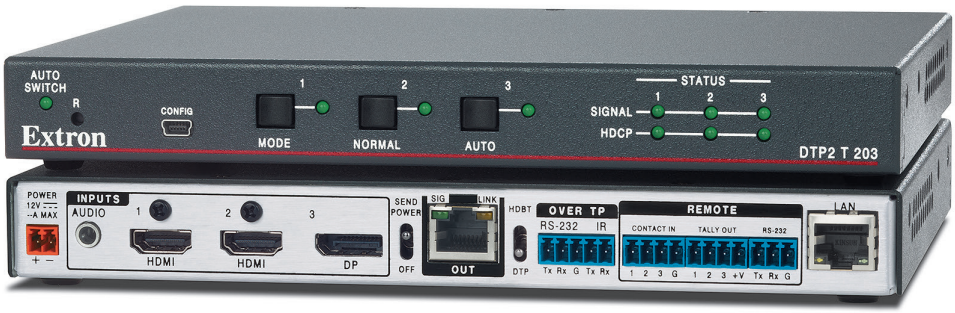
Extron

DTP2 T 203

Three-input, Multi-format Switching Transmitter



User Guide
DTP System

68-3117-01 Rev. F
05 25

Safety Instructions

Safety Instructions • English

WARNING: This symbol, ⚠, when used on the product, 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.

ATTENTION: This symbol, ⚠, when used on the product, is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

For information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the Extron Safety and Regulatory Compliance Guide, part number 68-290-01, on the Extron website, **www.extron.com**.

تعليمات السلامة • العربية

تحذير: ⚠ هذا الرمز، ⚠، عند استخدامه على المنتج، مخصص لتنبيه المستخدم فيما يتعلق بوجود جهد كهربائي غير معزول على الغلاف الخارجي للمنتج وهو ما قد ينطوي على مخاطر حدوث صدمة كهربائية.

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Sicherheitsanweisungen • Deutsch

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

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Instrucciones de seguridad • Español

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ATENCIÓN: Este símbolo, ⚠, cuando se utiliza en el producto, avisa al usuario de la presencia de importantes instrucciones de uso y mantenimiento estas estan incluidas en la documentación proporcionada con el equipo.

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ATTENTION : Ce pictogramme, ⚠, lorsqu'il est utilisé sur le produit, signale à l'utilisateur des instructions d'utilisation ou de maintenance importantes qui se trouvent dans la documentation fournie avec l'équipement.

Pour en savoir plus sur les règles de sécurité, la conformité à la réglementation, la compatibilité EMI/EMF, l'accessibilité, et autres sujets connexes, lisez les informations de sécurité et de conformité Extron, réf. 68-290-01, sur le site Extron, **www.extron.com**.

Istruzioni di sicurezza • Italiano

AVVERTENZA: Il simbolo, ⚠, se usato sul prodotto, serve ad avvertire l'utente della presenza di tensione non isolata pericolosa all'interno del contenitore del prodotto che può costituire un rischio di scosse elettriche.

ATTENTZIONE: Il simbolo, ⚠, se usato sul prodotto, serve ad avvertire l'utente della presenza di importanti istruzioni di funzionamento e manutenzione nella documentazione fornita con l'apparecchio.

Per informazioni su parametri di sicurezza, conformità alle normative, compatibilità EMI/EMF, accessibilità e argomenti simili, fare riferimento alla Guida alla conformità normativa e di sicurezza di Extron, cod. articolo 68-290-01, sul sito web di Extron, **www.extron.com**.

Instrukcje bezpieczeństwa • Polska

OSTRZEŻENIE: Ten symbol, ⚠, gdy używany na produkt, ma na celu poinformować użytkownika o obecności izolowanego i niebezpiecznego napięcia wewnątrz obudowy produktu, który może stanowić zagrożenie porażenia prądem elektrycznym.

UWAGI: Ten symbol, ⚠, gdy używany na produkt, jest przeznaczony do ostrzegania użytkownika ważne operacyjne oraz instrukcje konserwacji (obsługi) w literaturze, wyposażone w sprzęt.

Informacji na temat wytycznych w sprawie bezpieczeństwa, regulacji wzajemnej zgodności, zgodność EMI/EMF, dostępności i Tematy pokrewne, zobacz Extron bezpieczeństwa i regulacyjnego zgodności przewodnik, część numer 68-290-01, na stronie internetowej Extron, **www.extron.com**.

Инструкция по технике безопасности • Русский

ПРЕДУПРЕЖДЕНИЕ: Данный символ, ⚠, если указан на продукте, предупреждает пользователя о наличии неизолированного опасного напряжения внутри корпуса продукта, которое может привести к поражению электрическим током.

ВНИМАНИЕ: Данный символ, ⚠, если указан на продукте, предупреждает пользователя о наличии важных инструкций по эксплуатации и обслуживанию в руководстве, прилагаемом к данному оборудованию.

Для получения информации о правилах техники безопасности, соблюдении нормативных требований, электромагнитной совместимости (ЭМП/ЭДС), возможности доступа и других вопросах см. руководство по безопасности и соблюдению нормативных требований Extron на сайте Extron: , **www.extron.com**, номер по каталогу - 68-290-01.

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注意: 产品上的这个标志意在提示用户，设备随附的用户手册中有重要的操作和维护(维修)说明。

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安全上のご注意 • 日本語

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안전 지침 • 한국어

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안전 가이드라인, 규제 준수, EMI/EMF 호환성, 접근성, 그리고 관련 항목에 대한 자세한 내용은 Extron 웹 사이트(**www.extron.com**)의 Extron 안전 및 규제 준수 안내서, 68-290-01 조항을 참조하십시오.

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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. 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.

ATTENTION:

- The Twisted Pair Extension technology works with unshielded twisted pair (UTP) or shielded twisted pair (STP) cables; **but to ensure FCC Class A and CE compliance, STP cables and STP Connectors are required**.
- La technologie extension paires torsadées fonctionne avec les câbles paires torsadées blindées (UTP) ou non blindées (STP). Afin de s'assurer de la compatibilité entre FCC Classe A et CE, les câbles STP et les connecteurs STP sont nécessaires.

NOTES:

- This unit was tested with shielded I/O cables on the peripheral devices. Shielded cables must be used to ensure compliance with FCC emissions limits.
- For more information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the **Extron Safety and Regulatory Compliance Guide** on the Extron website.

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.

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

Software Commands

Commands are written in the fonts shown here:

```
^AR Merge Scene,,0p1 scene 1,1 ^B 51 ^W^C.0
[01] R 0004 00300 00400 00800 00600 [02] 35 [17] [03]
```

Esc X1 *X17* X20* X23* X21 CE←

NOTE: For commands and examples of computer or device responses mentioned in this guide, the character "0" is used for the number zero and "O" is the capital letter "o."

Computer responses and directory paths that do not have variables are written in the font shown here:

```
Reply from 208.132.180.48: bytes=32 times=2ms TTL=32
C:\Program Files\Extron
```

Variables are written in slanted form as shown here:

```
ping xxx.xxx.xxx.xxx –t
SOH R Data STX Command ETB ETX
```

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, **https://www.extron.com**.

Extron Glossary of Terms

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

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Introduction

This section gives an overview of the DTP2 T 203 and its features. Topics include:

- **About this Guide**
- **Product Description**
- **Features**
- **Application Diagram**

About this Guide

This user guide contains installation, configuration, and operating information for the DTP2 T 203.

NOTE: Throughout this guide, the general terms “switcher,” “transmitter,” and “switching transmitter” are used interchangeably to refer to the DTP2 T 203.

Product Description

The DTP2 T 203 is a three-input, multi-format DTP2 switching transmitter consisting of one DisplayPort input and two HDMI inputs, one analog audio input, and a DTP/HDBT output. It switches and extends digital video with resolutions up to 4K @ 60 Hz 4:4:4, analog audio, bi-directional RS-232 and IR over one shielded twisted pair (STP) cable capable of switching and extending a DTP/HDBT signal up to 330 feet (100 meters).

It is an HDCP compliant switcher, which supports video resolutions up to 4K @ 60 Hz, including Deep Color, as well as data rates up to 18 Gbps, 3D, Lip Sync, HDCP 2.3, HDBT compatibility, and HD lossless audio formats. The device also features EDID Minder for managing EDID, and Key Minder for managing HDCP to DTP, DTP2, and HDBase-T (HDBT) receivers.

The switcher features can be integrated into many applications that use a DTP-equipped receiver or HDBT-capable products. The switcher can be remotely powered over the shielded twisted pair cable by a DTP2-enabled product. Alternatively, it can be configured to provide power to a connected DTP2 receiver, allowing both devices to share one power supply.

The DTP2 T 203 switcher can be controlled via the front panel, the RS-232 interface, USB, or LAN. Inputs can be selected by pressing the front panel buttons, enabling auto-input switching, entering Simple Instruction Set (SIS) commands, or using Extron Product Configuration Software (PCS) via LAN or USB.

An internal web page provides system status and some device configuration using a standard browser.

Features

- **Transmits DisplayPort, HDMI, control, and analog audio up to 330 feet (100 meters) over a shielded CATx cable** — The DTP2 T 203 provides high reliability and maximum performance on an economical and easily installed cable infrastructure.
- **Inputs: one DisplayPort, two HDMI, and one 3.5 mm stereo mini jack for audio**
- **Output: one DTP2 twisted pair output on RJ-45**
- **Supports computer and video resolutions up to 4K/60 @ 4:4:4** — Support of 4K/60 at 4:4:4 chroma sampling requires connection to a matching DTP2 product.
- **Auto-switching between inputs** — Auto-switching allows for intuitive operation in collaboration spaces. Multiple switching priority modes are available, including last-connected input and user-selectable priority.

- **Analog stereo audio embedding** — Analog stereo audio signals can be selectively embedded onto the digital video output signal and transported over DTP. The DisplayPort and HDMI inputs can be set to pass the embedded digital audio or the DTP2 T 203 can automatically embed the analog audio onto the HDMI or DisplayPort signal.
- **Supports DisplayPort SST - Single Stream Transport data rates up to 21.6 Gbps.**
- **Supported HDMI 2.0b specification features include data rates up to 18 Gbps, HDR, Deep Color up to 12-bit, 3D, and HD lossless audio formats.**
- **Support for HDR – High Dynamic Range video** — Enables greater contrast range and wider color gamut by providing the necessary video bandwidth, color depth, and metadata interchange capability for HDR video.
- **HDCP 2.3 compliant** — Ensures display of content-protected 4K video media and interoperability with other HDCP-compliant devices.
- **Remote power capability with DTP2 products** — For simplified installation, the DTP2 T 203 can be remotely powered by a DTP2-enabled product over the twisted pair connection. It can also be configured to provide power to the connected DTP2 receiver product.
- **Ethernet monitoring and control** — Enables control and proactive monitoring over a LAN, WAN, or the Internet.
- **Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.**
- **Compatible with CATx shielded twisted pair cable** — The DTP2 T 203 fully supports a maximum transmission distance of 330 feet (100 meters) for all compatible resolutions when used with CATx shielded twisted pair cable. Shielded twisted pair cabling with solid center conductor sizes of 24 AWG or better is recommended for optimal performance.
- **DTP2 output is compatible with HDBaseT-enabled devices** — The DTP2 output can be configured to send video and embedded audio, plus bidirectional RS-232 and IR signals, to an HDBaseT-enabled display.
- **Accepts additional analog stereo audio signals** — The DTP2 T 203 accepts stereo analog audio signals for simultaneous transmission over the same shielded twisted pair cable.
- **Audio input assignment** — The analog audio input can be assigned to any video input, or it can be set to follow the input switch.
- **Bidirectional RS-232 and IR pass-through for AV device control** — Bidirectional RS-232 control and IR signals can be transmitted alongside the video signal, allowing remote AV devices to be controlled without the need for additional cabling.
- **RS-232 insertion from the Ethernet control port** — Saves system resources and simplifies installation by enabling a control processor to access remote RS-232 devices over Ethernet.
- **CEC insertion** — A control processor can insert CEC commands via SIS, to control devices connected at the HDMI output.
- **Supports multiple embedded audio formats** — The DTP2 T 203 is compatible with a broad range of multi-channel audio signals, providing reliable operation with HDMI sources.
- **Compatible with all DTP receivers and DTP-enabled products** — Enables mixing and matching with desktop and wallplate receivers, as well as other DTP-enabled products to meet application requirements. Support for remote power requires connection to a DTP2-enabled product.
- **User-selectable HDCP authorization** — Allows the unit 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.
- **Comprehensive EDID management** — Use PCS software to access EDID Minder for setting video input EDID, capturing EDID from connected displays, or uploading custom EDID files. Proper EDID management ensures that sources and displays are easily integrated into a system resulting in optimized system operation. Free downloadable EDID Manager 2.0 software is available for advanced EDID editing and creating custom EDID files.
- **EDID Minder automatically manages EDID communication between connected devices** — EDID Minder ensures that the source powers up properly and reliably outputs content for display.

- **HDCP authentication and signal presence confirmation —** Provides real-time verification of HDCP status for each digital video input and output. This allows for simple, quick, and easy signal and HDCP verification through front panel LEDs, RS-232, USB, or Ethernet, providing valuable feedback to a system operator or helpdesk support staff.
- **HDCP Visual Confirmation** — When HDCP-encrypted content is transmitted to a non-HDCP compliant display, a full-screen green signal is sent to the display for immediate visual confirmation that protected content cannot be viewed on that display.
- **HDMI to DVI Interface Format Correction** — Automatically enables or disables embedded audio and InfoFrames, and sets the correct color space for proper connection to HDMI and DVI displays.
- **Automatic color bit depth management** — The DTP2 T 203 automatically adjusts color bit depth based on the display EDID, preventing color compatibility conflicts between source and displays.
- **Output muting control** — Provides the capability to mute the HDMI and/or analog audio output at any time.
- **Front panel security lockout** — This feature locks out all front panel functions; all functions however, are available through LAN, USB, or RS-232 control.
- **Built-in web page** — Enables the use of a standard browser for device monitoring and some configuration over an intuitive web interface.
- **RS-232 control port** — Enables the use of serial commands for integration into a control system. Extron products use the SIS - Simple Instruction Set command protocol, a set of basic ASCII commands that allow for quick and easy programming.
- **Contact closure remote control with tally output** — Allows for remote selection of an input channel, while a tally output provides +5 VDC to light an LED to indicate the currently selected input.
- **Compatible with TeamWork Show Me Cables** — Show Me cables provide convenient connectivity and user input selection and control for TeamWork Collaboration Systems.
- **Front panel USB configuration port** — Enables easy configuration without having to access the rear panel.
- **LED indicators for signal presence, HDCP, power, and link status** — Provides visual indication of system status for real-time feedback and monitoring of key performance parameters.
- **RJ-45 signal and link LED indicators for DTP port** — Provide a means for validating signal flow and operation, allowing quick identification of connectivity issues.
- **Easy setup and commissioning with the Extron Product Configuration Software (PCS)** — Conveniently configure multiple products using a single software application.
- **Includes LockIt HDMI cable lacing brackets** — LockIt lacing brackets are used to secure HDMI cables connected to the HDMI input and output connectors, preventing accidental disconnection of the cables.
- **External Extron Everlast power supply included** — Provides worldwide power compatibility with high-demonstrated reliability and low-power consumption.
- **Extron Everlast power supply is covered by a 7-year parts and labor warranty.**

Application Diagram

Figure 1 shows a typical application for a DTP2 T 203.

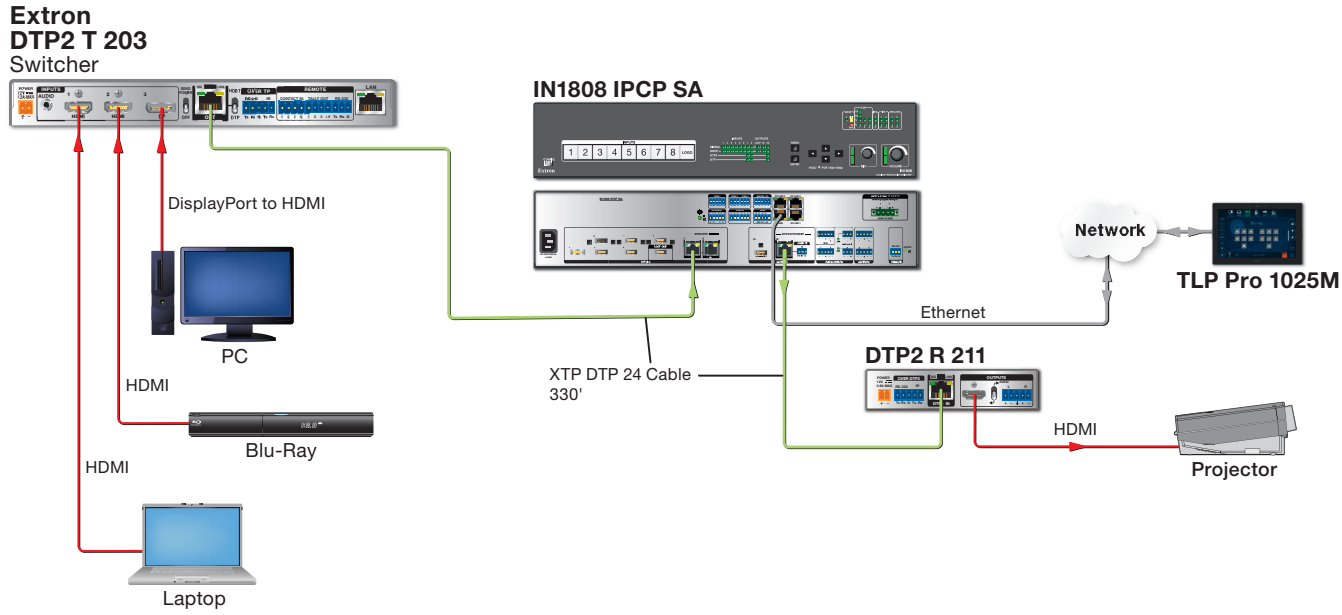


Figure 1. Typical Application of DTP2 T 203

Installation

This section details the installation of the DTP2 T 203. Topics include:

- **Installation Overview**
- **Rear Panel Features**
- **Connection Details**

Installation Overview

To install and setup the transmitter for operation:

1. **Turn off all equipment** and disconnect from the power source.
2. **If desired, mount the transmitter** (see **Equipment Mounting** on page 61).
3. **Connect an HDMI or DisplayPort (DP) source** to the HDMI and DP inputs (see **figure 2**, C on page 6.

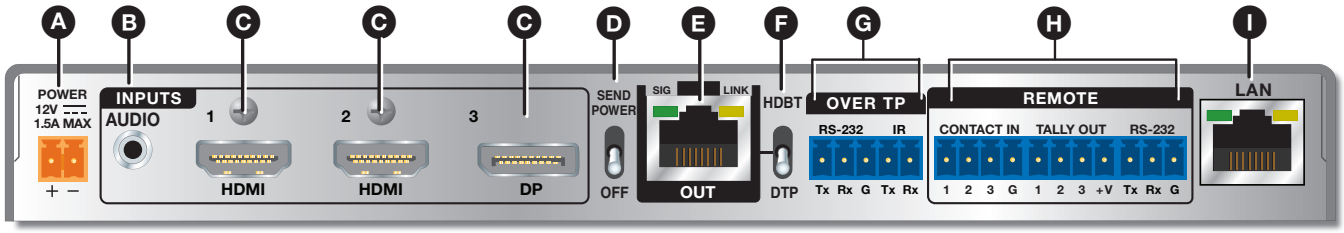
   NOTE: LockIt Lacing Brackets are provided to secure the HDMI cables to the rear panel ports to reduce stress on the HDMI connectors and prevent signal loss due to loose cable connections (see **LockIt Lacing Bracket Installation** on page 14 for details).

4. **Set the DTP/HDBT toggle switch** (D) **and the Send Power toggle switch** (F).
   - If the receiving device is in the Extron DTP2 series, set the **DTP/HDBT** toggle switch to the DTP position and the **SEND POWER** toggle switch to the SEND POWER position.
   - If the receiving device is in the Extron Legacy DTP series, set the **DTP/HDBT** toggle switch to the DTP position, and the **SEND POWER** toggle switch to the OFF position.
   - If the receiving device is HDBaseT enabled, set the **DTP/HDBT** toggle switch to the HDBT position, and the **SEND POWER** toggle switch to the OFF position.

   ATTENTION:
   - Position these switches **BEFORE** connecting the appropriate device to the TP connector. Failure to comply can damage the endpoint.
   - Positionnez les sélecteur **AVANT** de connecter l'appareil approprié au connecteur TP. Ne pas respecter cette procédure pourrait endommager le point de connexion.

5. **Connect a DTP or HDBT receiving device** to the output (E).
6. **Connect Over TP RS-232 and IR control.** Connect a serial RS-232 signal, a modulated IR signal, or both into this 3.5 mm, 5-pole captive screw port (G) for IR and bidirectional RS-232 communication.
7. **Connect a host device,** such as a computer or control system, to one of the following ports to configure and control the switcher via SIS or Product Configuration Software (PCS):
   - **LAN** — Insert an RJ45 cable to this port for Ethernet connectivity (see **figure 2**, I).
   - **Remote RS-232** — Insert a 3-pole captive screw connector to this port for remote control (H).
   - **Config port** — Insert a USB mini-B connector to this port for USB control (see **figure 10**, C on page 15).
8. **If desired, connect a contact closure source device** to the CONACT IN port (see **figure 2**, H). This enables input switching via contact closure.
9. **Connect power to the switcher** (A).
10. **Power on the output devices** connected to the switcher.
11. **If desired, configure the EDID**.
12. **Power on the source devices.**

Rear Panel Features



- **A** **Power inlet**
- **B** **Analog audio input**
- **C** **HDMI and DisplayPort inputs**
- **D** **Send Power toggle switch**
- **E** **DTP/HDBaseT output**
- **F** **DTP/HDBaseT toggle switch**
- **G** **Over TP RS-232 and IR ports**
- **H** **Remote Contact, Tally, and RS-232 ports**
- **I** **LAN port**

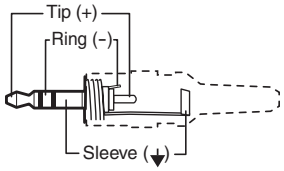
Figure 2. DTP2 T 203 Rear Panel

A **Power inlet** — Plug the provided external 12 VDC, 2 A power supply into this 2-pole, 3.5 mm captive screw inlet and into an AC power outlet (see **Power Supply Wiring** on page 9 for wiring details).

B **Analog audio input** — If desired, connect a stereo audio source to this stereo mini jack port. Analog audio can be embedded onto the digital video signal (see **Audio Configuration** on page 19 for more information).

NOTE: The analog audio input is in addition to the digital audio that may be embedded in the HDMI and DisplayPort inputs. The figure at right shows the connector tip, ring, and sleeve.

- A mono audio connector consists of the tip and sleeve.
- A stereo audio connector consists of the tip, ring, and sleeve.



3.5 mm Stereo Plug Connector
(balanced)

C **HDMI and DisplayPort inputs** — Connect HDMI or DisplayPort video sources to these ports (see **LockIt Lacing Bracket Installation** on page 14 to use the included lacing bracket).

D **Send Power toggle switch** — In a DTP2 transmitter to DTP2 receiver configuration, set the toggle switch to the up (`SEND POWER`) position on the powered DTP2 unit to enable sending remote power to the far end. Set the toggle switch to the down (`OFF`) position on the DTP2 unit receiving power.

ATTENTION:

- The DTP2 T 203 device is configured to output power to DTP2 models only. If connected to a non-DTP2 device, set the Send Power toggle switch to the down (`OFF`) position. Failure to turn the power off will damage the connected non-DTP2 device (see **figure 3** on page 7).
- Le DTP2 T 203 est configuré pour fournir une alimentation aux modèles DTP2 uniquement. S'il est connecté à un autre appareil, veuillez positionner l'interrupteur à bascule sur « down » (`OFF`). Si l'interrupteur n'est pas positionné sur off, vous risquez d'entraîner la défaillance de l'appareil non DTP2 connecté (voir **figure 3** on page 7).

NOTES:

- When the output is configured for DTP mode, remote power is available only if both the transmitter and the receiver are from the DTP2 series.
- When the output is configured for HDBT mode, remote power is not available and both the transmitter and receiver require their own 12 VDC power supply.

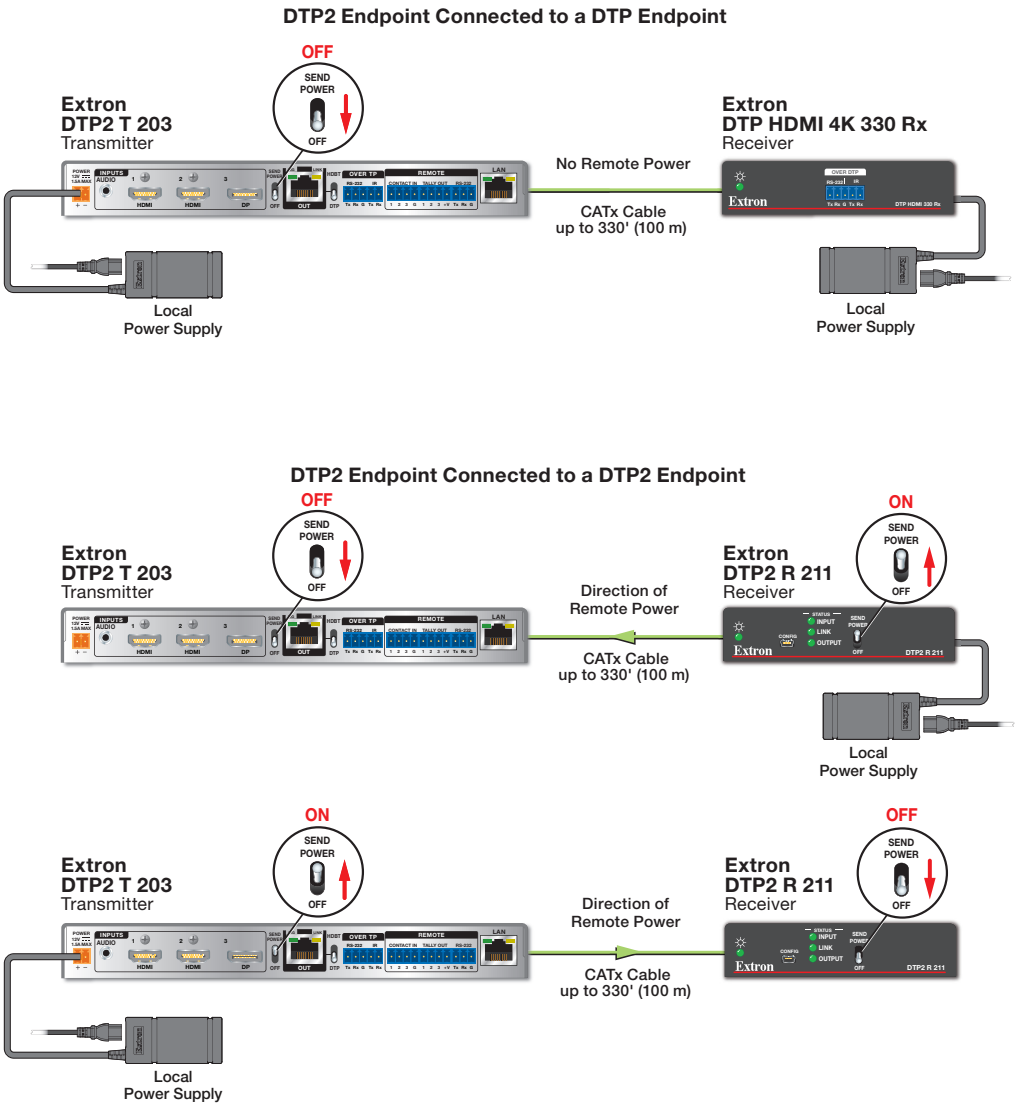


Figure 3. Send Power Toggle Switch Configuration

E **DTP/HDBaseT output** (see **figure 2** on page 6) — Plug one end of an STP cable into this RJ-45 female output on the switcher. Plug the opposite end of this cable into the DTP input on a compatible receiver (see **TP Cable Termination for DTP Communication** on page 10 for details on wiring the RJ-45 connector).

- **Signal LED** — Lights green when the unit is outputting a TMDS clock signal.
- **Link LED** — Lights amber to indicate a valid link is established between the units.

If the receiving device is in the Extron DTP series, set the **DTP/HDBT** toggle switch (**F**) to the DTP position. If the receiving device is an HDBaseT-enabled receiver type, set the switch to the HDBT position.

- **DTP mode** — By default, the output is configured for DTP mode. It supports remote powering of the DTP receiver, and transmits digital video and audio and bidirectional IR control. The DTP2 T 203 transmits signals up to 330 feet (100 meters) to any Extron device with a DTP output.
- **HDBaseT mode** — When the input is configured for HDBaseT mode, remote power is disabled. The DTP2 T 203 transmits digital video, IR control, and embedded digital audio up to 330 feet (100 meters) to any third party device with an HDBaseT output.

ATTENTION:

- Do not connect this device to a telecommunications or computer data network.
- Ne connectez pas cet appareil à un réseau de télécommunications ou de données informatiques

F **DTP/HDBaseT toggle switch** (see **figure 2** on page 6) — Set this switch to DTP or HDBT according to the receiving device connected to the switcher.

- If the receiving device is in the Extron DTP2 series or Legacy DTP series, set this switch to the DTP position. The output transmits HDMI digital video with embedded audio, analog audio, RS-232 and IR, and remote power up to 330 feet (100 meters) to any Extron device with a DTP 330 input, or 230 feet (70 meters to devices with a DTP 230 input.
  - **If the transmitter and receiver are from the Extron DTP2 series,** they can both be powered by one 12 VDC power supply connected to either unit.
  - **If the transmitter and receiver are not both from the Extron DTP2 series,** the transmitter and receiver each require its own 12 VDC power supply.
- **If the receiving device is HDBaseT enabled receiver,** set this switch to the HDBT position. The TP output transmits HDMI digital video with embedded audio along with RS-232 and IR control up to 330 feet (100 meters) to any device with an HDBaseT input. Both the transmitter and receiver each require its own 12 VDC power supply.

ATTENTION:

- Position this switch **BEFORE** connecting the appropriate device to the TP connector. Failure to comply can damage the endpoint.
- Positionnez le sélecteur **AVANT** de connecter l'appareil approprié au connecteur TP. Ne pas respecter cette procédure pourrait endommager le point de connexion.

G **Over TP RS-232 and IR ports** — If desired, connect a serial RS-232 signal, a modulated IR signal, or both into this 3.5 mm, 5-pole captive screw connector for bidirectional RS-232 and IR communication (see **Over TP RS-232 and IR Control Wiring** on page 12 for wiring details).

H **Remote ports**

- **Contact In** — If desired, for contact closure control, plug a contact closure device into this 3.5 mm, 4-pole captive screw port. Momentarily short the pin for the desired input (1, 2, or 3) to G to select that input. To force an input to be always selected, leave the short in place (see **Contact In Port Wiring** on page 13 for wiring details).

  NOTES:
  - Contact closure control overrides front panel input selections.
  - For contact closure control, auto-switch mode must be off (see **Selecting an Input** on page 16).

- **Tally Out**— If desired, to remotely identify the currently selected input plug a device into this 3.5 mm, 4-pole captive screw connector. Connect the power wire for the device into the +V pin and connected the ground wire for each indicator into the corresponding Tally pin 1, 2, or 3. When an input is selected, by either contact closure or front panel selection or SIS commands, the corresponding Tally pin shorts to ground, closing the circuit and lighting the connected LED (see **Tally Out Wiring** on page 13 for wiring details).
- **RS-232**— Plug a serial RS-232 device into this 3.5 mm, 3-pole captive screw connector for remote control of the DTP2 T 203 (see **Remote RS-232 Control Wiring** on page 13 for wiring details).

I **LAN port** — If desired, use an RJ-45 cable to connect this port to a LAN via Ethernet for control of the device (see **TP Cable Termination for Ethernet Communication** on page 11 for wiring details). This port has two LEDs:

- **Link LED** — Lights green steadily to indicate a LAN connection.
- **Signal LED** — Blinks amber to indicate LAN signal activity.

Connection Details

For connectors that require additional wiring details or recommendations, see the following sections pertaining to the type or connection.

Power Supply Wiring

A 12 VDC, 2.0 A power supply is provided with the DTP2 T 203 transmitter. Follow the instructions and **figure 4** on page 10 to wire the 2-pole captive screw connector to the power supply:

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

ATTENTION: Risque de choc électrique. 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:

- Always use a power supply provided by 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 certification de conformité réglementaire, et peut endommager la source d'alimentation et l'unité.

- If not provided with a power supply, this product is intended to be supplied by a UL Listed power source marked "Class 2" or "LPS" and rated output 12 VDC, minimum 1.8 A minimum.
- Si le produit n'est pas fourni avec une source d'alimentation, il doit être alimenté par une source d'alimentation certifiée UL de classe 2 ou LPS, avec une tension nominale 12 Vcc, 1.8 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 conforme aux dispositions applicables du Code américain de l'électricité (National Electrical Code) ANSI/NFPA 70, article 725, et du Code canadien de l'électricité, partie 1, section 16. La source d'alimentation ne devra pas être fixée de façon permanente à la structure de bâtiment ou à d'autres structures similaires.

- 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 identify the power cord negative lead (see **figure 4** on page 10). To verify the polarity before connection, plug in the power supply with no load and check the output with a voltmeter.
- 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 **figure 4** sur la page 10). Pour vérifier la polarité avant la connexion, brancher l'alimentation hors charge et mesurer sa sortie avec un voltmètre.

- The length of the exposed wires in the stripping process is important. The ideal length is 3/16 inches (5 mm). Any longer and the exposed wires may touch, causing a short circuit between them. Any shorter and the wires can be easily pulled out even if tightly fastened by the captive screws.
- La longueur des câbles exposés est importante lorsque l'on entreprend de les dénuder. La longueur idéale est de 5 mm (3/16 inches). S'ils sont trop longs, les câbles exposés pourraient se toucher et provoquer un court-circuit. S'ils sont trop courts, ils peuvent être tirés facilement, même s'ils sont correctement serrés par les borniers à vis.

- 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 CA/CC ne conviennent pas à une utilisation dans les espaces d'aération ou dans les cavités murales.

ATTENTION:

- Remote power is intended for indoors use only. No part of a network that uses remote power can be routed outdoors.
- L'alimentation à distance est exclusivement réservée à un usage en intérieur. Un réseau utilisant une alimentation à distance ne peut pas être routé en extérieur.
- The power supply shall not be permanently fixed to building structure or similar structure.
- La source d'alimentation ne devra pas être fixée de façon permanente à la structure de bâtiment ou à d'autres structures similaires.

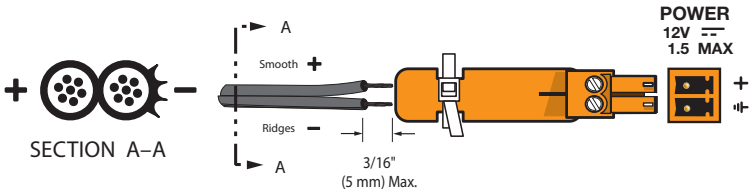


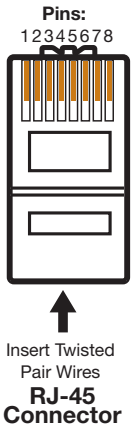
Figure 4. Power Connector Wiring

To wire the power supply:

1. Cut the DC output cord to the length needed.
2. Strip the jacket to expose 3/16 inch (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.

TP Cable Termination for DTP Communication

Use the following configuration for twisted pair cables used for DTP communication.



Pin	TIA/EIA T 568 B Wire color
1	White-orange
2	Orange
3	White-green
4	Blue
5	White-blue
6	Green
7	White-brown
8	Brown

Figure 5. RJ-45 Pin Assignment for DTP Communication

ATTENTION:

- Do not use Extron UTP23SF-4 Enhanced Skew-Free AV UTP cable or STP201 cable to link the XTP products or with DTP transmitters or receivers. The DTP3 devices does not work properly with these cables.
- N'utilisez pas le câble audiovisuel Skew-Free UTP version améliorée UTP23SF-4 Extron ou le câble STP201 pour relier les produits XTP à des émetteurs ou récepteurs DTP. Le DTP3 ne fonctionne pas correctement avec ces câbles.

Supported cables

The DTP2 T 203 is compatible with shielded twisted pair (STP) and unshielded twisted pair (U/UTP) cable. However, Extron strongly recommends that you use STP cable to achieve best performance.

Cable recommendations

Extron recommends using the following practices to achieve full transmission distances up to 330 feet (100 meters) and reduce transmission errors.

- Use the following Extron XTP DTP 24 STP cables and DTP 24 connectors for the best performance:
  - **XTP DTP 24/1000** Non-Plenum 1000 feet (305 meters) spool
  - **XTP DTP 24P/1000** Plenum 1000 feet (305 meters) spool
  - **XTP DTP 24 Plug** Package of 10
- If not using XTP DTP 24 cable, at a minimum, Extron recommends 24 AWG, solid conductor, STP cable with a minimum bandwidth of 400 MHz.
- Terminate cables with shielded connectors to the TIA/EIA-T568B standard.
- Limit the use of more than two pass-through points, which may include patch points, punch down connectors, couplers, and power injectors. If these pass-through points are required, use Category 6 or 6a shielded couplers and punch down connectors.

NOTES: When using TP cable in bundles or conduits, consider the following:

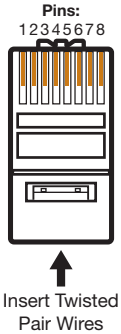
- Do not exceed 40% fill capacity in conduits.
- Do not comb the cable for the first 65 feet (20 meters), where cables are straightened, aligned, and secured in tight bundles.
- Loosely place cables and limit the use of tie wraps or hook-and-loop fasteners.
- Separate twisted pair cables from AC power cables.

TP Cable Termination for Ethernet Communication

It is vital that your Ethernet cable be the correct cable type and that it be properly terminated with the correct pinout. Ethernet links use Category (CAT) 3, 5e, or CAT 6, unshielded twisted pair (UTP) or shielded twisted pair (STP) cables, terminated with RJ-45 connectors. Ethernet cables are limited to a length of 328 feet (100 meters).

The cable can be terminated as either a patch cable or a crossover cable (see figure 5) and must be properly terminated for the application:

- **Patch (straight-through) cable** — Connection of the device to an Ethernet hub, router, or switch that also hosts a controlling computer.
- **Crossover cable** — Direct connection between the switcher and a controlling computer.



Crossover Cable
(for direct connection to a PC)

End 1		End 2	
Pin	Wire Color	Pin	Wire Color
1	white-orange	1	white-green
2	orange	2	green
3	white-green	3	white-orange
4	blue	4	blue
5	white-blue	5	white-blue
6	green	6	orange
7	white-brown	7	white-brown
8	brown	8	brown
T568B		T568A	

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

Straight-through Cable
(for connection to a switch, hub, or router)

End 1		End 2	
Pin	Wire Color	Pin	Wire Color
1	white-orange	1	white-orange
2	orange	2	orange
3	white-green	3	white-green
4	blue	4	blue
5	white-blue	5	white-blue
6	green	6	green
7	white-brown	7	white-brown
8	brown	8	brown
T568B		T568B	

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

Figure 6. RJ-45 Pin Assignment for Ethernet Communication

Over TP RS-232 and IR Control Wiring

Use a female 9-pin D connector to bare wire RS-232 cable or a universal control cable (UC50' or UC100') to connect your computer or control system to the OVER TP RS-232 and IR ports (see figure 7 to wire this 5-pole connector).

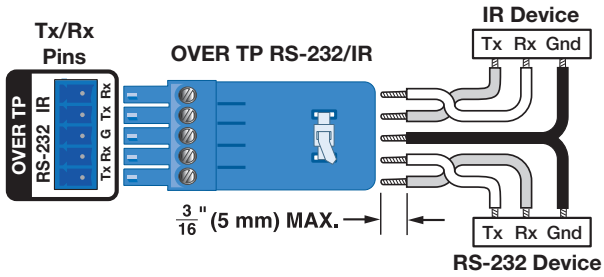


Figure 7. Remote and Over TP Connector Pin Assignments

1. Wire the unterminated end of the RS-232 cable to the **first three pins** on the 5-pole captive screw connector, starting at the left:
   a. Connect the transmit wire from the RS-232 device into the Rx pin on the switcher.
   b. Connect the receive wire from the RS-232 device into the Tx pin on the switcher.
   c. Connect the ground wire from the RS-232 device into the G pin on the switcher.
2. Wire the unterminated end of the IR cable to the **third, fourth**, and **fifth** pins of the 5-pole captive screw connector:
   a. Connect the transmit wire from the IR device into the Rx pin on the switcher.
   b. Connect the receive wire from the IR device into the Tx pin on the switcher.
   c. Connect the ground wire from the IR device into the G pin on the switcher.
3. Plug the 5-pole connector into the OVER TP port on the rear panel of the switcher.
4. Connect the other end of the cable to the appropriate computer or control system port.

NOTES:

- The RS-232 and IR connectors share the ground pole and the data from both can be transmitted simultaneously.
- The IR Tx and Rx line pairs and the RS-232 Tx and Rx line pairs must each cross once between their connectors and the source or destination.
- The length and preparation of exposed wires is important (see the **ATTENTION:** on page 9).

Remote RS-232 Control Wiring

Use a female 9-pin D connector to bare wire RS-232 cable or a universal control cable (UC50' or UC100') to connect your computer or control system to the Remote RS-232 port (see figure 8 to wire the 3-pole connector).

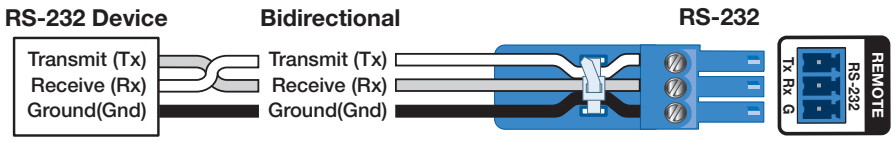


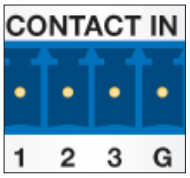
Figure 8. Remote RS-232

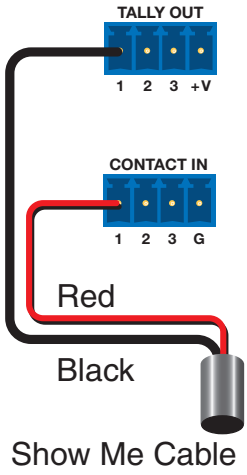
1. Wire the unterminated end of the RS-232 cable to the 3-pole captive screw connector as described below. Connect the transmit, receive, and ground wires of the cable to the **three pins** on the connector, starting at the left:
   a. Connect the transmit wire from the RS-232 device into the Rx pin of the device.
   b. Connect the receive wire from the RS-232 device into the Tx pin of the device.
   c. Connect the ground wire from the RS-232 device into the G pin of the device.
2. Plug the 3-pole connector into the RS-232 port on the rear panel of the transmitter.
3. Connect the other end of the cable to a control system or the device being controlled.

Contact In Port Wiring

Connect a push-button contact closure device to the CONTACT IN port to enable input switching via contact closure.

1. Wire and plug one of the provided 4-pole connectors into the CONTACT IN port (see the first image on the right):
   - 1 = Contact input 1
   - 2 = Contact input 2
   - 3 = Contact input 3
   - G = Ground
2. Press the button on the contact closure device to switch the connected input to the output.





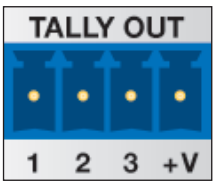
TIP: The Contact and Tally connectors can be used with Extron Show Me cables. For each cable, connect the red wire to the Contact Closure input pin and the black wire to the Tally Out pin (see the second image on the right).

Tally Out Wiring

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 port. When the input is selected, the corresponding Tally pin shorts to the ground and activates the connected indicator.

Wire and plug one of the provided 4-pole connectors into the TALLY OUT port (see the image on the right).

- 1 = Tally input 1
- 2 = Tally input 2
- 3 = Tally input 3
- +V = +5 VDC connector



LockIt Lacing Bracket Installation

HDMI signals run at a very high frequency and are especially prone to errors caused by bad video connections, too many adapters, or excessive cable length. To avoid the loss of an image or jitter, follow these guidelines:

- Limit or avoid the use of adapters.
- Use only cables specifically intended for HDMI or DVI signals.

To securely fasten an HDMI cable to a device:

1. Plug the HDMI cable into the panel connection (see figure 9, ❶).
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).

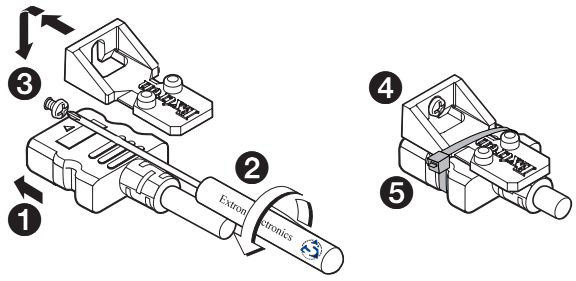


Figure 9. LockIt Lacing Bracket

ATTENTION:

- Do not overtighten the HDMI connector mounting screw. The shield to which it fastens is very thin and can easily be stripped.
- Ne serrez pas trop la vis de montage du connecteur HDMI. 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 (❹).
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 (❺).

Operation

This section describes the operation of the DTP2 T 203 switcher. Topics include:

- **Front Panel Features**
- **Operation**
- **Configuration**

Front Panel Features

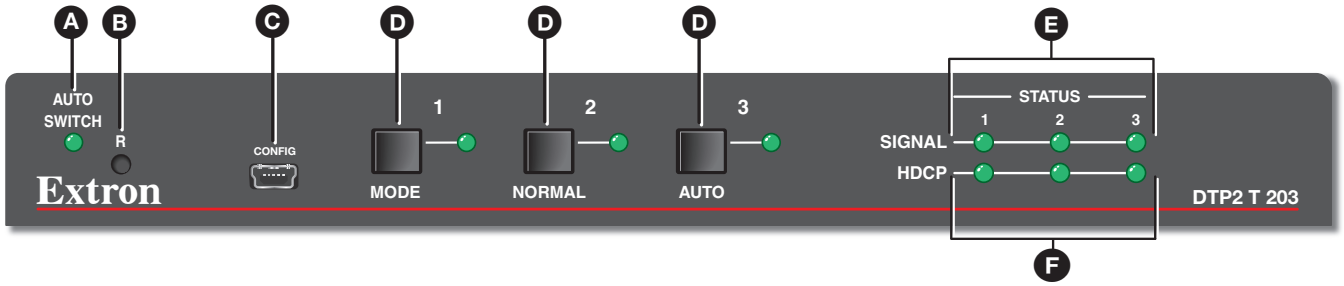


Figure 10. DTP2 T 203 Front Panel

A **Auto Switch LED** — Lights when auto-input switching is enabled.

B **Reset button** — To initiate factory default reset, use a pointed object, such as a small Phillips screwdriver or stylus, to press and hold the button for 5 seconds while the switcher is running or while it is being powered up.

> **NOTE:** The switcher can also be reset to its factory default settings using SIS commands (see **Reset** on page 51) or PCS (see **Reset Device** on page 36).

C **Configuration port** — Connect a USB cable (USB A to mini-B) to a computer and this female USB mini-B port to configure the device and update the firmware via PCS or SIS commands.

D **Input selection buttons and LEDs** — 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.

> **NOTE:** The input buttons are also used to enable and disable auto-input switching (see **Enabling Auto-Input Switching** on page 17 for details). Auto-input switching can also be configured using SIS commands (see **Auto-switch mode** on page 45).

E **Signal Status LEDs** — Lights when a source is connected to the input port.

F **HDCP Status LEDs** — Lights if the currently selected input requires HDCP and the connected output device has been successfully authenticated.

Operation

Powering on the Switcher

To power on the DTP2 T 203:

1. Connect all input and output devices to the rear panel connectors on the switcher (see **Rear Panel Features** on page 6 for the rear panel connections).
2. Power on the display.
3. Power on the DTP2 T 203. Plug the power supply into the power inlet on the rear panel.

   After approximately 4 seconds, the following happens:

   - The unit performs a self-test, during which the front panel `AUTO SWITCH`, inputs, `SIGNAL`, and `HDCP` LEDs each blink. 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.
4. Power on the input devices.

Selecting an Input

To switch an input to the output, perform one of the following:

- **Front panel buttons** — Press the desired input button on the front panel (ensure auto-input switching is not enabled).
  - 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, but LEDs still indicate the selected input.
- **Contact closure** — Plug one of the provided 3-pole captive screw connectors into a rear panel `CONTACT IN` port. If a push-button contact closure device is attached to a contact port, press the button that is connected to the slot that corresponds to the desired input (see **Contact In Port Wiring** on page 13 for wiring details).

  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.
- **Remote control** — Inputs can be selected using SIS commands (see **Input Selection** on page 45) and PCS (see **Input Configuration** on page 27).

Resetting

To initiate factory default reset, use a pointed object, such as a small Phillips screwdriver or stylus, to press and hold the button for 5 seconds while the switcher is running or while it is being powered up.

NOTES:

- The switcher can also be reset to its factory default settings using SIS commands (see **Reset** on page 51) or PCS (see **Reset Device** on page 36).
- The factory configured password for all accounts on this device have been set to the device serial number. Passwords are case sensitive. If the switcher resets, the password reverts to the default, `extron`. A new password would need to be configured to secure the device.

Front Panel Lockout (Executive Mode)

Front panel lockout mode disables all front panel controls, locking out users from those functions. RS-232, USB, and LAN controls are still available while in executive mode. Putting the transmitter in lock mode 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.

NOTE: Front panel lockout can only be enabled or disabled via SIS commands (see **Front Panel Lockout (Executive Mode)** on page 46).

Configuration

Enabling Auto-Input Switching

The DTP2 T 203 can automatically select an active, connected input based on a configured priority using auto switching.

When auto switch is enabled, it can be configured in the two following priorities via SIS commands (see **Auto-switch mode** on page 45) or PCS (see **Auto Switch** on page 34):

User-defined priority (Mode 1)

- Default priority is to select the highest active input (High to Low) in the following order: 3, 2, 1. Using SIS commands, the order of the priority can be defined. If no priority is defined, the default priority is used.

Input-memory priority (Mode 2)

- The unit switches automatically to the most recently applied input, and retains a history of the order in which the active inputs are connected to the unit. In the event that one of those active inputs are removed, the unit reverts to the last applied input.

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. When auto switch is disabled, the AUTO SWITCH LED does not light.

To enable auto-input switching via the front panel:

1. Press and hold the **MODE** (**1**) button until the Mode LED begins to blink.
2. While still holding the MODE button, press the **AUTO** (**3**) button to enable the Auto-switch mode.
3. Release both buttons.

To disable auto-input switching via the front panel:

1. Press and hold the **MODE** (**1**) button until the Mode LED begins to blink.
2. While still holding the MODE button, press the **NORM** (**2**) button to disable the Auto-switch mode.
3. Release both buttons.

Color Depth and Deep Color Support

There are two options for color depth and deep color support:

- **Automatic** — By monitoring the EDID of the sink, the DTP2 T 203 switcher determines the best color depth that is supported by the sink.
- **Force 8-bit** — This mode always sets the switcher to output video with 8-bit color depth.

This can be changed via SIS commands (see **Video Color Bit Depth** on page 46) or PCS (see **Color Bit Depth** on page 28).

EDID Minder

The DTP2 T 203 uses EDID Minder, which ensures that a source device connected to the switcher input continuously sees the EDID of a sink device, even if the sink is not physically connected. By default, the EDID is set to 1080p @ 60 Hz with 2-channel audio.

One slot is automatically populated by EDID from connected sink devices.

Slot	Slot	Default EDID	Details
1	Input 1 (store) slot	1080p @ 60 Hz	Manually populated via PCS
2	Input 2 (store) slot	1080p @ 60 Hz	Manually populated via PCS
3	Input 3 (store) slot	1920x1080 @ 60 Hz	Manually populated via PCS
4	Output Slot	N/A	Automatically populated with sink device EDID from the output

EDID memory retention

The assigned EDID is stored to an EEPROM, which is located at the HDMI input. The stored EDID is retained until a reset is initiated, when it reverts back to the default EDID.

Hot Plug Detect (HPD)

HPD remains high on all inputs while the unit is powered on. The HPD drops low only while EDID is updated.

HDCP

Input

The HDMI and DP inputs negotiate and authenticate HDCP with the source device if the source requires HDCP encryption. The authentication process is repeated whenever the stored EDID is changed or updated, which is indicated by pulling HPD low.

HDCP support can be disabled for each input independently using the SIS command (see **HDCP Authorized Device** on page 47) or PCS (see **HDCP Authorized** on page 27).

Outputs

The output is pre-authenticated and encrypted, in accordance with the configured HDCP output mode using SIS commands (see **Output HDCP Mode** on page 47) or PCS (see **HDCP Mode** on page 28).

HDCP output modes

- **Follow input** — Output is encrypted only when the input signal is encrypted.
- **Always encrypt output** — Output encrypts the video regardless of whether the input video is encrypted or not.

HDCP notification

HDCP Notification provides an indication that encrypted content is trying to be displayed on a non-HDCP compliant sink or display device.

- **HDCP Notification enabled** — When the input signal is encrypted and the connected display is not HDCP compliant, a green screen is displayed on the output.
- **HDCP Notification disabled** — When the input signal is encrypted and the connected display is not HDCP compliant, a black screen is displayed on the output.

TMDS Output Format

The TMDS output format has three components:

- **Video format** — either DVI or HDMI
- **Color space** — RGB 4:4:4, YCbCr 4:2:2, or YUV 4:4:4
- **Quantization range** — either Full (0-255) or Limited (16-235)

By default, the output format is automatically configured for Auto, which forces RGB 4:4:4 Full, with the video format dependent on the source signal and sink capabilities.

This can be forced using SIS commands (see **TMDS Output Format** on page 47) or PCS (see **Format** on page 28).

Audio Configuration

Input Audio Configuration

When configured, the analog audio input signal is converted to 16-bit, 2.0 LPCH, with 48 kHz sampling frequency, and embedded onto the HDMI signal. Embedded audio from the HDMI input can be configured individually or globally.

- **Analog** (default) — The analog audio input signal is digitized and embedded onto the HDMI signal.
- **Digital** — The digital audio present on the HDMI video input is passed unaltered.
- **Auto** (default) — The digital audio embedded on the video signal is used. If the digital audio is not detected, the analog audio input is used.

  If digital embedded audio content is not present on the HDMI signal and analog audio is present, the analog audio is embedded onto the digital output. Analog audio is not transported simultaneously over the DTP output.

Audio can be configured using SIS commands (see **Audio Input Format** on page 45) or PCS (see **Audio Format** on page 27).

Analog Audio Follow

When an input is selected, audio transport over HDMI can be configured to operate in one of two modes. Each input can be configured individually for any of these two modes:

- **Follow input selection** (default)— The analog audio input is associated with the selected input.
- **Assign or lock to specific input** — The analog audio input is associated with input 1, input 2, or input 3.

Audio can be configured using SIS commands (see **Assign Analog Audio Input to Specific Video Input** on page 45) or PCS (see **Assign Analog Audio to Video Input** on page 34).

Analog Audio Mute

The analog audio output over the TP output can be muted via SIS commands (see **Analog Audio Mute (over TP out)** on page 46) or PCS (see **Assign Analog Audio to Video Input** on page 34).

TMDS Output Audio Configuration

The embedded TMDS audio output over the TP output can be enabled or disabled via SIS commands (see **TMDS (HDMI) Output Audio Format** on page 45) or PCS (see **Mute Embedded Audio** on page 28).

Product Configuration Software

The DTP2 T 203 switcher can be easily configured using Extron Product Configuration Software (PCS). This section describes:

- **Software and Firmware Installation**
- **Connecting to PCS**
- **Software Overview**
- **Using PCS for the Switcher**

Software and Firmware Installation

Visit **www.extron.com** to download and install the PCS software.

NOTES:

- Download the latest version of software and firmware for your product.
- An Extron Insider account is required to download and use the firmware or software. Contact an Extron support representative to obtain an insider account.

1. Log in to your Extron Insider account.
2. Mouse over the **Download** tab at the top of the page (see figure 11, ❶).

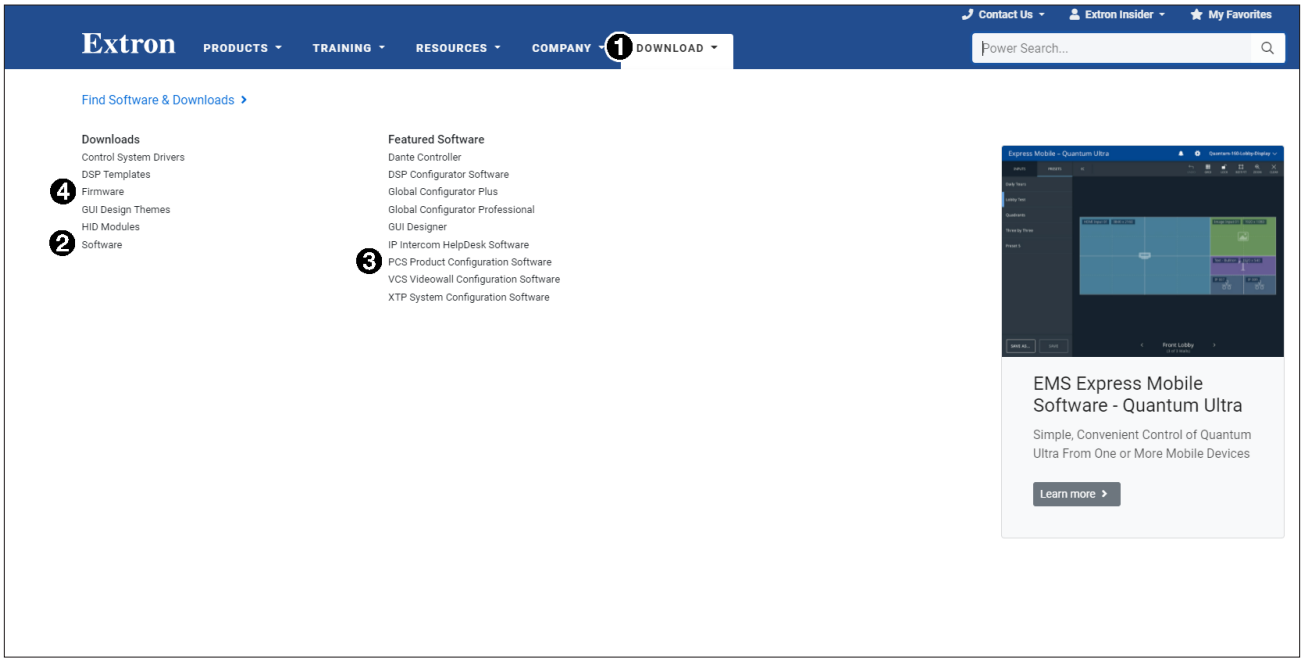


Figure 11. Software Links on Download Screen

3. Click the appropriate link on the drop-down list.

For software, click the **Software** link (❷).
The Download Center Software page opens (see **figure 12** on page 21).

NOTE: If the software is listed, click that link (see the **PCS Product Configuration Software** link in figure 11, ❸). The software product page opens. Skip to **step 5** on page 22.

For firmware, click the **Firmware** link (see figure 11, ❹).
The Download Center Firmware page opens (see **figure 13** on page 21).

4. **For software,** type the name of the software into the **`Search Software`** field (see figure 12), and select the desired software. The selected software page opens below the search.

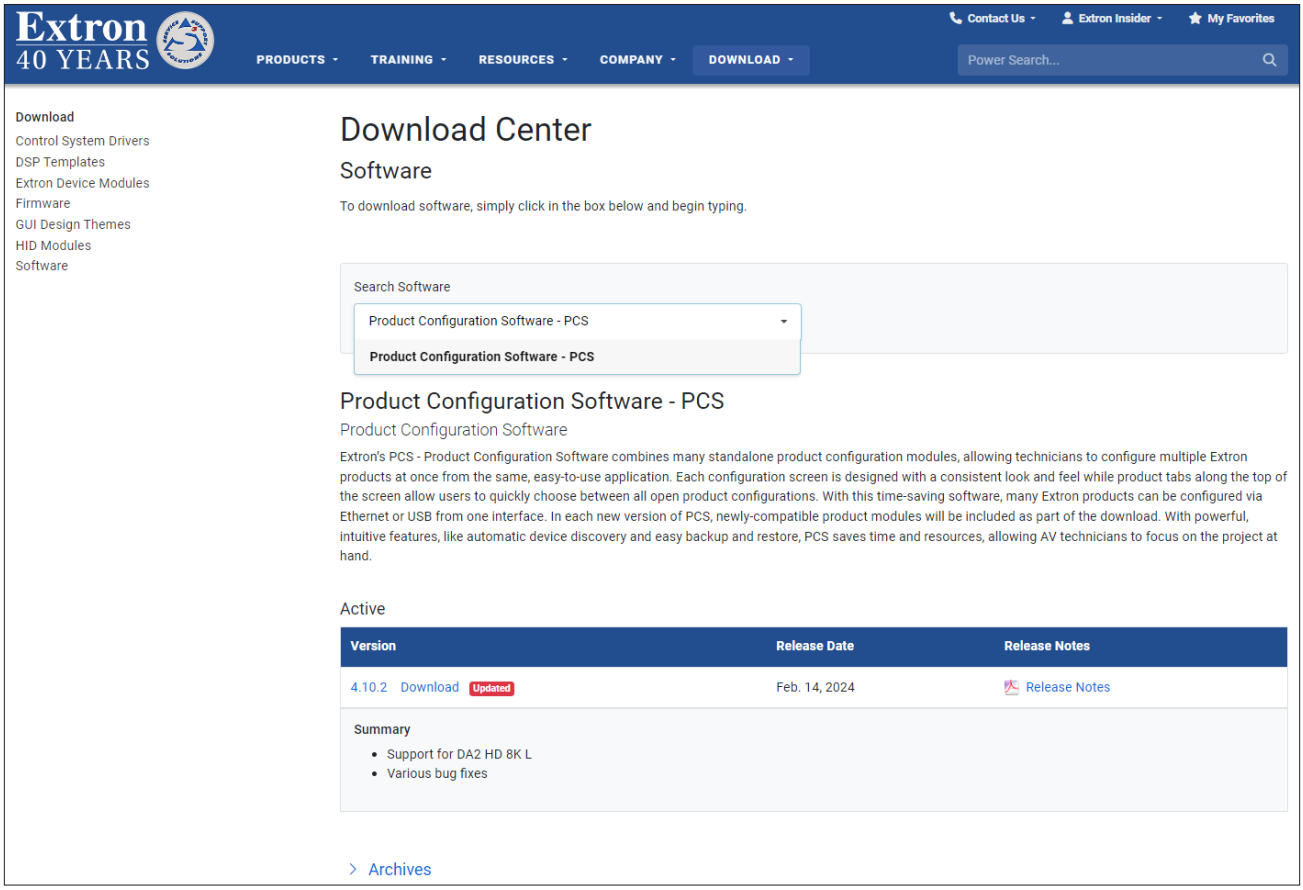


Figure 12. Software Download Center

For firmware, type in the name of the device into the **`Search Firmware`** field (see figure 13), and select the desired device. The selected firmware page opens below the search.

NOTE: The desired device is not listed unless a firmware update is available.

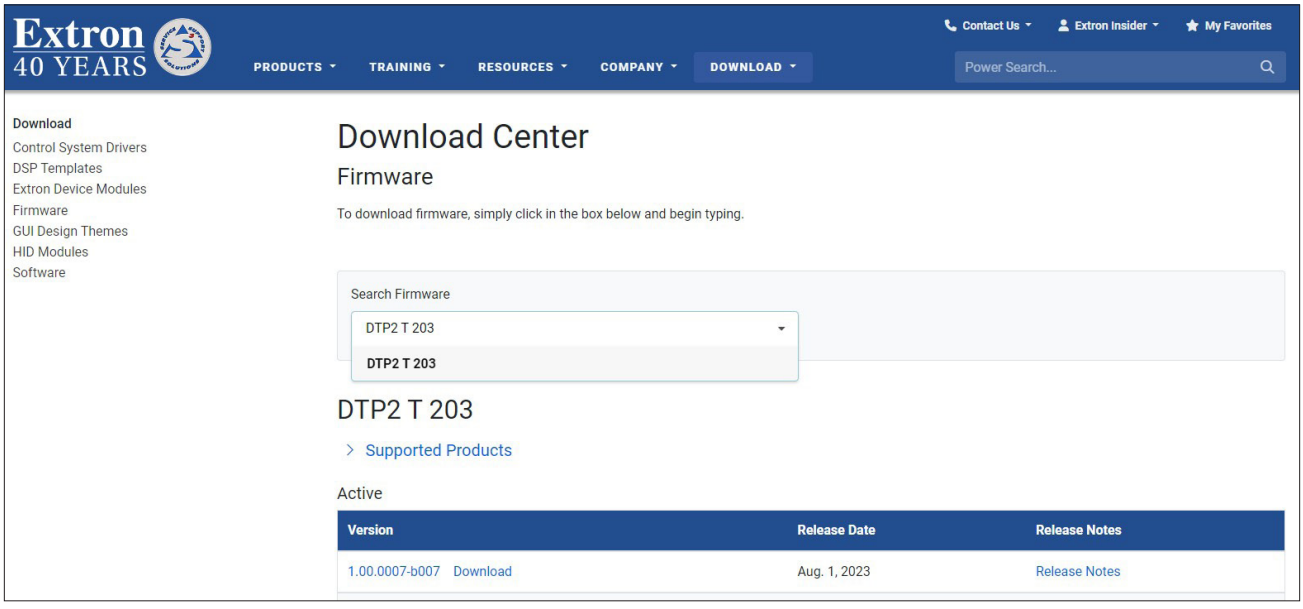


Figure 13. Firmware Download Center

5. Click **Download** (see **figure 12** and **figure 13** on page 21), and follow the on-screen instructions. An executable (`.exe`) file is downloaded to the PC. Run the firmware executable file to place the firmware on the PC for future use. Make a note of the folder where the software or firmware file was saved.
6. **(Optional)** Click **Release Notes** for more information about the firmware or software update.
7. **(Optional)** Click **Archives** to download previous versions of firmware or software.

   NOTE: The **Archives** link is listed only if there is previous firmware.

8. **Install the software.**
   a. Navigate to the folder where the software file was downloaded.
   b. Double-click the executable file and follow the on-screen directions to install the software.

   For firmware:
   a. To install via PCS, see **Updating the Firmware** on page 36.
   b. To install via internal web page, see **Firmware** on page 59.

Connecting to PCS

The Extron Product Configuration Software window opens with the `Device Discovery` panel open. Connect to the device using the `Device Discovery` panel or the `TCP/IP` panel.

Device Discovery Panel

The `Device Discovery` panel displays accessible Extron devices connected directly to the PC or to a LAN. Devices are identified and sorted by model, IP address, device name, or connection method.

1. Connect the control PC to the device. The Windows-based PCS communicates with the device via the front panel configuration port with a standard USB-C port.
2. Open the Product Configuration Software program from the desktop shortcut. The Extron PCS window opens to the `Device Discovery` panel (see figure 14).

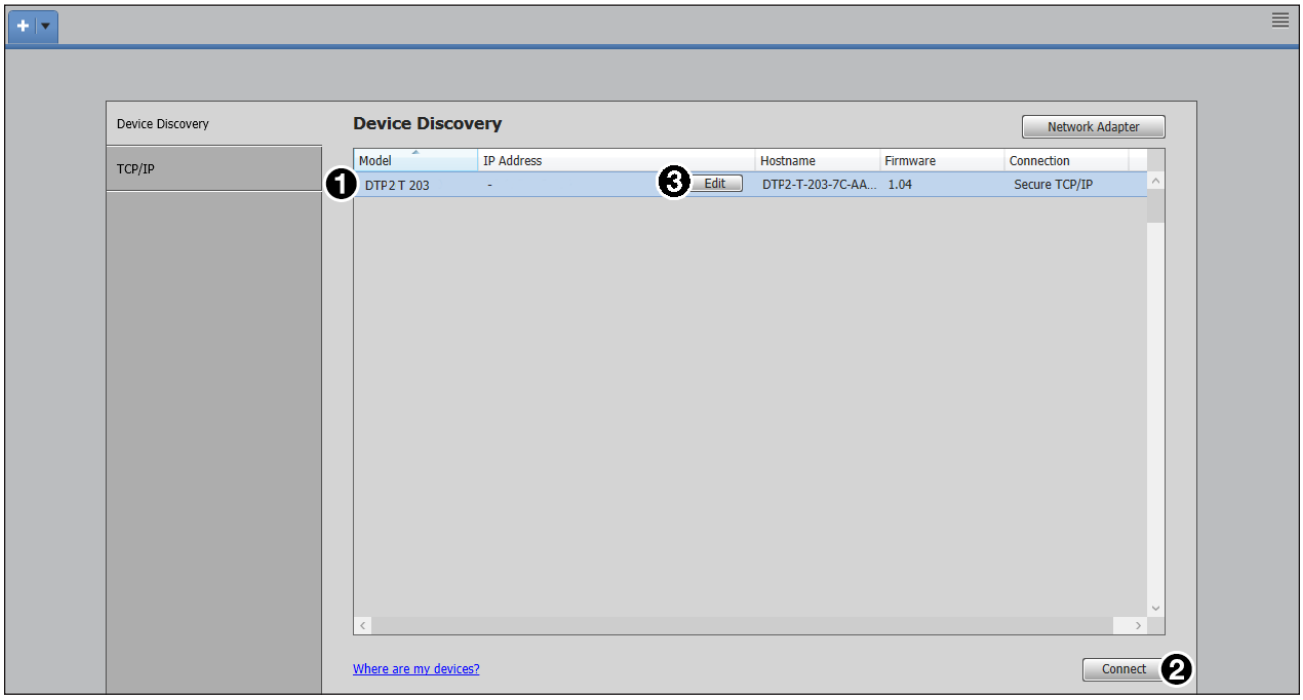


Figure 14. Device Discovery Screen

3. Select the `DTP2 T 203` device by clicking on it to highlight it in the list (❶).
4. Click `Connect` (❷).

To edit the IP address:

a. Click on the **Edit** button (see **figure 14**, ❸ on page 22). The Communication Settings dialog box opens (see figure 15).

b. Click in the IP Address field to edit the address.

c. Click **Apply** to complete and close.

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

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

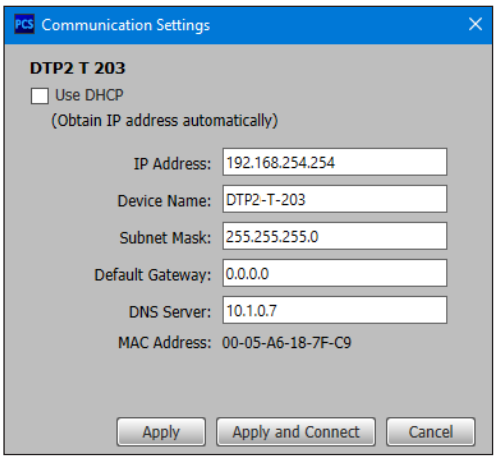


Figure 15. Communication Settings

TCP/IP Panel

The TCP/IP panel connects PCS to a specific device if the IP address is known.

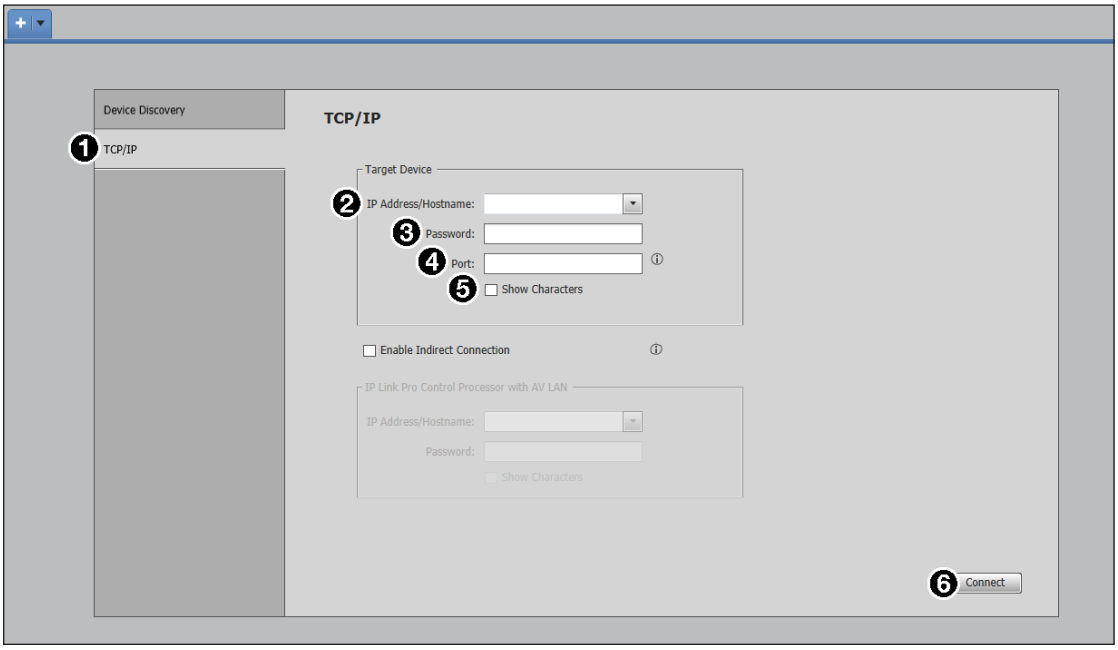


Figure 16. Comm Port Selection Window

1. Click the **TCP/IP** tab (see figure 16, ❶).
2. In the **IP Address/Hostname** field (❷), enter the IP address of the desired device.

   NOTE: The default IP address is 192.168.254.254.

3. In the **Password** field (❸), enter the device password.

   NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords are case sensitive. If the switcher resets, the password reverts to the default, extron.

4. In the **Port** field (❹), enter the port number or leave the field blank. PCS scans for the port if blank.

   NOTE: Select the **Show Characters** checkbox (❺) to display the password characters.

5. Click the **Connect** button (❻). A new device tab opens.

Offline Device Preview

Opening a new device tab for an offline device displays the interface and configuration options for the device without connecting to it. However, settings cannot be changed.

To open the transmitter in offline mode:

1. From the blue configuration file drop-down list, select **`New Configuration File`** (see figure 17).

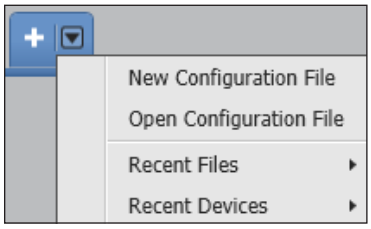


Figure 17. Configuration File Drop-Down List

The `New Configuration File` dialog box opens (see figure 18).

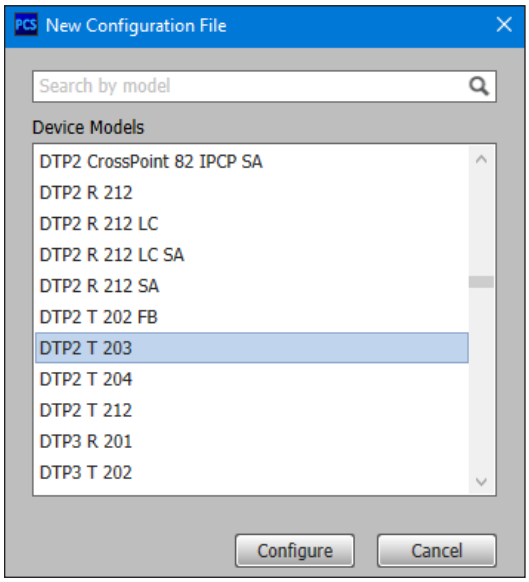


Figure 18. New Configuration File Dialog Box

2. Select the desired device model from the `Device Models` list.
3. Click **`Configure`**.

A new offline device configuration tab opens.

NOTE: The `DTP2 T 203` device tab (see the image below) has a grayed out indicator (circle) to indicate that there is no device connected and the software is running in offline configuration mode.



Software Overview

Software Menu

The software menu contains options pertaining to PCS settings (see figure 19).

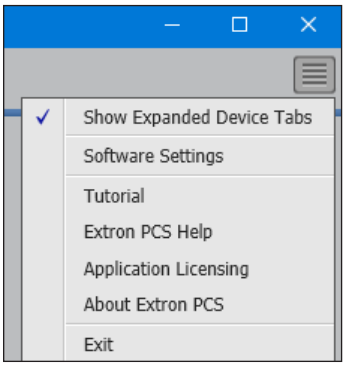


Figure 19. Software Menu

Show Expanded Device Tabs

Selecting **`Show Expanded Device Tabs`** from the software menu displays the device IP address or connection method in the `Device` tab (see figure 20).

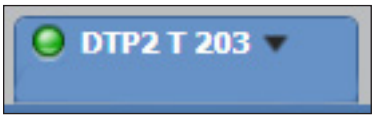


Figure 20. Expanded Device Tab

Software Settings

This option resets all disabled confirmation dialogs to the default settings.

1. From the `Software` menu, select **`Software Settings`**. The `Software Settings` dialog box opens.
2. Click the **`Re-enable Confirmation Dialog`** button (see figure 21, ❶). The dialog box closes and the re-enable is complete.

   Alternatively, click the **`Close`** button (❷) to close the dialog box without re-enabling the confirmation dialogs.

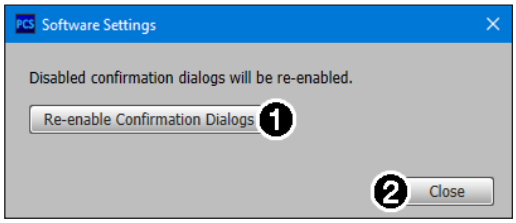


Figure 21. Settings Dialog Box

Tutorial

Display a general overview of where to find features in the PCS framework.

1. From the `Software` menu, select **`Tutorial`**. The `Tutorial` dialog box opens.
2. Click the **`I Get It!`** button to close the dialog box.

Extron PCS Help

Open the PCS help file for general PCS operations.

From the `Software` menu, select **`Extron PCS Help`**.

Application Licensing

Log into PCS with your Extron Insider account or check licensing details.

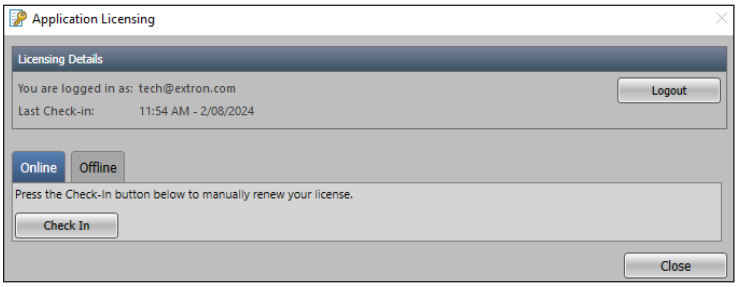


Figure 22. Application Licensing

About Extron PCS

Display information about the current PCS version.

1. From the `Software` menu, select **`About Extron PCS`**. The `About - Extron PCS` dialog box opens (see figure 23).



Figure 23. About - Extron PCS Dialog Box

2. Click the **`Details`** button (❶) for more information.
3. To display details about third-party software packages and associated licensing, click **`Licenses`** (❷).
4. Click **`OK`** (❸) to close the dialog box.

Exit

Disconnect connected devices and close the application.

1. From the `Software` menu, select **`Exit`**. If the device tabs are open, the `Exit` dialog box opens (see figure 24).

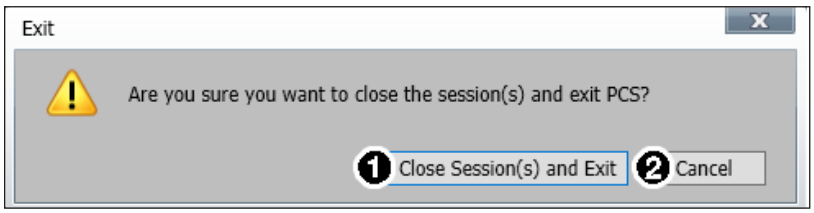


Figure 24. Exit Dialog Box

2. Click the **`Close Session(s) and Exit`** button (❶) to disconnect the software from connected devices, close all offline device tabs, and close the software.

   Alternatively, click the **`Cancel`** button (❷) to leave the software open.

Using PCS for the Switcher

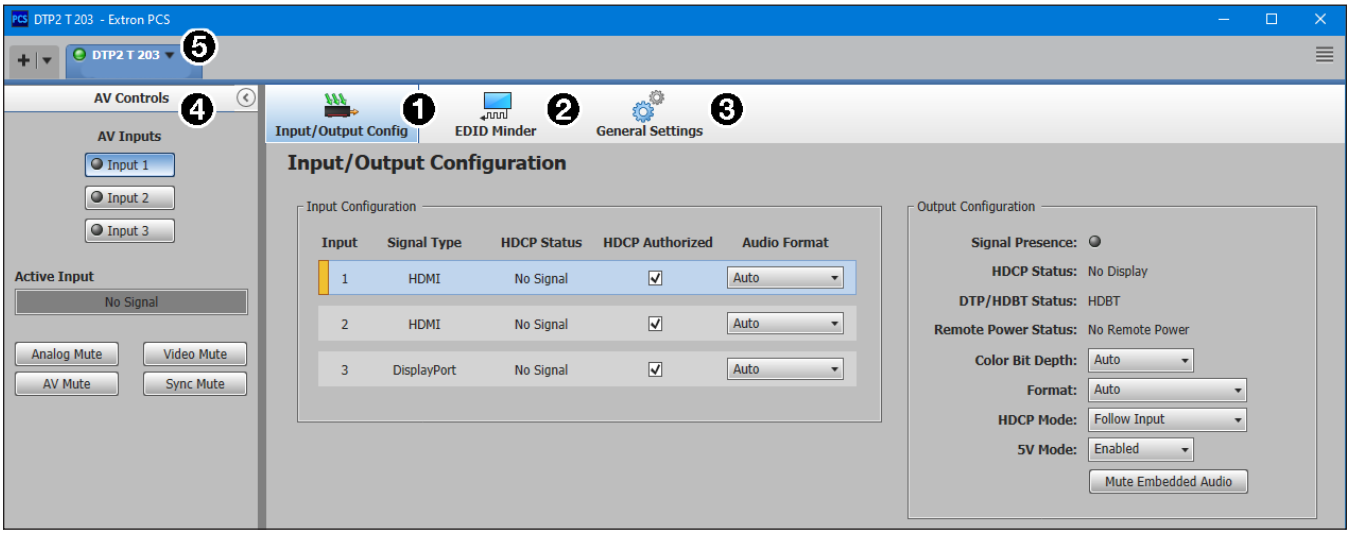


Figure 25. DTP2 T 203 PCS Main Window

The following tabs and panel are available for device configuration (see figure 25):

❶ **Input/Output Configuration**
❷ **EDID Minder**
❸ **General Settings**
❹ **AV Controls**
❺ **Device Menu**

Input/Output Configuration

The **`Input/Output Config`** tab allows the user to configure the active inputs and outputs.

Input Configuration

The `Input Configuration` panel allows the user to view and set the following (see figure 26):

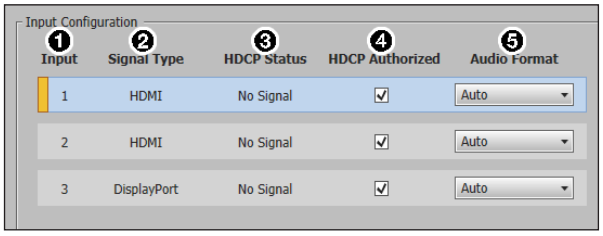


Figure 26. Input Configuration Panel

❶ **Input** — Displays the inputs. Selected input is highlighted.

❷ **Signal Type** — Displays the signal type.

❸ **HDCP Status** — Displays the HDCP status of the input source. The HDMI and DisplayPort inputs negotiate and authenticate HDCP with the source device, if the source requires HDCP encryption.

❹ **HDCP Authorized** — Select this checkbox to turn the HDCP Authorized on (default) or off. When disabled (Off), the DTP2 T 203 does not display content that requires HDCP, and displays a green screen.

❺ **Audio Format** — Select the audio format to be embedded in the video output (see **Audio Configuration** on page 19 for more information).

- **`Auto`** — Embedded digital audio is passed. If digital audio is not detected, the analog audio is embedded.
- **`Digital`** — Embedded digital audio is passed.
- **`Analog`** — Analog audio is embedded.

Output Configuration

The `Output Configuration` panel allows the user to view the status and configure the output signal (see figure 27).

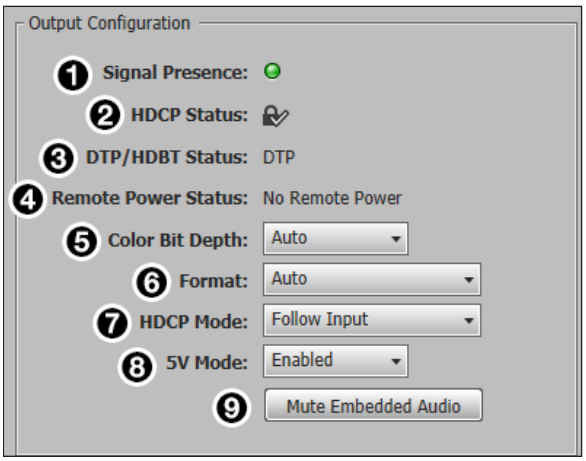


Figure 27. Output Configuration Panel

❶ **Signal Presence** — The connection status icon shows green when an active signal is present.

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

❸ **DTP/HDBT Status** — Indicates the status of the **`DTP/HDBT`** toggle switch: `DTP` or `HDBT`.

❹ **Remote Power Status** — Indicates the status of the remote power toggle switch: `DTP2 48VDC` (`SEND POWER`) or `No Remote Power` (`OFF`).

❺ **Color Bit Depth** — Select this drop-down to set the color bit depth, either **`Auto`** (default) or **`Force 8-bit`**.

❻ **Format** — Select this drop-down to set the output format. Choices are:

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

❼ **HDCP Mode** — The `HDCP Mode` can be set to:

- **`Follow Input`** — Encrypts the output only when required by the selected input source (default).
- **`Always Encrypt Output`** — Always encrypts the output, regardless of the HDCP status of the input source.

❽ **5V Mode** — Disable or enable **`5V Hot-Plug`**. Select **`Auto`** or **`Enabled`**.

❾ **Mute Embedded Audio** — Select this button to mute the audio embedded in the output signal.

EDID Minder

EDID Minder is a process that manages the EDID information (resolution and refresh rate) between the inputs and output sources. EDID can be set to match output rate, a custom user-defined EDID, or a factory setting (see **EDID Lookup Table** on page 18 for EDID data).

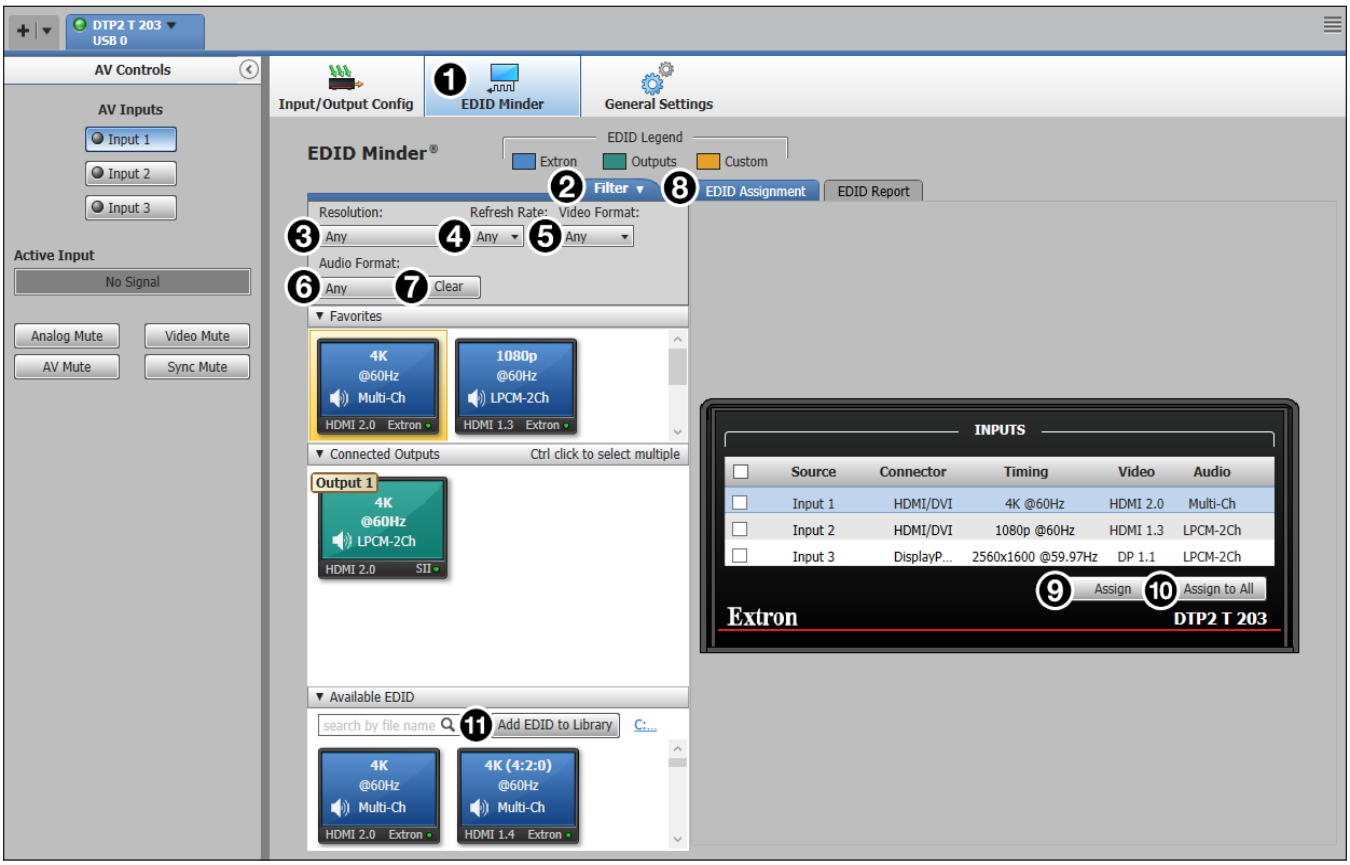


Figure 28. EDID Minder Page

Filtering Available EDID

Use the **Filter** tab (see figure 28, ❷) to limit the number of available EDID displayed in the Favorites, Connected Outputs, and Available EDID panels.

1. From the **Resolution** drop-down list (❸), select a specific resolution or **Any**.
2. From the **Refresh Rate** drop-down list (❹), select a specific refresh rate or **Any**.
3. From the **Video Format** drop-down list (❺), select **HDMI** or **Any**.
4. From the **Audio Format** drop-down list (❻), select **LPCM-2Ch**, **None** or **Any**.
5. To set filters back to the default, click **Clear** (❼).

Assigning EDID

To assign EDID to the input:

1. From the INPUTS box in the EDID Assignment tab (❽), select the checkboxes for the desired inputs.
2. From the Favorites, Available EDID, or Connected Outputs panels on the left, select the desired EDID.
3. Then either:
   - Click the **Assign** button (❾) to assign EDID to one or more selected inputs, OR
   - Drag and drop EDID image from the Favorites, Available EDID, or Connected Outputs panels to one or more selected inputs.

To assign EDID to all inputs:

1. Select an EDID from the `Favorites`, `Available EDID`, or `Connected Outputs` panels.
2. Click the **`Assign to All`** button (see **figure 28**, ❿ on page 29) in the `Inputs` group box.

> **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 28**, ⓫).

   The `Browse Add EDID to Library` dialog box opens (see figure 29).

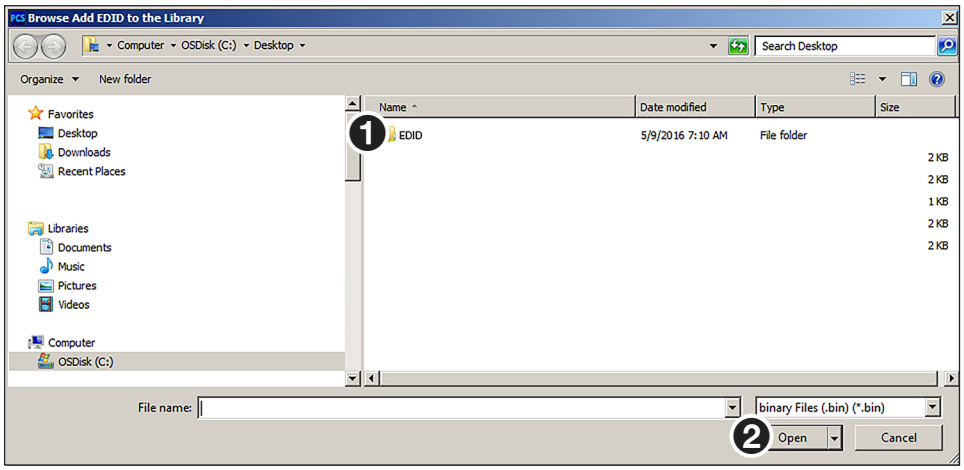


Figure 29. Browse Add EDID to the Library Window

2. Navigate to the desired EDID file location and select the desired EDID (❶).

> **NOTE:** Valid EDID files have a `.bin` file extension.

3. Click **`Open`** (❷). The EDID is added to the `Available EDID` panel.

EDID Report

Click the **`EDID Report`** tab (see figure 30, ❶) to view the EDID information of the sources connected to the inputs.

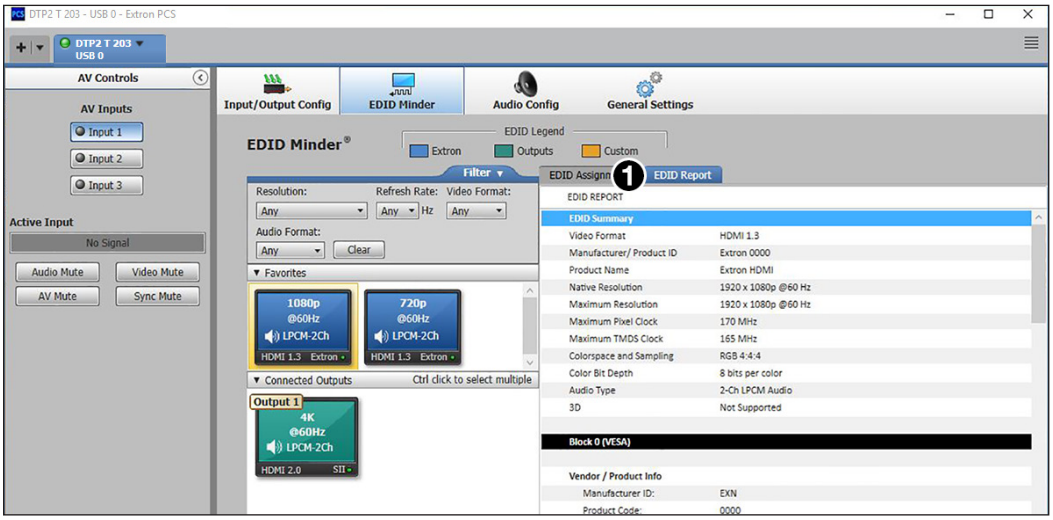


Figure 30. EDID Report Panel

General Settings

The **General Settings** tab allows the user to view and set general device settings (see figure 31).

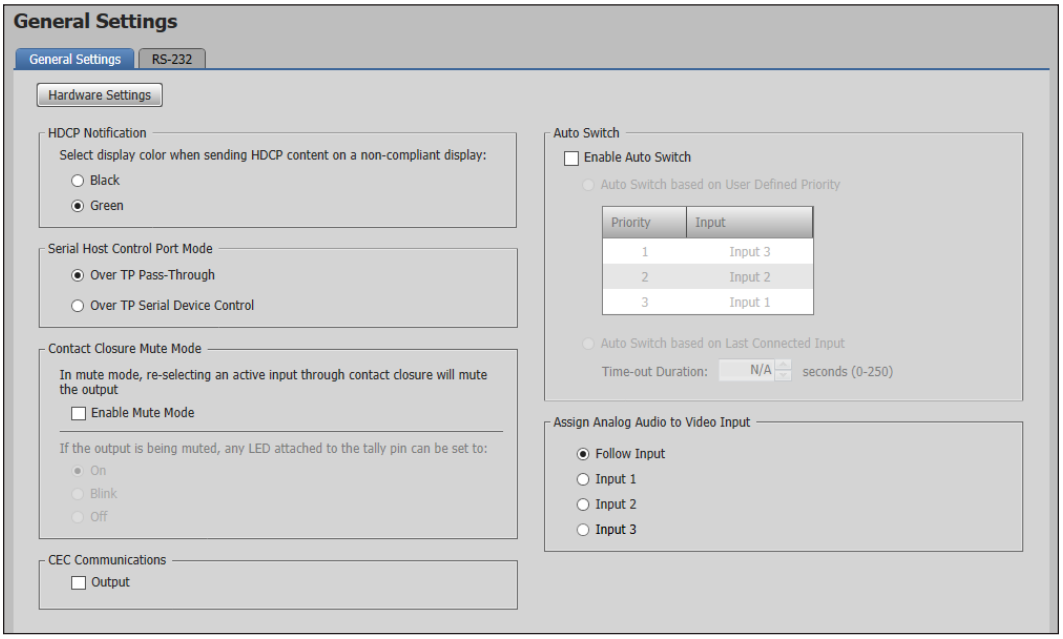
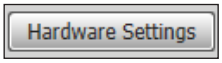


Figure 31. General Settings

Hardware Settings

Click the **Hardware Settings** button (see image on the right) to open the Hardware Settings dialog box.



The Hardware Settings dialog box contains two tabs: **Unit Information** and **Hostname**.

Unit information

The Unit Information tab displays information about the connected device (see figure 32), including:

- Part Number
- Model Name
- Model Description
- Hostname
- DHCP
- IP address
- Subnet Mask
- Default Gateway
- DNS Server
- MAC Address

Click the **Edit Communication Settings** button to open the Communication Settings dialog box to enter device settings for Ethernet connections (see **Communication Settings** on page 32 for details).

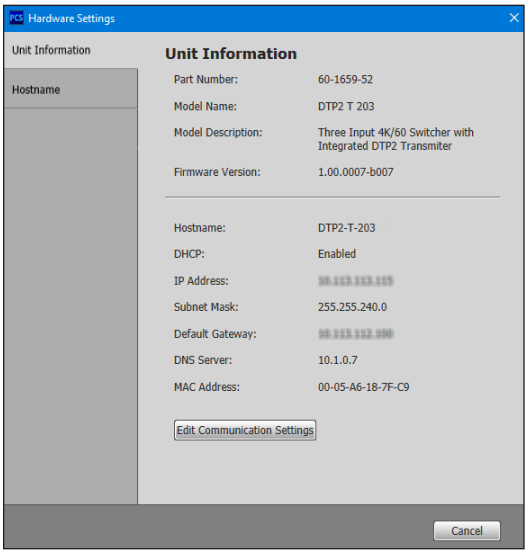
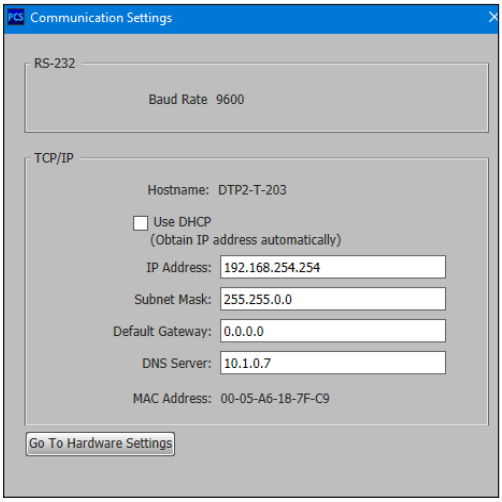


Figure 32. Unit Information

Communication Settings

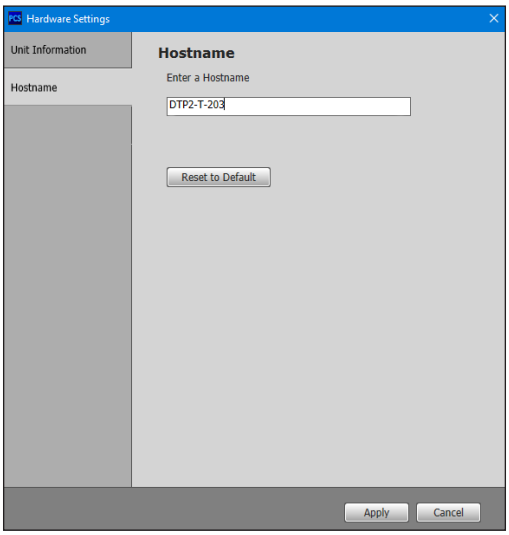


To make changes to the TCP/IP settings:

1. Uncheck the **Use DHCP** checkbox (see figure 33).
2. Make the desired changes.
3. Click **Apply**.

Figure 33. Communication Settings

Hostname



The **Hostname** tab displays the current name of the device (see figure 34). The user can change this name manually or reset it to the default name by clicking the **Reset to Default** button.

Figure 34. Hostname

HDCP Notification

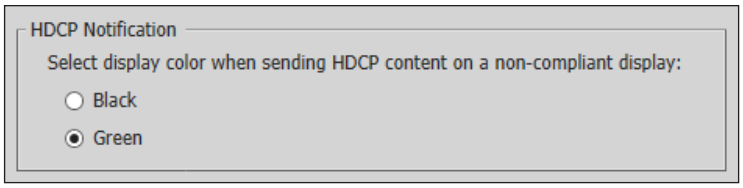


Figure 35. HDCP Notification Panel

Select the desired radio button to designate the display color when HDCP content is sent to a non-compliant display: **Black** or **Green** (see figure 35).

Serial Host Control Port Mode

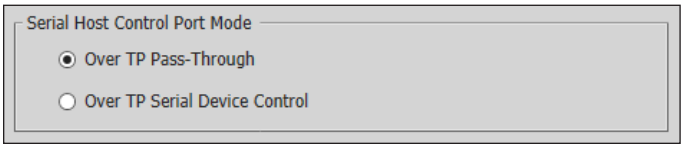


Figure 36. Serial Host Control Port Mode Panel

Select the desired radio button to allow the switcher to control a serial device or have the receiver control the transmitter (see figure 36):

- **`Over TP Pass-Through`** — The signal passes-through the transmitter to control down stream devices, such as a receiver.
- **`Over TP Serial Device Control`** — The receiver controls the transmitter via the `Over TP RS-232` port on the receiver, through the `RS-232` port on the transmitter. The `Over TP RS-232/IR` port on the transmitter is disabled.

Contact Closure Mute Mode

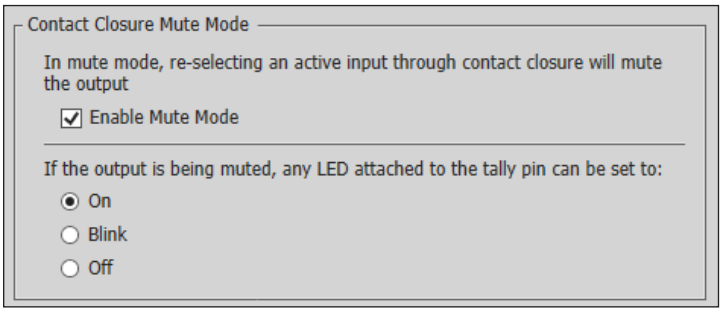


Figure 37. Contact Closure Mute Mode Panel

- Select the **`Enable Mute Mode`** checkbox to mute the output when reselecting an active input through contact closure (see figure 37).
- If the **`Enable Mute Mode`** box is checked, select a radio button to configure the LED attached to the `Tally Out` port: **`On`**, **`Blink`**, or **`Off`**.

CEC Communications



Figure 38. CEC Communications Panel

Select the **`Output`** checkbox to enable CEC Communications (see figure 38).

NOTE: On the DTP2 output, CEC Communications passes through only when connected to a DTP2 or DTP standalone receiver. CEC Communications does not pass through when connected to a non-standalone DTP2 or DTP receiver.

Auto Switch

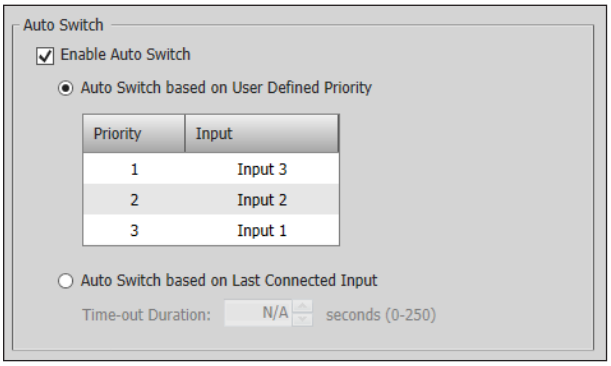


Figure 39. Auto Switch Panel

- Select the **`Enable Auto Switch`** checkbox to allow the switcher to automatically select an active signal (see figure 39).
- If the **`Enable Auto Switch`** checkbox is selected, choose a radio button to configure the input priority:
  - **`Auto Switch based on User Defined Priority`**
  - **`Auto Switch based on Last Connected Input`**

    If desired, select the **`Time-out Duration`** checkbox. Select or enter the number of seconds that the switcher delays before switching to previously selected inputs, following the order in which they were applied. The default is 3 seconds.

Assign Analog Audio to Video Input

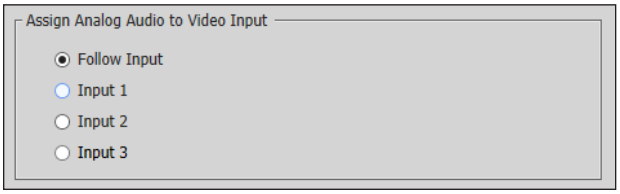


Figure 40. Assign Analog Audio to Video Input Panel

Select a radio button to pass the original embedded digital audio (**`Follow Input`**) or replace it with analog audio by selecting which input to replace the audio with the analog input (**`Input 1`**, **`Input 2`**, or **`Input 3`**) (see figure 40).

RS-232 Insertion

Click the **`RS-232`** tab to view the `RS-232 Insertion` panel (see figure 41, ❶).

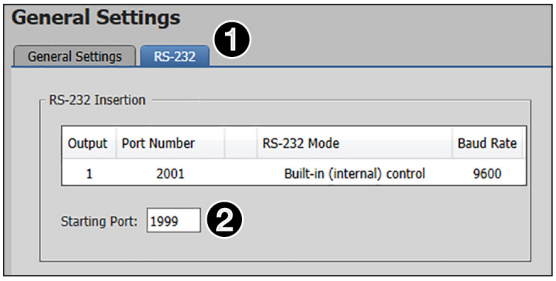


Figure 41. General Settings - RS-232 Tab

This panel allows the user to view and change the **`Starting Port`** (❷) and general port configuration of the RS-232.

To configure the RS-232 port:

1. Hover over the desired output and click the gear icon (see figure 42, ❶).

   The `Configure Port` dialog box opens.

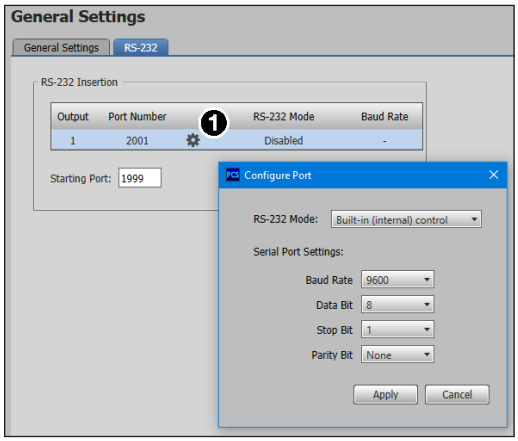


Figure 42. Configure Port

2. Select **`Built-in (Internal) control (Ethernet Insertion)`** from the **`RS-232 Mode:`** drop-down list.
3. Make the desired changes.
4. Click **`Apply`** to save the changes.

AV Controls

The `AV Controls` panel is available on all of the configuration pages for the DTP2 T 203 (see figure 43). It can be used to switch inputs, view active inputs , and mute or unmute video and audio signals.

NOTE: This panel can be hidden or revealed on any page by clicking the arrow button (❶) on the top right of the panel.

5. Click an **`AV Inputs`** button to select that input (❷).
6. The `Active Input` message box (❸) indicates the presence of a signal.
7. Click the following buttons to mute audio, video or sync (❹):
   - Click the **`Audio Mute`** button to 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.
8. Click the appropriate button to unmute any signal. The button reverts to the default color, indicating the signal has been unmuted.

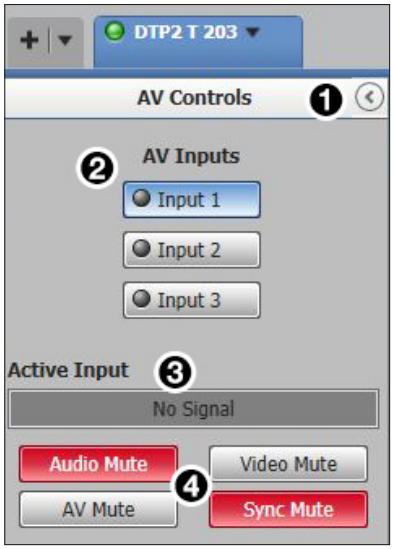


Figure 43. AV Controls

Device Menu

The device menu contains options pertaining to device connection, configuration, and information (see figure 44).

- **Disconnect** — Disconnect the device from the PCS program and close the device tab.
- **Settings** — Open a submenu with the following options:
  - **`Hardware Settings`** — Display the `Hardware Settings` dialog box with device information and side tabs to change the device name, internal clock, and password of connected device (see **Hardware Settings** on page 31 for details).

    It also contains an **`Edit Communication Settings`** button, which provides an alternative method of accessing the `Communication Settings` dialog box.
  - **`Communication Settings`** — Open the `Communication Settings` dialog box to change IP settings of the connected device (see **Communication Settings** on page 32).
- **Reset Device** — Open the `Reset Device` dialog box, with selectable models for resetting the connected device, as well as the Unit Information (also displayed in the `Hardware Settings` dialog box).

  NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords are case sensitive. If the switcher resets, the password reverts to the default, `extron`.
- **Update Firmware (to this device...)** — Upload firmware from the host device to the connected device (see "Updating the Firmware" starting below for details).

  NOTE: If necessary, download a new firmware from the Extron website (see **Software and Firmware Installation** on page 20).
- **About this Module** — Open the `About This Module` dialog box, with the module part number and firmware version of the connected device.

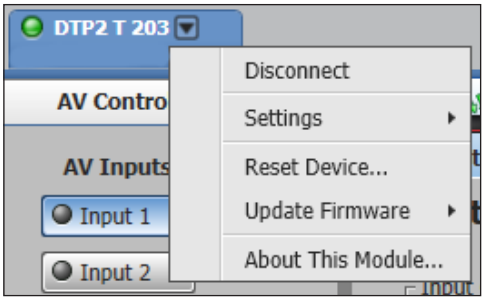


Figure 44. Device Menu

Updating the Firmware

Firmware for the DTP2 T 203 can be updated using PCS. Updates to the DTP2 T 203 firmware are made available periodically via the **Extron website**. The current firmware version can be queried by entering the SIS command via the RS-232 or USB interface (see **View Firmware version** on page 51) or listed in `Hardware Settings` in PCS (see **Hardware Settings** on page 31 for details).

To load a new version of the firmware to the device:

1. Ensure the latest firmware version of the DTP2 T 203 is downloaded onto the computer (see **Software and Firmware Installation** on page 20 for details on downloading the firmware).
2. From the device menu drop-down list, click **`Update Firmware> Update Firmware to this Device...`**.

   An `Update Firmware` dialog box opens (see figure 45).
3. Click **`Continue`**.

   The `Update Firmware to this Device` dialog box opens (see figure 47).
4. Click **`Open Firmware File...`** to select the firmware file.

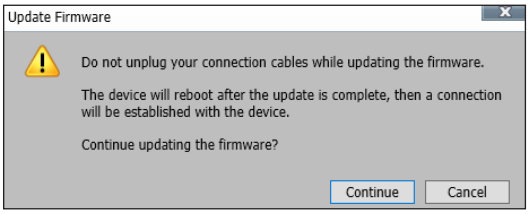


Figure 45. Update Firmware

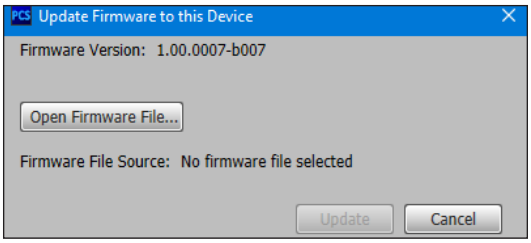


Figure 46. Update Firmware to Device

ATTENTION:

- Valid firmware files must have the file extension `.eff`. A file with any other extension is not a firmware upgrade for this product and could cause the switcher to stop functioning.
- Les fichiers firmware valides doivent contenir l'extension fichier `.eff`. Un fichier avec n'importe quelle autre extension n'est pas une mise à jour de firmware pour cet appareil et l'appareil pourrait arrêter de fonctionner.

5. Once the firmware has been selected, click **`Update`**.

   The `Installing Firmware` progress field shows the progress of the upload. After the upload is complete, a dialog box opens confirming that the upload is complete.

6. Click **`Close`**. The software returns to the `Device Discovery` window.
7. Select **`DTP2 T 203`** from the `Device Discovery`. A connection must be re-established with the device before continuing to use the software.
8. Click **`Connect`**, or double-click the device. The device reconnects to the software.

NOTE: The original factory-installed firmware is permanently available on the DTP2 T 203. If the attempted firmware upload fails for any reason, the switcher reverts to the factory version.

SIS Configuration and Control

Use Simple Instruction Set (SIS) commands to configure the DTP2 T 203. This section provides information about using those commands. Topics include:

- **Host Control Ports**
- **Simple Instruction Set Control**
- **Using the Command and Response Table**
- **Command and Response Table for SIS Commands**
- **Command and Response Table for CEC SIS Commands**

Host Control Ports

Rear Panel RS-232 Port

The DTP2 T 203 has a rear panel serial port that can be connected to a host device such as a computer running Extron DataViewer, available at **www.extron.com**. The port makes serial control of the switcher possible (see **Remote RS-232 Control Wiring** on page 13 to connect the port). Use the protocol information listed below to make the connection.

The protocol for the Remote serial port is as follows:

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

Front Panel Configuration USB Port

The front panel USB-C Configuration port can be connected to a host computer for configuration using SIS commands. To connect to the switcher to a host computer, download the USB driver, follow the on-screen instructions, and configure the switcher as required.

Ethernet (LAN) Port

The rear panel Ethernet connector can be connected to an Ethernet LAN. Communications between the switcher and the controlling device is via Telnet, using port 23. The Telnet port can be changed, if necessary, via SIS, using Dataviewer, or other port configuration application. This connection makes SIS control of the unit possible using a computer connected to the same LAN (see **TP Cable Termination for Ethernet Communication** on page 11 to wire the LAN connector).

Default IP address

To access the DTP2 T 203 switcher via the LAN port, the IP address, subnet mask, and the gateway address for the devices are needed. If the address have not been changed, the factory-specified defaults are:

- **DHCP** `Off`
- **IP address** `192.168.254.254`
- **Gateway address** `0.0.0.0`
- **Subnet mask** `255.255.255.0`

Establishing a Connection

The Ethernet cable can be terminated as a straight-through cable or a crossover cable and must be properly terminated for your application (see **TP Cable Termination for Ethernet Communication** on page 11 to wire the LAN connector).

- **Crossover cable** — Direct connection between the computer and the device.
- **Patch (straight) cable** — Connection of the device to an Ethernet LAN.

To establish a network connection to the device:

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

   NOTE: If the local system administrators have not changed the value, the factory-specified default, `192.168.254.254`, is the correct value for this field.

2. The device responds with a copyright message including the name of the product, firmware version, part number, and the current date and time.
3. Enter the appropriate administrator or user password.
   a. If the password is accepted, the device responds with `Login User` or `Login Administrator`.
   b. If the password is not accepted, the `Password` prompt reappears.

   NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords are case sensitive. If the switcher resets, the password reverts to the default, `extron`.

Connection Timeouts

The Ethernet link times out after a designated period of time with no communication. By default, this timeout value is 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. If there are long idle periods, disconnect the socket and reopen the connection when another command must be sent.

Verbose Mode

Telnet connections can be used to monitor for changes that occur, such as SIS commands from other Telnet sockets or serial port changes. For a Telnet session to receive change notices, the Telnet session must be in verbose mode 1 or 3. In verbose mode 1 or 3, the Telnet socket reports changes in messages that resemble SIS command responses. Front panel changes are also sent to users who are in verbose mode.

Simple Instruction Set Control

Host-to-Unit Instructions

SIS commands consist of one or more characters per field. No special characters are required to begin or end a command character sequence. When a command is valid, the transmitter executes the command and sends a response to the host device. All responses from the transmitter to the host 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.

Device-Initiated Power-Up 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 2019, Extron Electronics DTP2 T 203, Vn.nn, 60-1659-52
```

- `Vn.nn` is the firmware version number.
- `60-1659-52` is the part number of the unit.

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 number
`E06` – Invalid channel change
`E10` – Invalid command
`E13` – Invalid parameter
`E14` – Invalid for this configuration
`E17` – Invalid command for signal type
`E24` – Privilege violation

Timeout

Pauses of 10 seconds or longer between command ASCII characters result in a timeout. The command operation is aborted with no other indication.

Unsolicited Responses

The responses for the following are initiated automatically when the state changes on the device:

- Input selection
- HDCP all input status
- Executive mode enable and disable
- DTP/HDBT switch status
- Signal status
- HDCP output status
- Auto switch enable and disable
- Remote power mode status

Using the Command and Response Table

The **Command and Response Table for SIS Commands** on page 45. Symbols are used throughout the table to represent variables in the command response fields. Command and response examples are shown throughout the table. The ASCII to HEX conversion table is for use with the command and response table (see figure 47).

Space →

ASCII to Hex Conversion Table																Esc	1B	CR	ØD	LF	ØA
	2Ø	!	21	"	22	#	23	$	24	%	25	&	26	'	27						
(	28	)	29	*	2A	+	2B	,	2C	-	2D	.	2E	/	2F						
Ø	3Ø	1	31	2	32	3	33	4	34	5	35	6	36	7	37						
8	38	9	39	:	3A	;	3B	<	3C	=	3D	>	3E	?	3F						
@	4Ø	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	5Ø	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						
`	6Ø	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	7Ø	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 47. ASCII to Hex Conversion Table

NOTE: For commands and examples of computer or device responses used in this guide, the character "0" is the number zero and "O" is the capital letter "o".

Symbol Definitions

NOTES:

- If unit does not support or recognize the entered commands, nothing happens and no response is issued.
- Only instances marked with a • character require a space. Any spaces between characters in the command and response tables are only inserted for ease of reading

↵ = CR/LF (carriage return with line feed)

← or ¦ = Soft carriage return (no line feed)

| = Pipe (vertical bar) character (URL equivalent to carriage return)

• = Space

* = Asterisk character (which is a command character, not a variable)

Esc or W = Escape key

X1 = Input number
1 to 3

X2 = Status
0 = Off or disabled or not selected or unmute or undetected
1 = On or enabled or selected or mute or detected

X3 = Auto switch mode
0 = Disabled (default)
1 = Enabled, user-defined priority
2 = Enabled, last-connected input

X4 = Video Mute

0 = Unmute video and sync (default)
1 = Mute video to black screen
2 = Mute video and sync

X6 = Video color bit depth mode

1 = Auto based on sink EDID (default)
2 = Force truncation to 8-bit

X7 = Embedded audio input format
1 = Auto (default)
2 = Force embed digital audio
3 = Force embed analog audio

X8 = Input HDCP status
0 = No source detected
1 = Source detected with HDCP
2 = Source detected without HDCP

X9 = Output HDCP status
0 = No sink detected
1 = Sink detected with HDCP
2 = Sink detected without HDCP

X10 = Output HDCP mode
1 = Encrypt as required by input (default)
Continuous trials for HDMI sinks
Attempt for 10 seconds on DVI sinks, then fail
2 = Always encrypt
Continuous trials for HDMI sinks
Attempt for 10 seconds on DVI sinks, then fail

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

X13 = 128 or 256 Byte EDID raw Hex (text form)

X14 = Native resolution and refresh rate from selected EDID.
Example: 1920x1200 @ 60 Hz

X15 = Verbose mode
0 = Clear/none (default for IP)
1 = Verbose mode (default for serial/USB)
2 = Tagged responses for queries
3 = Verbose mode and tagged responses for queries

X16 = Model name.
The name is a text string of up to 24 characters drawn from the alphabet (A-Z), digits (0-9), and hyphens (-), with no spaces. The first character must be a letter, and the last character cannot be a hyphen. The default is DTP2-T-203 and the last three sections of the device MAC address.

X18 = DTP/HDBT mode
0 = DTP mode
1 = HDBaseT mode

X19 = Output 5 V mode
1 = Auto (5 V enable when source with 5 V present, off if not present)
2 = 5 V always enabled (default)

X20 = Tally pin mode on channel mute:
0 = Always on (default)
1 = Off when muted
2 = Blink when muted

X21 = Set Date/Time (MM/DD/YY-HH:MM:SS)
Example: 04/21/19-10:54:00

X22 = IP Address (*xxx.xxx.xxx.xxx*)
Leading zeros in each of the four fields are optional in setting values and are expressed in returned values
Factory Default IP address: 192.168.254.254
Default Gateway IP address: 0.0.0.0
Default DNS Server UP address: 0.0.0.0

X23 = Hardware (MAC) address (00-05-A6-##-##-##)

X24 = Subnet mask (*xxx.xxx.xxx.xxx*)
Leading zeros in each of the 4 fields are optional in setting values and are expressed in returned values.
Default subnet mask: 255.255.0.0.

NOTE: Per industry standards, there cannot be any 1 bits to the right of a 0 bit in a subnet mask. Example: 255.255.64.0 is incorrect and results in an E13 message. 255.255.128.0 is correct.

X25 = Password
Maximum length is up to 128 characters. All human-readable characters are permitted except “|”.
Passwords are case-sensitive and cannot be a single space.

NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. If the switcher resets, the password reverts to the default, extron.

X26 = DTP RS-232
0 = Disabled/Captive Screw Insertion (default)
1 = Built-in (Internal) control/Ethernet Insertion

X27 = Port number
01 = Remote RS232/RS422 port
02 = Unused
03 = TP Output

X28 = Baud Rate
300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600 (default), 14400, 19200, 28800, 38400, 57600, 115200; Port 1 is fixed at 9600

X29 = **P**arity Odd, **E**ven, **N**one, **M**ark, Space (only the first letter is required)

X30 = Data bits 7 through 8 (default = 8)

X31 = Stop bits 1, 2 (default = 1)

X32 = Port timeout intervals = 1 to 65000 (in 10 second intervals: 1 = 10 seconds).
Default is 30 = 300 seconds = 5 minutes.

X33 = Start point for UART ports (default = 1999)

X34 = Remote power status
0 = No remote power/off
1 = DTP2 48 VDC

X36 = HDCP notification
0 = Notification disabled
1 = Green screen enabled (default)

X37 = Over TP IR control
1 = Over TP pass through (default)
2 = Over TP serial device control

X41 = Auto Switch Priority
1 = input 1
2 = input 2
3 = input 3

X42 = Auto Switch Timeout (Mode 2)
0 to 500 seconds (in 1 second intervals),
Default = 3 seconds.

NOTE: On the DTP2 output, CEC Communications only passes through when connected to a DTP2 or DTP standalone receiver. CEC Communications does not pass through when connected to a non-standalone DTP2 or DTP receiver.

X45 = CEC mode
0 = Disable CEC operations for this I/O port (default)
2 = Enable insertion (unidirectional)
4 = Enable insertion and publish received CEC messages (bidirectional) (recommended mode)

X46 = CEC status
0 = CEC mode 0 disabled
2 = CEC mode 2 enabled but no device detected (unidirectional)
3 = CEC mode 2 enabled and device detected (unidirectional)
4 = CEC mode 4 enabled but no device detected (bidirectional)
5 = CEC mode 4 enabled and device detected (bidirectional)

X47 = Source device CEC port address: 0 through 15 (1 = not found or port not enabled)

X48 = Sink device CEC port address: 0 through 15 (1 = not found or port not enabled)

CEC Logical Addresses			
Address	**Device**	**Address**	**Device**
0	TV	8	Playback Device 2
1	Recording Device 1	9	Recording Device 3
2	Recording Device 2	10	Tuner 4
3	Tuner 1	11	Playback Device 3
4	Playback Device 1	12	Reserved
5	Audio System	13	Reserved
6	Tuner 2	14	Free Use
7	Tuner 3	15	Unregistered (as initiator address) Broadcast (as destination address)

X49 = CEC command: Predefined actions as strings within double quotes:
"Pwr on"
"PwrOff"
"ShowMe"

X50 = Send result
0 = Failed (NAK)
1 = Success (ACK) of entire message
2 = Unable to send

X51 = CEC physical address: 4 hexadecimal digits (Example: %32%00)

X54 = CEC address byte: In the form of percent sign followed by 2 hex digits
(Example: %E0 = Extron output (14) to TV (0))

X56 = Prefix (subnet mask bits). Subnet 255.255.0.0 is represented as a Prefix value by /16. Default subnet mask bits response for Esc CISG command (on IPv4) = /16: (IPV6 is TBD).

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

Command and Response Table for SIS Commands

Command	ASCII command (host to device)	Response (device to host)	Additional description
Input selection			
Select input (audio and video)	X1!	InX1•All↵	
View input	! *Verbose mode 2/3*	X1↵ InX1•All↵	1 = HDMI 1; 2 = HDMI 2; 3 = DisplayPort
KEY: X1 = Inputs: 1 to 3			
Auto-switch mode			
Set auto-switch mode	EscX3AUSW←	AuswX3↵	Default is X3 = 0 (disabled)
Query setting	EscAUSW← *Verbose mode 2/3*	X3↵ AuswX3↵	
Set user-priority order for Mode 1	EscPX41•X41•X41 AUSW←	AuswPX41•X41•X41↵	Default is highest to lowest (3 2 1)
View user-priority order for Mode 1	EscPAUSW←	X41•X41•X41↵ AuswPX41•X41•X41↵	
View machine-priority order for Mode 2	EscOAUSW← *Verbose mode 2/3*	X41•X41•X41↵ AuswOX41•X41•X41↵	
Set auto-switch timeout	EscTX42AUSW←	AuswTX42↵	X42 = 3 seconds by default
View auto-switch timeout	EscTAUSW← *Verbose mode 2/3*	X42↵ AuswTX42↵	
KEY: X3 = Auto switch: 0 = Disabled (default) 1 = Enabled, user-defined priority 2 = Enabled, last-connected input X41 = Auto-switch priority: 1 = Input 1 2 = Input 2 3 = Input 3 X42 = Auto-switch timeout (Mode 2): 0 through 500 seconds (in 1 second intervals), default = 3 seconds			
Assign Analog Audio Input to Specific Video Input			
Default operation (follow input selection)	Esc0AFLW←	Aflw0↵	Analog audio is output regardless of input selection.
Assign (lock) to specific input only	EscX1AFLW←	AflwX1↵	
View current setting	EscAFLW← *Verbose mode 2/3*	X1↵ AflwX1↵	
KEY: X1 = Inputs: 1 to 3			
Audio Input Format			
Set audio input format	EscIX1*X7AFMT←	AfmtIX1*X7↵	
View audio input format	EscIAFMT← *Verbose mode 2/3*	X7•X7•X7↵ AfmtIX7•X7•X7↵	
KEY: X1 = Inputs: 1 to 3 X7 = Input audio: 1 = Auto (default) 2 = Digital 3 = Analog			
TMDS (HDMI) Output Audio Format			
Enable TMDS output audio	Esc01AFMT←	Afmt01↵	
Disable TMDS output audio	Esc00AFMT←	Afmt00↵	
View TMDS output audio setting	EscOAFMT← Verbose mode 2/3	X2↵ AfmtOX2↵	
KEY: X2 = Status 0 = Off, disable 1 = On, enable			

Command	ASCII command (host to device)	Response (device to host)	Additional description
Video Color Bit Depth			
Set video color bit depth mode	Esc V X6 BITD ←	BitdV X6 ↵	
View video color bit depth mode	Esc VBITD ←	X6 ↵	
	Verbose mode 2/3	BitdV X6 ↵	
KEY: X6 = Video color bit depth: 1 = Automatically based on sink (default) 2 = Force to 8-bit			
Signal Status (unsolicited)			
Request status of all signals	Esc 0LS ←	Sig X2 • X2 • X2 * X2 ↵	input 1• input 2 • input 3 * output
KEY: X2 = Status 0 = Signal not present 1 = Signal present			
Front Panel Lockout (Executive Mode)			
Enable or disable Executive mode	X2 X	Exe X2 ↵	
View lockout status	X	X2 ↵	
	Verbose mode 2/3	Exe X2 ↵	
KEY: X2 = Status: 0 = Disable 1 = Enable			
Channel Mute (deselect) Mode – via contact and tally pins			
Set mode	Esc X2 * X20 MUTM ←	Mutm X2 * X20 ↵	X2 = Disable/enable, which selects 0 channel if reselect input via contact closure
View settings	Esc MUTM ←	X2 * X20 ↵	
KEY: X2 = Status 0 = Disable 1 = Enable X20 = Tally pin mode on enable: 0 = Always on (default) 1 = Off when muted 2 = Blink when muted.			
Video Mute			
Enable video and sync mute	2B/b	Vmt2 ↵	Mutes video and sync
Enable video mute	1B/b	Vmt1 ↵	Mutes video and displays black video
Disable video mute	0B/b	Vmt0 ↵	Unmute (default)
View video mute status	B/b	X4 ↵	
	Verbose mode 2/3	Vmt X4 ↵	
KEY: X4 = Video mute: 0 = Unmute (default) 1 = Mute video to black 2 = Mute video and sync			
Analog Audio Mute (over TP out)			
Audio mute	X2 Z/z	Amt X2 ↵	
View audio mute status	Z/z	X2 ↵	
	Verbose mode 2/3	Amt X2 ↵	
KEY: X2 = Status: 0 = Off (default) 1 = On			
Verbose Mode			
Set verbose mode	Esc X15 CV ←	Vrb X15 ↵	
View verbose mode	Esc CV ←	X15 ↵	
	Verbose mode 2/3	Vrb X15 ↵	
KEY: X15 = Verbose mode: 0 = Clear/none (default for IP) 1 = Verbose mode (default for serial/USB) 2 = Tagged responses for queries 3 = Verbose mode and tagged responses for queries			

Command	ASCII command (host to device)	Response (device to host)	Additional description
5V Output Hot-Plug Mode			
Set output Hot-plug mode (5V)	Esc M X19 HPLG ←	HplgM X19 ↵	
View output Hot-plug mode (5V) status	Esc MHPLG ← *Verbose mode 2/3*	X19 ↵ HplgM X19 ↵	
KEY: X19 = Output 5 V:	1 = Auto (5V enabled when source with 5 V present, off if not present)		2 = 5 V always enabled (default)
HDCP Status (unsolicited)			
View input HDCP status for HDMI	Esc IHDCP ← *Verbose mode 2/3*	X8 • X8 • X8 ↵ HdcpI X8 • X8 • X8 ↵	
View output HDCP status	Esc OHDCP ← *Verbose mode 2/3*	X9 ↵ HdcpO X9 ↵	
KEY: X8 = Input HDCP status:	0 = No source detected	1 = Source detected with HDCP	2 = Source detected without HDCP
X9 = Output HDCP status:	0 = No sink detected	1 = Sink detected with HDCP	2 = Sink detected without HDCP
HDCP Authorized Device			
Set HDCP authorization on HDMI/DP	Esc E X1 * X2 HDCP ←	HdcpE X1 * X2 ↵	
View HDCP authorization status	Esc EHDCP ← Verbose mode 2/3	X2 • X2 • X2 ↵ HdcpE X2 • X2 • X2 ↵	
KEY: X1 = Inputs:	1 to 3		
X2 = Status:	0 = Disable HDCP authorization	1 = Enable HDCP authorization (default)	
Output HDCP Mode			
Set output HDCP mode	Esc S X10 HDCP ←	HdcpS X10 ↵	
View output HDCP mode	Esc SHDCP ← *Verbose mode 2/3*	X10 ↵ HdcpS X10 ↵	
KEY: X10 = Output HDCP mode:	1 = Encrypt as required by input (default)		2 = Always encrypt
HDCP Notification			
Disable	Esc N0HDCP ←	HdcpN0 ↵	
Set green screen	Esc N1HDCP ←	HdcpN1 ↵	
View HDCP notifications	Esc NHDCP ← *Verbose mode 2/3*	X36 ↵ HdcpN X36 ↵	
KEY: X36 = HDCP notification:	0 = Notification disable	1 = Green screen enable (default)	
TMDS Output Format			
Set format	Esc X11 VTPO ←	Vtpo X11 ↵	
View setting	Esc VTPO ← *Verbose mode 2/3*	X11 ↵ Vtpo X11 ↵	
KEY: X11 = TMDS output format:	1 = Auto (default) 2 = DVI RGB 444	3 = HDMI RGB “Full”	4 = HDMI RGB “Limited”
	5 = HDMI YUV 444 “Limited”	6 = HDMI YUV 422 “Limited”	

Command	ASCII command (host to device)	Response (device to host)	Additional description
LAN/IP Configuration and Setup (see also Set IP/Subnet/Gateway (all at once))			
Set date and time	Esc X21 CT←	Ipt•X21↵	*MM/DD/YY-HH:MM:SS*
View date and time	Esc CT←	X21↵	
Set DHCP mode	Esc X2 DH←	Idh•X2↵	
View DHCP mode	Esc DH←	X2↵	
Set IP address	Esc X22 CI←	Ipi•X22↵	Default = 192.168.254.254
View IP address	Esc CI←	X22↵	
View hardware MAC address	Esc CH←	X23↵	
Set subnet mask	Esc X24 CS←	Ips•X24↵	Default = 255.255.0.0
View subnet mask	Esc CS←	X24↵	
Set gateway IP address	Esc X22 CG←	Ipg•X22↵	Default = 0.0.0.0
View gateway IP address	Esc CG←	X22↵	
Set DNS server IP address	Esc X22 DI←	Ipd•X22↵	Default = 0.0.0.0
View DNS server IP address	Esc DI←	X22↵	
View number of IP connections	Esc CC←	{*number of connections*}↵	

NOTE: The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords are case sensitive. If the switcher resets, the password reverts to the default, extron.

Set administrator password	Esc X25 CA←	Ipa•X25↵	
Clear administrator password	Esc •CA←	Ipa•↵	
View administrator password	Esc CA←	X25↵	
Set user password	Esc X25 CU←	Ipu•X25↵	
Clear user password	Esc •CU←	Ipu•↵	
View user password	Esc CU←	X25↵	

KEY:
X2 = Status: 0 = Off 1 = On
X21 = Set Date/Time: *MM/DD/YY-HH:MM:SS* (Example: *06/21/02-10:54:00*)
X22 = IP Address (*xxx.xxx.xxx.xxx*):
Leading zeros in each of the 4 fields are optional in setting values and are expressed in returned values.
Factory Default IP address: 192.168.254.254
Default Gateway IP address: 0.0.0.0
Default DNS Server UP address: 0.0.0.0
X23 = Hardware (MAC) address (00-05-A6-##-##-##)
X24 = Subnet mask (*xxx.xxx.xxx.xxx*):
Leading zeros in each of the 4 fields are optional in setting values and are expressed in returned values.
Default subnet mask = 255.255.0.0
X25 = Password: Maximum length is up to 128 characters. All human-readable characters are permitted except "|".
Passwords are case-sensitive and cannot be a single space.

Command	ASCII command (host to device)	Response (device to host)	Additional description
EDID Minder			
View EDID in hex format	Esc R X1 EDID ←	X13 ↵	Read out hex data (as text) from the EDID assigned/used on the specific input.
View EDID native resolution	Esc N X1 EDID ←	X14 ↵	Read out native resolution and refresh rate from EDID assigned to the specific input.
Set IP/Subnet/Gateway (all at once)			
Set IP address	Esc 1* X22 CISG ←	Cisg•1* X22 / X56 * X22 ↵	
Set IP/Subnet addresses	Esc 1* X22 / X56 CISG ←	Cisg•1* X22 / X56 * X22 ↵	
Set IP/Subnet/Gateway addresses	Esc 1* X22 / X56 * X22 CISG ←	Cisg•1* X22 / X56 * X22 ↵	
View IP/Subnet/Gateway addresses	Esc 1CISG ←	X22 / X56 * X22 ↵	IP-address, prefix, gateway
Set IP/Subnet/Gateway (all at once)			
Set output insertion port	Esc O1* X26 LRPT ←	LrptO1* X26 ↵	Sets output to RS-232 pass-through (default).
View insertion port setting	Esc O1LRPT ←	X26 ↵	
Configure Serial Port			
Set serial port parameters	Esc X27 * X28 , X29 , X30 , X31 CP ←	Cpn X27 •Ccp X28 , X29 , X30 , X31 ↵	Set RS-232 port parameters.
View serial port status	Esc X27 CP ←	X28 , X29 , X30 , X31 ↵	
Configure current port timeout	Esc 0* X32 TC ←	Pti0* X32 ↵	Set timeout.
View current port timeout	Esc 0TC ←	X32 ↵	

NOTE: Setting any values with the CISG command changes DHCP from on to off and the Cisg response is followed by Boot2 response to verbose listeners.

KEY: X22 = IP Address (*xxx.xxx.xxx.xxx*):
Leading zeros in each of the 4 fields are optional in setting values and are expressed in returned values.
Factory Default IP address: 192.168.254.254
Default Gateway IP address: 0.0.0.0
Default DNS Server UP address: 0.0.0.0

X56 = Prefix (subnet mask bits): Subnet 255.255.0.0 is represented as a Prefix value by /16. Default subnet mask bits response for esc CISG command = /16.

NOTE: Per industry standards, there cannot be any 1 bits to the right of a 0 bit in a subnet mask. Example: 255.255.64.0 is incorrect and results in an E13 message. 255.255.128.0 is correct.

KEY: X26 = DTP RS-232 Insertion: 0 = Disabled/Captive Screw Insertion (default) 1 = Built-in (Internal) control/Ethernet Insertion

KEY:
X27 = Port number: 01 = Remote RS232/RS422 port 02 = Unused 03 = TP Output
X28 = Baud rate: 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600 (default), 14400, 19200, 28800, 38400, 57600, 115200; Port 1 is fixed at 9600
X29 = Parity Odd, Even, None, Mark, Space (Only the first letter is required)
X30 = Data bits: 7 through 8 (default = 8)
X31 = Stop bits: 1, 2 (default = 1)
X32 = Port timeout intervals: 1 to 65000 (in 10 second intervals: 1 = 10 seconds). Default is 30 = 300 seconds = 5 minutes.

Command	ASCII command (host to device)	Response (device to host)	Additional description
Configure Serial Port (continue)			
Configure global port timeout	Esc 1*X32TC↵	Pti1*X32↵	Set timeout.
View current port timeout	Esc 1TC↵	X32↵	
Set UART start point	Esc X33*MD↵	Pmd*X33↵	Set start point for UART.
View UART start point	Esc MD↵	X33↵	Read start point for UART.
KEY: X32 = Port timeout intervals: 1 to 65000 (in 10 second intervals: 1 = 10 seconds). Default is 30 = 300 seconds = 5 minutes. X33 = Start point for UART ports (default = 1999)			
NTP (Network Time Protocol)			
Enable NTP to set the time	Esc 1NTEN↵	Nten1↵	
Disable NTP	Esc 0NTEN↵	Nten0↵	Disables use of NTP service and uses the local PC to set the time.
Sync NTP now	Esc 2NTEN↵	Nten2↵	
View NTP status	Esc NTEN↵	X2↵	
Set single NTP IP address	Esc X22NTIP↵	NtipX22↵	
Set multiple NTP IP addresses	Esc X22*...X22NTIP↵	NtipX22*...X22↵	
Clear all NTP IP addresses	Esc•NTIP↵	Ntip↵	Sets to default (empty string)
View NTP IP address	Esc NTIP↵	X22*...X22↵	
KEY: X2 = Status: 0 = Disable (default) 1 = Enable X22 = IP Address (*xxx.xxx.xxx.xxx*): Leading zeros in each of the 4 fields are optional in setting values and are expressed in returned values. Factory Default IP address: 192.168.254.254 Default Gateway IP address: 0.0.0.0 Default DNS Server UP address: 0.0.0.0			
Device Name			
Set unit name	Esc X16CN↵	Ipn•X16↵	Change name to one of your choosing. See limits below X16.
Set name to factory default	Esc•CN↵	Ipn•DTP2-T-203-*xx-xx-xx*↵	*xx-xx-xx* = the last three sections of the MAC address
View unit name	Esc CN↵ *Verbose mode 2/3*	X16↵ Ipn•X16↵	Show the current switcher name.
KEY: X16 = Unit name up to 24 alphanumeric characters including hyphens (-), with no spaces. The first character must be a letter. The last character cannot be a hyphen. Default is DTP2-T-203-*xx-xx-xx*., where *xx-xx-xx* represents the last six hexadecimal characters of the device MAC address.			
Serial Host Control Port Mode			
Over TP pass-through	Esc 1HSTM↵	HstmX37↵	
Over TP serial device control	Esc 2HSTM↵	HstmX37↵	
View host control port mode	Esc HSTM↵ *Verbose mode 2/3*	X37↵ HstmX37↵	
KEY: X37 = Over TP IR control: 1 = Over TP pass-through (default) 2 = Over TP serial device control.			

Command	ASCII command (host to device)	Response (device to host)	Additional description
DTP/HDBaseT Mode Switch			
View DTP protocol	Esc O1HDBT ← *Verbose mode 2/3*	X18 ↵ HdbtO1*X18 ↵	
KEY: X18 = DTP/HDBT mode:	0 = DTP mode	1 = HDBaseT mode	
DTP2 Remote Power Mode Switch			
Query output remote power mode	Esc RPWR ← *Verbose mode 2/3*	X34 ↵ Rpwr X34 ↵	
KEY: X34 = Remote power:	0 = No remote power	1 = DTP2 48 VDC	
Reset			
NOTE: The factory configured password for all accounts on this device have been set to the device serial number. Passwords are case sensitive. If the switcher resets, the password reverts to the default, extron.			
Reset	Esc ZXXX ←	Zpx ↵	Reset device settings to factory default
Reset device and IP settings	Esc ZQQQ ←	Zpq ↵	Reset all device and IP settings to factory default
View Information			
Request information	I/i	In X1 • Aflw X1 • Ausw X3 • Vmt X4 • Amt X2 ↵	
View model name	1I/i *Verbose mode 2/3*	DTP2 • T • 203 ↵ Inf01*DTP2 • T • 203 ↵	
View model description	2I/i *Verbose mode 2/3*	HDMI/DP • SWITCHER • Tx • SUPPORT • 4K60 ↵ Inf02*HDMI/DP • SWITCHER • Tx • SUPPORT • 4K60 ↵	
View part number	N/n	60-1659-52 ↵	
View firmware version	Q/q	*x.xx* ↵	Firmware build with two decimals
View firmware version w/build	*Q/q	*x.xx.xxxx* ↵	
KEY: X1 = Inputs:	1 to 3		
X2 = Status:	0 = Disable (default)	1 = Enable.	
X3 = Auto switch:	0 = Disable (default)	1 = User-defined priority	2 = Last-connected input
X4 = Video mute:	0 = Unmute (default)	1 = Mute output	2 = Mute sync

Command and Response Table for CEC SIS Commands

Command	ASCII command (host to device)	Response (device to host)	Additional description
CEC Enabled/Disable			
NOTE: On the DTP2 output, CEC Communications only pass through when connected to a DTP2 or DTP standalone receiver. CEC Commands do not pass through when connected to a non-standalone DTP2 or DTP receiver.			
Enable or disable one output CEC	Esc O1*X45CCEC ←	CcecO1*X45 ↵	
Enable or disable all outputs CEC	Esc 0X45*CCEC ←	CcecX45 ↵	
View output CEC status	Esc O1CCEC ← *Verbose mode 2/3*	X46*X47*X48 ↵ CcecO1*X46*X47*X48 ↵	
KEY: X45 = CEC mode:	0 = Disable CEC operation for this I/O port (default) 2 = Enable insertion and break CEC connection input to output (unidirectional) 4 = Enable insertion and publish received CEC messages (bidirectional)		
X46 = CEC status:	0 = CEC mode 0 disabled 2 = CEC mode 2 enabled but no device detected (unidirectional) 3 = CEC mode 2 enabled and device detected (unidirectional) 4 = CEC mode 4 enabled but no device detected (bidirectional 5 = CEC mode 4 enabled and device detected (bidirectional)		
X47 = Source device CEC port address:	0 through 15 (-1 = not found or port not enabled)		
X48 = Sink device CEC port address:	0 through 15 (-1 = not found or port not enabled) (see **CEC Logical Addresses** on page 44)		
Send CEC Commands			
Default discovered target logical address			
Send CEC data to Output (downstream sink)	Esc O1*X49DCEC ← or Esc O1*X53DCEC ←	DcecO1*X54X53*X50 ↵	The response is always in a hex representation (X53), for example: %2A%07%FF.
Broadcast to all devices			
Send CEC data to Output (downstream sink)	Esc O1*15*X49DCEC ← or Esc O1*15*X53DCEC ←	DcecO1*X54X53*X50 ↵	
NOTE: Attempting to send a CEC command to an input or output that is disabled returns an E14 error.			
KEY: X49 = CEC command:	Predefined actions as strings within double quotes: "PwrOn", "PwrOff", or "ShowMe"		
X50 = Send result:	0 = Failed (NAK) device not detected 1 = Success (ACK) device detected 2 = Unable to send		
X53 = CEC data:	User selected elements (0 to 15) in the form of percent sign followed by 2 hex digits (Example: %2A%07%FF)		
X54 = CEC address byte:	In the form of percent sign followed by 2 hex digits (Example: *%E0* = Extron output (*14*) to TV (*0*))		

Command	ASCII command (host to device)	Response (device to host)	Additional description
NOTE: CEC Usage Examples			
Unidirectional mode — No CEC received data messages (including answers to queries) desired			
Set mode	Esc O1*2CCEC ←	CcecO1*2↵	Power on TV on output 1.
Set data	Esc O1*"PwrOn"DCEC ← or Esc O1*%04DCEC ←	DcecO1*%E0%04*1↵	
Bidirectional mode — CEC received data messages desired			
Set mode	Esc O1*4CCEC ←	CcecO1*4↵	Switch TV on output 1 to our signal (HDMI 2 on TV).
Set data	Esc O1*"ShowMe"DCEC ← or Esc O1*15*%82%20%00DCEC ←	DcecO1*%EF%82%20%00*1↵	
Examples of possible unsolicited messages		CecO1*%0F%32%65%6E%67*1↵	TV broadcast command to set the menu language to English ("eng").
		CecO1*%0E*1↵	TV pings us to confirm we are still there.
NOTE: Asynchronous received data messages from CEC in bidirectional mode (4) format:		Ceci X1*X54X51*X50↵ CecO1*X54X51*X50↵	
Other CEC Commands			
Rediscover device on output	Esc O1QCEC ←	QcecO1*1↵ QcecO1*0*X50↵ ... QcecO1*13*X50↵	
Report physical address of output port	Esc O1PCEC ← *Verbose mode 2/3*	X51↵ PcecO1*X51↵ *%10%00*	For 1000 (usually first HDMI input on TV).

KEY:
X50 = Send result: 0 = Failed (NAK) device not detected 1 = Success (ACK) device detected 2 = Unable to send
X51 = CEC physical address 4 hexadecimal digits in the form of %xx%xx (Example: *%32%00*)
X54 = CEC address byte: In the form of percent sign followed by 2 hex digits (Example: *%E0* = Extron output (*14*) to TV (*0*))

Internal Web Page

The DTP2 T 203 features an internal web server, displayed as a web page. This page allows you to monitor and adjust certain settings of the DTP2 T 203 via a LAN or WAN connection through the rear panel LAN (RJ-45) port, using a web browser such as the latest versions of Microsoft® Edge®, Mozilla® Firefox®, Google Chrome™, and Apple® Safari®.

This section gives an overview of the internal web page, which is always available and cannot be erased or overwritten. Topics in this section include:

- **Accessing the Internal Web Page**
- **Web Pages Panel**

Accessing the Internal Web Page

To access the internal web page:

1. Connect to the DTP2 T 203 to a LAN using the rear panel LAN port.
2. On a connected PC, open a web browser.
3. Enter the device IP address of the device in the browser **Address** field.

   NOTE: If the local system administrators have not changed the value, the factory specified default is `192.168.254.254`.

4. Press the <**Enter**> key on the keyboard.
   - If the device is not password-protected, the web page opens without further input.
   - If the device is password-protected, it displays an password page.



Figure 48. Internal Web Page Main Screen with Password Prompt

5. For a password protected device, enter a username (`user` or `admin`) in the **Username** field and the password in the **Password** field when prompted.

   NOTE: The factory configured password for all accounts on this device has been set to the device serial number. Passwords are case sensitive. If the switcher resets, the password reverts to the default, which is `extron`. A new password would need to be configured to secure the device.

6. Click **SIGN IN**.

Web Pages Panel

The DTP2 T 203 internal web page provides an overall, read-only view of the status of the transmitter, with some editable fields (see figure 49).

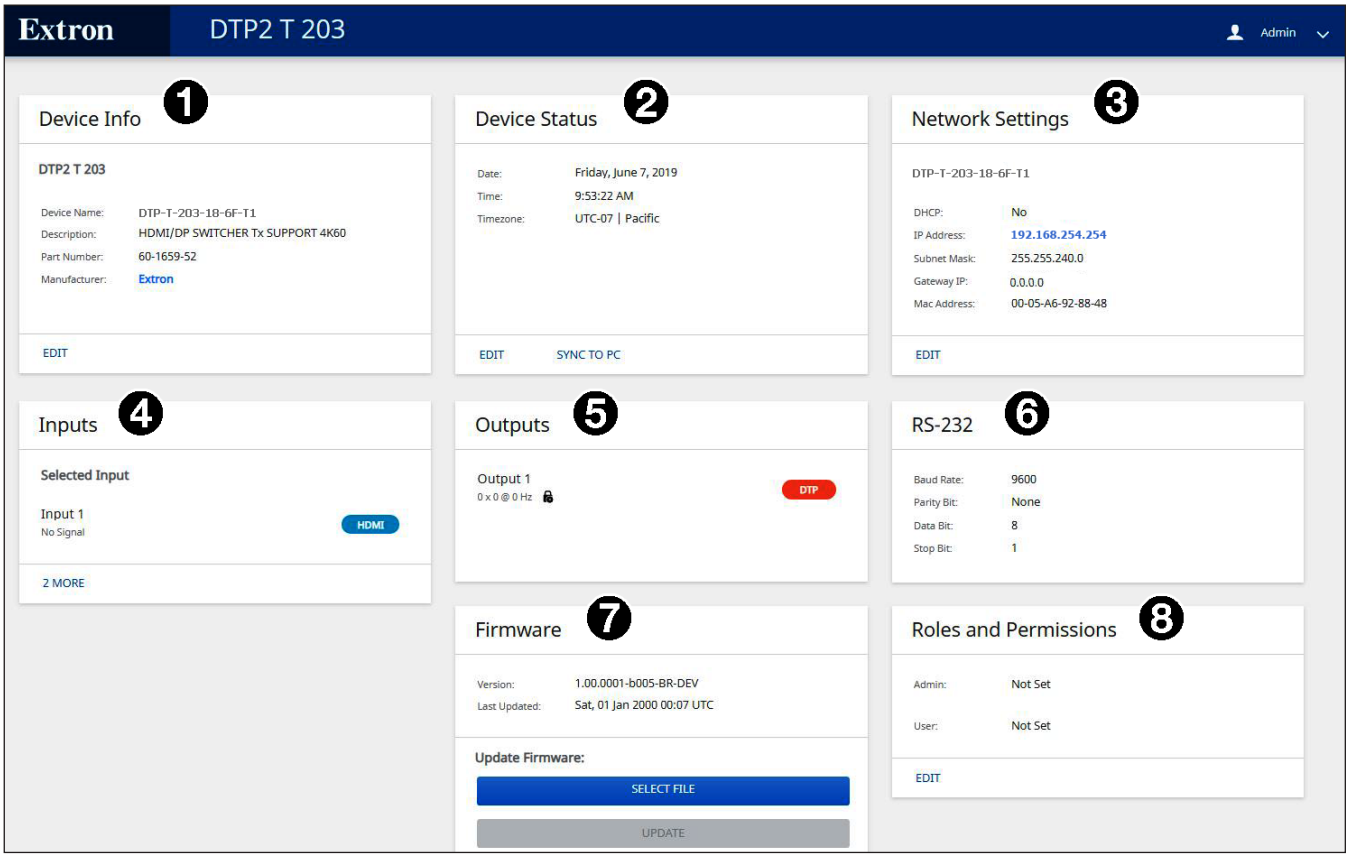


Figure 49. Web Page

The panels are:

1. **Device Info**
2. **Device Status**
3. **Network Settings**
4. **Inputs**
5. **Outputs**
6. **RS-232**
7. **Firmware**
8. **Roles and Permissions**

Device Info

The `Device Info` panel displays the device name, a brief product description, and the part number (see figure 50). The panel also contains an Extron link, which opens the **Extron website** in a new window.

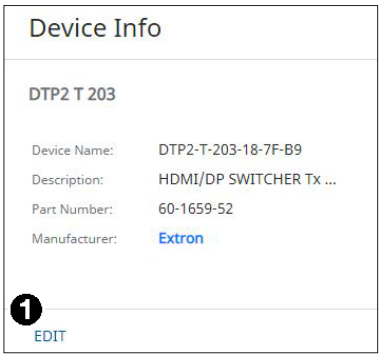


Figure 50. Device Info

To change the device name:

1. Click **EDIT** (see **figure 50**, ❶ on page 55).

   The Device Info Settings dialog box opens (see figure 51).

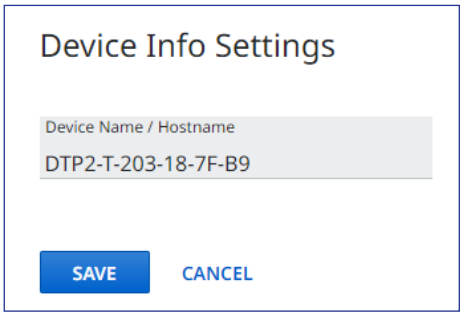


Figure 51. Device Info Settings

2. Edit the **Device Name** as desired.

NOTES:

- The name can have alphanumeric characters and hyphens only. A hyphen cannot be the first or last character. An incorrect name is ignored and the current name is not changed.
- The default name is a combination of the model name and last three pairs of the MAC address (for example, DTP2-T-203-7C-AA-E0).

3. Click **SAVE**.

Device Status

The Device Status panel shows the date, time, and time zone for the connected switcher, and allows the user to either synchronize the date and time to a connected PC or set the date and time manually (see figure 52).

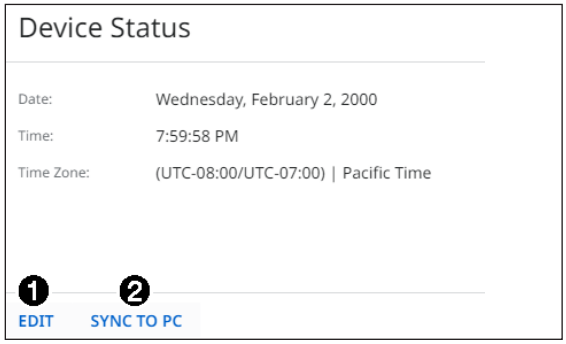


Figure 52. Device Status

To set the information manually:

1. Click **EDIT** (see figure 52, ❶).

   The Device Status Settings dialog box opens (see figure 53).

2. Make the desired changes.
3. Click **SAVE**.
4. Alternatively, click **SYNC TO PC** (see figure 52, ❷) to set the date and time according to your PC.

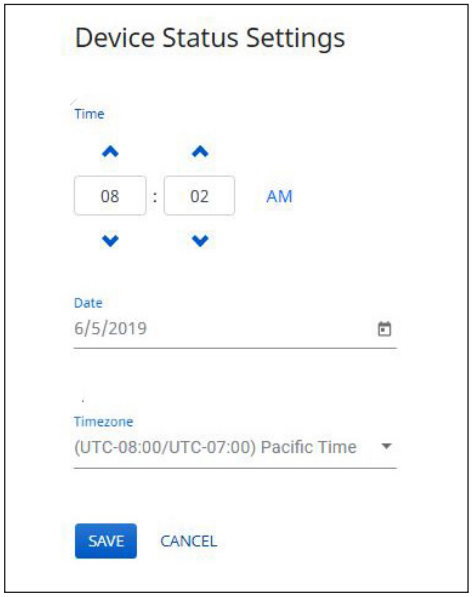


Figure 53. Device Status Settings

Network Settings

In the `Network Settings` panel, set the IP address, subnet mask, and gateway address for the device, and turn DHCP **`On`** and **`Off`**.

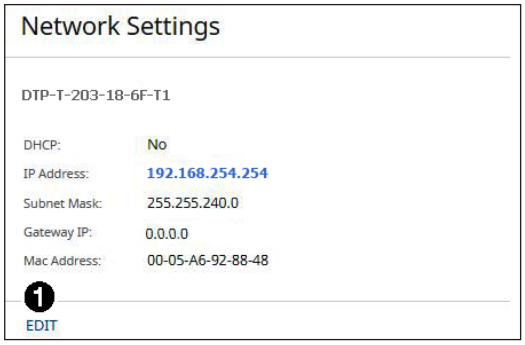


Figure 54. Network Settings

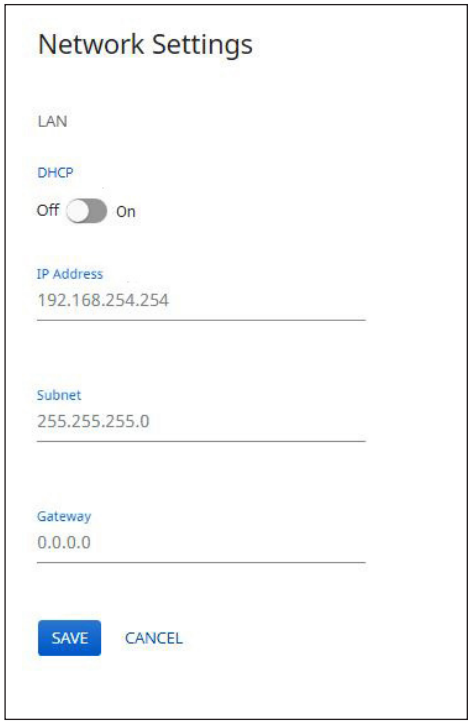


Figure 55. Network Settings Edit

To set the IP addresses:

1. Click **`EDIT`** (see figure 54, ❶).

   The `Network Settings` dialog box opens to allow edits (see figure 55).

2. Edit the network settings as desired:

   a. Click the DHCP switch to toggle DHCP on and off. When DHCP is enabled (**`On`**), the unit configures its IP address and other network settings from the DHCP server. The default is **`Off`**.

   b. To set any of the addresses (**`IP Address`**, **`Subnet mask`**, and **`Gateway address`**), click in the desired field and enter the address.

NOTE: The default TCP/IP settings are:

- IP address = `192.168.254.254`
- Subnet Mask = `255.255.0.0`
- Default Gateway = `0.0.0.0`

3. Click **`SAVE`**.

Inputs

The `Inputs` panel displays the status of the connected inputs (see figure 56). Click **`2 MORE`** to see the full `Connected Devices` panel showing the remaining two inputs and their format (see figure 57).



Figure 56. Inputs

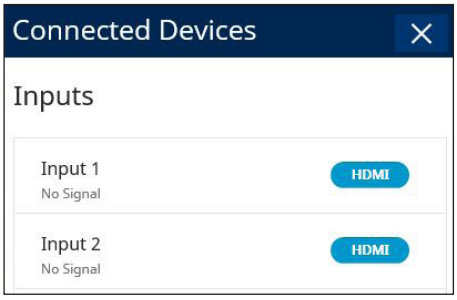


Figure 57. Connected Devices

Outputs

The `Outputs` panel displays the status of the connected output (see figure 58).



Figure 58. Outputs Panel

The icon for the output — DTP or HDBaseT — changes depending on the **DTP/HDBT** toggle switch position on the rear of the device.

RS-232

The `RS-232` panel displays RS-232 information (see figure 59).

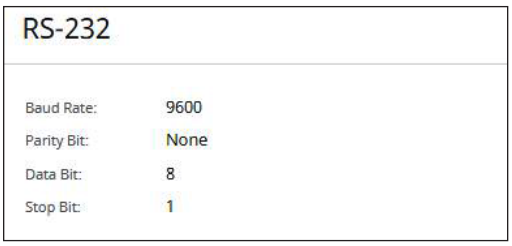


Figure 59. RS-232 Panel

Roles and Permissions

The `Roles and Permissions` panel displays whether `Admin` and `User` passwords have been set (see figure 60). It does not display the actual password.



Figure 60. Roles and Permissions Panel

NOTES:

- Only an administrator can set the admin password.
- A user password can only be set if an admin password exists.
- The default admin ID is `admin` and the default user ID is `user`.
- An indicator of the current login status is shown on the top right corner of the main screen.



To assign administrator and user password:

1. Click **EDIT** (see **figure 60**, ❶ on page 58).

   The Roles and Permission Settings dialog box opens (see figure 61).

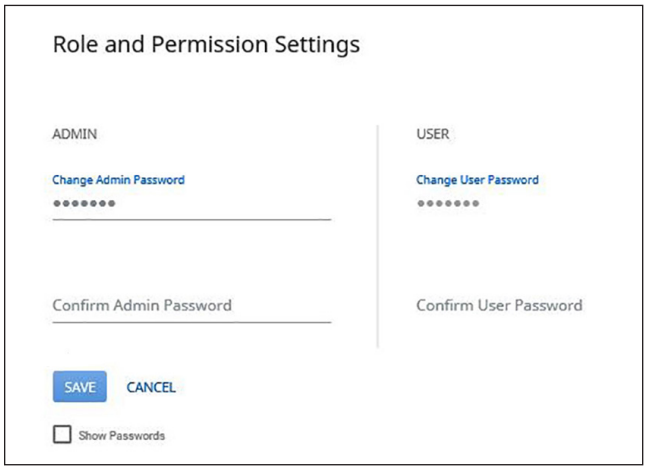


Figure 61. Role and Permission Settings

2. Change each password field as applicable.

   NOTE: The following rules apply to passwords:

   - Length is 1-128 characters.
   - All human-readable characters are permitted except |.
   - The password cannot be a single space.
   - Passwords are case-sensitive.
   - If the Admin password is cleared, the user password is cleared as well.
   - The factory configured passwords for all accounts on this device have been set to the device serial number. Passwords are case sensitive. If the switcher resets, the password reverts to the default, extron.

3. Click **SAVE**.

Firmware

The Firmware panel displays the current firmware version and the date it was last updated (see figure 62). Update the firmware on the DTP2 T 203 from this panel.

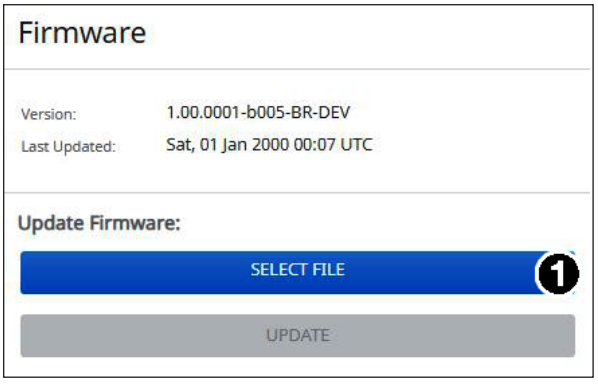


Figure 62. Firmware Panel

To update the firmware:

NOTE: Ensure the latest firmware is downloaded onto your PC (see see **Software and Firmware Installation** on page 20 to download the firmware files).

1. Click **SELECT FILE** (see **figure 62**, ❶ on page 59).
2. In the **Open** dialog box, browse to locate the new firmware file on your computer (see figure 63).

ATTENTION:

- The extension of the firmware file must be .eff. Opening a file with an incorrect extension may cause the device to stop functioning.
- L'extension du fichier firmware doit être .eff. Si un fichier est ouvert avec une mauvaise extension, l'appareil peut arrêter de fonctionner.

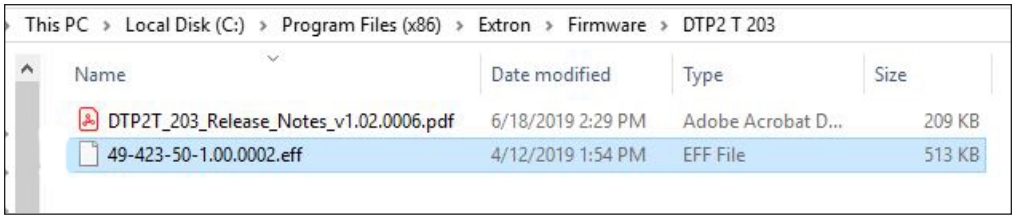


Figure 63. Selecting the Firmware File

3. Double-click the firmware file name. The Open dialog box closes, and the selected firmware file name appears in the Update Firmware: section (see figure 64, ❶).

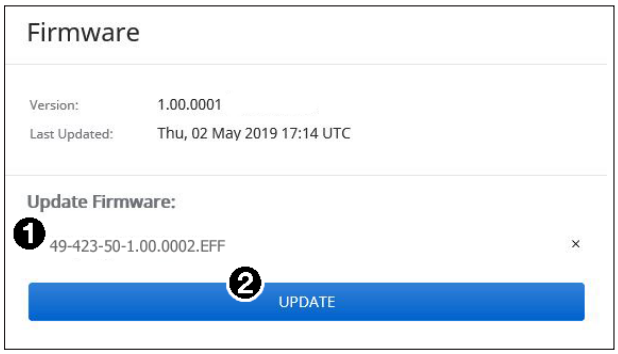


Figure 64. Firmware Panel Update

4. Click **UPDATE** (❷). The firmware is uploaded to the connected device.

NOTE: The original factory-installed firmware is permanently available on the DTP2 T 203. If the attempted firmware upload fails for any reason, the switcher reverts to the factory version.

Reference Information

This section contains additional information for the DPT2 T 203:

- **Equipment Mounting**
- **Best Practices for Cleaning Your Extron Products**

Equipment Mounting

ATTENTION:

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

The switcher can be set on a table, mounted in a rack, or mounted under a desk or table.

Tabletop Use

Four adhesive rubber feet are included with the DTP2 T 203. For tabletop use, attach one foot at each corner on the bottom of the transmitter, and place it where desired.

Mounting Kits

Mount the unit using any optional compatible mounting kit listed on the Extron website (**www.extron.com**), in accordance with the directions included with the kit. For rack mounting, see "UL Rack-Mounting Guidelines" starting below.

UL Rack-Mounting Guidelines

The following Underwriters Laboratories (UL) requirements pertain to the installation of the DTP2 T 203 into a rack.

CAUTION:

- **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. Therefore, consider installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by Extron.
- **Reduced air flow** — Install the equipment in the rack so that the amount of air flow required for safe operation of the equipment is not compromised.
- **Mechanical loading** — Mount the equipment in the rack so that uneven mechanical loading does not create a hazardous condition.
- **Circuit overloading** — When connecting the equipment to the supply circuit, consider the connection of the equipment to the supply circuit and the effect that circuit overloading might have on overcurrent protection and supply wiring. Consider equipment nameplate ratings when addressing this concern.
- **Reliable earthing (grounding)** — Maintain reliable grounding of rack-mounted equipment. Pay particular attention to supply connections other than direct connections to the branch circuit (such as the use of power strips).

Consignes UL pour le montage en rack

Les consignes UL (« Underwriters Laboratories ») suivantes concernent l'installation en rack d'un boîtier DTP2 T 203 :

ATTENTION:

- **Température ambiante élevée** — En cas d'installation de l'équipement dans un rack fermé ou composé de plusieurs unités, la température du rack peut être supérieure à la température ambiante. Par conséquent, il est préférable d'installer l'équipement dans un environnement qui respecte la température ambiante maximale (Tma) spécifiée par Extron.
- **Réduction du flux d'air** — Si l'équipement est installé dans un rack, veillez à ce que le flux d'air nécessaire pour un fonctionnement sécurisé de l'équipement soit respecté.
- **Charge mécanique** — Installez l'équipement en rack de manière à éviter toute situation dangereuse causée par le déséquilibre de la charge mécanique.
- **Surcharge électrique** — Lorsque vous connectez l'équipement au circuit d'alimentation, observez la connexion de l'équipement et étudiez les effets possibles d'une surcharge du circuit sur les protections contre les surintensités et les conducteurs d'alimentation. Consultez à cet égard les indications de la plaque d'identification de l'équipement.
- **Mise à la terre** — Assurez-vous que l'équipement est correctement mis à la terre. Accordez une attention particulière aux connexions électriques autres que les connexions directes au circuit de dérivation (ex. : les multiprises).

Best Practices for Cleaning Your Extron Products

There may be times when it becomes necessary to clean your Extron product. Plastic surfaces and cosmetic finishes can be damaged by long term exposure to chemicals. Therefore, Extron recommends the following guidelines when cleaning our products.



All Extron products can be safely cleaned with:

1. 70% concentration or higher Isopropyl Alcohol
2. Disinfectant cleaners that:
   - Are non-ammonium based (for example, contains no ammonium chloride)
   - Contain 2% or less sodium hypochlorite (for example, 2% bleach, 98% water)

It is important to follow these general guidelines when cleaning:

1. If possible, unplug the device.
2. Spray the cleaner on a lint-free cloth until the cloth is damp.
3. Do not spray the cleaner directly onto the product.
4. Gently clean the product surface using the cloth.

Your health and safety are our top priority. Keeping devices clean, especially those in high-traffic environments and high-use applications, is a crucial step in minimizing the spread of infections. Please contact us if you have any questions about the guidelines or if you have a question about cleaning the product.

Extron Warranty

Extron warrants its powered products against defects in materials and workmanship for a period of three years from the date of invoice. In the event of malfunction during the warranty period, Extron will repair or replace a product to whatever extent it shall deem necessary to restore the product to proper operating condition.

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 non-Extron authorized modification to the product. 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.

Powered Warranty Exception

Everlast™ Power Supplies — Extron warrants Everlast power supplies against any defects in materials and workmanship for a period of seven years from the date of invoice. In the event of a malfunction during the warranty period, Extron will repair or replace the power supply to its original operating condition. Extron engineers will examine the returned product and determine whether the Everlast Power Supply Warranty or Powered Product Warranty applies.

Speakers — Extron warrants Flat Field®, SoundField®, SpeedMount®, Column Array, and System INTEGRATOR® speakers against any defects in materials and workmanship for a period of five years from the date of invoice.

Touchscreens — Extron warrants touchscreen display and overlay components against any defects in materials and workmanship for a period of one year from the date of invoice.

Annotator 300 — Extron warrants the Annotator 300 against any defects in materials and workmanship for a period of five years from the date of invoice.

Non-Powered Warranty Exception

Cable Cubby, Hideaway Surface Access Enclosures and Retractors — Extron warrants Cable Cubby cable access enclosures, HSA Hideaway Surface Access enclosures, and Retractor cable retraction modules for a period of three years from the date of invoice.

Active Cables and Active Adapters — Extron warrants active cables and active adapter cables for a period of three years from the date of invoice.

Cable Termination Tools and Dies — Extron warrants cable termination tools for a period of three years from the date of invoice, excluding the die.

Return Information

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.

NOTE: To assure the highest level of service, a return authorization number must be obtained from Extron before products are returned for service. Products must be shipped to Extron, prepaid along with proof of purchase **only** after obtaining a Return Authorization (RA) number from the Extron Customer Support department.

Please contact Extron to receive an RA (Return Authorization) number:

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 and Middle East:	971.4.299.1800		

Worldwide Headquarters: Extron USA West, 1025 E. Ball Road, Anaheim, CA 92805, 800.633.9876