where desired.

Rack Mounting

The SW2 and SW4 HD 4K switchers can be mounted on a 9.5-inch, 6-inch, or 3.5-inch deep rack shelf. They can also be mounted vertically to the front or back rack support. The SW6 and SW8 HD 4K models can be mounted directly to the rack using the provided mounting brackets. For mounting procedures, see the instructions provided with the mounting option.

UL rack mounting guidelines

The following Underwriters Laboratories (UL) guidelines pertain to the safe installation of the equipment in a rack.

1. **Elevated operating ambient temperature** — If the equipment is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, install the equipment in an environment compatible with the maximum ambient temperature (TMA = +122 °F, +50 °C) specified by Extron.
2. **Reduced air flow** — Install the equipment in a rack so that the amount of air flow required for safe operation of the equipment is not compromised.
3. **Mechanical loading** — When mounting the equipment in the rack, ensure that uneven mechanical loading does not cause a hazardous condition.
4. **Circuit overloading** — When connecting the equipment to the supply circuit, consider the effect that circuit overloading might have on overcurrent protection and supply wiring. Consider equipment nameplate ratings when addressing this concern.
5. **Reliable earthing (grounding)** — Maintain reliable grounding of rack-mounted equipment. Pay particular attention to supply connections other than direct connections to the branch circuit (for example, use of power strips).

Furniture Mounting — SW2 and SW4 HD 4K Only

The SW2 and SW4 HD 4K switchers can be mounted under a desk, table, or podium using an under-desk mounting kit (see **www.extron.com** for recommended kits and follow the mounting instructions provided with the kit).

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:

USA, Canada, South America, and Central America:
Extron Electronics
1230 South Lewis Street
Anaheim, CA 92805
U.S.A.

Asia:
Extron Asia Pte Ltd
135 Joo Seng Road, #04-01
PM Industrial Bldg.
Singapore 368363
Singapore

Japan:
Extron Electronics, Japan
Kyodo Building, 16 Ichibancho
Chiyoda-ku, Tokyo 102-0082
Japan

Europe:
Extron Europe
Hanzeboulevard 10
3825 PH Amersfoort
The Netherlands

China:
Extron China
686 Ronghua Road
Songjiang District
Shanghai 201611
China

Middle East:
Extron Middle East
Dubai Airport Free Zone
F13, PO Box 293666
United Arab Emirates, Dubai

Africa:
Extron South Africa
3rd Floor, South Tower
160 Jan Smuts Avenue
Rosebank 2196, South Africa

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 if modifications were 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.

USA:	714.491.1500 or 800.633.9876	**Asia**:	65.6383.4400
Europe:	31.33.453.4040 or 800.3987.6673	**Japan**:	81.3.3511.7655
Africa:	27.11.447.6162	**Middle East**:	971.4.299.1800

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.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.